STATE BOARD OF EDUCATION SPECIAL MEETING
March 25, 2011
Office of the State Board of Education
Len B. Jordan Building
650 W State Street, 3rd Floor
Boise, Idaho

Teleconference Number: (877)322-9654
Public Participant Code: 934048

Friday, March 25, 2011, 3:00 p.m. (MST), Office of the State Board of Education, 650 W State Street, 3rd Floor, Boise, Idaho

INSTRUCTION, RESEARCH & STUDENT AFFAIRS

1. University of Idaho – Approval of Full Proposal: Doctorate, Athletic Training

PLANNING, POLICY AND GOVERNMENTAL AFFAIRS

1. Review and Discuss Existing and Potential Legislation Affecting Public Education

STATE BOARD OF EDUCATION
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UNIVERSITY OF IDAHO

SUBJECT

Approval of the Full Proposal to create an Advanced Clinical Doctorate in Athletic Training (DAT)

REFERENCE

February17, 2011	The Full Proposal was redirected to CAAP for additional clarification regarding the academic rigor of the proposed program.

APPLICABLE STATUTE, RULE, OR POLICY

Idaho State Board of Education Governing Policies & Procedures, Section III. G. 4. a. i. (2)

BACKGROUND/DISCUSSION

The University of Idaho (UI) proposes to create a new advanced clinical Doctorate in Athletic Training (DAT). The program consists of academic coursework focused on advanced training of the entry-level professional and on advanced clinical mentorship. Cohorts will be initially set at a maximum of 30 students annually, with plans to admit a new cohort beginning summer 2011, if approved.

The program will be housed on the UI main campus within the College of Education, Department of Health, Physical Education, Recreation, and Dance. The DAT program will be a self-support intensive six semester (two-year) cohort professional graduate program utilizing a professional residency model to include two accelerated summers on-campus in Moscow and distance education during the traditional fall and spring semesters to include completion of clinical rotations. This will expose students to a variety of clinical sites outside of Moscow, Idaho and enable the UI to recruit students statewide and across the nation without burdening the student to relocate for a two-year period.

Currently, there are no similar programs in the region and no advanced clinical doctorate athletic training programs in the United States. The approval of the program could bring national prominence to the University and its program.

Consistent with Board Policy III.G., an external peer-review was conducted on the proposed doctorate program, which consisted of a paper and on-site review followed by a report and recommendations issued by the panel. The external peer-review panel consisted of two members and was selected by the Board's Chief Academic Officer and the requesting institution’s Chief Academic Officer. A copy of the report is provided along with the full proposal.

After initial review by the Board and subsequent additional review by the Instruction, Research, and Student Affairs committee, the full proposal was revised to provide additional information regarding the quality of the program. Specifically, the following clarification and materials were provided in the revised proposal: 1) explanation and documentation of standards and competencies required for entry level athletic training education programs, 2) documentation of standards required for Post-Certification Graduate Athletic Training Education Programs; 3) documentation of accreditation standards and guidelines for Post-Professional Athletic Training Residency; 4) clarification of the role of the Board of Certification (BOC), the Commission on Accreditation of Athletic Training Education (CAATE), and the National Athletic Trainer's Association (NATA); 5) additional clarification and documentation of program, curricular, and course learning outcomes; and 6) additional clarification and documentation of program assessment strategies to ensure program quality.

The University of Idaho also provided greater clarification regarding the minimum and preferred entrance requirements for the DAT, with one substantive change. For applicants with an entry level bachelor's degree in athletic training and no master's degree, they added the minimum requirement of three years of professional experience in athletic training and 75 continuing education units in athletic training. The changes to the entrance requirements can be found on page 11 of the revised full proposal.

IMPACT

The UI will reallocate existing state-appropriated funds for FY12 and FY13. During these years, the program director and the tenure track faculty will remain on state appropriation salaries for the academic year. Summer salaries will be paid from program revenues. A clinical coordinator will be hired in the second year to assist in transition and to accommodate the higher enrollment targets. If enrollment targets are met, two full-time faculty will be hired for the third year (FY14). A half-time administrative assistant will be hired for FY12. The UI anticipates that the program will become entirely self-supported by FY 14, funded by program fees charged to students in accordance with Board Policy V.R.3.b.v.

Under a separate request, the University of Idaho will be submitting a Notice of Intent per policy III.G. to discontinue their undergraduate program in Athletic Training. The UI also has plans to bring a Master of Science in Athletic Training forward for approval. The full proposal is currently under review and slated for the Board's April meeting.

ATTACHMENTS

STAFF COMMENTS AND RECOMMENDATIONS

At the Council on Academic Affairs and Programs (CAAP) meeting held on March 10, 2011, the University of Idaho provided an overview regarding the level of review the DAT program underwent internally and externally, and provided additional information regarding quality and rigor of the proposed program. Additional clarification was provided regarding the requirements for certification and course rigor and entrance requirements for the program. This included changing one of the minimum entry requirements for the DAT program to now require a master's degree or three years of professional Athletic Training experience and 75 continuing education units (CEUs) in athletic training. This was a change from the bachelor's degree entry requirement.

The University of Idaho revised their full proposal to encompass the clarifications and changes shared with CAAP and IRSA. Board staff reviewed the full proposal and is pleased with the outcome and recommends approval as presented.

It is important to note that the University of Idaho has developed a short term and long term strategy to evaluate the program for fiscal sustainability on an annual and long-term basis. Specifically, a short term strategy has been developed for making annual decisions regarding staffing, operational, and capital expenses, and a long term strategy has been developed for making decisions regarding program continuance or discontinuance.

BOARD ACTION

I move to approve the request by the University of Idaho to create an advanced clinical doctorate in Athletic Training as set forth in the attached Full Proposal.

Moved by _____ Seconded by _____ Carried Yes _____ No _____

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IDAHO STATE BOARD OF EDUCATION

ACADEMIC/PROFESSIONAL-TECHNICAL EDUCATION

FULL PROPOSAL

to initiate a

NEW, EXPANDED, COOPERATIVE, DISCONTINUED, PROGRAM COMPONENT OR OFF-CAMPUS INSTRUCTIONAL PROGRAM OR ADMINISTRATIVE/RESEARCH UNIT

Submitted by:

RECEIVED
JAN 12 2011
OFFICE OF THE
STATE BOARD OF EDUCATION

University of Idaho

Institution Submitting Proposal

College of Education

Name of College, School, or Division

Department of Health, Physical, Education, Recreation, & Dance

Name of Department(s) or Area(s)

A New, Expanded, Cooperative, Contract, or Off-Campus Instructional Program Leading to:

Doctor of Athletic Training

Degree/Certificate & 2000 CIP

Program Change, Off-Campus Component

Summer 2011

Proposed Starting Date

This proposal has been approved by:

Chief Fiscal Officer (Institution) — Date 06 Jan 11

Chief Academic Officer (Institution) — Date 1-7-11

President — Date 1-7-11

Chief Academic Officer — Date 3/23/11

SBOE/OSBE Approval — Date

Approved Ritch Pekes 1/6/11
IRSA

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Appendicies

Before completing this form, refer to "Board Policy Section III.G. Program Approval and Discontinuance.

1. **Nature of Request** Describe the **nature of the request**. For example, is this a request for a new on-campus program? Is this request for the expansion or extension of an existing program, or a new cooperative effort with another institution or business/industry or a contracted program costing greater than $150,000 per year? Is this program to be delivered off-campus or at a new branch campus? Attach any formal agreements established for cooperative efforts, including those with contracting party(ies). Is this request a substantive change as defined by the NWASC criteria?

   The College of Education at the University of Idaho proposes to create an Advanced Clinical Doctorate in Athletic Training (DAT) program. The DAT will be a **self-support** six semester cohort professional graduate program utilizing a professional residency model. Cohorts will be initially set at a maximum of 30 students annually. This program will be housed on the University of Idaho Moscow campus, within the College of Education, in the Department of Health, Physical Education, Recreation, and Dance (HPERD). The program plans to admit a new cohort beginning summer 2011. The proposed DAT program provides for exciting opportunities in four major areas: 1) Value enhancements for students 2) National prominence for the program/university 3) Advancement of the Athletic Training profession, 4) Sustainable growth with a new professional program that is closely tied with the University's strategic plan. This proposal is a substantive change as defined by the NWASC criteria. The cost of the proposed program will exceed $150,000 per year when fully implemented (see Section 6.II).

   The program will utilize a unique delivery model. A summer on-campus residency model will be used, coupled with a distance education model during the traditional fall and spring semesters. This will enable students to be exposed to a variety of clinical sites outside of Moscow, Idaho. It will also allow the University to recruit students from across the state of Idaho and across the nation, without undue burden on the student to relocate for a 2 year period. The program will have a clearly defined exit strategy (see details in Section 6.II.e.3), should revenue streams not be realized as projected in the future.

2. **Quality of Program** This section must clearly describe how this institution will ensure a high quality program. It is significant that the accrediting agencies and learned societies which would be concerned with the particular program herein proposed be named. Provide the basic criteria for accreditation and how your program has been developed in accordance with these criteria. Attach a copy of the current accreditation standards published by the accrediting agency.

   Further, if this new program is a doctoral, professional, or research, it must have been reviewed by an external peer-review panel (see page 7, "Guidelines for Program Review and Approval). A copy of their report/recommendations must be attached.

   An external peer-review was conducted for this proposed program in accordance with the "Guidelines for Program Review and Approval." The report provided by the external reviewers is found in Appendix A. The curriculum vitae for each of the reviewers are provided in Appendix B. Throughout this proposal, we have identified where we have incorporated the recommendations made by the external review team. All recommendations made by the team were accepted and incorporated into this final proposal. We would like to begin our response to this question by noting that the External Review team expressed unequivocal support of the program and its rigor as a result of the discussions that took place during their visit, stating in Section IV.b.i of the report (Appendix A) that they "*agree[d] with the report that this is an innovative and entrepreneurial program that will lead the profession of athletic training and its educational processes upward along a natural evolutionary path."* They further stated that the *"proposal reflects accurate in-depth knowledge of the trends in the athletic training discipline and medical model of education."* (Section I, paragraph 1 of the report). In Section IV.c., they went on to write that "*there are no similar programs in the United States, however like programs are developing across the country placing the University of Idaho at the forefront of the academic trend.*" They found that"*the rigor and coursework is indicative of a clinical doctorate degree in other health professions."* The External Review team examined thoroughly the rigor of the program and questioned the program faculty at length about each course in the curriculum, asking for details regarding the intended objectives and outcomes.

   We propose to conduct another external peer review at the end of the second year of the program to ensure that we ve adhered to quality standards in our implementation of the program. Other methods of quality assurance are identified in subsequent sections on students, faculty, and curriculum.

2.a. Curriculum Describe the listing of new course(s), current course(s), credit hours per semester, and total credits to be included in the proposed program.

There are three critical areas for which we will provide evidence of curricular rigor: quality of inputs (entrance requirements); quality of outputs (professional outcomes); and quality of processes (curriculum and assessment).

2.a.i. **Quality Inputs.** The proposed DAT curriculum (described here and provided in detail in Appendix C) was developed to build on previous knowledge in a sequential fashion. Thus, the entrance requirements (described in more detail in Section 2.c. – Students) include Board Certification in Athletic Training (BOC-ATC). This certification provides evidence of demonstrated knowledge and competence in the foundations of athletic training. An individual wishing to become a certified athletic trainer must sit for the Board of Certification (BOC) examination. The independent Board of Certification Inc. (BOC) nationally certifies athletic trainers. Athletic trainers must pass an examination and hold an entry-level bachelor's or master's degree to become an athletic trainer. To retain certification, credential holders must obtain 75 hours of medically related continuing education credits every three years and adhere to Standards of Professional Practice. The BOC is accredited by the National Commission for Certifying Agencies.

It is important to note that in order for an individual to sit for the BOC examination they must have first earned a degree, in an entry-level athletic training education program, from an institution accredited by The Commission on Accreditation of Athletic Training Education (CAATE). CAATE operates independent of the BOC and the National Athletic Trainers Association (NATA). In order for an institution's athletic training education program to become accredited by CAATE, the program has a minimum threshold that must be met. Under the 4th Edition of the Athletic Training Education Competencies (found in Appendix D), there are 12 content areas required as the minimum threshold for Athletic Training Programs to achieve and maintain accreditation. The areas consist of:

Basic and Applied Sciences	Professional Content
•Human anatomy	•Risk management and injury prevention
•Human physiology	•Pathology of injuries and illnesses
•Biology	•Orthopedic clinical examination and diagnosis
•Statistics and research design	•Medical conditions and disabilities
•Exercise physiology	•Acute care of injuries and illnesses
•Kinesiology/biomechanics	•Therapeutic modalities
•Chemistry *	•Conditioning, rehabilitative exercise and referral
•Physics *	•Pharmacology
	•Psychosocial intervention and referral
	•Nutritional aspects of injuries and illnesses
	•Health care administration

** Recommended but not required by some ATEPs*

There is a proposed 5th Edition to the Athletic Training Education Competencies which would reorganize the 12 content areas into 8 categories. The 5th Edition can be found in Appendix E. The proposed 8 categories are Evidence-Based Practice, Prevention and Health Promotion, Clinical Examination and Diagnosis, Acute Care of Injuries and Illness, Therapeutic Interventions, Psychosocial Strategies and Referral, Healthcare Administration, Professional Development and Responsibility, and Clinical Integration Proficiencies. Athletic Training Education Program accreditation requires submission of self-study annual reports; continuing accreditation requires a thorough self-study and site visit by professionals on regular intervals (10 years maximum).

Once a student has earned a degree from an athletic training education program, from an institution accredited by CAATE, the student is then eligible to sit for the BOC exam. Students must also be endorsed by the Program Director of said program. The BOC exam seeks to assess a student's knowledge in five areas of athletic training. These consist of Injury/Illness Prevention and Wellness Projection, Clinical Evaluation and Diagnosis, Immediate and Emergency Care, Treatment and Rehabilitation, and

Organizational and Professional Health and Well-being. The BOC exam contains 175 scored and un-scored (experimental) items that include:

- Stand-alone multiple-choice questions
- Stand-alone alternative items (drag-and-drop, text based simulation, multi-select, hot spot, etc.)
- Focused testlets (A 5-item focused testlet consists of a scenario followed by 5 key/critical questions related to that scenario)

Candidates have a total of 4 hours to complete the exam which is given electronically. Scores are reported on a scale from 200 to 800, and the minimum passing score for the exam is 500.

2.a.ii. **Quality Outputs**. As important as inputs for defining the quality and rigor of an academic program is the development of appropriate outcomes. In the case of graduate education, it is expected graduates will shape the direction of one's discipline or profession, become a leader in one's respective profession, and contribute to the rapidly changing global community. Further, advanced clinical doctorates reflect the highest level of preparation for clinical practice in the profession. To this end, we developed three global outcomes that reflect these definitions and concepts. The global program outcomes were developed using the *Standards and Guidelines for Post-Certification Graduate Athletic Training Education Programs* (Appendix F) published by the Post-Professional Education Committee of the National Athletic Training Association (NATA), which states that the purpose of post-certification graduate athletic training education programs is "to expand the depth and breadth of the applied, experiential, and propositional knowledge and skills of entry level certified athletic trainers, expand the athletic training body of knowledge, and to disseminate new knowledge in the discipline. Graduate education is characterized by advanced systematic study and experience—advanced in knowledge, understanding, scholarly competence, inquiry, and discovery" (p. 2). The global outcomes for the program are:

Global Learning Outcome 1	The DAT students will improve their clinical practice through the Foundational Behaviors of Post-professional Practice
Global Learning Outcome 2	The DAT students will improve their clinical practice by becoming more scholarly practitioners
Global Learning Outcome 3	The DAT students will improve their clinical practice by contributing to the research and advance knowledge in AT clinical practice.

It is not expected that graduates of this DAT will assume research positions or instructional tenure-track positions at research institutions. Instead, they will continue in professional practice, with the specific goal of contributing to improved practice and applied knowledge in the profession. It is hoped that this training will facilitate future ongoing partnerships with academic research faculty and accelerate the emerging field of translational research (or bench-to-bedside research -- from laboratory experiments through clinical trials to actual point-of-care patient applications).

2.a.iii. **Quality Processes** (Curriculum and Assessment). Establishment of rigorous, high-quality inputs and outputs is meaningless without appropriate and rigorous processes to assist qualified students in achieving these professional outcomes and to assess student achievement of these outcomes for each student candidate. We will provide evidence of the rigor of both of these below.

Curriculum. The proposed curriculum is an accelerated 6 semester cohort program, totaling 63 credits post baccalaureate. The curriculum will be delivered by faculty who have academic doctorates and who are engaged in ongoing professional practice, in partnership with approved and professionally-credentialed clinical mentors. The program will utilize a unique delivery model. A summer on-campus residency model will be used, coupled with a distance education model during the traditional fall and spring semesters. This will enable students to be exposed to a variety of clinical sites outside of Moscow, Idaho. The number of semesters is similar to most PhD and PPD programs; the number of credits is also similar to many DScPT programs, just below requirements for many PhD programs, and higher than most TDPT programs (see Tables 2, 3, and 4 in Appendix G for comparisons).

Again, we would like to begin our response to this question by noting that the external reviewers supported our curricular model in Section IV.b.i. of the report where they stated, "*The two year* (six semester, as summers are required) *curricular model is an in-depth and well-coordinated clinical education experience that embeds evidence-based research into clinical decision making. The rigor of the coursework is indicative of a clinical doctorate degree in other health professions."* We would also like to note that one of our reviewers, Dr. Leamor Kahanov, is a Department Chair of the Department of Applied Medicine and Rehabilitation at Indiana State University, where she oversees an undergraduate entry-level bachelor's program in athletic training, a post-professional master's program in athletic training, an entry-level clinical doctorate in physical therapy, and a master's program in physician assistant. She is very familiar with trends in graduate education in allied health. Her support of the proposal is a testament to the merits of the proposal in terms of foresight and quality.

In the original proposal provided to the External Review team, we had proposed two tracks for completion of the DAT, similar to what is often done in the transitional DPT programs (described in Section 5 and Appendix G) – a one year track for those entering with a master's degree and a two year track for individuals entering with a bachelor's degree. These two tracks were discussed at length during the external review. Although the reviewers agreed that the one year track met or exceeded the post-professional coursework of most other health care professions, they recommended the removal of it for two reasons: 1) the curriculum would be easier to deliver consistently with a mandatory two year curriculum, and 2) there was the potential for misunderstanding and confusion with two tracks. Given the transition occurring in athletic training education at present and for the foreseeable future, the External Review team suggested (and we agreed) that it would be better to move forward with a single track at this time. As athletic training education continues to transition (as discussed in Section 5), there may come a time when another option may be appropriate for post-professional athletic training education.

The curriculum provides for the development of advanced knowledge and advanced training in evidence based clinical residencies and in clinical research. It is structured to create scholarly practitioners that can ask and answer questions related to real world health care problems. The goal of the DAT is not to re-teach the foundational information learned in the entry level program, but instead to help students gain advanced knowledge and process that information as it relates to improving their clinical practice -- through coursework, clinical practice residencies, and clinical research. In this way it is no different conceptually than academic doctoral programs. The differences are in the product the DAT creates (advanced clinical practitioners vs. researchers).To this end, the curriculum reflects the characteristics described in Section 5 for Professional Practice Doctorate programs:

- Content and skills that are broader and more interdisciplinary than PhD programs.
- More integrated and connected components of coursework, research, and field work.
- More relevant field experiences that prepare students for professional practice.
- More integration with the professional workplace.
- A strong practice element that, in turn, is mediated by intellectual understanding and reflection.
- A culminating dissertation product that is shorter, focused on problems of practice, done "in the field", uses methods of research and scholarship suited to the context of practice, addresses a real world problem, improves clinical practice, and results in professional knowledge.

Because our students will enter as certified professionals, their certification demonstrates that they have achieved the minimum skill necessary to practice in the field. Our curriculum will build upon these minimum competencies and skills achieved in their entry level preparation to ensure that they are able to accomplish the outcomes identified in general for graduate doctoral education and specifically related to this proposed program.

Course titles, credits, descriptions, and learning outcomes have been provided in detail and are provided again as an appendix to this document (Appendix C). The specific program learning outcomes were developed using the Post-Professional Athletic Training Residency Accreditation Standards & Guidelines (Appendix H) recently developed by the Post-Professional Education Committee of the National Athletic Training Association (NATA). Regarding the course descriptions and learning outcomes, the External Review team stated:

"The program provides a guided clinical education experience that requires an understanding of evidence-based medical research, representative of a doctoral level degree. The program advances the mission of the university as a highly active research institution that promotes innovative graduate curricula to fill emerging needs in professional areas of study (Section I, paragraph 1)." Furthermore, in Section IV.b.i., the External Review team stated that they *"expect[ed] the course syllabi to reflect the depth of experiences and rigor discussed with the faculty."* They *"recommend[ed] that the current planned activities for evaluating student competence [be] formalized into a course experience to indicate a "dissertation" like experience at the end of the program (culminating clinical project). The quality and rigor of the planned experiences are a "dissertation" like experience."*

Below we have presented the curriculum by categories in an effort to demonstrate more clearly the sequencing of the coursework. Below this table, we describe in more detail the philosophy that underpins the curriculum organization and the delivery model in an effort to demonstrate the doctoral level quality and rigor of the proposed curriculum.

	On campus Summer 1		**Distance Fall 1**		**Distance Spring 1**		**On Campus Summer 2**		**Distance Fall 2**		**Distance Spring 2**
	AT 606										
Seminar series	AT 610	→					AT 611				
Clinical research series	AT 620	→	AT 621	→	AT 622	→	AT 623	→	AT 624	→	AT 625
Current issues series			AT 630	→	AT 631	→			AT 632	→	AT 633
Clinical residency series			AT 640	→	AT 641	→			AT 642	→	AT 643
Total credits	9		9		9		6		9		9

One outcome of the program is to bring together a group of health care professionals who have a passion for improving their clinical practice. In order to facilitate this, we have developed two accelerated on campus summer sessions. These sessions will allow the faculty to build community with and among the students, and engage in face-to-face discussions of topics integral to the profession and their clinical advancement. Team building activities/trips will be incorporated into the summer programs. In the initial summer session, students will take AT 606 Professional and Post-Professional Education in Athletic Training. This course will expose them to theoretical foundations and models of health care education to help them understand the professional and post-professional education in health care and develop criteria to govern their professional practice. They will also begin study in the seminar and clinical research series of courses.

The seminar series is a two semester series that has been designed to help students gain a perspective on the history of professional and post-professional education, familiarize them with the seminal research in the field (including bench research), discover areas of athletic training that are lacking clinical evidence, and develop projects to translate bench research into practice based research. This series is similar in concept to doctoral seminars found in research doctorates where discipline specific seminal research is digested, evaluated, and tested within a new context. The clinical research series is a 6 semester series designed to develop the skill necessary to understand research in the profession and formulate methodologies to test hypotheses, and evaluate and disseminate the data. At the end of the series, students will produce end products related directly to clinical practice [as compared to original laboratory-based (bench) research conducted in a research doctorate]. This is described more fully below and in the following section.

In the first fall semester, students will begin the other two course series that formulate the basis of the curriculum. The current issues in clinical practice series challenges students to expand their scientific understanding of the anatomy and pathomechanics of human tissue and evaluate how their current clinical practice incorporates these theories. These classes create a culture of professional introspection into their clinical practice. Students share this information with faculty and peers (evidence based research and practice). The clinical residency series provide opportunity for students to improve their practice skills, incorporating new philosophies under the guidance of a clinical mentor. These classes allow students to develop their skills to evaluate and modify their clinical practice.

A primary component of the curriculum, which distinguishes it as a clinical doctorate curriculum, is the Culminating Clinical Project (CCP), which will be a dissertation-like experience, to demonstrate the student's **advancement in clinical practice**. [Note: This is consistent with the recommendation made by the external review team.] The product of the CCP will be in a portfolio format that will include the following: outcomes data, journals, entrance/exit testing, research, faculty/mentor evaluations, and final residency findings. These items are detailed below; items highlighted in yellow represent components of the final portfolio.

As part of the clinical research course series, each student will collect outcomes data throughout the program. Students may collect additional data that is specific to their site/area of specialty. Data will be analyzed each semester and summarized in their Professional Portfolio. They must include all required data, evidence of analyzed data, changes proposed by the data, implementation of new strategies to improve selected aspects, and final analysis (in the final portfolio).

Required Outcomes Data	**Frequency of Data Reporting**
All required outcomes data (Daily Rx Log)	Semester
Evidence of analyzed data	Semester
Changes proposed	Semester
Implementation of new strategies	Semester
Final analysis	End of first year + end of program

Required Journal Submissions	**Frequency of Data Reporting**
Students will complete journals regarding their patient care	Bi-weekly
Synthesis of journal submissions	Final each semester and synthesis end of program

Required Entrance/Exit Testing	**Frequency of Data Reporting**
Entrance comprehensive tests	Beginning of summer I
Plan for improvement based on entrance tests	End of summer I
Updates on progress of plan	End of each semester
Final comprehensive tests	End of last semester and synthesis of findings

Required Research	**Frequency of Data Reporting**
Research in Evidence Based Practice (EBP) to be completed throughout program.	
Fully understand EBP	AT 606, AT 611, AT 620
Develop an EBP question & review of literature	AT 623
Develop data analysis for RQ,	AT 624
Begin data collection	AT 624
Present findings; prepare a manuscript in journal-ready format.	AT 643

Required Faculty/Mentor Evaluations of Student	**Frequency of Data Reporting**
Goals of semester based on "mentor agreement"	Beginning of program
Mentor evaluation of student	Midterm and finals each semester
Student evaluation of student	Midterm and finals each semester
Goals and objectives forms (post evaluations)	Following midterm and finals each semester
Evidence of growth	Yearly/final summary

Required Final Residency Findings	**Frequency of Data Reporting**
Demonstrate impact of skill improvement organization and profession	End of residency
Present summary of impact of clinical residence to student's residency organization (digitally recorded)	End of residency

In summary, as demonstrated above, the curriculum has been designed to provide students with more in-depth content knowledge while simultaneously applying this knowledge in a real world setting. This residency model allows students to deepen their theoretical understanding by concurrently refining their clinical practice under the supervision of faculty that have an academic doctorate and maintain practice as professionals.

2.a.iv. **Assessment.** We have established a very rigorous assessment process for these outcomes. The primary form of ongoing (formative) and culminating (summative) assessment will be the CCP outlined in the previous section. This is consistent with the characteristics outlined earlier for Professional Practice Doctorates (PPDs), which identified a reliance on portfolios rather than qualifying or comprehensive exams for student assessment. Further, while in the program, each student will be expected to challenge his/her current clinical knowledge and critically analyze his/her clinical practice. Students will

a. Complete comprehensive exit testing that will ensure that knowledge regarding advancement of clinical knowledge has been retained.
b. Complete research pertaining to evidence-based clinical practice.
c. Be evaluated twice each semester by their clinical mentor, and the student must receive satisfactory evaluations in order to proceed in the program.
d. Complete an evaluation of their chosen mentor and these evaluations will aide in the programs evaluation of the clinical mentors.
e. Receive, as part of their clinical rotations, continual feedback from the mentors and the faculty serving as the clinical residency course coordinators.
f. Complete, as a part of their coursework, journals that chronicle their development into advanced clinicians. Each journal will bear the signature of the clinical mentor.

Post-graduation employment surveys will be sent to each graduate's employer asking them to evaluate the employee's clinical competency. Feedback from these surveys and measures will inform the decisions regarding future curricular improvements.

To further ensure program quality and in accordance with the recommendation of the external review team, the program will seek accreditation by the Post-Professional Education Council of the National Athletic Trainer's Association (NATA). This accreditation will be sought once the program is implemented and functional. We tentatively plan to initiate this process in year 3 of the program, but no later than year 5 of the program. Unlike entry level athletic training programs, accreditation of advanced preparation programs is not mandated by the NATA and is not necessary in order for graduates of the program to practice professionally. However, it is our intent to seek accreditation in order to ensure that we meet recognized standards for post-professional training in athletic training.

The new DAT program will also ensure quality by adhering to concepts normally found in healthcare residency programs. The Athletic Training profession is currently developing standards for professional graduate residency programs, and these draft documents were used as a guide when creating the proposed curriculum. The program is a combination of advanced, in-depth academic coursework focused on the advanced training of the entry-level professional and on advanced clinical mentorship. All DAT candidates will identify a clinical mentor who agrees to mentor promising professionals in an effort to transition the new professional from student to clinician. All mentors will be vetted by MSAT and DAT program faculty and agree to the philosophy and standards of the program.

An external peer-review, similar to the one conducted in preparation of this proposal, will be conducted again at the end of year two to ensure that we are on track for accreditation by the Post-Professional Education Council.

Finally, this program will ensure quality through adherence to the standards set by the University's regional accrediting body. The University of Idaho is regionally accredited by the Northwest Commission on Colleges and Universities (NWCCU). The UI is currently accredited at all degree levels (B, M, D), and has been continuously accredited since 1918.

2.b. Faculty – include the names of full-time faculty as well as adjunct/affiliate faculty involved in the program. Also, give the names, highest degree, rank and specialty. In addition, indicate what percent of an FTE position each faculty will be assigned to the program. Are new faculty required? If so, explain the rationale including qualifications.

A total of 2.0 faculty FTE and 0.5 TA FTE will be required to deliver the proposed Doctorate in Athletic Training Education Program when it is fully subscribed. This distribution of faculty ensures appropriate faculty loads for delivery of a quality curriculum. The individual faculty and qualifications are outlined in the table below, as is the timeline for creation of positions. Program faculty must also maintain national and state Athletic Training certifications and licenses and comply with the National Athletic Trainer's Association's Code of Ethics. Additionally, we plan to hire adjunct specialty faculty to augment the program as recommended by the external review team.

Proposed Faculty	**Notes**
Alan Nasypany, EdD, LAT, ATC DAT ATEP Director (1.0 FTE) Senior Instructor, HPERD Non tenure track	Continuing position for FY11, FY12, and FY13. This will become a new position in FY14, funded from program revenues. At this time, Dr. Nasypany will work solely in the MSAT new degree program. The new position will be required to have an earned doctorate, evidence of scholarly activity within the field of Athletic Training, 5 years of certified athletic training experience.
Tenure track faculty (1.0 FTE)	Proposed new position in FY14 funded from program revenues. Earned doctorate, evidence of scholarly activity within the field of Athletic Training, 5 years of certified athletic training experience.
Teaching Assistant – doctoral level (0.5 FTE)	Proposed new position in FY12 funded from program revenues. Will be a doctoral student in HPERD; one year of BOC certified experience required.

2.c. Student – briefly describe the students who would be matriculating into this program.

This program will attract three different types of students.

i. Students who have completed a Council on Accreditation of Athletic Training Education (CAATE) accredited Bachelor degree in Athletic Training and have at least 3 years of clinical practice as an athletic trainer.
ii. Students who have completed a CAATE accredited entry-level master's degree.
iii. Students who have completed a Post Professional Education Council (PPEC) accredited master's program in athletic training.

Students will be required to meet the minimum standards of admission as established by the College of Graduate Studies at the University of Idaho for all graduate students. These requirements include having an undergraduate cumulative grade-point average of 3.00 or better on a 4.00 scale, and having maintained at least a 3.00 grade-point average in subsequent academic work. The requirements for admission into the DAT program will include these:

Minimum Entry Qualifications:

1. Undergraduate cumulative GPA of 3.0 or above at the undergraduate level and maintenance of 3.0 GPA in subsequent academic coursework.
2. Board Certification in Athletic Training
3. State licensure (if required in current state of practice)
4. A master's degree (either a CAATE – accredited entry-level master's of Athletic Training or a PPEC (see above) accredited master's degree in athletic training or a closely related field)
   OR
   Three years of professional Athletic Training experience and 75 Continuing Education Units (CEUs) in Athletic Training
5. Demonstrated professionalism

Preferred Entry Qualifications:

1. Documented research experience
2. Other documented relevant certifications
3. In-depth coursework in the basic and applied sciences beyond those required for Board Certification

4. Current employment as an Athletic Trainer

Applicants will be required to submit an application form, transcripts of bachelor's and post-bachelor's education, and three letters of recommendation from athletic training professionals. Applicants will also be required to participate in an interview with program faculty. The admission process will be competitive. Selection of the most highly qualified candidates is our foremost goal and will be assessed by qualifications beyond the minimum requirements. The purpose of the proposed program is graduate level education that is advanced practice.

2.d. Infrastructure support – clearly document the staff support, teaching assistance, graduate students, library, equipment and instruments employed to ensure program success.

With regard to personnel, this program will require a 0.2 FTE administrative assistant (combined with MSAT, this represents a 0.5 FTE position) and 1 doctoral teaching assistant. See Sections 2.b, 6.III.a, and 6.III.b for more detailed information regarding these personnel. These positions have been included in the budget and will be funded through revenues generated by the program.

Current library resources are adequate for delivery of this program. The program will share resources with the proposed MSAT. However, additional funds ($3000 annually) have been budgeted from program revenues to accommodate program enrollment growth.

The program will utilize the laboratory space, equipment, and instruments currently available for the undergraduate ATEP. This equipment and space is adequate for initial delivery of the program. Current space allocation includes MGYM B1, B2, and B4 as teaching laboratory space, and PEB 112/113A, a newly renovated research laboratory in human performance. Current equipment includes plinths, therapeutic modalities (electrical stimulation, therapeutic ultrasound, whirlpools, light therapy, mechanical modalities, etc), rehabilitation equipment, evaluation tools, emergency response kits, etc. The existing undergraduate program met the accreditation standards for laboratory and equipment resources in 2009, at which time it was granted a 10 year accreditation approval. The proposed program will purchase additional equipment as size of the program increases. Beginning in FY13, the DAT program budget includes lab equipment purchases and lab renovations (see 6.II and 6.III). Additional monies for laboratory remodel and capital equipment purchases have been included in the budget for the proposed MSAT program. We will also target our development efforts to procure funds to purchase additional equipment and complete lab renovations to current space. As recommended by the external review team, renovation efforts will modernize space to accommodate and integrate the capital equipment and technology needed to deliver a state of the art clinical education experiences and online instruction at multiple sites across the country.

2.e. Future plans – discuss future plans for the expansion or off-campus delivery of the proposed program.

Enrollment targets are outlined below and included in the attached budgets. Maximum annual enrollments in this program are 60. When maximum enrollments are realized, the program will be re-evaluated for potential expansion.

	2011-2012	2012-2013	2013-2014	2014-2015	2015-2016
Yr One Cohort	10	17	30	30	30
Yr Two Cohort	0	10	17	30	30
Annual Enrollment	10	27	47	55	60

3. Duplication – if this program is unique to the state system of higher education, a statement to that fact is needed. However, if the program is a duplication of an existing program in the system, documentation supporting the initiation of such a program must be clearly stated along with evidence of the reason(s) for the necessary duplication.

This program is unique to the state of Idaho system of higher education and for athletic training education in the nation. Currently, there are no advanced clinical doctorate athletic training programs in the U.S. Like programs are developing across the country, placing the University of Idaho DAT on the forefront of the academic trend.

Describe the extent to which similar programs are offered in Idaho, the Pacific Northwest and states bordering Idaho. How similar or dissimilar are these programs to the program herein proposed?

There are no similar programs in the region.

4. **Centrality** – documentation ensuring that program is consistent with the Board's policy on role and mission is required. In addition, describe how the proposed program relates to the Board's current Statewide Plan for Higher Education as well as the institution's long-range plan.

The Doctorate of Athletic Training is directly aligned with the Role and Mission of University of Idaho to "offer doctoral and professional graduate programs and also coordinate[s] and conduct[s] research that [is] consistent with state needs." The external review panel concurred with this statement and the evidence provided to them regarding alignment. The creation of this program will enhance the research capabilities for students and faculty, consistent with the Role and Mission of the UI as defined by SBOE. Positioning new graduate programs at the state's flagship research institution allows the programs to have access to the resources and infrastructure that can support research-focused professional graduate programs. The proposed program has also been designed to meet department, college, and university strategic missions and goals.

The DAT is a professional doctoral program that will seamlessly merge research into practice, and this focus will position the program students and faculty to apply for translational research grants from the National Institutes of Health. The athletic trainers prepared by the DAT will be capable of leading the state's battle against burdens imposed by preventable musculoskeletal diseases and disorders, through application of research-supported healthcare. This is consistent with the land grant mission of the University of Idaho.

The creation of an innovative advanced clinical degree will allow to University of Idaho's Athletic Training Program to better match the University's vision and mission in the following ways:

- **The program is "committed to graduate research education with extension services responsive to Idaho and the region's business and community needs."** (UI Mission as stated in UI Catalog).
- **The program would combine "research, graduate, and professional education."** (UI Vision Statement)
- **The program allows the UI to "build and sustain competitive advantages through innovative curricula of distinction**" (UI Strategic Action Plan, Goal 1, Objective A) by "expand[ing] partnerships with industry, government, schools, and foundations that emphasize active learning opportunities such as internships, practica, athletics, and the arts" (Strategy 4), "invest[ing] in field work and outreach as a means of contributing to learning and the land-grant responsibilities of the University" (Strategy 5), "develop[ing] flexible course schedules and year-round programs to meet student needs throughout the University" (Strategy 6), and "establish[ing] curricular content that utilizes interdisciplinary student teams to solve complex learning tasks" (Strategy 7).
- **The program allows the UI to "promote an environment that increases faculty engagement in interdisciplinary scholarship**" (UI Strategic Action Plan, Goal 2, Objective A) by strengthening the research relationships with doctoral programs in WWAMI, Neuroscience, and Exercise Science**.**
- **The program allows the UI to "deliver undergraduate, graduate, continuing professional education, and Extension programs and opportunities for lifelong learning"** (UI Strategic Action Plan, Goal 3, Objective B) by "promot[ing] access to program/course delivery statewide" (Strategy 1), "implement[ing] a fee structure that provides adequate budgetary support based on a realistic costs matrix (Strategy 4), and "grow[ing] and support[ing] community internships and service learning activity as opportunities for students and communities to engage for mutual benefit" (Strategy 6).

The University is categorized as a highly active research, land-grant institution and as such, it would be well-served to create innovative graduate curricula to fill emerging needs in professional areas of study that serve Idahoans as well as the broader U.S. population. This proposal would allow the athletic training education program to better match the research extensive, land grant mission of the University of Idaho. The proposed DAT program will continue to utilize HPERD's joint faculty positions with the Neuroscience Program and with the WWAMI medical school (which provides access to the Translational Health Sciences Center at the University of Washington). The DAT is a professional doctoral program that will seamlessly merge research into practice, and this focus will position students and faculty in the DAT to apply for translational research grants. Development of this program will also create synergies and increased resources for the PhD program in Exercise Science within the Health, Physical Education, Recreation and Dance department and will position the University of Idaho to assume a national leadership role in the profession of athletic training.

Justification for adding the program is four-fold. First, the proposed program is important for the advancement of the athletic training profession, as described below in Section 5.a. Second, this program will enhance the national presence of the University of Idaho and position the University as a leader in post-professional athletic training education. It will be the first advanced clinical doctorate athletic training program in the U.S. Third, as the state's flagship research institution, the University of Idaho has the infrastructure in place to support doctoral programs. This proposal is consistent with the

UI's charge to develop graduate programs and professional programs. Fourth, the proposed program is a self-support program, providing long term sustainability with no additional burden to the state of Idaho.

5. Demand – address student, regional and statewide needs.

5.a. Needs Assessment

Summarize the needs assessment that was conducted to justify the proposal. The needs assessment should address the following: statement of the problem/concern; the assessment team/the assessment plan (goals, strategies, timelines); planning data collection; implementing date collection; dissemination of assessment results; program design and on-going assessment. (See the Board's policy on outcome assessment.)

This is a new program for the profession of athletic training. Currently, no advanced clinical doctorate programs exist in the US. Demand for the program will be justified below. We will begin with a discussion of the evolution of clinical doctorates in general, and then specifically discuss how the need for the advanced clinical doctorate has evolved in athletic training.

Graduate level study is the advanced preparation and mastery of a specialized field or discipline. It occurs within an atmosphere of intellectual and creative rigor that encourages scholarly inquiry, research and study of the evolving formulation of knowledge. Graduate education results in the candidate's ability to shape the direction of one's discipline, to become a leader in one's respective profession, and to contribute to the rapidly changing global community. Graduate education involves learning and studying for degrees or other qualifications for which a first or bachelor's degree generally is required, and is normally considered to be part of tertiary or higher education. The organization and structure of graduate education varies in different countries, and also in different institutions within countries. The distinction between master's level and doctoral level is generally defined within a field of study (discipline or profession). In some fields of study, the master's and doctoral level of study are hierarchically arranged, with a master's degree being required prior to entry into a doctoral program. In other fields of study, no master's degree exists and students enter a doctoral program from a bachelor's program. Finally, in some fields of study, both levels exist in parallel, serving very different functions for the profession or discipline.

Academic Doctorate (PhD) and the Professional Practice Doctorate (PPD). [Key Reference for this section: Willis, J.W., Inman, D., & Valenti, R. (2010). *Completing a professional practice dissertation.* Charlotte, NC: Information Age Publishing, Inc.] Traditionally, the academic doctorate has had the purpose of producing researchers who continue to make scientific and scholarly advances in their discipline. The academic doctorate in the United States typically requires two years of coursework followed by a research dissertation. In the past 50 years, there has been a shift in the employment placement of PhD graduates. Many of these graduates do not enter the research arena, but instead, enter professional practice. There has been, and continues to be, vigorous debate nationally about how doctoral programs should address this shift in employment trends for graduates of doctoral programs and the unique preparation necessary to prepare them for their chosen field of practice. One approach to this problem has been the development of professional practice doctorates (PPDs). The classic examples of the professional practice doctorate are the doctor of medicine (MD) and the juris doctor (JD), which have been in existence for over 100 years. These degrees differ considerably from the PhD degree in their entrance requirements, their curriculum, and their intended outcomes. Their focus is to prepare students to "take their place as practicing members of the profession rather than find an academic post at a university and establish a program of research" (Willis et al, 2010, p. 23). The PPD emerged to fill the gap that the traditional PhD was not able to fill. The explosion of knowledge and expertise in many fields now justifies the doctorate in the practice of many professions, where a bachelor's degree and a master's degree may have been considered adequate preparation over 100 years or 50 years ago, respectively.

According to Willis et al (2010), "PPD programs focus heavily on skills, knowledge, and expertise needed to practice a profession" (p. 26). The following characteristics are often exhibited by PPD programs [Green & Powell (2005), as cited by Willis et al, 2010; pp. 24-25]:

- Courses prepare students for professional practice in the field.
- The content and skills students learn are broader and more interdisciplinary than traditional PhD programs because professional practice requires a broader range of skills, expertise, and knowledge.
- The components of coursework, research, and field work are more integrated and connected in PPD programs.
- Faculty in PPD programs typically include more practicing professionals than is typical of traditional PhD programs.
- The curriculum includes more relevant field experiences that prepare students for professional practice.

- PPD programs may be the first professional degree as is illustrated by DPsy (Doctor of Psychology) or midcareer degree as the case with many EdD (Doctor of Education) and DNP Doctor of Nurse Practitioner) programs.
- PPD programs tend to rely on portfolios rather than qualifying or comprehensive exams for student assessment.
- PPD Programs tend to emphasize "more integration with the professional workplace" and this can often "reduce the dominance of the university sector (the 'academy') and its tendency to privilege academic knowledge over professional knowledge" (Green & Powell, 2005, p.88).
- "There is a strong practice element that, in turn, is mediated by intellectual understanding and reflection" (p. 90).
- Students in PPD programs are typically older, come from a wider range of backgrounds, pay their own program costs, and already have experience in their chosen profession.
- Student s in PPD programs typically complete the doctorate part time while working full time and carrying family responsibilities.
- In recognition of the experience and expertise students can contribute to a doctoral program, PPD programs often accept students in cohorts that complete the program together and thus form a cooperating and collaborating group that provides support and encouragement to members of the cohort, and share expertise.
- Dissertations in PPD programs tend to be shorter and to focus on problems of practice.
- Dissertations in PPD programs are typically done "in the field" and are likely to use methods of research and scholarship suited to the context of practice.
- Traditional PhD research dissertations generally use a research model that involves conducting research to test the implications of a particular theory in tightly controlled settings; PPD dissertations generally address a real world problem and may develop or use theory but the goal may not be theory development. The goal may be to develop a solution to a real-world problem. The result of a traditional dissertation is theoretical knowledge; the result of a PPD dissertation is professional knowledge.

As we have presented above in Section 2, our proposed DAT reflects many of these characteristics of quality PPD programs.

The Professional Practice Doctorate (Clinical Doctorate) in Allied Health. In the allied health fields, the term "professional practice" doctorate is more commonly called the "clinical" doctorate, given that professional practice usually occurs in a setting called a clinic. Specifically, a clinical doctorate is a professional degree program in a health science field, which emphasizes the application of research to clinical practice. In these fields, the organization and structure of graduate education has varied across fields of study, but the overall trend has been to move to the clinical doctorate, with a clear distinction between the clinical doctorate and the academic doctorate (PhD).

Clinical doctorates typically reflect many of the characteristics described above for PPD programs. More specifically, clinical doctorates, including our proposed program,

- Prepare students for professional practice in the field.
- Have students learn content and skills that are broader and more interdisciplinary than PhD programs.
- Have more integrated and connected components of coursework, research, and field work.
- Have curriculum that includes more relevant field experiences that prepare students for professional practice.
- Rely on portfolios rather than qualifying or comprehensive exams for student assessment.
- Emphasize "more integration with the professional workplace".
- Have a strong practice element that, in turn, is mediated by intellectual understanding and reflection.
- Attract students that are typically older, come from a wider range of backgrounds, pay their own program costs, and already have experience in their chosen profession.
- Attract students who typically complete the doctorate while working full time and carrying family responsibilities.
- Accept students in cohorts that complete the program together and thus form a cooperating and collaborating group that provides support and encouragement to members of the cohort, and share expertise.
- Produce dissertations that tend to be shorter, focus on problems of practice, are typically done "in the field", are likely to use methods of research and scholarship suited to the context of practice, address a real world problem, may develop or use theory, may develop a solution to a real-world problem, and result in increased professional knowledge.

Clinical doctorates in allied health fields are distinguished further as either entry-level or advanced level doctorates. An entry-level clinical doctorate is a professional clinical degree representing initial preparation for practice. No professional knowledge is assumed prior to entry into the program, and a finite level of foundational knowledge is required for entry (e.g., Human Anatomy & Physiology, Chemistry, Physics, etc.; see Table 1 on p. 5). The post-professional advanced clinical doctorate reflects the acquisition of advanced level knowledge and skills associated with specialization, certification, clinical residencies, fellowships, etc. There continues to be ongoing discussion in allied health fields about the need for advanced (post-professional) education for skill development beyond the entry-level skill development. In the field of medicine, this need is met with the residency program. However, in other allied health fields, transitions to entry-level doctorates have further complicated how to best approach this problem.

To assist understanding of the clinical doctorate, we will use physical therapy to demonstrate distinctions among various clinical doctorates. While a number of allied health and medical professions could have been selected, Physical Therapy was chosen because, in many ways, it is the health care profession that most closely resembles Athletic Training. There are three clinical doctorate degree programs in Physical Therapy: Doctor of Physical Therapy (DPT), Transitional Doctor of Physical Therapy (TDPT), and Doctor of Science in Physical Therapy (DScPT).

Doctor of Physical Therapy (DPT). The DPT degree is currently the entry level clinical doctorate in physical therapy. It is designed to prepare graduates to enter the practice of physical therapy. Admission requirements for the program include completion of an undergraduate degree that includes fulfillment of specific prerequisite coursework, volunteer experience or other exposure to the profession, completion of a standardized graduate examination (e.g., GRE), letters of reference, personal goals statement, passing the national licensure examination and meeting the requirements of the state(s) in which the physical therapist practices. The physical therapist curriculum consists of foundational sciences (i.e., anatomy, cellular histology, neuroscience, kinesiology, physiology, exercise physiology, pathology, pharmacology, radiology/imaging, medical screening), behavioral sciences (communication, social and psychological factors, ethics and values, law, business and management sciences, clinical reasoning, evidence-based practice) and clinical sciences (cardiovascular/pulmonary, endocrine and metabolic, gastrointestinal and genitourinary, integumentary, musculoskeletal, neuromuscular), and physical therapist practice (patient/client management model, prevention, wellness, and health promotion, practice management, management of care delivery, social responsibility and advocacy, and core values). This degree has appeared only in the last 10-15 years. Prior to the DPT, entry level PT education occurred at the master's level and prior to that, at the bachelor's level. This elevation of degree level has occurred only in the last 20 years. The academic reason for the degree elevation to the DPT was the addition of more research classes and newly expanded areas of entry-level competence (e.g. radiology, clinical medicine). There are approximately 213 DAT programs in the country. Idaho State University, the University of Montana, and the University of Utah are examples of universities that offer DPT programs.

Transitional Doctor of Physical Therapy (TDPT). The TDPT was developed to accommodate physical therapists that were credentialed as a result of attending a bachelor's or master's entry-level program prior to the adoption of the DPT model. A primary purpose was to allow them to attain degree parity with therapists who hold the professional DPT by filling in any gaps between their professional baccalaureate or master's degree PT education and the current professional DPT degree education. TDPTs were designed to raise practitioner's outcome competencies to be analogous to those of the current professional (entry-level) DPT standard. They did this by adding the research coursework and the expanded levels of competence above what has always been included in the entry level education (whether at the masters or bachelors level). Thus, the range of credits required for TDPT programs is 17-50 (see Table 2 in Appendix G for a list of selected programs and their credit requirements). The TDPT simply accommodates the increased competence levels that have occurred since the degree was moved from the bachelor's level. The TDPT "does not signify the acquisition of advanced clinical knowledge, skills, and behaviors; rather, it is used to signify that the t-DPT program and degree is for US licensed physical therapists who has successfully completed their professional (entry-level) education prior to enrolling in a t-DPT program" (retrieved from www.apta.org). There are approximately 68 TDPT programs in the country, according to the American Physical Therapy Association's web site. Idaho State University, the University of Montana, and the University of Tennessee are examples of universities that offer TDPT programs. Table 2 in Appendix G provides a list of selected TDPT programs, their entrance requirements, and the total credits required for graduation.

Doctor of Science in Physical Therapy (DScPT). The DScPT is an advanced clinical doctorate degree for physical therapists. In health care professions there is a need for advanced (post-professional) education beyond the foundational professional coursework. Advanced clinical doctorates reflect the highest level of preparation for clinical practice in the profession. The DScPT programs were originally used as advanced practice clinical doctorates in the Physical Therapy discipline. The coursework tends to be more clinically focused or practice centered. The rigor is similar to that of a PhD, although the DScPT is directed toward improving clinical practice and research related to clinical practice while the PhD is directed towards theoretical research preparing students for faculty/research endeavors. When the DScPTs were originally created, they represented a clear differentiation between the entry-level degree (which, at that time, was at the bachelor's and master's level) and advanced clinical practice degree. There are approximately 9 DScPT programs in the country according to the American Physical Therapy Association's web site. The University of Tennessee, Texas Tech University, and the University of California, San Francisco are examples of universities that offer DScPT programs. Table 3 in Appendix G provides a list of selected DScPT programs, their entrance requirements, and the total credits required for graduation.

To assist in comparing these degrees, Table 1 (below) provides a comparison of the entrance requirements for the various clinical doctorates. Requirements for the academic doctorate (PhD) are also provided for comparison purposes. More detail about the requirements in each degree type can be found in tables presented in Appendix G.

Table 1. Comparison of entrance requirements and program requirements for the proposed University of Idaho DAT (in gray), various other clinical doctorates, and the research (Ph.D.) doctorate.

	Proposed DAT	DPT	TDPT	DScPT	PhD
Degree required for admission	M*	B	B or M	B or M	B or M
Professional Certification Required?	Y	N	Y	Y	N
Basic & Applied Science Knowledge required for entry to program	That defined by entry-level accreditation	•Human Anatomy •Human physiology Biology •Statistics & research design •Chemistry •Physics •Other areas as defined by each institution	That defined by entry-level accreditation	That defined by entry-level accreditation	Varies by discipline
Professional Competencies	Those defined by entry-level accreditation	None: 80-150 hours of volunteer observation in PT	Those defined by entry-level accreditation	Those defined by entry-level accreditation	None

Note: 'B' indicates bachelor's degree; 'M' indicates master's degree.
* Or Entry level Bachelor's Degree and +professional certification + 3^{+} years experience + 75 CEUs at AT.

The introduction of the DPT as an entry level degree in Physical Therapy has created a blurring of the lines between these three doctoral degrees and increased debate in the profession about how to address the need for advanced clinical training in physical therapy. With the creation of the entry-level DPT program, the DScPT degree is disappearing, and there is little opportunity for formal advanced clinical training in physical therapy. This has occurred because there is less incentive for practitioners to go back to school to obtain this much needed training, since they already possess the doctoral degree at the entry level or can obtain it through the TDPT route in as few as 17 credit hours. As you will see below, the model that we propose for Athletic Training Education, and that is beginning to gain momentum within the profession of Athletic Training, represents a sounder educational model and does much to silence the arguments regarding degree inflation.

The Clinical Doctorate in Athletic Training. A stated earlier, this is a new program for the profession of athletic training. Currently, no advanced clinical doctorate programs exist in the United States. Because ~70% of ATs have at least a master's degree, the DAT would meet the need of recent and past AT graduates nationwide. Additionally, ATs that have a master's degree may be inclined to obtain the DAT, since it would be considered the "terminal clinical degree" for the profession.

Athletic training professionals have had many discussions about the need to transition to entry-level doctorates. In Athletic Training the traditional route to entry-level certification (and, therefore, practice) has been the bachelor's degree. From the early 1950's until the early 1990's, the bachelor's degree was the only route to certification. As the knowledge base increased demands on entry-level practitioners, increased demands for stronger curricula were presented. Entry-level master's degrees (ELMs) began to emerge in the mid 1990's. Though the governing professional organization for athletic training, the National Athletic Trainer's Association (NATA), has yet to mandate a transition to an entry-level master's degree, the transition is occurring. Twenty-three accredited ELMs currently exist nationwide, with 13 of the 23 existing programs receiving their initial accreditation since 2005. Students graduating from ELM programs compete with students graduating from entry-level bachelor's programs, and hold a competitive advantage over the bachelor's level graduates.

Paralleling this graduate transition from entry-level bachelor's degrees to entry-level master's degrees is controversy regarding the preparation of students in clinical skills and practice. Since the inception of academic curricula in athletic training, there has been the belief that athletic trainers who are prepared at the entry-level have enough academic training to begin clinical practice. However, approximately 70% of athletic trainers with bachelor's degrees pursue a master's degree (Retrieved 1-3-10 from http://www.nata.org/sites/default/files/AT_Facts.pdf, p.3 – found in Appendix I), for the primary purpose of obtaining a graduate assistantship during their master's preparation to work as a certified athletic trainer and develop their clinical skills and practice under an experienced athletic trainer. Only 10% of those master's degrees are advanced degrees in athletic training; the majority of the degrees are in other related fields (e.g. education, exercise science, biomechanics). The creation of the Entry-level Master's (ELM) in the mid 1990's changed the traditional route to entry-level practice. Students graduating from ELM programs now also compete with students graduating from other master's degree programs including advanced clinical master's degrees.

In the process of creating the ELM degrees, athletic training has lost much of the residency style of post graduate learning that has been considered to be integral to the profession. Given that ELM degrees will continue to expand, the creation of an Advanced Clinical Degree in Athletic Training (DAT) represents a solution to this problem. Students entering the DAT will hold an entry-level degree in athletic training and have successfully achieved certification as an Athletic Trainer. The DAT will provide them the means to pursue advanced clinical training through a clinical mentorship/residency model. Such a model will foster the transition from entry-level professional to advanced clinician. The proposed DAT incorporates the best from post professional athletic training programs with the best from residency/mentorship style programs. Creation of this program at the DAT level (advanced clinical graduate degree level) is necessary to encourage ELM students to pursue post entry-level training in athletic training. Currently, the only options for advanced work for ELM graduates are the advanced degree masters in AT (which many consider a lateral step) or an academic doctorate which is considered to be of little benefit to clinicians and their patients. The proposed DAT provides an option for students in ELM programs to pursue additional clinical training at the next degree level.

While there has been no official mandate from the profession to convert all bachelors in athletic training programs to the master's level, in February 2011 at the NATA Educator's Conference in Washington, DC, the leaders of the profession stated that the transition to the entry-level graduate degree is inevitable and that programs should begin the discussions if they have not already converted. The NATA Board of Directors has been slow to respond to this transition. It is apparent that the transition may not occur due to a national mandate; instead the transition may naturally occur as it becomes more difficult each year to satisfy the ever expanding foundational educational competencies at the bachelor's level. Entry-level graduate programs have a substantially greater curricular space which allows for more depth and broader training beyond minimal requirements. This will most likely lead to an unofficial mandate based on the need to provide greater curricular space. As the curriculum grows to keep up with the expanding training within the profession, programs at the bachelors will eventually require students to graduate with very large numbers of credits just to meet the minimum standards in athletic training on top of their core bachelor's requirements. Eventually these schools will lose students to schools with entry-level master's programs. Bachelors' programs will have to require students to spend similar or greater amounts of time in school and yet, earn a lower degree for similar professional training. The transition to the entry-level master's degree has already begun. It is a natural evolution in professional education and will occur, whether there is an official mandate or not.

Because of this shift to entry-level master's education in Athletic Training at the University of Idaho, advanced clinical training in Athletic Training will naturally occur at the doctoral level. We have the opportunity in Athletic Training Education to create a stair-step model that appropriately places entry-level clinical education and advanced clinical education in sequence while distinguishing them clearly from traditional research degrees at the master's (MS) and doctoral level (PhD). This opportunity exists because there is currently no entry-level or post professional clinical doctorates in athletic training. Athletic training, like physical therapy, has confusion regarding degrees at this time, but that confusion occurs at the master's degree level. It is difficult, on the surface, to separate entry-level athletic training at the master's level from post professional master's degrees (which are not clinical in training). Graduates of post-professional master's degrees, while they may have more training and in-depth knowledge (depending on their master's degree) are treated similarly in the marketplace to graduates of entry level master's programs.

The natural health profession evolution is to the clinical doctorate. The debate is whether to make the doctorate an advanced practice doctorate, as in found in nursing and some occupational therapy programs, or entry-level (as found in physical therapy, medicine, pharmacy, etc.). The current position of athletic training is that the clinical doctorate should be reserved for advanced training, and that entry level training is more appropriate at the master's level. The advanced practice clinical doctorate in athletic training, as outlined in this proposal, would remove degree confusion for the profession of athletic training.

Our proposal is most comparable to the DScPT in Physical Therapy (see description above and Table 3 in Appendix G), though, comparisons can be drawn to the TDPT (see Table 2 in Appendix G), as our program will also fulfill the transitional degree role until the transition to entry level preparation at the master's level is complete in athletic training. The proposed DAT is more rigorous than most TDPT programs and comparable in rigor to the DscPT programs (albeit in different disciplines). The DAT has taken the best of residency style programs and combined that with the best of the academic graduate programs, and what is resultant is a clinical practice doctorate steeped in evidence-based clinical practice and research.

Again, it is important to note that this degree is an advanced clinical degree and is not an academic doctorate. This degree does differ from the clinical doctorates in other fields in that the DAT is an advanced clinical degree that is undertaken after the student becomes an entry-level professional. Most other clinical doctorates in the health professions are considered entry-level and occur pre-credential. The advantage of the post credential degree is that the program and the university can ensure that the degree is worthy of the highest clinical degree in the field. This proposed DAT represents a program that upholds the standards and associations with the term doctorate by encouraging entry-level professionals (especially ELMs) to pursue further clinical training beyond the entry-level. As in other health professions, the DAT will be a clinician's degree and is not assumed equivalent to the academic doctorate. As in other health care professions, the assumption is that this advanced clinical degree would not constitute qualifications to hold positions in academic programs other than clinical positions (e.g. in Physical Therapy, the clinician with the DPT may only hold clinical positions within academic curriculums; an academic doctorate is required for academic faculty positions). The clinical doctorate programs have been very popular in the health care professions, and they represent a positive trend towards advancing the knowledge in a field whether through a post-credential (e.g. DAT) or the doctorate in Physical Therapy (entry-level doctorate). Academic doctorates represent the highest level of education and training in academia, and clinical doctorates represent the highest level of education and training in clinical practice. Both are necessary and can complement each other. Individuals choosing a career in academia or research may eventually choose a DAT/Ph.D route, similar to what is required in medicine for faculty holding non-clinical roles.

5b. Students – explain the most likely source of students who will be expected to enroll (full-time, part-time, outreach, etc.). Document student demand by providing information you have about student interest in the proposed program from inside and outside the institution. Differentiate between the projected enrollment of new students and those expected to shift from other program(s) within the institution.

As stated in the External Review Report in Section IV.b., the DAT full academic "*proposal has appropriately outlined the potential for student enrollment*." The students in the proposed DAT program will be full-time. As stated above in Section 2.c., this program will attract three different types of students.

i. Students who have completed a Council on Accreditation of Athletic Training Education (CAATE) accredited Bachelor's degree in Athletic Training and have at least 3 years of clinical practice as an athletic trainer.
ii. Students who have completed a CAATE accredited entry-level master's degree.

iii. Students who have completed a Post Professional Education Council (PPEC} accredited masters program in athletic training.

Within these three groups, there are approximately 26,000 existing certified athletic trainers, comprising a significant recruitment pool (Retrieved 1-3-10 from http://www.nata.org/sites/default/files/AT_Facts.pdf, p.3 – found in Appendix I). Few of these have formal advanced clinical training and would benefit in the marketplace from a clinical doctorate, given that 70% of athletic trainers that already have a master's degree. Additionally, approximately 4000-5000 students graduate annually from entry-level bachelor's and master's programs. Because 70% of these graduates go on to earn the terminal clinical degree in the field, an additional pool of 2800 to 3500 individuals can be targeted annually for recruitment into the program.

Finally, in an informal survey completed in March 2008, 100 percent (n= 60) of current athletic training students surveyed expressed interest in the DAT. All said that they would complete the program if it is offered.

5c. Expansion or extension – if the program is an expansion or extension of an existing program, describe the nature of that expansion or extension. If the program is to be delivered off-campus, summarize the rationale and needs assessment.

This section is not applicable to the proposed DAT program.

6. Resources – fiscal impact and budget

On this form, indicate the planned FTE enrollment, estimated expenditures, and projected revenues for the first three fiscal years (FY) of the program. Include both the reallocation of existing resources and anticipated or requested new resources. Second and third year estimates should be in constant dollars. Amounts should reflect explanations of subsequent pages. If the program is a contract related, explain the fiscal sources and the year-to-year commitment from the contracting agency(ies) or party(ies).

I. PLANNED STUDENT ENROLLMENT

	FY 12		FY 13		FY 14	
	FTE	Headcount	FTE	Headcount	FTE	Headcount
A. New enrollments	13.8	10	35.9	27	62.5	47
B. Shifting enrollments						

II. EXPENDITURES

	FY 12		FY 13		FY 14	
	FTE	Cost	FTE	Cost	FTE	Cost
A. Personnel Costs						
1. Faculty (including fringe)	0.75	66,662	0.50	48,851	2.0	192,940
2. Administrators						
3. Adjunct faculty				18,212		18,212
4. Graduate/instructional assistants			0.50	25,250	0.5	25,250
5. Research personnel						
6. Support personnel	0.2	9,900	0.20	10,402	0.2	10,678
7. Fringe benefits						
8. Other: _____						
Total FTE Personnel And Costs;	**0.95**	**76,522**	**1.20**	**102,715**	**2.70**	**247,080**

	FY 12	FY 13	FY 14
B. Operating expenditures			
1. Travel	10,000	10,000	30,000
2. Professional services	5,000	5,000	7,250
3. Other services			
4. Communications	15,000	15,000	20,000
5. Utilities	2,000	2,000	2000
6. Materials & supplies	6,000	11,000	25,000
7. Rentals			
8. Repairs & maintenance	8,000	8,000	30,000
9. Materials & goods for manufacture & resale			
10. Miscellaneous	5,000	11,000	30,000
Total Operating Expenditures:	**51,000**	**62,000**	**144,250**

	FY 12	FY 13	FY 14
C. Capital Outlay			
1. Library resources	3,000	3,000	5,000
2. Equipment	27,000	67,900	76,827
Total Capital Outlay:	**30,000**	**70,900**	**81,827**
D. Physical facilities Construction or major Renovation	**35,753**	**130,900**	**200,000**
E. Indirect costs (overhead)			
GRAND TOTAL EXPENDITURES:	**193,275**	**366,515**	**673,157**

III. REVENUES

	FY 12	FY 13	FY 14
A. Source of funds			
1. Appropriated funds -- Reallocation – MCO	66,662	48,851	0
2. Appropriated funds -- New – MCO			
3. Federal funds			
4. Other grants			
5. Fees	160,000	432,000	752,000
6. Other:			
GRAND TOTAL REVENUES:	**226,662**	**480,851**	**752,000**

	FY 12	FY 13	FY 14
B. Nature of Funds			
1. Recurring*	226,662	480,851	752,000
2. Non-recurring**			
GRAND TOTAL REVENUES:	**226,662**	**480,851**	**752,000**

* Recurring is defined as ongoing operating budget for the program which will become part of the base.

** Non-recurring is defined as one-time funding in a fiscal year and not part of the base.

6.a. Faculty and Staff Expenditures

Project for the first three years of the program, the credit hours to be generated by each faculty member (full-time and part-time), graduate assistant, and other instructional personnel. Also indicate salaries. After total student credit hours, convert to an FTE student basis. Please provide totals for each of the three years presented. Salaries and FTE students should reflect amounts shown on budget schedule.

FY2012

Name, Position, and Rank	Annual Salary Rate (inc. fringe)	FTE Assignment to this Program	Program Salary Dollars (inc. fringe)	Projected Student Credit Hours	FTE Students
Alan Nasypany, Senior Instructor Program Director	$76,773	0.5	$38,387	220	9
Jeff Seegmiller, Assistant Professor Tenure-Track Faculty Member	$112,940	0.25	$28,235	110	4.8
Totals		**0.75**	**$66,662**	**330**	**13.8**

FY2013

Name, Position, and Rank	Annual Salary Rate (inc. fringe)	FTE Assignment to this Program	Program Salary Dollars (inc. fringe)	Projected Student Credit Hours	FTE Students
Alan Nasypany, Senior Instructor MSAT Program Director	$79,076	0.25	$19,769	294	13.25
Jeff Seegmiller, Assistant Professor Tenure-Track Faculty Member	$116,328	0.25	$29,082	166	6.875
Mentor Clinical Instructors	$16,663		$18,212		
Doctoral Teaching Assistant Instructor	$25,250	0.5	$25,250	401	15.25
Total		**1.0**	**$92,313**	**861**	**35.9**

FY2014

Name, Position, and Rank	Annual Salary Rate (inc. fringe)	FTE Assignment to this Program	Program Salary Dollars (inc. fringe)	Projected Student Credit Hours	FTE Students
Non Tenure Track, Senior Instructor Program Director	$96,470	1.0	$96,470	513	21.375
Assistant Professor Tenure-Track Faculty Member	$96,470	1.0	$96,470	423	17.625
Mentor Clinical Instructors	$16,663		$18,212		
Doctoral Teaching Assistant Instructor	25,250	0.5	$25,250	564	23.5
Total		**2.5**	**$236,402**	**1500**	**62.5**

6.b. Administrative Expenditures

Describe the proposed administrative structure necessary to ensure program success and the cost of that support. Include a statement concerning the involvement of other departments, colleges, or other institutions and the estimated cost of their involvement in the proposed program

This program will ultimately be administered by the Department Chair for the Department of Health, Physical Education, Recreation, and Dance, and by the Dean of the College of Education. This administration will be a continuation of the administrative practice for the current undergraduate program in Athletic Training, and will result

in no additional cost. Eventually, these costs will be recovered through the revenue sharing that will occur after year 3 of the program. Additionally, transitioning this program to a graduate level program will require administration by the Dean of the College of Graduate Studies. This administration will occur at minimal cost to the institution. This cost will also be covered by the revenue sharing that will occur after year 3 of the program.

FY2012

Name, Position, and Rank	Annual Salary Rate (inc. fringe)	FTE Assignment to this Program	Program Salary Dollars (inc. fringe)	Percent of Salary Dollars to Program
Administrative Assistant	$17,250	0.2	$9900	100%
Totals		**0.2**	**$9900**	

FY2013

Name, Position, and Rank	Annual Salary Rate (inc. fringe)	FTE Assignment to this Program	Program Salary Dollars (inc. fringe)	Percent of Salary Dollars to Program
Administrative Assistant	$17,250	0.2	$10,402	100%
Total		**0.2**	**$10,402**	

FY2014

Name, Position, and Rank	Annual Salary Rate (inc. fringe)	FTE Assignment to this Program	Program Salary Dollars (inc. fringe)	Percent of Salary Dollars to Program
Administrative Assistant	$17,250	0.2	$10,678	100%
Total		**0.2**	**$10,678**	

6.c. Operating Expenditures (travel, professional services, etc.) Briefly explain the need and cost for operating expenditures.

Operating expenditures are as follows:

Travel – Travel for faculty development as well as travel to develop and monitor clinical sites outside of Moscow.
Professional services – Expenses for continuing education units for faculty, malpractice insurance, licenses, and accreditation expenses.
Communications – Expenses for student recruitment and for program correspondence.
Materials and supplies – Expenses for books, course supplies, copy costs, lab supplies, and other expendables related to instruction.
Repair and restoration – Expenses to maintain infrastructure in teaching laboratories and classrooms for instructional delivery.
Miscellaneous – Expenses for Blackboard use ($330/student), faculty and staff searches, accreditation, etc.

6.d. Capital Outlay

(1) Library resources

Library resources that exist for the current undergraduate program are adequate for success of the proposed program. The program will share resources with the proposed MSAT. However, additional funds have been budgeted annually from program revenues to accommodate program enrollment growth.

(b) Indicate the costs for the proposed program including personnel, space, equipment, monographs, journals, and materials required for the program.

There are no anticipated additional costs associated with this proposed program at this time. However, additional funds have been budgeted annually from program revenues to accommodate increased costs that may occur.

(c) For off-campus programs, clearly indicate how the library resources are to be provided.

During the fall and spring semesters, when students are off-campus, they will access on-line journals through the library and have access to journals through professional memberships (required). They will also have access to interlibrary loan just as on-campus students. However, additional funds have been budgeted annually from program revenues to increased costs in this area.

(2) Equipment/Instruments

Describe the need for any laboratory instruments, computer(s), or other equipment. List equipment, which is presently available and any equipment (and cost) which must be obtained to support the proposed program.

We are currently seeking development funds to purchase the equipment identified below. We will continue to partner with the UI Department of Athletics to use their equipment until these items can be purchased. The proposed MSAT program contains a similar equipment list. These two lists together provide a fully-equipped teaching laboratory for each program. The costs have been equally divided across the two programs. These items will be shared with the proposed MSAT program.

# Currently Owned	Equipment/Supplies	# Needed	Cost/Unit	Total Cost
	Plinths			
2	Standard Treatment Tables			
	Plinths (adjustable, split leg)	2	$500	$1,000
4	Portable Treatment Tables			
1	Taping Tables			
	Modalities			
1	E-stim/ultrasound/combo/light therapy	2	$8,500	$17,000
2	Biofeedback/EMG			
1	Whirlpool units			
	Intermittent compression with cryounits	2	$2,500.00	$5,000
	Shortwave diathermy unit	1	$5,000.00	$5,000
	Hydroculator	1	$800.00	$800
	Hydro packs (assorted sizes)	1	$15.00	$15
	Hydor covers (assorted sizes)	1	$15.00	$15
	Ice Machine	1	$1,500.00	$1,500
	Refrigerator	1	$500.00	$500
	Traction Lumbar/Cervical	1	$2,500.00	$2,500
				$0
	Evaulation			$0
	Otoscope	1	$300.00	$300
2	Reflex hammers	4	$35.00	$140
4	BP Cuffs	4	$30.00	$120
4	Stethoscopes	4	$75.00	$300
2	12" goniometer	5	$25.00	$125

2	6" goniometer	5	$18.00	$90
	Inclinometers	6	$80.00	$480
	Treadmill	1	$800.00	$800
	Rehabilitation			
	Durable Supplies/Equipment			
	Therabands (color rainbow)			
	Yellow Box	1	$75.00	$75
	Red Box	1	$75.00	$75
	Blue Box	1	$75.00	$75
	Green Box	1	$75.00	$75
	Black Box	1	$75.00	$75
	Silver Box	1	$75.00	$75
	Gold Box	1	$75.00	$75
	Wobble board	1	$100.00	$100
	Dyna disks	1	$40.00	$40
	Slant boards	2	$75.00	$150
	Resistance Trainer (Optum S.P.S)	1	$200.00	$200
	Jump-stretch bands	3	$20.00	$60
	Foam rollers (hard, soft)	2	$20.00	$40
2	Bike			
1	Eliptical			
	Cuff wts 1-15 lbs	1	$100.00	$100
	Dumbells 1-5 lbs	1	$40.00	$40
	Plyo toss (with minitramp)	1	$300.00	$300
	Physioballs (assorted sizes)	1	$15.00	$15
	Foot management kits	3	$40.00	$120
	Emergency Response			
	AED	1	$2,000.00	$2,000
	O2 Setup	1	$500.00	$500
4	Epipen trainer			
	Crutches	5	$25.00	$125
	Ankle Braces (ASO)s			$0
	x-small	2	$30.00	$60
	small	2	$30.00	$60
	medium	2	$30.00	$60
	large	2	$30.00	$60
	x-large	2	$30.00	$60
	Biohazard Container	1	$30.00	$30
	Sharps Container	1	$30.00	$30
	CPR Masks	5	$8.00	$40
	Sam Splint	3	$20.00	$60

	Splint Kits	2	$300.00	$600
	Adjustible Arm Sling	3	$8.00	$24
	Care and Prevention			
	Shark	5	$20.00	$100
	Superpro Scissors	5	$40.00	$200
	Learning Aids			
2	Foot & Ankle Model			
3	Knee Model			
5	Shoulder Model			
3	Elbow Model			
2	Wrist & Hand Model			
3	Full Body Model			
1	Spine Model			
	TOTALS			**$41,384**

6.e. Revenue Sources

(1) If funding is to come from the reallocation of existing state appropriated funds, please indicate the sources of the reallocation. What impact will the reallocation of funds in support of the program have on other programs?

Reallocation of existing state-appropriated funds will occur only in FY12 and FY13. During these transition years, the DAT Program Director and the tenure-track instructional faculty will remain on state appropriation salaries for the academic year. Their summer salaries will be paid from the program revenues. Because the students in the undergraduate AT program will have completed their theory courses and will only be completing clinical education courses and experiences, the existing faculty will be able to assume responsibility for course delivery in the MSAT. The enrollment targets identified for these first two years are small. When combined with the undergraduate enrollments, the total enrollments are equal to a fully subscribed undergraduate program. These faculty, with a continuing doctoral TA, will be able to handle the student numbers for FY12. For FY 13, a Clinical Coordinator will be hired to assist in this transition year and to accommodate the higher enrollment targets.

(2) If an above Maintenance of Current Operations (MCO) appropriation is required to fund the program, indicate when the institution plans to include the program in the legislative budget request.

Not applicable.

(3) Describe the federal grant, other grant(s), special fee arrangements, or contract(s) to fund the program. What does the institution propose to do with the program upon termination of those funds?

This program is defined as a **self-support** program and will charge a program fee, in accordance with the policies set forth in Section V.R.3.b.v of the Idaho State Board of Education Governing Policies and Procedures. For the first three years of the program (FY12, FY13, FY14), one hundred percent of the program fee will be returned directly to the Department of HPERD for administration of the proposed program. During the first two years of the program, the salaries of the Program Director and one tenure-track faculty member will continue to be funded by state appropriations. This is acceptable, given that both faculty will continue to provide oversight and instruction for the undergraduate B.S.P.E. in Athletic Training, which is a state-approved program, funded by state appropriations, and accredited by the Commission on Accreditation of Athletic Training Education. In FY14, the DAT program will become entirely self-support, funded by the program fee charged to each student.

In the fourth year of the program, revenue sharing will be implemented for profits realized from the program (i.e., the balance of funds remaining once all program expenses have been paid). The formula for revenue share will be an equal split (i.e., 25% each) among four entities: the program, the Department of HPERD, the College of Education, and the University of Idaho. The budget presented above for the first three years shows a "profit" for each of the first three years. The institution has agreed to allow these "profits" to be returned to the program for these first three years to provide the program flexibility during this implementation period. These monies will be used for the following purpose: 1) to provide necessary coverage for the teach out of the undergraduate program in athletic training; 2) to cover shortfalls that may occur if enrollment targets are not met or if budgeted expenses are higher than planned; and 3) to accelerate the purchase of capital equipment and/or space renovations to enhance program delivery.

The initial program fee for each student will be $16,000.00 per student per 12 months, for a total of $32,000.00 for the entire program. This fee will be increased 3% for each new cohort. The fee includes all administrative costs and costs associated with instruction, including faculty and staff salaries, program travel costs necessary for accreditation and instruction, books, materials, supplies, technology costs, capital equipment and renovation costs, and repair and restoration. This fee does not include room and board or travel. However, the proposed summer residency model will minimize room and board costs for each student, requiring only that they pay for room and board while they are in residence during the summer term. Once the program is fully implemented and enrollment targets are met in years 4 and 5, we intend to allocate funding in the form of scholarships and teaching assistantships to offset room, board, and travel costs.

This cost is below that of clinical doctorate programs in other professions, and is also below the cost of doctoral degrees for out-of-state students attending the University of Idaho (annual costs would be $18,900 for a comparable program delivered across three semesters as outlined in this proposal).

A short term and long term strategy has been developed to evaluate the program for fiscal sustainability on an annual and long-term basis. Specifically, a short term strategy has been developed for making annual decisions regarding staffing, operational, and capital expenses, and a long term strategy has been developed for making decisions regarding program continuance or discontinuance.

Short Term Strategy – Key Elements

a. The staffing plan for both programs (including faculty and administrative support) has been designed to align with the projected enrollment targets (to ensure appropriate student-to-faculty ratios for quality instruction) and with the projected revenues generated by these enrollments (to ensure a fiscally viable program). As enrollment targets are exceeded or not met, personnel hires will be adjusted accordingly.
b. To ensure the practice described in 'a' for the first three years of the program, application, admission, and enrollment numbers will be evaluated every 3 months so that appropriate decisions can be made regarding staffing for the upcoming fiscal year. This decision process will include review and input by the Program Director, the Department Chair, the College Dean, and the Executive Director for Planning and Budget.
c. Operational and capital expenses will be evaluated every three months as projections about revenue are examined. This will ensure that we remain within budget throughout each fiscal year as the program is launched.
d. At the end of year three, the frequency of these evaluations will be reviewed to determine whether frequency can be decreased (assuming program continuance).

Long Term Strategy – Key Elements

a. Trend analysis will be utilized to make decisions about program continuation. Inputs for the trend will include market demand (i.e., employment projections, placement of graduates, number of applicants, etc.) and market supply (number of competitive programs, cost of competitors, etc.).
b. We anticipate a minimum of three years in order to provide ample opportunity to determine whether the programs are viable. The University of Idaho has made a commitment to allocate funding for up to three years to the program so that students are appropriately served in the event that the program is not deemed fiscally sustainable. These funds will be provided primarily through existing allocations in the form of equipment that is currently owned, space that is currently allocated, and state appropriations that are currently allocated to personnel and operation of the BSPE AT program.
c. Decisions about program continuance will be made in August, prior to the beginning of the admission cycle for the entering cohort in the subsequent summer.

d. Where tenure-track faculty lines are created using program revenues, contract language regarding employment status will be very explicit. In the event that program discontinuance occurs, the contract letters will state clearly at the time of hire, that termination of employment will be a consequence of program discontinuance, as the funding source for the position will also be discontinued.

An annual report will be generated by the Department of HPERD each year in June, detailing the results of the analyses that have been conducted for each of the programs. This report will be provided to the Provost, the College Dean, and the Executive Director for Planning and Budget. This will enable the institution to make appropriate decisions in August regarding program continuance.

Appendix A

External Review: Doctorate in Athletic Training
University of Idaho

Dr. Ken Knight
Dr. Leamor Kahanov

External Review: Doctorate in Athletic Training
University of Idaho

I. Commendations and Recommendations

The evaluation team agrees with the report that this is an innovative and entrepreneurial program that will lead the profession of athletic training and its educational processes upward along a natural evolutionary path. The proposal reflects accurate and in depth knowledge of the trends in the athletic training discipline and medical model of education. The program provides a guided clinical education experience that requires an understanding of evidence-based medical research, representative of a doctoral level degree. The program advances the mission of the university as a highly active research institution that promotes innovative graduate curricula to fill emerging needs in professional areas of study.

The faculty champions, Dr. Alan Nasypany and Dr. Jeff Seegmiller, have a depth of knowledge and research skills necessary to guide students in the DAT, and they are well supported by the administration. A unique budgetary model will provide revenue to support the program and future required capital needs. The budgetary model reduces risk to the university and will promote diversification of revenue to the university.

The evaluation team recommends the DAT program be implemented, with changes to the facilities and proposed curriculum. The proposed 2-year track (6 semester s) should be the only educational option for students entering the program. The proposed 1-year option for students of select backgrounds should be eliminated. There were no course syllabi to outline the depth of the program as discussed by the faculty. We trust that the courses, once developed, will display the rigor that is intended for the academic program. The current planned activities for evaluating student competence should be formalized into a course experience to indicate a "dissertation" like experience at the end of the program (culminating clinical project).

The current classroom structure should be remodeled to 1) create an environment that provides state of the art technology to broadcast classroom activities via an online-classroom model, and 2) a clinical laboratory to provide hands-on-activities during summer residency courses.

The DAT should also consider obtaining PPEC accreditation once the program is implemented and functional.

II. Introduction

a. Summary of site visit activities:

The evaluation team had discussion with 7 key faculty and administrators in addition to a tour of the facilities.
The following individuals contributed to the evaluation discussions:
Doug Baker PhD, Provost University of Idaho
Jeanne Christiansen PhD, Associate Provost Academic Affairs
Cori Mantle-Bromley PhD, Dean College of Education
Jerry McMurtry PhD, Associate Dean, College of Graduate Studies
James Gregson PhD, Associate Dean of Graduate Programs
Kathy Browder PhD, Associate Dean of College of Education, and Chair HPERD
Alan Nasypany EdD, Athletic Training faculty
Jeff Seegmiller EdD, Athletic Training faculty

b. Summary of basic facts about the degree in review

The doctorate of athletic training (DAT) is a proposed post professional athletic training degree. If implemented, this will be the first of its kind in the world, although there are other intuitions investigating the possibility of the degree.

The DAT is a 63 credits, 2-year, 6 semester hybrid academic model. Both years, students will participate in instructor-student face-to-face interaction courses beginning with a summer residency program on the University of Idaho campus, followed by two semesters of on online – distance coursework.

c. Organization of report

The report was well organized and provided the necessary information to prepare inquiry as an evaluation team.

III. Background and Mission

a. Mission

The DAT proposal aligns with the university and college mission statements.

b. Justification

The proposed program fills a void in the athletic training educational process and forges a leadership role in providing a framework for the current academic and medical trends. The DAT is a unique entrepreneurial model that is self-supporting, thus minimizing the state system's monitory risk. In addition, graduates will fill a medical need in Idaho as well as across the United States.

IV. Review of Proposal

a. Nature of Request

The proposed program is a new program to the University, State, and Country.

b. Quality

i. Curriculum

The 2-year curricular model is an in-depth and well-coordinated clinical education experience that imbeds evidence based research into clinical decision making. The rigor and coursework is indicative of a clinical doctorate degree in other health professions. The evaluation team recommends some modification to the proposed DAT program to define one educational track. The current 2-year track, 6 semester program should be the only educational option for students entering the program. The proposed 1-year option for students of select backgrounds should be eliminated. The evaluation team expects the course syllabi to reflect the depth of experiences and rigor discussed with the faculty. The evaluation team recommends that the current planned activities for evaluating student competence formalized into a course experience to indicate a "dissertation" like experience at the end of the program (culminating clinical project). The quality and rigor of the planned experiences are a "dissertation" like experience.

ii. Faculty

The faculty are passionate and display the necessary initiative to create an exceptional educational program. The hiring of a program director and clinical coordinator for the DAT, as indicated in the report, is necessary. In addition, the evaluation team suggests investigating the potential for hiring adjunct specialty faculty to augment the program.

iii. Student

The Doctorate in Athletic Training will attract three different types of students. Students who have completed a Council on Accreditation of Athletic Training Education (CAATE) accredited Bachelor degree in Athletic Training, a CAATE accredited entry-level master degree and a Post Professional Education Council (PPEC} accredited master's program in athletic training. All students will have completed, at minimum, an entry level athletic training program and successfully passed the Board of Certification Examination.

iv. Infrastructure

The current infrastructure is adequate, however renovation of the classrooms to integrate the technology needed for a state of the art clinical education experience is suggested. Technology to broadcast classroom activities via the online classroom structure is needed.

c. Duplication.

The Doctorate in Athletic Training is unique to the Idaho state system of higher education as well as the athletic training educational system. Currently no advanced clinical doctorate in athletic training program exists. Thus, there are no similar programs in the United States. However, like programs are developing across the country, placing the U of I DAT on the forefront of the academic trend.

d. Centrality

We agree with the report that the DAT proposal is consistent with the university mission.

e. Demand

Projection of demand for this program is difficult to assess, however the DAT proposal has appropriately outlined the potential for student enrollment.

f. Resources

The estimated expenditures and revenue outlined in the proposal will diversify the university's revenue stream and allow for program autonomy.

Appendix B

Curriculum Vitae for External Review Team

RESUME

Kenneth L Knight

Fall 2010

Contact

Exercise Sciences Department
Brigham Young University
Provo, UT, 84602-2116
(801) 422-2984
fax (801) 422-0555

Home:
902 So 820 E
Spanish Fork, UT
84660
(801) 798-0472

Personal

Born: Moab, Utah
Wife: Shari; BS, Weber State, 1973
Children: Jolynne, Amberly, Kristilee, Karlton J, Kurtis L, Conrad Q, Laura Ann, Brandon K

Educational Background

			Major, Minor
PhD	1977	Univ of Missouri-Columbia	Exercise Physiology, Physical Medicine & Rehab
BS	1973	Weber State (Ogden, UT)	Chemistry, Communications
BS	1969	Weber State (Ogden, UT)	Physical Education, Psychology
AS	1967	Dixie JC (St George, UT)	

TITLE OF DOCTORAL DISSERTATION:
Comparison of Blood Flow to the Ankle of Normal Subjects During Application of Heat, Cold, and Exercise of Therapeutic Levels

PhD EXAMINATION AREAS:

Exercise Physiology	Physical Medicine & Rehabilitation	General Physical Education
General Human Physiology	Research Design and Statistics	

Professional Positions

Jesse Knight University Professor [Endowed Chair]	Brigham Young Univ	Provo, UT	2003-
Director, Human Performance Research Center	Brigham Young Univ	Provo, UT	2002-05
Professor	Brigham Young Univ	Provo, UT	1996-
Department Chair & Professor	Indiana State Univ	Terre Haute, IN	1993-96
Professor, Director of Athletic Rehabilitation & Assistant Athletic Trainer-Football (through 1985)	Indiana State Univ	Terre Haute, IN	1982-96
Associate Professor & Head Athletic Trainer-Arena (18 sports)	Indiana State Univ	Terre Haute, IN	1978-82
Instructor & Associate Athletic Trainer	SUNY Brockport	Brockport, NY	1976-78
Teaching/Research Assistant	Missouri	Columbia, MO	1973-76
Head Athletic Trainer	Weber State	Ogden, UT	1969-73

Professional Memberships

National Athletic Trainers Association (Certified 1972)	1970-
American College of Sports Medicine (Elected Fellow 1980)	1973-
Council of Biology Editors	1991-
Rocky Mountain Athletic Trainers Association	1970-76; 96-
Utah Athletic Trainers Association	1996-
Great Lakes Athletic Trainers Association	1978-96
Indiana Athletic Trainers Association	1980-96
Eastern Athletic Trainers Association	1976-78
National Strength and Conditioning Association	1982-84

Executive Summary of Academic Activities

SCHOLARLY PRODUCTIVITY

15 Books/Chapters in books, see page 10
- 12 Books Published (1 translated into Japanese, Spanish, Korean & Portugase; 1 into Japanese & Portuguese, 1 into Korean)
- 3 Chapters in Books

120 Journal Manuscripts
- 53 Research-Peer Reviewed, page 10
- 14 Other Peer Reviewed, page 13
- 26 Invited Manuscripts, page 14
- 27 Editorials, page 15

299 Scholarly Presentations
- 122 Research-Peer Reviewed, page 16
- 63 Invited-Research Reviews, page 25
- 42 Invited-Clinical Techniques, page 28
- 52 Invited-Educational & other, page 30
- 20 Workshops, Colloquia, & Seminars, page 33

18 Mass Media (Interviews & Videos), including Playboy, Prevention, Fitness & Business, Orthopedic Times, page 34
- 3 Instructional Video Tapes (one was 1998 Outstanding Video, NATA Educational Multimedia Committee)

EDITORIAL SERVICE
- Editor-in-Chief (founding), Athletic Training Education Journal 2005-09
- Editor-in-Chief, Journal of Athletic Training (title was Editor 1985-91) 1985-96
- Editor, Athletic Training: Perspectives in Sports Health Care 1994-96

2 Editorial Boards, presently serve on.

7 Editorial Boards, previously served on. (Have served on a national journal editorial board since 1973)

EDUCATIONAL ACTIVITIES
- NATA Educator of the Year 1995
- 2 times nominated as ISU Professor of the year 1993, 1994
- Indiana State Univ Research/Creativity Award 1986
- Developed modularized clinical education program that lead to educational reform by NATA
- Conducted 9 Self Studies for NATA program approval (4 Graduate & 5 undergraduate)
- Revised undergraduate curriculum 4 times at three institutions & Graduate curriculum 2 times
- Developed and obtained institutional and state approval for a new department
- Developed and obtained institutional and state approval for two degrees (3rd degree was ready to submit)
- Developed 12 new courses
- Chaired over 50 PhD & Masters Thesis & Research Projects; served on 60 other committees
- Accreditation committee for Southern Association of Colleges & Universities for Life College

SERVICE
- Served on 18 Departmental committees, 7 School Committees, 16 University wide committees
- Finalist for Board of Trustees of American College of Sports Medicine 3 times.

30 National Committees (NATA, ACSM, SACU, CATA)

15 Regional & State wide committees

2 International Committees (Canadian, Korean)

PROFESSIONAL INNOVATIONS; Conceptualized & made original proposal that resulted in:
- Free communications session at NATA Annual meetings 1977
- Indiana Athletic Trainers Association 1979
- Consolidated NATA Support services into a single national center 1982
- Student Writing Contest, NATA 1982
- Annual & 10 year index's for the Journal of Athletic Training 1986
- NATA News for association business 1987
- Outstanding Manuscript Awards, Journal of Athletic Training 1990
- Founded the Athletic Training Education Journal 2005

Statem ent of Research Interests &Philosophy

The theme of my research interests has been to expand the understanding of the physiological mechanisms of orthopedic injury management so that is more effective and thereby lead to quicker and more complete recovery.

Most of my efforts have been directed toward understanding how to use cold applications more efficiently during both immediate care and rehabilitation. My efforts in these areas has lead to numerous publications, 4 books (one translated into 4 languages), and chapters in 2 other books. My secondary medabolic injury theory is now the accepted explanation for the use of cold applications during immediate care. Also I have refuted the cold-induced vasodilitation theory as the explanation for the success of cold applications during rehabilitation procedures; replacing the decreased bleeding theory that was prominent in the 1950's, 60's, and 70's.

A second area of interest is strength development during rehabilitation. Through clinical experience, clinical research, and EMG studies I developed and modified the DAPRE (daily adjustable progressive resistive exercise) technique. A 1985 paprr in Medicine and Science in Sports and Exercise was reprinted in 1990 by the Journal of Orthopedic and Sports Physical Therapy as a "classic article", which the editors considered "to have been pivotal in the prevention or medical treatment of orthopaedic and sports related conditions."

I have never been able to accept the isokinetic concept of strength testing and training; it just seemed illogical. In the past few years I have been comparing isokinetic and isotonic force production and EMG output during fresh and fatigued contractions. In the 1980's I spent some time investigating the force production elicited by Electrical Muscle Simulators used by athletic trainers and physical therapists. Through these efforts we helped refute the theory of Kots (the so called Russian Theory) concerning strength development with EMS.

I feel strongly that research should be designed and based on theory and its results used to further develop theory. I attempt to pose my research questions with this in mind.

What others have said about Ken Knight

- "Ken Knight is a scholars scholar... [He] also is known as one of the great innovators in athletic training... It is clear that his research and innovations touch every member of the NATA. - Chris Ingersoll, President, NATA Research and Education Foundation, when awarding the Clancy Medal for Distinguished Athletic Training Research, 1997

- "Ken Knight is the father of athletic training scholarship." -Dave Perrin, Editor-in-Chief, Journal of Athletic Training, at the NATA Educators Conference, 2003

- "To tens of thousands of certified athletic trainers Dr. Knight forever will be remembered as the man who gave us ice. To those of us involved in athletic training pedagogy, Dr Knight will be remembered as the man who began to bring order to the chaos that was once clinical education." Chad Starkey, Chair, National Athletic Trainers' Association Education Council, preface to "Assessing Clinical Proficiencies in Athletic Training." 2001

Major Honors & Awards

Jesse Knight University Professorship, BYU	2003
Hall of Fame, National Athletic Trainers' Association	2001
Most Distinguished Athletic Trainer, National Athletic Trainers' Association	2000
William C. Clancy, Jr, MD, Medal for Distinguished Athletic Training Research (inaugural winner)	1997
The Journal of Athletic Training's Outstanding Research Article Award renamed "The Kenneth L Knight Outstanding Research Article" (given annually since 1987)	1997
Sayers "Bud" Miller Educator of the Year, National Athletic Trainers' Association	1995
Weber State University Honored Alumni Award	2006
Hall of Fame, Rocky Mountain Athletic Trainers Association	2006
Hall of Fame, Utah Athletic Trainers Association	2004
Annual Faculty Research Award, College of Health & Human Performance, BYU	2003
Keynote Speaker. 44th Annual Canadian Athletic Threapists Association National Conference.	2010
1st Place in NATA Video Production Contest by NATA Educational Multimedia Committee	1998
Certified Athletic Trainer	1972
Fellow of the American College of Sports Medicine	1980
Exchange Lecturer to American Orthopedic Society for Sports Medicine, from the NATA	1997
Classic Article reprinted by editors of Journal of Orthopedic and Sports Physical Therapy (12:66-71, 1990) who "consider[ed it] to have been pivotal in the prevention or medical treatment of orthopaedic and sports related conditions." (see Publication #29 below)	1990
Research/Creativity Award, Indiana State University	1986
Caleb Mills Outstanding Teaching Award Finalist, Indiana State University	1993, 1994

Awarded Merit Pay 14 of 17 times it was awarded at ISU 1978-96

Minor

Award of Merit, Great Lakes Athletic Trainers Association 1994
Distinguished Sports Medicine Lecturer, University of Alabama 1993
Outstanding Research Article, Journal of Athletic Training 1990-93
1990 1st Runner-up w/ Heather MacLeod
1991 Winner, w/ Marianna Varpolotti
1993 Winner, w/ Mark Marrick
Keynote Speaker,
Southeast Athletic Trainers Association Annual Convention 1993
Great Lakes Athletic Trainers Association Annual Convention 1985
Texas Chapter, American College of Sports Medicine Annual Convention 1984
Canadian Athletic Therapists Association National Convention 1983
3rd Place, "NATA Researcher of the Year" 1984
Co-Chairman, Athletic Medicine Section, Pan Pacific Sports Medicine Conference, Honolulu 1979

SELECTED STUDENT HONORS

National Student Register 1969
Weber State "Man of the Year" Finalist (1 of 5) 1969
Elks National Foundation Scholarship 1967,68
Who's Who in American Junior Colleges 1967
Dixie College "Social Service Award" 1967
Dixie College "Outstanding Sophomore" Finalist (1 of 5) 1967
Dixie College "Outstanding Freshman" Finalist (1 of 5) 1964
Jaycee "Leadership" Scholarship 1963
Eagle Scout, Boy Scouts of America 1963

Primary Duties During Professional Experiences

BRIGHAM YOUNG UNIVERSITY 1996-

Taught 7 graduate and 5 undergraduate courses
301 Introduction to Health Professions
320 Introduction to Sports Medicine
415 Therapeutic Modalities
426 Rehabilitation
499 Practicum in Athletic Training
622 Therapeutic Modalities
625 Seminar in Cryotherapy
625 Seminar in Strength Training in Rehabilitation
629 Graduate Practicum in Athletic Training
693 Scientific Readings
751 Scientific Writing
753 Grant Writing

INDIANA STATE UNIVERSITY 1978-96

Taught 7 graduate and 9 undergraduate courses
Department Chair 1993-96
Wrote proposal and directed it through faculty government, university administration, and State board of higher education, for two new degrees (BS & MS) and a new department 1992-94
Director of Graduate Athletic Training Program 1981-82,83-96
Director of Undergraduate Athletic Training Program 1978-81,83-85
Coordinated Self study and NATA Accreditation visits for undergraduate program 1982, 86, 92, 96
Coordinated Self study and NATA Accreditation visits for graduate program 1982, 86, 92
Coordinator of Practicum Experiences 1978-88
Coordinator of Sports Injury Research Laboratory 1978-96
Director of Sports Injury Rehabilitation Center 1983-89
Assistant Football Trainer (NCAA Division 1AA) 1983-85
Head Athletic Trainer-Arena (Responsible for 18 NCAA Division I Mens & Womens sports) 1978-83
Academic Advisor to Athletic Training students 1978-96

SUNY BROCKPORT 1976-78
Taught 1 graduate and 4 undergraduate courses
Athletic Training Program Director
Revised curriculum to meet NATA certification requirements
Chaired semi-annual selection committee
Associate Athletic Trainer
Football Trainer (NCAA Division III)
Assisted with 23 men's and women's teams (Division III NCAA and AIAW)
Director of Sports Medicine Research Laboratory

UNIVERSITY OF MISSOURI-COLUMBIA 1973-76
Graduate Student, completed course work and research for PhD
Teaching Assistant; Weight training, Athletic First Aid, Exercise physiology labs
Research Assistant, Human Performance Laboratory; Fitness testing & Research data collection

WEBER STATE COLLEGE 1969-73
Head Athletic Trainer
Football ("Top 20" NCAA Division II all four years)
Basketball (NCAA Division I Post season Tournament all four years)
Eight other NCAA Division I mens sports
Taught Athletic Training Class
Left to pursue graduate studies

Service

BYU EXERCISE SCIENCES (PHYSICAL EDUCATION, 1996-02) DEPARTMENT (1996-)

Rank & Status Committee (Chair 2009-	2002-04, 08-
Honors & Awards Committee	2002-06
Graduate Curriculum Committee	1998-06
Athletic Training Research Committee	1996-
Athletic Training Student Selection Committee	1996-
Capital Equipment Committee	1997-01
Mark Clark's Promotion Committee (Chair)	1998-96
Promotion/Retention Standards Committee (Chair of Sub-committee on Scholarship)	1997-99
Research Laboratories Renovation Committee	1997-98
Maria Zanandrea"s Promotion Committee (Chair)	1997-98
Revise Introduction to Physical Education Committee	1996-98

BYU COLLEGE OF HEALTH & HUMAN PERFORMANCE

Human Subjects Review Committee	1998-09

BYU University wide

Rank & Status (tenure & promotion) Committee	1999-02

ISU ATHLETIC TRAINING DEPARTMENT (1993-96)

Wrote documents for School, University, & State Board to create Department, a BS Degree, and an MS Degree	1992-93
Department Chair	1993-96
Chair, Committee-of-the Whole for all faculty departmental functions	1993-96
Masters Thesis Committees--Chaired 27, served on 20 others	1978-96
Masters Study Committees--Chaired 5, served on 10 others	1978-96
Independent Study Committees--Chaired 31	1978-96

ISU PE DEPARTMENT (1978-93)

Faculty Affairs Committee (Secretary 82-83,86-87; Chair 83-84,87-88)	1978-79,82-84,86-88
Graduate Academic Affairs Committee (Secretary 84, 85-87)	1981-82,83-89
Undergraduate Academic Affairs Committee (Secretary 81-83)	1980-83
Student Affairs Committee	1978-79

Faculty Search Committees (8 times)	1983-93
Ad hoc Committees:	
Research Committee	1988,89-93
Departmental Reorganization	1988-89
Constitutional Writing (chair)	1988
Athletic Training	1979-93
Graduate Assistant	1985-93
Computer use in Physical Education	1984-85
Faculty Advisor to Student Athletic Trainers Association	1979-85
ISU SCHOOL OF HPER/ HEALTH & HUMAN PERFORMANCE	
Curriculum & Academic Affairs Committee	1995-96
Decorate the Halls Committee	1995-96
Program Evaluation Ad Hoc Committee, Chair 1995-96	1993-96
School Name and Structure Ad Hoc Committee (Secretary)	1990-91, 92-93
25th Anniversary Research Symposium	1989-90
Executive Committee (Secretary 2 years)	1986-89
UNIVERSITY	
Department Chairs Committee	1995-96
North Central Association Accreditation Self-Study	1988-90
Sub Committee on Research, Creativity, and Scholarship	
Dean of HPER Search Committee	1988, 1994
Athletic Director Search Committee	1988
Research/Creativity Committee	1986-89
Corresponding Secretary	1987-89
Subcommittee to rewrite grant application procedures	1988
Joint subcommittee on Standards with Arts Endowment Committee	1989
Caleb Mills Outstanding Teacher Award Selection Committee	1988
Research/Creativity Award Selection Committee	1987
Student Affairs-Non Academic Committee (Secretary 2nd semester)	1983-84
Needs for Computers in Research Steering Committee	1983-84
Graduate Faculty sub-committee of Graduate Committee	1982-83,90-91
Graduate Asst. sub-committee of Graduate Committee	1981-82
Faculty Advisor to LDSSA, Latter Day Saint Student Association	1982-87
(Taught a scripture study class on campus three years: 1978-80, 1982-84)	
EDITORIAL	
Consulting Editor, Journal of Athletic Training	1996-
Editor-in-Chief, Journal of Athletic Training	1991-96
Editor, Athletic Training: Perspectives in Sports Health Care	1994-96
Editorial Board, Journal of Sport Rehabilitation	1999-
Editorial Board, Sportsmedicine Update	1989-00
Editorial Board, Biomechanics	1994-
Sports Medicine Editor, Signature Publishers	1993-00
Editorial Board, Stride Magazine	1995-98
Editorial Board, Postgraduate Advances in Sports Medicine	1987-94
Editor, Athletic Training, J of NATA	1986-91
Editor/Writer of the "Tips from the Training Room" section of The Physician and Sportsmedicine	1979-86
Editorial Board of Athletic Training, J of NATA	1974-86
Editorial/Advisory Board of Sports Fitness	1984-86
Guest Reviewer, Medicine and Science in Sports and Exercise, Research Quarterly, The Physician & Sportsmedicine	1989-
OTHER PROFESSIONAL	
National Athletic Trainers' Association (NATA)	
Education Council Executive Committee, (Chair, 2005-	2000-

Starategic Implementation Team	2006-
Graduate Education Committee, NATA Education Council (Chair 2000-2005)	1996-2005
Journal Committee (Chair, 1991-96)	1974-96
Grants Subcommittee of Research and Injury Committee	1989-94
Continuing Education Subcommittee of Board of Certification	1990-93
Liaison Representative to American College of Sports Medicine	1978-88
Membership Directory Committee (Chair)	1986
Originator & Chairman, Student Writing Contest	1978-83
Accreditation visitation team member to evaluate athletic training curricula: Univ of Virgina (GRAD), Univ of Wisconsin-Lacrosse (UG), Illinois State (GRAD), Miami Univ (UG), North Carolina-Chapel Hill (GRAD), Mankato State University (UG)	1980-82, 01
American College of Sports Medicine (ACSM)	
Athletic Injury Care & Rehabilitation Interest Group (Chair)	1993-00
Liaison Committee	1996-99
Board of Trustees Finalist	1991, 1996, 1998
Program Committee	1991-95
Abstract Submission Sub Committee	1993-94
Credentials Committee	1991-94
Liaison Representative to the NATA	1979-88
Membership Committee	1978-79,1984-88
Membership Drive Task Force (Chairman)	1985
Committee to investigate the desirability of establishing Standards for Sports Medicine Clinics	1982-83
Rocky Mountain Athletic Trainers Association (District 7 of NATA)	
Annual Convention Program Committee (Chair 2001-03	1996-
Utah Athletic Trainers Association	
Executive Council	1996-02
Licensure Committee	1996-01
Great Lakes Athletic Trainers Association (District 4 of NATA)	
Chair of Ad hoc Committee to investigate the hiring of a full time Executive Director for the NATA	1982-83
Annual Convention Program Chairman	1982,1988
Indiana Athletic Trainers Association	
NATA National Office to Indiana Committee	1986-87
Other	
Commission on Colleges, Southern Association of Colleges and Schools 1990 Reaffirmation Committee assigned to Life College	
Chairman, Advancement and Professional Education Committee, New York Athletic Trainers Association	1976-78
Research Committee, Genessee Valley Sports Medicine Council	1977-78
Constitution Committee, District 2, NATA	1978
INTERNATIONAL PROFESSIONAL	
Canadian Athletic Therapy Association	1987-96
Supervising Athletic Therapist (Mentor students for Canadian Certification)	
Korean Association of Clinical Exercise Professionals	
Board of Certification	2002-05
COMMUNITY/SOCIAL	
Church of Jesus Christ of Latter Day Saints:	
High Priest Group Leader, Wolf Hollow 2nd Ward (Spanish Fork)	2002-04

1st Counselor to Bishop of Wolf Hollow 2nd Ward (Spanish Fork)	1998-02
2nd Counselor to Bishop of Wolf Hollow Ward (Spanish Fork)	1996-98
Bishop of Terre Haute 2nd Ward	1985-89
1st Counselor to Bishop of Terre Haute 2nd Ward	1982-85
Bloomington Indiana Stake Mission President	1979-82
Stake Missionary	1977-82, 1991
Sunday School Teacher	1967-79,89-96
Full Time Missionary to Northern States Mission	1965-67
Boy Scouts of America, Wabash Valley & Utah National Parks Councils	
Round table Instructor	2010-
Institutional Representative & Troop Committee, troop 1527	1998-02
Scoutmaster, troop 405	1992-96
Troop Committee, troop 405 (Chair), troop 504 (Chair 1 yr)	1982-85, 89-91
Merit Badge Councilor	1982-
Tiger Ears Incorporated Board of Directors (Vice-Pres 1985,87,89 President 1986,88)	1982-90
Vigo County Youth Football Organization, Coordinator of athletic training services	1987-93

Research & Service Grants Awarded

$403,658	National Athletic Trainers Association for Education Council Office Support	2005-09
$287,950	National Athletic Trainers Association for Journal Editorial Office Support	1991-96
$227,800	Vigo, Sullivan, North Central & Clay Schools & DePauw University for AT services	1988-96
$84,500	Baltimore Therapeutic Equipment Validity of isotonic and isokinetic contractions	1994
$4,450	Dura*Kold, Inc; Oklahoma City, OK Comparison of Dura*Kold compression ice wraps to crushed ice applied over surgical dressings	1989
$3,170	Dura*Kold, Inc; Oklahoma City, OK Comparison of Dura*Kold compression ice wraps to crushed ice and refreezable flexible gel packs	1989
$6,600	Pro Orthopedics, Inc; Tucson, AZ Heat retention under a neoprene thigh sleeve during exercise	1988
$8,024	Indiana State University Computer Committee for computerized data acquisition equipment	1988
$2,000	ISU School of HPER matching funds for above ISU Computer Committee grant	1988
$ 336	Indiana State University Research Committee for page charges and reprints of article #39 below	1985
$1,567	Indiana State University Research Committee Forearm adaptations to cold applications of Various Temps	1979
$2,151	State University of New York Research Foundation Forearm adaptations during cold water immersion	1978

Consulting

TEXT REVIEWS

ACSM	Resource Manual for the Guidelines for Exercise Testing and Prescription, 3rd Edition, 1 Chapter	1996
Human Kinetics	Athletic Training Clinical Education, unknown authors	1993
AAOSM	Athletic Training, unknown authors	1990
FA Davis	Cardiac Rehabilitation, unknown author(s)	1986
FA Davis	Encyclopedia of Strength Training, unknown author(s)	1986
McMillan	Physiology of Exercise, Lamb DA, 2nd ed, 1984; Reviewed for strengths and weaknesses to facilitate revision of third edition	1986
FA Davis	Therapeutic Exercise: Foundations and Techniques, by Kisner C & Colby LA, 1985. Determine feasibility of marketing to athletic trainers	1986
FA Davis	Facial and Soft Tissue Injuries in the Athlete, Author(s) unknown	1985
Prentice-Hall	The Winning Basket by Lander	1985

CV Mosby	Therapeutic Modalities in the Treatment of Athletic Injuries, by Prentice WR (Pub 1986, 321 pages)	1984
Prentice-Hall	Workbook to accompany Sports Medicine: Prevention, Evaluation, Management and Rehabilitation by Irvin	1983
John Wiley	Textbook of Exercise Physiology by Brooks & Fahey (pub 1984, 811 pgs)	1983
John Wiley	Textbook of Exercise Physiology by Brooks GA,Fahey TD: 11 Chapters	1982
Prentice-Hall	Sports Medicine: Prevention, Evaluation, Management, and Rehabilitation by Roy S & Irvin R.(Published 1984, 540 pgs)	1981
Brady Pub	Physiology and Sports Injury Management, Author(s) unknown	1981
Prentice-Hall	Sports Medicine for the Athletic Trainer, by Roy S, Irvin R.(33 chapters)	1979

OTHER CONSULTING

Holland & Hart, Attorneys at Law, Boise, Idaho. Expert witness for the prosecution in a medical malpractice suit	2009-2010
Comstock & Bush, Attorneys at Law, Boise, Idaho. Expert witness for the prosecution in a medical malpractice suit	2008-2009
Ball & Weed, Attorneys at Law, San Antonio, TX. Expert witness for the prosecution in a medical malpractice suit	2009
Morris, Polich & Purdy, Attorneys at Law, San Diego, CA. Expert witness for the defense in a medical malpractice suit	2008
Medspring Medical, Medical advisory Board	2004-08
University of Kentucky, consult with deans of Health Science & Education concerning their Graduate Athletic Training program.	2004
Zimmer Electromedizin (Germany): Evaluating a cold air cryotherapy machine	1997-00
Coalition of Thermal Therapy Manufactures: Prepare case to present to HCFA	1997
HCFA (US Health Care Finance Administration): Testify concerning use of post surgical cryotherapy	1997
Burke Neutech (St Petersburg, FL): Evaluate their post surgical constant cooling device	1996
Greenberg & Pleban, Attorneys, St. Louis, MO: Advice for Medical malpractice suit against a hospital	1996
Weber State Univ: Review athletic training curriculum	1996
Walter Monahan, Esq, Summit, NJ: Expert witness for the defense in a suit against a cold pack manufacturing firm.	1990
Dura*Kold Corp: Technical accuracy of educational/sales brochure for surgical cold pack	1989
Butler Univ: Review athletic training curriculum	1986
Robert Schmieder Esq, St Louis MO:Expert witness for the defense in a suit against a cold Pack manufacturing firm.	1986
Univ Texas-Austin: Reorganization of athletic training services for Womens Athletic Dept	1985
Vincennes Univ: Development of an athletic training curriculum	1984
Chattanooga Corp: Discussion with top management which lead to a Workshop & Book	1979
Radford (VA) Col: Development of an athletic training curriculum	1979
Canisius (NY) College: Development of an athletic training curriculum	1978

Other

Financed 100% of education through scholarships and part-time work	1963-77
Wrote Weber State College Fight Song	1971

Published Works

BOOKS AND CHAPTERS OF BOOKS WRITTEN

12. Knight KL, Brumels K. Developing Clinical Proficiency in Athletic Training: A Modular Approach (4th ed). Champaign IL: Human Kinetics 2010, 352 pages

11. Knight KL, Draper DO. Therapeutic Modalities: The Art and Science. Lippincott, Williams, & Wilkins. 2008:

10. Knight KL, Draper DO. Clinical Activities to Accompany Therapeutic Modalities: The Art and Science. Lippincott, Williams, & Wilkins. 2008

9. Knight KL: Assessing Clinical Proficiencies in Athletic Training (3nd ed). Champaign IL: Human Kinetics 2001, 194 pages

8. Knight KL: Assessing Clinical Proficiencies in Athletic Training (2nd ed). Champaign IL: Human Kinetics 1998, 146 pages.

7. Knight KL: Cryotherapy and Sports Injury Management. Champaign IL: Human Kinetics Publishers, 1995. (Foreign Language Editions: Korean 2000, Japanese 1998, Spanish 1997, Portugese 2002)

6. Knight KL: Cold as a Modifier of Sports Induced Inflammation. in Ledbetter WW, Buckwalter J, Gordon S (eds): Sports Induced inflammation and Repair. Chicago: American Academy of Orthopedic Surgeons, 1990, p463-478

5. Knight KL: Assessing Clinical Proficiencies in Athletic Training. Champaign IL: Human Kinetics Publishers, 1990, 104 pages

4. Knight KL: Cryotherapy in the treatment of sports Injuries. in Grisogono V (ed): Sports Medicine, International Perspectives in Physical Therapy. London: Churchill Livingstone, 1989, p163-185

3. Knight KL: Cryotherapy: Theory, Technique, and Physiology. Chattanooga, TN: Chattanooga Corporation Educational Division, 1985, 188 pgs.
(Japanese edition published in 1988; Portuguese edition published in 1993)

2. Knight KL: Athletic Training Clinical Education. Terre Haute, IN: ISU PE Dept, 1985, 212 pgs.

1. Knight KL: Cryotherapy in Sports Medicine. in Scriber K, Burke EJ (eds): Relevant Topics in Sports Medicine Ithaca, NY: Mouvement Publications, 1978 pp52-59

RESEARCH, PEER REVIEWED

53. Jutte LS, Long BC, Knight KL. Temperature measurement reliability and validity with thermocouple extension leads or changing lead temperature. J Athl Training. 2010; 45(6) In press.

52. Miller, KC, Mack, GW, Knight, KL. Pickle juice inhibits gastric emptying in rested, euhydrated humans. J Athl Training. 2010; In press.

51. Miller, KC, Mack, GW, Knight, KL, Hopkins, JT, Draper, DO, Fields, PJ, Hunter, I. Three percent hypohydration does not affect the threshold frequency of electrically-induced cramps. Med Sci Sports Exerc. 2010; in press

50. Long BC, Jutte JS, Knight KL. Thermocouples interfaced to electrothermometers respond differently when immersed in 5 water bath temperatures. J Athl Training, 2010; 45(4):338-343

49. Draper DO, Edvalson CG, Knight KL , Eggett, DL. Temperature increase in the human achilles tendon during ultrasound treatments comparing commercially made ultrasound gel, full-thickness and half-thickness gel pad mediums, J Althl Train, 2010; 45(4):333-337

48. Miller KC, Mack GW, Knight KL , Hopkins JT, Draper DO, Fields PJ, Hunter I. Reflex inhibition of electrically-induced muscle cramps in hypohydrated humans. Med Sci Sports Exerc. 2010; 42(5):953-961

47. Miller KC, Mack G, Knight KL. Electrolyte and plasma changes after ingestion of pickle juice, water, and a common carbohydrate-electrolyte solution. J Athl Train. 2009; 44(5):454–461

46. Miller KC, Knight KL. Electrical stimulation cramp threshold frequency correlates well with the occurrence of skeletal muscle cramps. Muscle & Nerve. 2009 Mar;39(3):364-368.

45. Miller KC, Knight KL, Williams RS. Athletic Trainers' perceptions of pickle juice's effects on exercise associated muscle cramps. Athletic Therapy Today, 2008; 13(sep):31-34

44. Jutte LS, Knight KL, Long BL. Reliability and validity of electrothermometers and associated thermocouples. Journal of Sport Rehabilitation. 2008; 17:50-59

43. Miller KC, Knight KL. Pain and soreness associated with a percutaneous electrical stimulation muscle cramping protocol. Muscle & Nerve. 2007;36:711-714

42. Hawkins JR, Knight KL, Long BC. An investigation of common therapeutic modality control variables? J Athl Train 2007;42:327-332

41. Brucker JB, Knight KL, Rubley MD and Draper DO. Delayed ankle range of motion increases 3 weeks after an 18-day stretching regime. J Athl Train 2005; 40: 276-280

40. Miller AA, Knight KL, Draper DO, Feland JB. Skin and intramuscular temperature changes in varsity athletes while wearing a neoprene thigh sleeve during exercise. J Athl Train 2005; 40: 264-270

39. Jutte LS, Knight KL, Long BC, Hawkins JR, Schulthies SS, Dalley EB. The uncertanty (validity and reliability) of three electrothometers in therapeutic modality research. J Athl Train 2005; 40:207-210

38. Bishop S, Draper DO, Knight KL, Fekabd JB, Eggett D. Human tissue-temperature rise during ultrasound treatments with the aquaflex gel pad. J Athl Train 2004; 39:126-131

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36. Cotts BE, Knight KL, Myrer JW. Schulthies SS. Contrast Bath Therapy Does Not Affect Sensation Over the Anterior Talofibular Ligament. J Sport Rehab 2004;13:114-121

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61. Barr E, Gibbs C, Knight KL, Ingersoll CD, Edwards JE. Effect of different types of cold applications on surface and intramuscular temperature. National Athletic Trainers' Association Annual Meeting and Clinical Symposium, Salt Lake City, Ut, June, 1997; (abstract published in Journal of Athletic Training. 1997; 32 (Suppl):S).

60. Ingersoll CD, Konishi Y, Knight KL, Edwards JE. Changes in emg vs. Torques slopes for neuromuscular electrical stimulation and voluntary isometric exercise following delayed onset muscle soreness. National Athletic Trainers'

Association Annual Meeting and Clinical Symposium, Salt Lake City, Ut, June, 1997; (abstract published in Journal of Athletic Training. 1997; 32 (Suppl):S).

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58. Glazer DD, Ingersoll CD, Knight KL, Worrell TW. Emg biofeedback improves the vmo:vl ratio in asymptomatic and anterior knee pain subjects. National Athletic Trainers' Association Annual Meeting and Clinical Symposium, Salt Lake City, Ut, June, 1997; (abstract published in Journal of Athletic Training. 1997; 32 (Suppl):S).

57. Palmer VT, Ingersoll CD, Knight KL, Kuhlman JS. The effects of soccer heading on postural sway. National Athletic Trainers' Association Annual Meeting and Clinical Symposium, Salt Lake City, Ut, June, 1997; (abstract published in Journal of Athletic Training. 1997; 32 (Suppl):S).

56. Danielson R, Jaeger J, Rippetoe J, Knight KL, Ingersoll CD, Edwards JE. Differences in skin surface temperature and pressure during the application of various cold and compression devices. National Athletic Trainers' Association Annual Meeting and Clinical Symposium, Salt Lake City, Ut, June, 1997; (abstract published in Journal of Athletic Training. 1997; 32 (Suppl):S).

55. Hannan RL, Margarucci KD, Merkovsky SM, Knight KL, Ingersoll CD, Edwards JE. Effects of cooling and heating the shoulder on pitching velocity and accuracy. National Athletic Trainers' Association Annual Meeting and Clinical Symposium, Salt Lake City, Ut, June, 1997; (abstract published in Journal of Athletic Training. 1997; 32 (Suppl):S).

54. Berg T, Camp A, Palmer J, Ingersoll CD, Knight KL, Sandrey MA. Exercise and orthotics do not reduce patellofemoral pain. National Athletic Trainers' Association Annual Meeting and Clinical Symposium, Salt Lake City, Ut, June, 1997; (abstract published in Journal of Athletic Training. 1997; 32 (Suppl):S).

53. McDonough E, Strauss K, Apel T, Ingersoll CD, Knight KL, Ozmun JC. Cooling the ankle, lower leg and both: effects on dynamic bilateral postural sway. National Athletic Trainers' Association Annual Meeting and Clinical Symposium, Orlando, FL, June, 1996; (abstract published in Journal of Athletic Training. 1996; 31 (Suppl):S10).

52. Osowski S, Murray J, McLellan R, Ingersoll CD, Knight KL, Kovaleski JE. Ankle taping and bracing do not hinder vertical jump. National Athletic Trainers' Association Annual Meeting and Clinical Symposium, Orlando, FL, June, 1996; (abstract published in Journal of Athletic Training. 1996; 31 (Suppl):S10).

51. Gallant SG, Knight KL, Ingersoll CD, Kovaleski JE. Cryotherapy effects on leg press and vertical jump force production. National Athletic Trainers' Association Annual Meeting and Clinical Symposium, Orlando, FL, June, 1996; (abstract published in Journal of Athletic Training. 1996; 31 (Suppl):S18).

50. Shuler DE, Ingersoll CD, Knight KL, Kuhlman JS. Local cold application to the foot and ankle, lower leg or both: Effect on cutting drill. National Athletic Trainers' Association Annual Meeting and Clinical Symposium, Orlando, FL, June, 1996; (abstract published in Journal of Athletic Training. 1996; 31 (Suppl):S35).

49. Williams RB, Ingersoll CD, Knight KL, Kovaleski JE. Ankle braces cause muscles to fatigue faster. National Athletic Trainers' Association Annual Meeting and Clinical Symposium, Orlando, FL, June, 1996; (abstract published in Journal of Athletic Training. 1996; 31 (Suppl):S35).

48. Diede MT, Knight KL, Ingersoll CD, Kovaleski JE. EMG, strength and agility measures following ice treatment to the quadriceps. National Athletic Trainers' Association Annual Meeting and Clinical Symposium, Orlando, FL, June, 1996; (abstract published in Journal of Athletic Training. 1996; 31 (Suppl):S35).

47. Halls GL, Kingsley CJ, Ingersoll CD, Knight KL, Ulrich G. Role of the vastus medialis obliquus on patellar position. National Athletic Trainers' Association Annual Meeting and Clinical Symposium, Orlando, FL, June, 1996; (abstract published in Journal of Athletic Training. 1996; 31 (Suppl):S36).

46. Thomeczek M, Wilk L, Ingersoll CD, Knight KL. Cooling effects on foot pressure during gait. National Athletic Trainers' Association Annual Meeting and Clinical Symposium, Orlando, FL, June, 1996; (abstract published in Journal of Athletic Training. 1996; 31 (Suppl):S52).

45. Narodowy A, Mahar C, Donatello A, Knight KL, Ingersoll CD, Kuhlman JS. Cooling the ankle, peroneals, or both and the effects on reaction time and movement time. National Athletic Trainers' Association Annual Meeting and Clinical Symposium, Orlando, FL, June, 1996; (abstract published in Journal of Athletic Training. 1996; 31 (Suppl):S52).

44. Mullin RC, Riles RL, Currin CC, Kovaleski JE, Knight KL, Ingersoll CD. An electromyographic comparison between isotonic and isokinetic fatiguing exercise. National Athletic Trainers' Association Annual Meeting and Clinical Symposium, Orlando, FL, June, 1996; (abstract published in Journal of Athletic Training. 1996; 31 (Suppl):S52).

43. Grucia PJ, Ingersoll CD, Knight KL, Ozman JC. The effects of prophylactic lateral knee braces on functional performance. National Athletic Trainers' Association Annual Meeting and Clinical Symposium, Indianapolis, IN, June, 1995; (abstract published in Journal of Athletic Training. 1995; 30 (Suppl):S19).

42. Knight KL, Ingersoll CD, Kovaleski JE, Narodowy AA, Williams RB. Fatiguing isotonic contractions recruit more motor units than similar isokinetic contractions. National Athletic Trainers' Association Annual Meeting and Clinical Symposium, Indianapolis, IN, June, 1995; (abstract published in Journal of Athletic Training. 1995; 30 (Suppl):S29.

41. Kovaleski JE, Ingersoll CD, Knight KL, Maher CP. Reliability of the BTE dynatrac isotonic dynamometer. National Athletic Trainers' Association Annual Meeting and Clinical Symposium, Indianapolis, IN, June, 1995; (abstract published in Journal of Athletic Training. 1995; 30 (Suppl):S34).

40. Brooks KA, Ingersoll CD, Knight KL. Force perception at the ankle following heat and cold applications. National Athletic Trainers' Association Annual Meeting and Clinical Symposium, Indianapolis, IN, June, 1995; (abstract published in Journal of Athletic Training. 1995; 30 (Suppl):S35).

39. Cordova M, Ingersoll CD, Kovaleski JE, Knight KL. A comparison of isokinetic and isotonic predictions of functional performance. National Athletic Trainers' Association Annual Meeting and Clinical Symposium, Indianapolis, IN, June, 1995; (abstract published in Journal of Athletic Training. 1995; 30 (Suppl):S35).

38. Stone JE, Knight KL, Beeten R, Landry G. Managing exercise-induced Asthma. National Athletic Trainers' Association Annual Meeting and Clinical Symposium, Indianapolis, IN, June, 1995; (abstract published in Journal of Athletic Training. 1995; 30 (Suppl):S37).

37. Knight KL, Ingersoll CD, Trowbridge CA. The effects of cooling the ankle, thigh, and knee on agility. American College of Sports Medicine Annual Meeting, Minneapolis, MN, May, 1995. (Medicine and Science in Sports and Exercise. 1995;27:S51)

36. Knight KL, Ingersoll CD, Trowbridge CA, Connolley TA, Cordova M, Hyink LL, Welch SM. The effects of cooling the ankle, the triceps surae, or both on functional agility. National Athletic Trainers' Association Annual Convention, Dallas, TX, June, 1994; (abstract published in Journal of Athletic Training. 1994; 29:165-166).

35. Evans TA, Ingersoll CD, Knight KL, Worrell TW. The effects of cold application on functional agility. National Athletic Trainers' Association Annual Convention, Dallas, TX, June, 1994; (abstract published in Journal of Athletic Training. 1994; 29:179-180).

34. Kinzey SJ, Ingersoll CD, Knight KL. The effects of ankle bracing on postural sway. National Athletic Trainers' Association Annual Convention, Dallas, TX, June, 1994; (abstract published in Journal of Athletic Training. 1994; 29:170-171).

33. Streator SS, Ingersoll CD, Knight KL. The effects of sensory information on the perception of cold-induced pain. National Athletic Trainers' Association Annual Convention, Dallas, TX, June, 1994; (abstract published in Journal of

Athletic Training. 1994; 29:166).

32. Kinzey SJ, Ingersoll CD, Knight KL. The effects of ankle bracing on postural sway. Annual Meeting of the Midwest Chapter of the American College of Sports Medicine, Boyne Mountain, MI, February, 1994.

31. Knight KL, Ingersoll CD. Isotonic contractions may be more effective than isokinetic contractions in developing muscular strength. National Athletic Trainers Association Annual Meeting and Clinical Symposium, Kansas City, June 1993; (abstract published in Journal of Athletic Training. 1993; 28:155).

30. Thieme HA, Ingersoll CD, Knight KL, Ozmun JC. Knee joint position sense following therapeutic applications of heat and cold. National Athletic Trainers Association Annual Meeting and Clinical Symposium, Kansas City, June 1993; (abstract published in Journal of Athletic Training. 1993; 28:158).

29. Merrick MA, Knight KL, Ingersoll CD, Potteiger J. The effects of ice and elastic wraps on intratissue temperatures at various depths. National Athletic Trainers Association Annual Meeting and Clinical Symposium, Kansas City, June 1993; (abstract published in Journal of Athletic Training. 1993; 28:156).

28. Olson KD, Knight KL, Ingersoll CD, Ozmun JC. Strength, speed, and power gains with isokinetic training versus isotonic training with the DAPRE Technique. National Athletic Trainers Association Annual Meeting and Clinical Symposium, Kansas City, June 1993; (abstract published in Journal of Athletic Training. 1993; 28:155-156).

27. Post JB, Knight KL. Ankle skin temperature changes with a repeated ice pack application. National Athletic Trainers Association Annual Meeting and Clinical Symposium, Denver, June 1992; (abstract published in Athletic Training. 1990; 27:136-137).

26. Palmer JE, Knight KL. Ankle and thigh skin surface temperature changes with repeated ice pack application. National Athletic Trainers Association Annual Meeting and Clinical Symposium, Denver, June 1992; (abstract published in Athletic Training. 1990; 27:138).

25. Knight KL, Call KT. Strength Gains During Four Weeks of Training with Three Different Electrical Muscle Stimulators American College of Sports Medicine Annual Meeting Dallas, TX, May 1992.

24. Ingersoll CD, Merrick MA, Knight KL. Sensory Perceptions of the Foot and Ankle Following Therapeutic Applications of Heat and Cold. American College of Sports Medicine Annual Meeting Dallas, TX, May 1992; (abstract published in Medicine and Science in Sports and Exercise. 1992; 24:S79).

23. Fisher BD, Knight KL, The effects of trauma in therapies on skeletal muscle. National Athletic Trainers Association Annual Meeting and Clinical Symposium, New Orleans, June 1991; (abstract published in Athletic Training. 1991 26:160).

23. Creager CL, Knight KL. Temperature and pain changes resulting from post surgical (arthroscopy) Application of Cold Packs. National Athletic Trainers Association Annual Meeting and Clinical Symposium, New Orleans, June 1991; (abstract published in Athletic Training. 1991; 26:168).

23. Carman KW, Knight KL. Habituation to cold-pain during repeated cryokinetic sessions. National Athletic Trainers Association Annual Meeting and Clinical Symposium, New Orleans, June 1991; (abstract published in Athletic Training. 1991; 26:168).

22. Varpalotai MA, Knight KL: Pressures exerted by elastic wraps applied by beginning vs advanced student athletic trainers to the ankle vs the thigh with vs without an ice pack. Annual Meeting of the Canadian Athletic Therapists Association, Toronto, May 1991.

21. Knight KL, Varpolitti M, Chase JA, Hayes K. Comparison of Dura*kold Compression Ice Wraps to Crushed Ice and Refreezable Flexible Gel Packs. National Athletic Trainers Association Annual Meeting and Clinical Symposium Indianapolis, June 1990; (abstract published in Athletic Training. 1990; 25:126).

20. Knight KL, Kluge J, Varpolitti M, Hayes K. Knee Skin Temperature Responses to Applications of Two Types of Cold Packs Over Thick and Thin Surgical Dressings. American College of Sports Medicine Annual Meeting Salt Lake City, May 1990; (abstract published in Medicine and Science in Sport and Exercise. 1990; 22:S100).

19. Wadey VM, Knight KL: Four week training of quadriceps strength with electrical muscle stimulation and the isotonic DAPRE technique. Annual Meeting of the Canadian Athletic Therapists Association, Ottawa, Ontario, Canadia, May 1989

18. Myers JL, Knight KL: General and specific habituation to electrical muscle Stimulation during three weeks of training. National Athletic Trainers Association Annual Meeting and Clinical Symposium Dallas, TX, June 1989; (abstract published in Athletic Training. 1989; 24:115).

17. Knight KL, Hall KS, Alderman MK, Adams JA. Heat retention under a neoprene thigh sleeve during and after exercise. National Athletic Trainers Association Annual Meeting and Clinical Symposium Dallas, TX, June 1989; (abstract published in Athletic Training. 1989; 24:116).

16. Knight KL, Copeland KL. Correlation of I-EMG activity with joint angle during three leg press activities. National Athletic Trainers Association Annual Meeting and Clinical Symposium, Columbus, OH June 1987

15. Mancuso DL, Knight KL: Effects of prior physical activity on skin surface temperature response of the ankle during and after a 30 minute ice pack application. National Athletic Trainers Association Annual Meeting and Clinical Symposium, Columbus, OH June 1987

14. Knight KL, Rewarming of the ankle and forearm following 30 minutes of ice water immersion. National Athletic Trainers Association Annual Meeting and Clinical Symposium Nashville, TN June 1984

13. Knight KL, Effects of wearing a toe cap or a sock on temperature and perceived pain during ice water immersion. American College of Sports Medicine Annual Meeting Montreal, Ont May 1983

12. Knight KL, Strength development for the knee. The Art and Science of Sports Medicine-1982 Charlottesville, VA, June 1982

11. Knight KL, Skin temperature changes in male and female forearms during and after application of six different cold modalities. National Athletic Trainers Association Annual Meeting and Clinical Symposium Fort Worth, TX, June 1981

10. Knight KL, Bryan KS, Halvorsen JM. Circulatory changes in the forearm during and after cold pack application and immersion in 1°C, 5°C, 10°C, and 15°C water. Pan American Congress of Sports Medicine and Exercise Science Miami, FL, May 1981; (abstract published in International Journal of Sports Medicine. 1981; 4:281).

9. Knight KL. Forearm and blood flow changes during cold pack application. Indiana Intera gency Research Council, Muncie, IN, Apr 1981

8. Knight KL, Aquino J, Johannes SM, Urban CD. Rewarming of the ankle, forearm, and finger after cryotherapy: further re-examination of Lewis' cold-induced vasodilatation. National Athletic Trainers Association Annual Meeting and Clinical Symposium Philadelphia, PA, June 1980

7. Knight KL, A re-examination of Lewis' cold-induced vasodilatation in the finger and ankle. 27th Annual Meeting of the American College of Sports Medicine Las Vegas, NV, May 1980

6. Knight KL, Elam JE: Rewarming of the ankle, forearm, and finger after cryotherapy: further re-examination of Lewis' cold-induced vasodilatation. Indiana Intera gency Research Council, Bloomington, IN; April 1980

5. Knight KL. Development of post surgical knee strength: the daily adjustable progressive exercise (DAPRE) technique versus the delorme technique. National Athletic Trainers Association Annual Meeting and Clinical Symposium St Louis, MO, June 1979

4. Johannes SM, Knight KL. Temperature response during the warming phase of cryokinetics. Indiana Interagency Research Council. West Lafayette, IN; April 1979

3. Urban CD, Knight KL. Insulating Effects of Elastic Wraps Used During the Application of Ice, Compression, and Elevation to the Lateral Aspect of the Ankle. Indiana Interagency Research Council. West Lafayette, IN; April 1979

2. Knight KL, Identification of ligaments torn during forceful inversion of cadaver ankles in plantar and dorsiflexion. 25th Annual Meeting of the American College of Sports Medicine Washington, DC, May 1978

1. Knight KL, Comparison of blood flow in the ankle of uninjured subjects during therapeutic applications of heat, cold, and exercise. 24th Annual Meeting of the American College of Sports Medicine Chicago, IL, May 1977

INVITED RESEARCH REVIEW PRESENTATIONS

63. Knight KL. Draper DO. Evidence based medicine: the good, the bad, the ugly, and beyond. National Athletic Trainers' Association 61st Annual Meeting & Clinical Symposium. Philadelphia, PA, Jun 2010

62. Knight KL. Resetting central control during rehabilitation: dehne's spinal adaption syndrome. 44th Annual Canadian Athletic Threapists Association National Conference. Kingston, Ont. Apr 2010

61. Knight KL. Cryotherapy: multiple modalities, multiple effects, and often applied inappropriately: what research tells about maximizing its power (keynote address). 44th Annual Canadian Athletic Threapists Association National Conference. Kingston, Ont. Apr 2010

60. Knight KL. Strength rehabilitation uses and abuses of the 3 isos (tonic, medtic, and kinetic), Rocky Mountain Athletic Trainers Association Annual Meeting. Denver, CO, Apr 2010

59. Knight KL. Draper DO. Evidence based medicine: the good, the bad, the ugly, and beyond. Rocky Mountain Athletic Trainers Association Annual Meeting. Denver, CO, Apr 2010

58. Knight KL. Therapeutic Modalities: Art, Science, or Voodoo? National Athletic Trainers' Association 60th Annual Meeting & Clinical Symposium. San Antonio, June 2009.

57. The Myths and Realities of Cryotherapy. The Southwest Athletic Trainers' Association 54th Annual Meeting and Clinical Symposium. Corpus Christi, TX. July 2008

56. The roles of research in athletic training: past, present, and future. Rocky Mountain Athletic Trainers Association Annual Meeting. Phoenix, AZ, Apr 2008.

55. Therapeutic modalities: art, science, or voodo. University of Nevada-Las Vegas/Nevada Athletic Trainers Association Seminar. Las Vegas, NV, Apr 2008

54. Therapeutic modalities: art, science, or voodo. University of Colorado-Colorado Springs Sports Medicine Seminar. Colorado Springs, Co, Mar 2008

53. The latest and greatest in cryotherapy. National Athletic Trainers' Association 58th Annual Meeting & Clinical Symposium. Anaheim, 2007.

52. Pain, inhibition, & neuromuscular rehabilitation. University of Virginia Graduate Seminar. Charlottesville, VA, Oct 2006

51. My life with ice. University of Virginia Graduate Seminar. Charlottesville, VA, Oct 2006

50. The myths and realities of therapeutic heat and cold. American Association of Health, Physical Education, and Recreation Annual Meeting. Salt Lake City, UT, April 2006

49. Ice and ice: two modalities. Rocky Mountian Athletic Trainers Association Annual Meeting. Salt Lake City, UT, Apr

2006.

48. The Simplicity and Complexity of Cryotherapy. Arizona Athletic Trainers Association. Phoenix, Feb 2006

47. Cryotherapy research challenges. National Athletic Trainers Association Annual Meeting and Clinical Symposium, St Louis, June 2003.

46. Application of research to the clinician. Louisiana Athletic Trainers Association Annual Meeting. Hammond, LA, June 2003

45. Cold vs heat: when and why. 2002 World Exercise Professionals Symposium. Souel, Korea, July 2002

44. Cryotherapy in sports injury manangement. Annual Korean Associan of Clinical Exercise Professionals Clinical Symposium. Souel, Korea, July 2002

43. Cryotherapy Update. Pennsylvania Athletic Trainers Society. Hershey PA, Jun 2000

42. Just ice it. Hope College Sports Medicine Conference. Holland, MI, Oct 1999

41. Clinical application of Cryotherappy. Southwest Chapter of American College of Sports Medicine. Las Vegas, NV, Nov 1998

40. Cryotherapy Research Review. University of Nevada-Las Vegas, Nov 1998

39. Pain and cryotherapy. Canadian Athletic Therapists Association Annual Meeting. Hallifax, Nova Scotia, May 1998

38. Flaws in the theory of developing strength with isokinetic dynamometers. Canadian Athletic Therapists Association Annual Meeting. Hallifax, Nova Scotia, May 1998

37. Pain management and neuromuscular control. Colloquia on Orthopedic Rehabilitation and Sports Medicine. Houston TX, Apr 1998

36. Pain & inhibition: friends or foes? Rocky Mountain Athletic Trainers' Association Annual Meeting, St George, UT, Mar, 1998;

35. 25 years of cryotherapy. Clancy Award for Distinguished Athletic Training Research Lecture; National Athletic Trainers' Association Annual Meeting and Clinical Symposium, Salt Lake City, Ut, June, 1997;

34. Cryotherapy; broad & deep in 15 Minutes. NATA-AOSSM Exchange Lecture; American Orthopedic Society for Sports Medicine National Convention. Sun Valley, ID, June 1997.

33. Cold, pain, and performance. Canadian Athletic Therapists Association National Conference. Winnipeg, Manatoba, June 1997.

32. Research update: cold and heat. Great Lakes Athletic Trainers Association. Minneapolis, March 1997

31. Pre and post surgical cryotherapy. National Sales Managers Conference, Incare Corporation. Snowbird Ski Resort (Salt Lake City), UT, Feb 1997.

30. Melting Myths about Cryotherapy Concordia University Lecture Series, Montreal, Quebec, Canada, Oct 1995

29. Monitoring and Redevelopment Strength During Rehabilitation Quebec Athletic Therapists Association, Montreal, Quebec, Canada, Oct 1995

28. Scientific basis for the use of cold in rehabilitation. Graduate Rehabilitation Seminar, Physical Therapy Department, University of Indianapolis, Sept 1995

27. Cryotherapy for immediate care of sports injuries. Trover Clinic Seminar on Functional Management of

Musculoskeletal Injuries, Madisonville, KY, Jan 1994

26. Strength development-isokinetic vs isotonic. Trover Clinic Seminar on Functional Management of Musculoskeletal Injuries, Madisonville, KY, Jan 1994

25. Cryotherapy and rehabilitation of sports injuries: why, what, when, & how. Southeast Athletic Trainers Association Annual Meeting Gatlinburg, TN, July 1993.

24. Cryotherapy. University of Alabama Sports Medicine Symposium Tuscaloosa, AL, Oct 1992.

23. Scientific Basis for Cryotherapy. South Carolina Athletic Trainers Association Annual Meeting Columbia, SC, July 1992.

22. Use of Cryotherapy in the Treatment and Rehabilitation of Foot and Ankle Injuries. Southeast Athletic Trainers Association Annual Meeting Jackson, MS, July 1992.

21. Cryotherapy. Sun City Athletic Trainers Association Annual Meeting El Paso, TX, May 1992.

20. The Use of Therapeutic Modalities in Rehabilitation of the Injured Knee. American College of Sports Medicine Annual Meeting Orlando, May 1991.

19. Therapeutic Modalities in Treatment of Chronic Injuries. American College of Sports Medicine Annual Meeting Orlando, May 1991.

18. Choosing the Proper Therapeutic Modality. Pennsylvania Athletic Trainers Society Annual Meeting and Clinical Symposium Hershey, PA, May 1989

17. Strength Training in Rehabilitation and Conditioning. Pennsylvania Athletic Trainers Society Annual Meeting and Clinical Symposium Hershey, PA, May 1989

16. The research of KL Knight. Faculty of Physical Education and Recreation, University of Alberta, Edmonton, Alberta, Canada, May 1989

15. Rehabilitation versus Reconditioning. Great Lakes Athletic Trainers Annual Sports Medicine Symposium, Indianapolis, IN, Mar 1988

14. Cryotherapy for Musculoskeletal Trauma. Thermal Agents for Physical Therapy Educators Conference, (Section on Clinical Electrophysiology of the American Physical Therapy Association), Philadelphia, PA, Aug 1987

13. Cryotherapy: Theory and Physiology Pennsylvania Athletic Trainers Society Annual Meeting and Clinical Symposium Hershey, PA, May 1987

12. Cryotherapy and Rehabilitation Univ of Maryland Physical Therapy Alumni Association Baltimore, MD, May 1987

11. General Principles of Heat and Cold Colorado Athletic Trainers Association, Colorado Springs, CO, May 1987

10. Physiology of Rehabilitation with Cryotherapy Northeast Missouri State University, Kirksville, MO, Feb 1987

9. Cryotherapy - Theory and Physiology. 4th Annual Garden State Sports Medicine Symposium New Brunswick, NJ, Dec 1986

8. Cryotherapy. 7th Annual Conference of the Sports Physical Therapy Section (of the American Physical Therapy Association). Williamsburg, Va, Dec 1986

7. Use of cold in the immediate care and rehabilitation of sports injuries. DePauw University Athletic Training Workshop Greencastle, IN, July 1985

6. Cryotherapy. Keynote Address of the Great Lakes Athletic Trainers Association Sports Medicine Symposium Maryville, IN, Mar 1985

5. Strength Training in Rehabilitation. National Strength and Conditioning Association, District 1 Annual Meeting, Indianapolis, IN, Mar 1985

4. Physiology of thermo- and cryo-therapies and their use in conjunction with electrical modalities. Therapeutic Electrical Modalities Workshop United States Olympic Committee Sports Medicine Council; Colorado Springs, Co, Dec 1983

3. Physiological basis for the use of cold in musculoskeletal injury management. The Art and Science of Sports Medicine-1982 Charlottesville, VA, June 1982

2. A review of cold-induced vasodilatation. 1980 Indiana Student Trainers Convention Terre Haute, IN, April 1980

1. Disuse muscular atrophy: structural and biochemical changes. Physical Education Departmental Seminar University of Missouri-Columbia, March 1976

INVITED CLINICAL TECHNIQUE PRESENTATIONS

42. The Art, Science, & Voodoo of Therapeutic Modality Application. University of Texas Arlington Visiting Professor. Arlington Texas, Sept 2008

41. Cryokinetics for todays clinician. Louisiana Athletic Trainers Association Annual Meeting. Hammond, LA, June 2003

40. Comparison of Cryo5 Air Cooling to Ice Water Immersion, Crushed Ice Packs, and Ice Massage for Tissue Cooling and Numbness. 8th Interdisciplanary Conference on Medicine and Science in Sports and Exercise. Souel, Korea, July 2002

39. Rapid ankle rehabilitation with cryokinetics Hawaiian Athletic Trainers Association Annual Meeting. Honolulu. June 2001

38. Cryotherapy for rehabilitation of sports injuries. Trover Clinic Seminar on Functional Management of Musculoskeletal Injuries, Madisonville, KY, Jan 1994

37. Functional rehabilition of sports injuries. Trover Clinic Seminar on Functional Management of Musculoskeletal Injuries, Madisonville, KY, Jan 1994

36. Immediate care of sports injuries: why, what, when, & how. Southeast Athletic Trainers Association Annual Meeting Gatlinburg, TN, July 1993.

35. Cryotherapy Techniques. South Carolina Athletic Trainers Association Annual Meeting Columbia, SC, July 1992.

34. Sprained Ankle Management with Cryotherapy. Southeast Athletic Trainers Association Annual Meeting Jackson, MS, July 1992.

33. Taping, Padding, & Bandaging the Wrist and Hand. Team Physicians Course I, American College of Sports Medicine Palm Springs, CA, Feb 1992.

32. Rehabilitation of the Injured Knee. Team Physicians Course I, American College of Sports Medicine Palm Springs, CA, Feb 1992.

31. Preventing Heat Illness. Vigo County Youth Football Association Preseason Coaches Conference. Terre Haute, IN, July 1991.

30. Cryotherapy. Therapeutic Modalities in Sports Medicine Seminar, Southeast Athletic Trainers Association Tuscaloosa, Alabama, Feb 1991.

29. Cryotherapy. Valley Hospital Sports Medicine Symposium, Woodcliff Lake, NJ, Mar 1988

28. Techniques of Cryotherapy Pennsylvania Athletic Trainers Society Annual Meeting and Clinical Symposium Hershey, PA, May 1987

27. Cryokinetics and Cryostretch Colorado Athletic Trainers Association, Colorado Springs, CO, May 1987

26. Cryotherapeutic Techniques Northeast Missouri State University, Kirksville, MO, Feb 1987

25. Cryotherapy - Clinical Techniques. 4th Annual Garden State Sports Medicine Symposium% New Brunswick, NJ, Dec 1986

24. Shoulder Warmup-Stretch-Manipulation. Indiana APHERD, Terre Haute, Oct 1986

23. The role of cryotherapy in total injury rehabilitation. Highlight Lecture to Texas Chapter of the American College of Sports Medicine, Austin, TX, Oct 1984

22. Rehabilitation of knee injuries using the DAPRE technique. DePauw University Athletic Training Workshop, Greencastle, IN, July 1984

21. Prevention, care, and rehabilitation of ankle sprains. Sports Medicine Education Series of Southside Rehabilitation Center Indianapolis, IN, Mar 1984

20. Cryokinetics for the treatment of ankle sprains. DePauw University Athletic Training Workshop Greencastle, IN, July 1983

19. Cryotherapy: practical applications. Keynote Address of the 17th Annual Athletic Therapy Conference of the Canadian Athletic Therapists Association Vancouver, British Columbia, Canada, June 1983

18. Pre-season arm care. Tri-State Baseball Clinic Jasper, IN, February 1983

17. Prevention of sports injuries through complete rehabilitation. Union Hospital Medical Education Conference Terre Haute, IN, December 1982

16. Cryotherapy in sports. St Johns Medical Center-Anderson College Annual Sports Medicine Seminar Anderson, IN, December 1982

15. Knee rehabilitation with the DAPRE technique. Indianapolis Area Athletic Trainers Association Indianapolis, IN, August 1982

14. Care and prevention of injury to special olympians. Indiana Special Olympics State Conference Terre Haute, IN, July 1982

13. The DAPRE technique in rehabilitation. Sports Medicine Conference of the Governors Council of Physical Fitness and Sport Indianapolis, IN, May 1982

12. Therapeutic modalities: Background and application. Great Lakes Athletic Trainers Association Sports Medicine Symposium Indianapolis, IN, March 1982

11. Cryotherapy: Theory and application. Southeastern Michigan Physical Therapy Association Meeting Flint, MI, March 1982

10. Rehabilitation principles for common athletic injuries. Indiana Association for Health, Physical Education, Recreation, and Dance Annual Conference West Lafayette, IN, October 1981

9. The DAPRE technique for rapid muscular strength rehabilitation. 1981 Indiana Student Trainers Convention Terre Haute, IN, Jan 1981

8. How I use cryokinetics in the treatment of athletic injuries. Seminar on Sports Medicine, Indiana High School Athletic Association Indianapolis, IN, October 1980

7. The pichers arm: care and treatment. Tri-State Baseball Clinic Jasper, IN, February 1980

6. Strength development during knee rehabilitation-the DAPRE technique. Athletic Training Class Radford College, Radford, VA, February, 1979

5. Cryotherapy in the rehabilitation of common sports injuries. Physical Education Majors and Minors Club Meeting Radford College, Radford, VA, February, 1979

4. Rehabilitation of knee and ankle injuries. Annual Meeting of the Central States Chapter of the American College of Sports Medicine Columbia, MO, December 1975

3. Rehabilitation of injuries common to school athletics. Missouri State High School Athletic Association Seminal on Prevention and Management of Athletic Injuries Columbia, MO, April 1975

2. Cryotherapy procedures for high school coaches. Physical Education In service Workshop, Columba School District, Columbia, MO, August 1972

1. Athletic training for little league coaches. Wabash Front Football League Ogden, UT, August 1972

EDUCATIONAL & OTHER PRESENTATIONS

52. Influence of Indiana State University on the development of athletic training education in the US and Canada. ISU Athletic Training Department. Terre Haute, IN. Nov 2009.

51. Scholarly Writing: Strategies for Increasing Productivity and Enjoying it More. College of Nursing, Health, and Human Services Faculty Development Seminar. Terre Haute, IN. Nov 2009.

50. Critical Thinking: What, Why, and How--Practical Tips for Preventing Hyposkillia. Rocky Mountain Athletic Trainers' Association 24th Annual District 7 Meeting, Salt Lake City, April 2009.

49. Education Council/CAATE/BOC Roundtable: Where we are; where we are going. 2009 Athletic Training Educators Conference. Washington DC, Feb 2009.

48. The Need for Cultural Changes in Athletic Training Education. National Athletic Trainers' Association 59h Annual Meeting & Clinical Symposium. St Louis, June 2008.

47. Changing the Culture of Clinical Education. National Athletic Trainers' Association 59h Annual Meeting & Clinical Symposium. St Louis, June 2008.

46. Athletic Training Education: Today and Tomorrow. Education Council Update. The Southwest Athletic Trainers' Association 54th Annual Meeting and Clinical Symposium. Corpus Christi, TX. July 2008

45. Knight KL. Take control; increase your productivity and decrease stress. 2007 Rocky Mountain Athletic Trainers' Association Annual Symposium. Denver, CO, April 2007

44. Knight KL. Celebrate the athletic trainer; be the best for the world. Keynote address at the 2007 Rocky Mountain Athletic Trainers' Association Annual Symposium. Denver, CO, April 2007

43. Knight KL. Enhanced patient care through enhanced education. Great Lakes Athletic Trainers Association Annual Meeting. St Charles, IL, Mar 2007

42. Knight, KL. Scholarly Writing: Strategies for Increasing Productivity and Enjoying it More UNCC. University of North Carolina-Charlotte Faculty Seminar. Charlotte, NC, Nov, 2006

41. Knight, KL. Athletic Training Education Challenges for 2006 University of Virginia Graduate Seminar. Charlottesville, VA, Oct 2006

40. Knight, KL. Scholarly Writing: More Productivity and Less Stress. University of Virginia Graduate Seminar. Charlottesville, VA, Oct 2006

39. Knight, KL. Athletic training as a profession: triumphs and challenges. Weber State College. Athletic Training Invited Lecturer, Sept 2006

38. Knight KL. Program director 101. National Athletic Trainers Association Annual Meeting and Clinical Symposium. Atlanta, GA, June 2006

37. Knight KL. Challenges to our status as health care providers (Keynote Address). Northwest Athletic Trainers Association Annual Meeting. Boise, ID, Mar 2006.

36. Knight, KL. ATEP curriculum changes and update. Northwest Athletic Trainers Association Annual Meeting. Boise, ID, Mar 2006.

35. Knight, KL. Using Evidence to Influence How We Practice: Education. Great Lakes Athletic Trainers Association Annual Meeting. Madison, WI, Mar 2006.

34. Knight, KL. Strategies for maximizing your writing time and productivity Great Lakes Athletic Trainers Association Annual Meeting. Madison, WI, Mar 2006.

33. Knight, KL. Changes in the 4th edition of the athletic training competencies and proficiencies. Southeasst Athletic Trainers Association Annual Meeting. Atlanta, GA, Feb 2006.

32. Obtaining a PhD: Why, Where, and What Do I Do With It? National Athletic Trainers Association Annual Meeting and Clinical Symposium, Baltimore, June 2004.

31. Graduate program accreditation standards and procedures. National Athletic Trainers Association Annual Meeting and Clinical Symposium, St Louis, June 2003.

30. Write right by knight: Theory and techniques for enhancing communication. Natiional Athletic Trainiers Association Educators Conference. Montgomery, TX. Jan 2003

29. Research and education in sports medicine. 2002 World Exercise Professionals Symposium. Souel, Korea, July 2002

28. Risk management Rocky Mountain Athletic Trainers Association Annual Meeting. Albuquerque, NM, Mar 2002

27. Risk management Rocky Mountain Athletic Trainers Association Annual Meeting. Albuquerque, NM, Mar 2002

26. Education Council update. Rocky Mountain Athletic Trainers Association Annual Meeting. Tucson, AZ, Mar 2001

25. Even losers can win the education game. Grand County High School Commencement. Moab, UT, June 1998

24. The future of athletic training. Student Athletic Trainers Session, National Athletic Trainers Association Annual Meeting and Clinical Symposium. Salt Lake City, 1997

23. Promoting scholarship in athletic training. NATA Professional Educators Conference. Dallas, Feb 1997

22. Preventing professional lawsuits Sports Law Graduate Class, Indiana State University Physical Education Dept, Terre Haute, IN. Nov 1995

21. Graduate Education in Athletic Training Concordia University Athletic Therapists Association, Montreal, Quebec,

Canada, Oct 1995

20. Innovations in athletic injury rehabilitation. Vincennes University Physical Education Dept, Vincennes, IN, Apr 1995

19. NATA journal writing workshop. Great Lakes Athletic Trainers' Association Annual Convention, Fort Wayne, IN, March, 1995.

18. How to write and publish scientific/medical papers. Brigham Young University Physical Education Department, Provo, UT, July 1994

17. Preventing Dehydration in Football. Vigo County Youth Football Association, Terre Haute, IN, Aug 1992

16. Writing for a Scientific Journal. University of Alabama Sports Medicine Symposium Tuscaloosa, AL, Oct 1992.

15. Reading and Interpreting Scientific Literature. Southeast Athletic Trainers Association Annual Meeting Jackson, MS, July 1992.

14. Writing for a Scientific Journal. Southeast Athletic Trainers Association Annual Meeting Jackson, MS, July 1992.

13. How to Deal with Editors. National Athletic Trainers Association Annual Meeting and Clinical Symposium, Denver, June 1992.

12. Athletic Trainer-Physician Relationships. Team Physicians Course I, American College of Sports Medicine Palm Springs, CA, Feb 1992.

11. Preparation of Research Findings for Journal Publication. National Athletic Trainers Association Annual Meeting and Clinical Symposium, New Orleans, June 1991.

10. Scholarly Productivity: Strategies for the Busy Clinician. Colloquia on Applied Science in Sports Medicine, Houston, April 1991.

9. The Job Isn't Done Until the Paperwork is Finished. National Athletic Trainers Association Annual Meeting and Clinical Symposium, Indianapolis, June 1990.

8. How to Publish. Eastern Illinois University Student Athletic Trainers Association, Matoon, IL, Mar 1989

7. Athletic Trainer Clinical Education: By Design or Osmosis? A Modularized Approach. Annual Athletic Training Educators Workshop Baltimore, MD, June 1988

6. Journal Manuscript Writing. Great Lakes Athletic Trainers Annual Sports Medicine Symposium, Indianapolis, IN, Mar 1988

5. Education of Athletic Trainers Noon Optimists Club, Terre Haute, IN, April 1987

4. A perspective on clinical research. Annual Athletic Training Educators Workshop Nashville, TN June 1984

3. Organization of the clinical experience. Program Directors Council of the National Athletic Trainers Association Fort Worth, TX, June 1981

2. The university trainer and his problems. Colloquia on the Team Physician and His Problems at the American College of Sports Medicine Annual Meeting Miani, FL, May 1981

1. The use of instructional objectives in teaching athletic training students. Program Directors Council of the National Athletic Trainers Association Philadelphia, PA, June 1980

WORKSHOPS, COLLOQUIA, & SEMINARS

20. Draper DO, Knight KL. Evidence based medicine: distinguishing the good from the bad and ugly. Rocky Mountain Athletic Trainers Association Annual Meeting. Denver, CO, Apr 2010

19. Athletic training professional service and leadership. Graduate Athletic Training Administration Class, University of Nevada-Las Vegas. Las Vegas, NV. Apr 2008.

18. Research and scientific writing strategies.University of Colorado-Colorado Springs Sports Medicine Graduate Students. Colorado Springs, Co, Mar 2008

17. Cryotherapy: Immediate Care & Rehabilitation. Hawaiian Athletic Trainers Association Annual Meeting. Honolulu. June 2001

16. Cryotherapy myths. Holland Hospital Rehabilitation Inservice Workshop. Holland MI, Oct 1999

15. Peer-Review Workshop #2, National Athletic Trainers Association Annual Meeting & Clinical Symposium, Baltimore, MD; June 1998
14. Pre and post surgical cryotherapy. National Sales Managers Conference, Incare Corporation. Snowbird Ski Resort (Salt Lake City), UT, Feb 1997.

13. Managing exercise induced asthma (a three day think-tank involving 25 participants). United States Olympic Committee Sports Medicine Division, Colorado Springs, CO, Dec 1994

12. Peer review in scholarly journals (a three day think-tank involving 34 participants). Council of Biology Editors, Airlie House, VA, Oct 1994.

11. Research requirements for ACSM Fellowship. Colloquium at the American College of Sports Medicine Annual Meeting Seattle, WA, June 1993.

10. ACSM Fellowship: What it is, and How to Achieve it. Colloquium participant at the American College of Sports Medicine Annual Meeting Dallas, TX, May 1992.

9. Inflammation and healing in sports-induced soft tissue injury. (a three day think-tank involving 40 participants) American Orthopedic Society for Sports Medicine and National Institutes of Health, Bethesda, MD, May 1989

8. The team physicians role in preventing injury due to environmental extremes. Colloquium participant at the American College of Sports Medicine Annual Meeting Dallas, TX, May 1984.

7. Guidelines for immediate care and rehabilitation of sports injuries. Guest Lecturer at Indian University, April 1984

6. Cryotherapy: a review of current research. Symposium presented at the 17th Annual Athletic Therapy Conference of the Canadian Athletic Therapists Association Vancouver, British Columbia, Canada, June 1983

5. Prevention and care of sports injuries. Area 8 Indiana Special Olympics In service Workshop Indianapolis, IN, November 1982

4. Electrical muscle stimulation in rehabilitation of sports injuries. Colloquium presented at the American College of Sports Medicine Annual Meeting Minneapolis, MN, May 1982

3. Theoretical basis and practical applications of therapeutic modalities in sports injury care. National Sales Managers Conference, Chattanooga Corporation Chattanooga, TN, November 1981

2. Athletic training in the seventies. Cramer Coaches Athletic Training Workshop. Terre Haute, IN, July 1980

1. Care and prevention of athletic injuries. High School Student Athletic Trainers Workshop. presented twice annually in Moab and Ogden, UT, 1970-73

MASS MEDIA (INTERVIEWS & VIDEOTAPES)

16. Knight to Lead Education Council. NATA News; Aug 2004, p 14

15. Athletic Training Has its Knight in Shining Armor. Utah County Journal; Vol 28 #54, June 30, 1997

14. Foundation Presents Inaugural Research Award, NATA Daily News, June 19, 1997

13. . . . . in Provo Utah Daily Universe. Feb, 1996

12. Cryotherapy for First Aid. Videotape produced and distributed internationally by Human Kinetics 1996 [awarded 1st Prize in the 1998 NATA Educational Multimedia Committee's Video Production Contest in the Commercially Produced category.

11. Cryotherapy for Rehabilitation. Videotape produced and distributed internationally by Human Kinetics 1996

10. Work mentioned extensively by others in article about Therapeutic use of cold. Bernard J Colan. Advance for Physical Therapists, Feb 25, 1995.

9. Fitness Smarts, Interview by John Krackauer in Playboy, March 1994; p31

8. Cold and Compression. Review of research by Fitness & Business Jan 1994

7. Ice is Nicest, Interview in Prevention Magazine, Nov 1992; p25-26

6. Current Issues in Pain Management: Cryotherapy's Hot, Interview in Orthopedic and Sports Medicine News, 1990; 4(12): 21-22

5. Cryotherapy research at ISU; implications for the weekend athlete. 15 min radio interview for The Presidents Report, on WISU and distributed state-wide. July 1989

4. Heat stress and the weekend athlete. 15 min radio interview for The Presidents Report, on WISU and distributed state-wide. June 1987

3. Cryotherapy. Interviewed by Jon Krakauer: Ice, Ultrasport Magazine, Nov/Dec 1985

2. Prevention and care of sports injuries. Videotape, Produced and distributed nation-wide by Indiana Special Olympics, 1984

1. ISU Professor Researches Strength Training. 4 column article in Terre Haute Tribune Star, 1981

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Terre Haute IN 47805
650-678-7432

PROFESSIONAL PREPARATION

Doctorate in Education, Curriculum and Instruction, University of San Francisco, San Francisco CA, May 1999.

Master's of Science in Exercise and Sports Sciences, University of Arizona, Tucson, AZ 85721, May 1993.

Bachelor's in Exercise Science and Athletic Training, Indiana University, Bloomington, IN 47405, December 1990.

CERTIFICATIONS

National Athletic Trainers' Association – Board of Certification; 1991.

Medic 1st Instructor: CPR, AED, Child/Infant/Adult & Basic Life Support for the Professional Rescuer (BLSPRO), 2000.

CAATE Clinical Instructor Educator, 2004

PROFESSIONAL EXPERIENCE

Professor/Chair: Department of Applied Medicine and Rehabilitation, Terre Haute IN, 2009-present

- Facilitate 4 allied health care accredited programs
  - Doctorate in Physical Therapy
  - Master in Physician Assistant Studies
  - Master in Athletic Training (Post Professional)
  - Bachelor in Athletic Training (Entry Level)
- Facilitate and Direct 13 faculty and 5 clinical staff
  - Set department direction
  - Set department agenda
- Facilitate and maintain accreditation process for both graduate and undergraduate athletic training programs, physical therapy (DPT) and physician assistant programs (MPA)
- Facilitate direction for clinical athletic training room and physical therapy clinic
- Secure and develop grant and contract revenue
- Facilitate Alumni interaction
- Direct web page revisions and updates
- Recruitment and Retention of faculty and students
- Advise program development and clinical development
- Conduct Research
- Teach undergraduate, graduate, general education, activity, and athletic training courses
- Direct master's theses

PROFESSIONAL EXPERIENCE Cont.

Courses Instructed
ATTR 455: Athletic Training Clinical V
ATTR 425: Administration of Athletic Training Health Care Delivery

ATTR 655: Fieldwork in Graduate Athletic Training I
ATTR 656: Fieldwork in Graduate Athletic Training II

Associate Professor: Graduate Athletic Training Curriculum Director, San Jose State University, San Jose, CA 1998-2009.

- Director of a NATA accredited graduate curriculum program
- Manage 30 teaching assistant
- Maintain national program accreditation
  - Reaccredited (Self-Study), Reaccredited 2005
- Recruitment and Management of 34 Graduate Assistantships and stipends
  - 13 Area High Schools, SF 49ERs, Stanford, San Francisco State University, Ohlone College, San Jose State University, Menlo College, CSU – East Bay, Foothill College, UC Santa Cruz
  - Coordinate, disseminate, and acquire $500,000.00 in Graduate Assistantships yearly (soft money – grants and school district contracts)
- Advise students for program development
- Conduct Research
- Teach undergraduate, graduate, general education, activity, and athletic training courses
- Direct master's theses

Adjunct Professor, Rocky Mountain University, Provo Utah, 2005-present

Courses Instructed

- Basic Pedagogy (Doctorate)
- Learning Styles (Doctorate)
- Teaching Strategies (Doctorate)
- Administration and Leadership (Doctorate)
- Case Study Methodology (Doctorate)
- Curriculum Theory and Design (Doctorate)

Associate Professor: Athletic Training Programs Director, San Jose State University, San Jose, CA 1998-2006.

- Director of both a CAAHEP/CAATE approved undergraduate curriculum program and NATA Accredited Graduate Program (description above).
- Maintain national program accreditation, Accredited 2000, 2007
  - Reaccredited (Self-Study - 2005-2006)
  - Annual report
  - Creation of competency matrix and competency handbook
  - Creation of student athletic trainer handbook
- Recruitment and Management of students and affiliated sites
  - Affiliated site contracts (~20)
  - Affiliated site certification (ACI)
  - Student competency completion
  - Clinical Educator Instructor with yearly ACI workshop.
- Advise students for program development
- Coordinate student placement and supervision with Clinical Coordinator
- Create and Administer Mock Certification Examination

Courses Instructed

PROFESSIONAL EXPERIENCE

- Recognition and Management of Athletic Injuries to the Lower Extremity (Graduate)
- Recognition and Management of Athletic Injuries to the Upper Extremity (Graduate)
- Advanced Theories of Therapeutic Exercise and Modalities (Graduate)
- Therapeutic Modalities in Athletic Rehabilitation (Undergraduate)
- Organization and Administration of Athletic Training (Graduate & Undergraduate)
- Seminar in Sports Medicine I & II (Graduate)
- Analysis of Research (Graduate)
- Pharmacology (Undergraduate)
- Internship in Sports Medicine (Graduate)
- Clinical Internship (Undergraduate)
- Conditioning through Cross Training
- Fieldwork in Athletic Training (Graduate)
- English Writing Workshop (Undergraduate)
- Senior Seminar (Undergraduate)

Expert Witness for Athletic Training Legal Cases, San Mateo County, Selected Law Offices.
- Consult on Legal Cases
- Review depositions
- Trial Witness

Head Athletic Trainer, San Francisco State University, San Francisco, CA 1994-1998.
- Director of student athletic trainer education program
- Administration of the sports medicine clinic
- Clinical and sport responsibilities for 15 teams
- Supervise Assistant Athletic Trainer

Instructor, San Francisco State University, San Francisco, CA 1994-present.
- Prevention and Care of Athletic Injuries
- Athletic Injuries for Coaches
- Rehabilitation of Athletic Injuries
- Anatomical Kinesiology Lab, Evaluation of Athletic Injuries
- Several classes were part of a consortium with two other Universities via teleconference, WWW, and e-mail.

Assistant Athletic Trainer, San Francisco State University, San Francisco CA, 1994.
- Director of athletic training student education program
- Rehabilitation Specialist
- Clinical and sport responsibilities for 7 athletic teams

PROFESSIONAL EXPERIENCE

Rehabilitation Specialist, San Francisco State University, San Francisco CA, 1993-1994.
- Responsible for administration of Sports and Performing Arts Clinic
- Design rehabilitation protocol for students in the general

population, off-season athletes, and dance majors

Head Athletic Trainer, Santa Rita High school, Tucson, AZ, 1991-1993.

- Responsible for health care and administration of athletic training program for all the athletic programs.

AWARDS

***Winner: Journal of Athletic Training* Clint Thompson Award for Clinical Advancement 2010:** Myer, G., Ford, K., Divine, J., Wall, E., Kahanov, L., Hewett, T. (2009). Longitudinal Assessment of Noncontact anterior cruciate ligament injury risk factors during maturation in a female athlete: A case report. *Journal of Athletic Training, 44(1)101-109.*

***First Runner Up: Journal of Athletic Training* Clint Thompson Award for Clinical Advancement 2010:** Kahanov, L; Daly, T. (2009). Bilateral Pulmonary emboli in a collegiate gymnast: A case report. *J Ath Train*; 44(6).

Professional Activities: National

Chair, National Task for on Drug Management in Athletics.
National Athletic Training Association, 2008-2009.

- Facilitated the creation of a National Consensus statement on Drug Management in Athletics.
- Press Release: January 2009
- Information Tour: May 2009 – December 2009.

Member Review Team, Commission on Accreditation of Athletic Training Education, 2007- present.

- Evaluate review materials for re-accreditation of 367 CAATE accredited athletic training education programs annually.
- Provide accreditation and re-accreditation decision to the CAATE board for approval.

CAATE/CAAHEP Site Visitor, 2000 – present

- Participate in on-site evaluation of individuation athletic training education programs across the United States for CAATE re-accreditation
- Evaluate written Self-Study materials and provide support a
- Conduct accreditation evaluation on written documentation of findings to CAATE.

Member, Post-Professional Education Committee, NATA 2005-present.

- Lead Author, Post Professional Athletic Training Education Standards.
- Provide input on post-professional education including: specialty certifications, graduate programs, residency programs, and internships.
- Aid in the creation of standards for all the post-professional education Committee educational options
- Conduct accreditation site-visits and self-study review for the PPEC, including accreditation recommendations.

PROFESSIONAL ACTIVITIES: Professional Organizations

Chair, Research & Professional Development Committee, Far West Athletic Trainer Association. January 2003 - 2009.

California Athletic Trainers Association (CATA) Meeting - Site Coordinator and Host: Symposium and Organizational Meeting. December 6, 1999, May: 2005, 2006, 2007, 2008.

Poster Presentation Representative, American Academy of Orthopedic Surgeons, Representing the NATA, March 10-14, 2004.

Research & Professional Development Committee, Far West Athletic Trainer Association. Grant Reviewer, March 2001.

Historical Committee, Far West Athletic Trainer Association. Preservation and website management for historical data. 2000- 2002.

Examiner NATABOC Certification Examination, Santa Clara/Sacramento CA 1993-present.

National Athletic Trainer's Association (NATA) Liaison for the International Sports Vision. Fall 1998- present.

CATA Meeting - Site Coordinator: Teleconference of Statewide Organizational Meeting. December 1997,1998.

PROFESSIONAL ACTIVITIES: Journal/Book Review

Manuscript Reviewer, *Perceptual and Motor Skills. 2009* - present.

Manuscript Reviewer, *Journal of Athletic Training*. 2004-present.

Manuscript Reviewer, *Research in Sports Medicine*. 2006-present.

Manuscript Reviewer, *Athletic Therapy Today*. 1999-present.

Book Reviewer, *Trail Guide to the Body***,** Books of Discovery**.** November 1999.

PROFESSIONAL ACTIVITIES: Professional Practice

Journal Editor: *Sportsvision*, Spring 1999 – 2001

Substitute Head Athletic Trainer, Skyline College, Pacific CA, Feb 5th, 2007, Feb 17-21, 2003-2009.

Medical Staff/Athletic Trainer, Rocky Mountain Athletic Conference: Regional Wrestling Championships, San Francisco State University, San Francisco CA, Feb. 28-March 1, 2003**.**

Medical Staff/Athletic Trainer, U.S. Olympic Team Trials, Track and Field. July 2000.

Team Athletic Trainer, Women's Gymnastic - San Jose State University. Fall 1998 - present.

PROFESSIONAL ACTIVITIES:

Athletic Trainer, San Francisco State University Wrestling Tournament. December, 1999.

Professional Practice

Medical Staff/Athletic Trainer, Pacific Coast Figure Skating Championships. December 13, 1999.

Sports Medicine Director, San Jose State University Ballroom Dance Classic. November 1999 & 2000.

Team Athletic Trainer USA Junior Volleyball Team, World Championships in Portugal, August 26 – September 13, 1999.

Medical Personnel Coordinator, Women's World Cup Soccer, June 1999. Coordinator for Athletic Trainer coverage of practice and games for the San Jose portion of Women's World Cup Soccer Tournament.

East-West Shrine Game: Staff Athletic Trainer, January 8-17, 1999.

Stanford University Cross Country Invitational: Volunteer Athletic Training Services. October, 1998 - 2002.

Summer Olympics Host Athletic Trainer, Atlanta Georgia, Summer 1996. Archery and Cycling

Symposium Director, Bay Area Coaches and Student Athletic Trainer Symposium, 1994- present, Coordinate student athletic trainers and speakers in the presentation of annual workshop.

Program Director, Arizona Graduate Athletic Trainer's Annual Student Athletic Trainer Workshop. May 1993.

UNIVERSITY SERVICE

Indiana State University:

- Rural Health Initiative, Education Committee, 2010 - present
- Chair, Rural Health Initiative Research Center, 2010 - present
- Programs of Distinction, Summer 2010 - present
  - Participate in creating a university document to define programs of distinction and a grant process for evaluation.
- Member Graduate Committee, Fall 2009 – present
- New Faculty Orientation, Fall 2009

College of Nursing Health and Human Services:

- College Alignment Task-Force, Fall 2010 - present
- Assessment Committee, Spring 2010 – present
- College Curriculum Committee, Fall 2009
- Leadership Team, Fall 2009-present

Athletic Training Department

- Three (3) Search Committees for Physical Therapy and Physician Assistant Studies, Fall 2010.
- Seven (7) Search Committees for Physical Therapy, Physician Assistant, Student Support Technician, and Administrative Assistant. Spring 2010.

UNIVERSITY SERVICE

- Search Committee Volleyball Athletic Trainer, Fall 2009
- Graduate Committee Fall 2009
- Research Committee Fall 2009
- Undergraduate Committee Fall 2009

San Jose State University:

- Member, First Year Experience Committee 2008-2009
- Member, University Governance Committee 2006 - 2007
- Chair, University Student Fairness Committee, 2002-2003
- University Student Fairness Committee, 2001-2005
- CATS Program Director, University Staff and Faculty Fitness program, Fall 2000-present
- Campus Planning Board, 1999-2001.

College of Applied Sciences and Arts (SJSU):

- Curriculum Committee, Spring 2005 - 2009
- CEED Committee Member, Fall 2000-2002
- Research and Faculty Development Committee Member1998-2000.

Departmental Committees (SJSU):

- Societal Studies Search Committee: 2007
- Range Elevation Committee: 2007
- Athletic Training Search Committees: 2005, 2004, 2003, 2002, 2001, 1999.
- Graduate Committee, 1998-present.
- Plan B Chair Comprehensive Examination/Poster Presentations, Fall 2000-present.
- Undergraduate Committee. 2001-2002
- Marketing Committee, Spring 2001
- Faculty Merit Increase Committee Chair, Fall 1999.
- Web Site Management Committee, 1998- present.

Club Advisor, Sports Medicine Club, San Jose State University, Fall 1999 – 2006.

PUBLICATIONS

Kahanov LK, Loebsack AR, Massucci MA, Roberts JR. (2010). Perspective on parenthood and working of female athletic trainers in the secondary school and collegiate settings. *J Ath Train*;45(5):459-466

Kahanov, L. Roberts J. Wughalter EM (2010). Adherence to Drug Dispensation and Drug-Administration laws and Guidelines in a Collegiate Athletic Training Rooms: A 5-year Review. *J Ath Train.45(3):299-305.*

Kahanov, L; Daly, T. (2009). Bilateral Pulmonary emboli in a collegiate gymnast: A case report. *J Ath Train*; 44(6).

Meyer, G., Martin, M., Kreistworth, E., Kahanov, L. (2009). Longitudinal Evaluation of JAT Authorship: Implications for Infusion of Evidence Based Medicine into Athletic Training Practice. *Journal of Athletic Training, 44(4)427-433.*

PUBLICATIONS

Myer, G., Ford, K., Divine, J., Wall, E., Kahanov, L., Hewett, T. (2009). Longitudinal Assessment of Noncontact anterior cruciate ligament injury risk factors during maturation in a female athlete: A case report. *Journal of Athletic Training, 44(1)101-109.*

NATA: Chair Kahanov L. Consensus Statement: Managing Prescription

and Non-Prescription Medication in the Athletic Training Facility. NATA News, January 09.

Martin, M., Myer, G., Kreiswirth, E., Kahanov, L. (2009). Research Engagement: A Model for Athletic Training Education. *Athletic Therapy Today, 14(1)27-30.*

Kahanov, L., Lamarre, W. (2008). What Does it Take to Get a Job? *NATA NEWS,* May 08: 14-17.

Coleman, E., Kahanov, L., (2008). Latissimus Dorsi Tear in a Collegiate Baseball Player: A Case Report. *NATA News.* July. 44-46.
Kahanov, L. Lamarre, W. (2008). Athletic Training Hiring Criteria. *NATA News.* May, 15-17.

Tabila, E., Kahanov, L. (2008). Grip Lock: A Unique Mechanism of Injury in Gymnastics. *Athletic Therapy Today.* 13(6)7-10.

Kahanov, L. (2007). Kinesio Taping: An Overview of Use with Athletes: Part II. *Athletic Therapy Today, 14*(4)17-18.

Kahanov, L., Kato, M. (2007). Therapeutic Effect of Joint Mobilization: The Role of Joint Mechanoreceptors and Nociceptors. *Athletic Therapy Today 12(*4)32-35.

Kahanov, L., Kinesio (2007).Taping: An Overview of Use with Athletes: Part I. *Athletic Therapy Today,* 12(3)8-10.

Yoshida, A., Kahanov, L. (2007). The Effects of Kinesio Taping on Lower Trunk Range of Motions, *Research in Sports Medicine. 15,1-10.*

Kahanov, L., Dusa, M., Wilkinson, S., Roberts, J. (2005). Self-Reported headgear use and concussion among collegiate men's rugby union players. *Research in Sports Medicine. 13(2)77-89.*

Addy, ER, Kahanov, L., Warden, CL. (2005) Primary Erythema Nodosum in a Collegiate Basketball Player, *Journal of Athletic Training* (40)S-75.

Yamada T., Kahanov, L. (2004). Complications of Intramedullary Rodding for Chornic Tibital Stress Fractures in Female Athletes: Three Case Studies. *Research in Sports Medicine. 13(1)1-13.*

Kahanov, L., Roberts, J., Mazza, J. (2004). Heat Illness: Wheelchair Athletes with Spinal –Cord Injury. *Athletic Therapy Today*. (9)26-27.

PUBLICATIONS

Felling, A., Kahanov, L., Lilienthal S. Schlicher, S. (2004). California High School Administrators' Awareness of Athletic Trainers' Roles and Responsibilities. *Journal of Athletic Training.* (39) S-21.

Kahanov, L., Mazza, J. (2004) Heat illness: Wheelchair athletes with spinal cord injury. *Athletic Therapy Today.* 9(2)26-27.

Fields, C., Kahanov L., Furst, D. (2003). Rare Bacterial Infection in a

collegiate athlete: A case report. *Journal of Athletic Training: Column in NATA News*. (December) 60-62.

Kahanov, L., Furst, D., Roberts, J., Johnson, S. (2003) Adherence to dispensation and administration laws and guidelines in collegiate athletic training rooms. *Journal of Athletic Training.* (38) 252-258.

Kahanov, L. (2003). Athletic injury assessment texts. *Athletic Therapy Today. 8(1), 52-53. (Invited writer)*

Kahanov, L. (2002). Wheelchair athletes and cryotherapy. *Western College Physical Education Society Monograph Series.*12, 1-10.

Shifflet, B., Timm, C., Kahanov, L.(2002).Understanding of athletes' nutritional needs among athletes coaches, and athletic trainers. *Research Quarterly for Exercise and Sport, 73(3), 357-362.*

Kahanov, L., Wilkinson, S., Wughalter, E.M. (2002). Learning Temperaments and Instructional Strategies of Athletic Training Students and Educators. *Journal of Athletic Training. 37*(2), S-70.

Kahanov, L., Andrews, L. (2001). A Survey of Athletic Training Employer Hiring Criteria. *Journal of Athletic Training* 36(4), 408-412.

Cachupe, W., Shifflet, B., Kahanov, L., Wughalter E. (2001) Dynamic Balance as a Function of Previous Ankle Sprain. *Measurement in Physical Education and Exercise Science,* 5(2), 97-108.

Kahanov, L. (1999). Sportsvision Professionals and the Sports Medicine Team, *Sportsvision, 15*(2), 4.

Kahanov, L., Fairchild, P. (1994). Discrepancies in perceptions held by injured athletes and athletic trainers during the initial injury evaluation. *Journal of Athletic Training, 29*, 70-75.

PRESENTATIONS

Presentation, *Defining Outcomes and creating Valid Measurement Tools in Athletic Training Education.* Great Lakes Athletic Trainers' Annual Symposium. March 17, 2010.

Presentation, *What do Employers Want? Indiana Athletic Trainers' Association Annual Symposium*. November 10, 2009.

PRESENTATIONS

Presentation, *Effect on Media on Policy Development in Sport.* International Crime, Media & Popular Culture Studies Conference. October 5, 2009.

Presentation, *Prescription and Over the Counter Medications in the Athletic Training Facility.* National Athletic Trainers Conference, June 18, 2009.

Presentation, *Self Marketing Strategies.* Far West Athletic Trainer's Association National Conference, April 5, 2008.

Presentation, *Drug Management in Athletic Training Rooms.* Far West Athletic Trainer's Association National Conference, April 6, 2008.

Poster Presentation/Free Communication, *Drug Management in Athletic Training Rooms.* Kahanov, L. & Roberts, J. Far West Athletic Trainer's Association National Conference, April 6, 2008.

Poster Presentation/Free Communication, *Parenting Issues in Collegiate Athletic Training Rooms.* Loebsack, *A.*, Kahanov, L. & Roberts, J. Far West Athletic Trainer's Association National Conference, April 6, 2008.

Poster Presentation/Free Communication, *PCL Injury in a Collegiate Soccer Player: A Case Study.* Vodgs, A.., Kahanov, L. Far West Athletic Trainer's Association National Conference, April 6, 2008.

Poster Presentation/Free Communication, *Ethical Decision Making among Certified and Student Athletic Trainers.* Kahanov, L. & Sain, D. Far West Athletic Trainer's Association National Conference, April 28, 2007.

Poster Presentation/Free Communication, *High School Football Coaches' Assessment of Concussions.* Kahanov L. & Sikkema, J. Far West Athletic Trainer's Association National Conference, April 28, 2007.

Poster Presentation/Free Communication, *Burnout in Graduate Assistant Athletic Trainers.* Moody, J.A., Kahanov, L., Furst, D., Conry, B. Far West Athletic Trainer's Association National Conference, April 8, 2006.

Poster Presentation: McBrien, A., Kahanov, L., Butryn, T. *Burnout and coping Among Certified Athletic training in Two High Schools.*. Far West Athletic Trainer's Association National Conference, April 8, 2006.

Presentation: Primary Erythema Nodosum in a Collegiate Basketball Player. NATA Annual Meeting, June 14, 2005.

Panel Member: Accreditations in Kinesiology, Western College Physical Education Society, October 2004.

PRESENTATIONS

Presentation: Drug Management in the Athletic Training Room. FWATA Annual Clinical Symposium, July 9, 2004.

Poster Presentation: Felling, A., Kahanov, L., Lilienthal S., Schlicher, S. California High School Administrators' Awareness of Athletic Trainers' Roles and Responsibilities. FWATA Clinical Symposium, July 10, 2004

Poster Presentation: Kahanov, L., Dusa, M., Wilkinson, S., Roberts, J. (2005). Self-Reported headgear use and concussion among collegiate men's rugby union players. *Research in Sports Medicine. 13(2)77-89*. FWATA Clinical Symposium, July 10, 2004

Presentation: Payne, E., Butryn, T., Furst, D., Kahanov, L**.** An Analysis of Competitive Anxiety and Coping Strategies in Female Soccer Goalkeepers. Association for the Advancement of Applied Sports Psychology. October 2003.

Presenter, *Choosing the Perfect Shoe*. San Jose Technology Museum, San Jose CA, March 2003

Presenter, *Wheelchair Athletes and Cryotherapy.* Western College Physical Educators Association Conference, October 2002.

Poster Presentation: Kahanov, L., Wilkinson, S., Wughalter, E.M. Learning Temperaments and Instructional Strategies of Athletic Training students and Educators. National Athletic Trainer's Association 2003 Educators' Conference. January 2003

Conference coordinator: Student Session Coordinator for Far West Athletic Trainers Association Conference, March 2003.

Clinical Instructor Educator Workshop, to accredit chosen Bay-Area certified athletic trainers to instruct students in San Jose State's Undergraduate Athletic Training Program in clinical issues and competencies consistent with the mission and values of the program. Conference administrator and presenter, August 2002 - present.

Moderator, National Athletic Trainers Convention, June 2002. *Pregnancy and the Athlete.*

Conference Coordinator: Far West Athletic Trainers Symposium, April 2002. **Student Session coordinator and moderator.**

Interview Techniques in Athletic Training. Far West Athletic Trainers Association Conference, April 2002.

Conference Coordinator California Athletic Training Association (CATA) District Meeting and Workshop. An evening seminar for certified athletic trainers for continuing education units. March 18, 2002.

PRESENTATIONS

Conference Coordinator/Presenter/Speaker. Japanese Student Taping Seminar. December 2001. A one-day Seminar to develop taping skills for 150 visiting Japanese Acupuncture Students.

Conference Coordinator/Presenter/Speaker. Japanese Student Taping Seminar. September 2001. A one-day Seminar to develop taping skills for 150 visiting Japanese Acupuncture Students.

Poster Presentation/Free Communication, *Salary Survey of District Eight Certified Athletic Trainers.* L. Kahanov, & A. Caslin. National Athletic Trainer's Association National Conference, June 20, 2001.

Poster Presentation/Free Communication, *Reflex Sympathetic*

Dystrophy (RSD) in a High School Female Soccer Player: A Case Study. B. Mansell, & L. Kahanov. National Athletic Trainer's Association National Conference, June 22, 2001

Poster Presentation/Free Communication, *The Relationship Between Cervical Lateral Flexion and Stingers in Collegiate Football.* J. Sullivan, L. Kahanov, & M. Guillet. National Athletic Trainer's Association National Conference, June 23, 2001.

Teaching and Learning Styles in Athletic Training Clinical Education. San Jose State University Athletic training Education Program, ACI Workshop. June 6, 2001.

Conference Coordinator: Far West Athletic Trainers Symposium, April 2001. Student Session coordinator, and moderator.

Presenter: Job Search Strategies for Entry Level Athletic Trainers. Far West Athletic Trainer Conference: April, 2001.

Presenter: Peak Performance in Youth Soccer Players, Santa Clara, CA, February 3, 2001.

Presenter: Legal Responsibilities - Sports Medicine, Safety, Risk Management, The 2001 Judo Conference, January 6, 2001.

Presenter: Exercise and Aging. United Postal Workers, San Francisco, CA, January 17, 2001.

Coach's Sports Medicine Symposium: One-day conference to address injury identification and prevention methods for coaches in the Bay-Area, April, 2001.

Poster Presentation/Free Communication, *Athletic Training Employers Hiring Criteria.* . Kahanov & L. Andrews. National Athletic Trainer's Association National Conference, June 27-July 2, 2000.

PRESENTATIONS

Conference Coordinator, Administrator Sportsvision '00: June 8-11, 2000. Coordinator for Athletic Trainer Portion of Sportsvision Seminar, Panel Discussion, and Brochure Development.

Conference Coordinator/Administrator, San Jose State University Coaches Symposium: May 6, 2000. Symposium to enhance coaches' injury knowledge, prevention, taping techniques and CPR.

Conference Coordinator: Far West Athletic Trainers Symposium, March 2000. Student Session coordinator, and moderator.

Presenter/Speaker, *Self-marketing in Athletic Training.* Far West Athletic Trainers Association Conference, March 24, 2000.

Coordinator, Presenter and Laboratory Administrator, Japanese

Student Taping Seminar. December, 1999. A one-day Seminar to develop taping skills for visiting Japanese Medical Students.

Conference Coordinator, Sports Injury Taping Seminar: September, 2000 & 1999. A one-day Seminar to develop taping skills for visiting Japanese Medical Students.

Conference Coordinator, Sportsvision '99: May 14-16, 1999. Coordinator for Athletic Trainer Portion of Sportsvision Seminar and Panel Discussion.

Sports Injury Taping Seminar, Presenter and Laboratory Administrator: Seminar to develop taping skills for visiting Japanese Medical Students. September 12, 1998.

Speaker, CAPHERD, Moraga, CA, October 1996. Athletic Injury Basics for Coaches

Speaker, Far West Regional Athletic Trainer Association Convention, Burlingame, CA April 1995. Workshop in Computer application in the training room and the creation of interactive computer software for student education.

Teleconference Roundtable, California Certified Athletic Trainer Discussion Group, 1994. Aided in the development of this technology for educational purposes in Athletic Training.

Speaker, Student Athletic Trainer Shoulder Rehabilitation, AZATA State Meeting, Tempe AZ, February 1992.

MASTERS THESES

Chair, Elizabeth Gilmore, *MRSA Knowledge among Collegiate Athletic Trainer* (Completed Spring 2009)

Chair, Alice Lobesack**,** *Parenting and Work Issues among Division I Female Athletic Trainers* (Completed Spring 2008).

MASTERS THESES

Chair, Crystal Miles-Threat, *PPE in California High Schools*, (Completed Spring 2008).

Chair, Rachael Joye, *Core Strengthening Related to Shoulder Injury in Female Collegiate Swimmers* (Completed, Spring 2007).

Chair, Alice Lobesack, *High School Athletic Directors Perceptions of Athletic Trainers Job Duties.* (Completed, Summer 2007).

Chair, Eliseo Munoz, *Dietary Supplement use Among Junior College Athletes.* (Completed, Fall 2006).

Chair, Josie Moody, *Burnout in Graduate Assistant Athletic Trainers.* (Completed, Spring 2006).

Chair, David McAullife, *Bilateral Anterior Cruciate Ligament Rupture in Female Identical Twins: A Case Study.* (Completed, Spring 2006).

Chair, Mark Snow, *Perception of Athletic Trainer Duties among High and Low Risk Sport Coaches.* (Completed, Fall 2005).

Chair, Carnes, Gretchen, *Knowledge and Attitudes of High School Coaches concerning Nutritional Ergogenics.* (Completed, Fall 2005).

Chair, Kircher, Teresa, *Biceps Brachii Misfiring Anomaly in a Female Softball Pitcher.* (Completed, Spring 2005)

Chair, Pikor, Michelle, *A Case Study: Chronic Compartment Syndrome of the Anterior Thigh..* (Completed, Spring 2005).

Chair, Hatcher, Jayme, *High School Athletic Coaches Perceptions of Athletic Trainers Job Duties.* (Completed, Summer 2004).

Chair, Northam, Amber, *Critical Thinking Through Case Scenarios.* (Completed, Summer 2004).

Chair, Kevin Robell, *The Incidence of Wrist Injuries in Collegiate Baseball Players.* (Completed, Summer 2003).

Chair, Matthew Dusa, *Head Injuries in Rugby Players.* (Completed, Summer 2003).

Chair, Patrick Jenkins, *Load and Shift Shoulder Laxity Test Reliability Using the OMRI.* (Completed, Summer 2002).

Chair, Jennifer Pease, *Near Amputation Forearm in a Rock Climber.* (Completed, Summer 2002).

Chair, Cynthia Fields, *Toxic Shock Syndrome in a Collegiate Athlete: A Case Study.* (Completed, Summer 2002).

MASTERS THESES

Chair, Shanelle Schlicher, *Complex Scaphoid Fracture in a Softball Player: A Case Study.* (Completed, Summer 2001).

Chair, Bridgett Mansell, *Complex Regional Pain Syndrome (CPRS/RSD) in a High School Female Soccer Player: A Case Study.* (Completed, Spring 2001).

Chair, Julian Nakanishi, *Biomechanical Ankle Proprioceptive System Training on Ankle Injury Rates in Healthy Athletes.* (Completed, Spring 2001).

Chair, Shyla Penn**,** *Complex Regional Pain Syndrome (CPRS/RSD) in a High School Female Soccer Player: A Case Study* (Completed, Spring 2001).

Chair, Jeffrey Sullivan, *The Relationship Between Cervical Lateral Flexion and the Occurrence of Stingers in Collegiate Football Players* (Completed, Spring 2000)

Chair, Meredith Dillon, *Athletic Trainers' Knowledge of Face and Head Injuries through Mouth Guard Usage* (Completed, Spring 2000)

Chair, Rachel Blakeman, *HIV and Athletic: Educational Information for Athletic Trainers* (Completion date, Spring 2000)

Chair, Ann, Caslin, *Salary Survey of District Eight Athletic Trainers* (Completed, August 1999)

Chair, Chris Ferry. *Internal and External Rotation of Women Swimmers and Water Polo Players* (Completed, May 1999)

MASTERS PROJECT

Committee Member, Alise McBrien**,** *Burnout and coping Among Certified Athletic training in Two High Schools.* (Completed May 2007)

Committee Member, Ellen Payne**,** *An Analysis of Competitive Anxiety and Coping Strategies in Female Soccer Goalkeepers.* (Completed May 2003)

Committee Member, Matt Smith, *Assessment of Pre-participation Physicals in California High Schools* (Completed May 2002)

Committee Member, Dave Albert, *Competitive Orientation and Weight Loss Methods in High School Wrestlers* (Completed, May 2000)

Committee Member, Colleen Chelini, *A Project to Educate Parents on High School Football Concussion Issues* (Completed, May 2000)

Committee Member, Rebecca Johnson, *The Psychological Response to Injury and Coping Skills of Athletes with and without Disability* (Completed, December 2000).

MASTERS PROJECT

Committee Member, Wendy Cachupe, *Dynamic Balance as a Function of Previous Ankle Sprain* (Completed Spring 2000).

Committee Member, Carl Timm, *Injury Incidence Among Mountain Climbers* (Completed Spring 2000).

Chair, Daly, Tarah, *Pulmonary Emboli in a Collegiate Athlete: A Case Study* (Completed Spring 2008).

Chair, Carroll, Amy, *Evidence Based Assessment of Football Injuries by Position* (Completed Spring 2008).

Chair, Murashima, Yosuke, *Business Plan: ATC-Owned Rehabilitation Facility* (Completed Spring 2008).

Chair, Cheng, Rosie, *A Practical Application of Nutrition for High School Student-Athletes: Introducing the R^4 Recovery System.* (Completed, Spring 2007)

Chair, Cisek, Ryan, *Burnout in Athletic Training* (Completed, Spring

2007).

Chair, Easley, Daniel, *Promoting a Positive Relationship with a Patient.* (Completed, Spring 2007).

Chair, Fabio, Christela, *Athletic Training Law and Practical Application.* (Completed, Spring 2007).

Chair, Landis, Scott, *A Comparison of Volleyball Injuries Among Year-Round and Seasonal Athletes.* (Completed, Spring 2007).

Chair, Marquez, Robin, *Counterirritants, and how do they work?* **(**Completed, Spring 2007).

Chair, Tabila, Edgar, *Grip Lock Iinjury in a Collegiate Gymnast.* (Completed, Spring 2007).

Chair, Sikkema, Jill, *High School Head Varsity Football Coaches' Assessment of Concussions.* **(**Completed, Fall, 2006).

Chair, Fujii, Eiichi, *Guide to Proper Posture and Walking Mechanics.* **(**Completed, Fall, 2006).

Chair, Kato, Monami, *An Assessment of Joint Mechanoreceptors.* **(**Completed, Spring 2006).

Chair, Sain, Dennis, *Moral and Social Reasoning of Certified and Student Athletic Trainers.* **(**Completed, Spring 2006).

MASTERS PROJECT

Chair, Barss, Jay, *Prevention of Shoulder Injuries in the Adolescent Baseball Player* **(**Completed, Fall 2005).

Chair, Boillat, Matthew, *Athletic Training Laws and Medical Practice Acts.* **(**Completed, Fall 2005).

Chair, Clifford, Gauvin, *Rethinking Injury Prevention.* **(**Completed, Fall 2005).

Chair, Harkelroad, Erin, *Moral Reasoning Levels of Graduate Assistant Certified Athletic Trainers.* **(**Completed, Spring 2005).

Chair, Humphrey, Kim, *American Sign Language Manual for Athletic Training.* **(**Completed, Spring 2007)

Chair, Jones, Brandon, *A Retrospective Investigation of Licensure's Affect on Work Setting and Salary in Athletic Training.* **(**Completed, Spring 2005).

Chair, Ishikawa, Emi, *Japanese Athletic Training Student Outreach Program.* **(**Completed, Spring 2007)

Chair, Mingviriya, Sarah, *Athlete Database and Injury Tracking System?* **(**Completed, Spring 2005).

Chair, Sato, Daisuke, *Literature Review: The Effect of Spatting and Ankle Taping for Ankle Injury*. **(**Completed, Spring 2005).

Chair, Yoshida, Ayako, *The effect of Kinesio Taping on Lower Trunk Range of Motion.* **(**Completed, Spring 2005).

Chair, Cragholm, Julie, *Distal Biceps Rupture Repair: One or Two Surgical Incisions?* **(**Completed, Spring 2004).

Chair, Kawamoto, Jennifer, *Rehabilitation Applications of Dynamic Systems Theory.* **(**Completed, Spring 2004).

Chair, Kudo, Mitsuru, *A Case Study, Avulsion Fracture of the Tibial Tubercle for a High School Football Player.* **(**Completed, Spring 2004).

Chair, Lan, Nancy, *General Guidebook for the High School Athletic Trainer.* **(**Completed, Spring 2004).

Chair, Wulfekuhle, Jennifer, *Hard-Core Rehabilitation Blocks.* **(**Completed, Spring 2004).

Chair, Heller, Dan, *Skiing and Snowboarding Body Maintenance.* **(**Completed, Spring 2003).

Chair, Leonard, Caprice, *San Jose State University Sports Medicine Symposium.* **(**Completed, Spring 2003).

MASTERS PROJECT

Chair, Orevi, Diklah, *Knowledge of Athletic Trainers: Perceptions of Paramedic-Firefighters (EMS).* **(**Completed, Spring 2003).

Chair, Stone, Joshua, *Student Athlete Information Database.* **(**Completed, Spring 2003).

Chair, Ward, Christopher, *A Manual for the X-treme Athlete Injury.* **(**Completed, Spring 2003).

Chair, Zadeh, Sonja, *A Preliminary Study of Ankle Taping Skills of High School Athletic Coaches.* **(**Completed, Spring 2003).

Chair, Zipay, Jessica, *Pilates for Rehabilitation.* **(**Completed, Spring 2003).

Chair, Adams, Kelli, *Los Altos High School Emergency Plan.* **(**Completed, Fall 2003).

Chair, Navarez, Janice, *Proper weight control methods and nutritional guidelines for high school wrestlers.* **(**Completed, Fall 2002).

Chair, Cagigas, Adrian, *Distinguished Competencies for NATA and APTA Professionals.* **(**Completed, Spring 2002).

Chair, Takiguchi, Masanori, *Kinesio-Taping.* **(**Completed, Spring 2002).

Chair, Yamada, Tomoo, *Tibial Rodding: A Case Study* (Completed, Spring 2002).

PROFESSINAL AFFILIATIONS

National Athletic Trainers' Association Inc.
Indiana Athletic Trainers' Association
Great Lakes Athletic Trainers' Association
California Athletic Trainer's Association 1991-2009
Far West Athletic Trainers' Association 1991-2009
Athletic Training Research & Education Society
International Academy of Sports Vision
Western College Physical Education Society

Appendix C

DAT Course Descriptions & Course Learning Outcomes

AT 606 Professional and Post-Professional Education in Athletic Training (3 cr)

This course is designed to introduce historical background of professional and post-professional education for health care professions. Theoretical foundations and models of health care education will be compared and contrasted. The impact of educational models to health care will be explored. Development of criteria to govern the practicing professional in their chosen residency will be accomplished.

Prereq: Permission

Course Learning Outcomes

- The student will demonstrate understanding of the relationship between various stakeholders, theories, and educational models utilized in medical education within the context of professional and post-professional education.
- The student will define and describe the interrelationships between discrete aspects of post-professional practice and demonstrate ability to interpret and apply measurement outcomes to improve patient care and delivery of health care services.
    - Patient centered care
    - Evidence based practice
    - Quality improvement
    - Use of health care informatics
    - Professionalism
    - Interdisciplinary collaboration
- The student will utilize theoretical and applied models of health care delivery management to describe barriers to improving professional practice and to develop strategies to overcome these barriers.
- The student will integrate theoretical and applied knowledge of process dynamics to conceptualize and test measured outcomes using evidenced-based medical practices to improve the delivery of health care services.

AT 610 Seminar in Athletic Training I (3 cr)

Selected readings from peer reviewed articles will be examined and discussed. Translation of research findings to current clinical practice will be emphasized.

Prereq: Permission

Course Learning Outcomes

- The student will analyze and assimilate knowledge gained from objective scientific research presented by the United States Burden of Musculoskeletal Disease Research Consortium.
- The student will demonstrate competence in utilizing the Institute of Medicine's Evidence Based Medicine Guidelines, with the objective to integrate current research into practice for various patient populations and clinical presentations.
- The student will gain knowledge of statistical modeling and empirical techniques such that they can interpret the results and impact of RCT's (Randomized Controlled Trials), Meta Analyses, and forest plots to apply research results of clinical significance to practice settings, with the objective to improve the quality of patient care.
- The student will interpret data demonstrating a thorough understanding of sensitivity, specificity, reliability, and validity to interpret the results of literature that supports evidence based practice.
- The student will describe the import of integrating translational health research into professional practice and understand the interdisciplinary role athletic training clinicians hold in translational research.
- The student will assimilate translational research in context of their accumulated knowledge within their chosen area of specialization (e.g. geriatrics, industrial corporate sports medicine).

AT 611 Seminar in Athletic Training II (3 cr)

Selected readings from peer reviewed articles will be examined and discussed. Translation of research findings to current clinical practice will be emphasized.

Prereq: Permission

Course Learning Outcomes

- Students will expand upon concepts learned in Seminar AT I with greater depth and breadth, gaining new insight to professional practiced by reflecting on their first year experiences within the DAT.

- Students will gain expertise on a discrete topic of clinical interest and prepare a professional presentation.
- Students will demonstrate ability to apply translational research concepts by either utilizing bench research and translating it to clinical practice or identifying a common clinical practice and designing a randomized controlled trial to test the efficacy of the clinical practice (emphasis on design, not data collection).
- Students will identify obstacles to quality translational research in the health professions and will devise methods to overcome those obstacles with their translational design project.

AT 620 Clinical Research in Athletic Training I (3 cr)
This course introduces common research performed in Athletic Training. Development of in-depth understanding in areas and types of research underlying quantitative research design will be explored. Introduction to critiquing literature for the purpose of developing a theoretical framework will be included.
Prereq: Permission
Course Learning Outcomes

- Students will discriminate between types of research and levels of evidence and describe the distinct features that define them.
- Students will demonstrate competence in understanding and completing the process of research topic selection.
- Students will demonstrate ability to systematically review the professional literature on an approved topic, utilize strategies for analysis, and write a professional literature review.
- The student will articulate the research process and synthesize this knowledge by formulating a research methodology to investigate their approved topic.
- The student will understand and employ research design principles to critically examine their proposed research and refine the design.
- Students will recognize and evaluate common instrumentation and quantitative measures utilized in athletic training.
- Students will recognize the salient characteristics of various types of research (basic, applied, cohort, multi center, survey, epidemiological).

AT 621 Clinical Research in Athletic Training II (3 cr)
This course introduces Statistical methods employed in clinical research. Topics including statistical terminology, measures of central tendency, Hypothesis testing and common parametric tests will be the content for the course.
Prereq: Permission
Course Learning Outcomes

- The student will describe the concept and purpose of hypothesis testing and demonstrate ability to formulate a hypothesis for their study.
- The student will calculate statistical output, power, and statistical measures with understanding of how to interpret clinical and statistical significance.
- The student will describe the application and methods to perform analyses of variance, repeated measure designs, and correlation analyses.

AT 622 Clinical Research in Athletic Training III (3 cr)
This course applies statistical methods to common measures in clinical research and introduces survey research and other qualitative measures.
Prereq: Permission
Course Learning Outcomes

- The student will apply sound statistical principles to analyze objective measures in their professional practice.
- The student will describe concepts relating to qualitative survey research design.
- The student will apply theoretical models of qualitative research design to construct survey items, item stems, and response alternatives.
- The student will apply reliability and validity measures to analyze the robustness of survey responses.
- The student will select appropriate sampling techniques.

- The student will understand rigor, trustworthiness, verite, integrity, validity and how to use these concepts to interpret and design effective qualitative designs.
- The student will demonstrate knowledge of phenomenology, ethnography, grounded theory and be able to appropriately match the qualitative design to the research questions.

AT 623 Clinical Research in Athletic Training IV (3 cr)
This course sets the foundation for action research in clinical practice. Development of a research question and justification with literature review will be employed. Purpose and methods of institutional review will be evaluated. Further discussion will elucidate the importance of becoming a scholarly practitioner.
Prereq: Permission
Course Learning Outcomes

- The student will describe action research and demonstrate action research into their professional practice.
- The student will describe delimitations and limitations surrounding the use of action research in medical professions.
- The student will formulate strategies to validate their professional action research in clinical practice.
- Students will finalize an action research question, with supporting medical evidence (theory driven) and a thorough literature review.
- Students will describe and defend their methodology for their evidence-based action research.
- Students will submit their research for University IRB approval.

AT 624 Clinical Research in Athletic Training V (3 cr)
This continues the process of action research in clinical practice. Development of methods to test a chosen hypothesis will be created. Exploration of statistical methods to test the clinician's hypothesis will be compared. Data collection will begin.
Prereq: Permission
Course Learning Outcomes

- The student will evaluate their proposed research methodology and implement a pilot study including statistical analyses, validity, and reliability.
- The student will calculate validity and reliability measures on the chosen clinical instrumentation.
- The student will employ statistical computations on the pilot data collected.
- The student will evaluate their chosen action research hypothesis and methodology including research design and statistical measures.
- Following completion of their pilot study analysis the student will begin formal data collection as approved by the committee and IRB.

AT 625 Clinical Research in Athletic Training VI (3 cr)
This continues the process of action research in clinical practice. Data analysis of the student's research will be performed. Introduction to manuscript writing, dissemination of knowledge in written, oral and poster presentation and a focus on journal review will be the context for this course. Student will successfully present their findings and prepare manuscript in journal ready format.
Prereq: Permission
Course Learning Outcomes

- The student will finish data collection on their action research project.
- The student with synthesize the data and perform data analysis.
- The student will demonstrate understanding of basic principles of APA and AMA writing styles.
- The student will be able to articulate the process of manuscript writing for professional clinical research journals.
- The student will present their findings to their committee and prepare a manuscript in journal ready format.

AT 630 Current Issues in Clinical Practice I (3 cr)
This course explores current topics in clinical practice that influence quality care and methods of measurement and evaluation for quality assessment. Exploration to common instrumentation utilized by clinicians will be discussed and compared to literature utilizing the instruments for research purposes.
Prereq: Permission
Course Learning Outcomes

- The student will understand the necessity for appropriate measurements and documentation in their clinical practice.
- The student will describe how these factors influence the quality and effectiveness of health care interventions.
- The student will demonstrate competence in selecting and performing appropriate clinical measures based on goals and current medical knowledge and standards.
- The student will be able to describe, implement, and interpret objective measures of clinical practice that influence patient outcomes and professional advancement.
- The student will be able to implement, and interpret objective measures that are the standard of laboratory research.
- The student will be able to compare and contrast clinical and laboratory clinical measures.

AT 631 Current Issues in Clinical Practice II (3 cr)
This course explores current topics and causes of musculoskeletal injuries to the extremities. An in-depth look at epidemiology, biomechanics and other topics related to musculoskeletal injuries of the extremities will be emphasized.
Prereq: Permission
Course Learning Outcomes

- The student will understand the mechanics and pathomechanics of normal and diseased tissues.
- The student will identify the etiology of preventable diseases and identify prevention strategies to ease these health care burdens.

AT 632 Current Issues in Clinical Practice III (3 cr)
This course explores current topics of interest areas of practicing professionals. An in-depth look at theory, research, and art of the chosen interest area will be explored. Focus will be in critically analyzing areas such as; anatomy, pathophysiology, biomechanics, theoretical framework or ethical principles to explain the students chosen topic.
Prereq: Permission
Course Learning Outcomes

- Students will develop their specialty area by integrating their knowledge of anatomy, pathophysiology, and biomechanics to identify issues related to clinical practice.
- Students will identify constraints in their specialty area of clinical practice and identify methods of overcoming these obstacles.
- Students will use ethical principles in their specialty area within the framework of their larger professional role.
- Students will articulate how the science and art of sports medicine influence clinical specialties.

AT 633 Current Issues in Clinical Practice IV (3 cr)
This course explores current topics of interest areas of practicing professionals. An in-depth look at theory, research, and art of the chosen interest area will be explored. Focus will be in critically analyzing areas such as; anatomy, pathophysiology, biomechanics, theoretical framework or ethical principles to explain the students chosen topic.
Prereq: Permission
Course Learning Outcomes

- Students will discuss emerging health strategies regarding prevention, evaluation, and treatment of musculoskeletal disorders and other preventable diseases.

- Students will use the constructs of anatomy, pathophysiology, biomechanics, theoretical framework, or ethical principles to develop their specialty area.

AT 640 Clinical Residency I (3 cr)
This course is designed to improve the clinical skills of the practicing Athletic Training professional in a mentor guided model. Improvement in a selected area of clinical practice will be measured via formative and summative assessment that employs quantitative measures. Impact of the skill improvement to the organization and profession will be demonstrated.
Prereq: Permission
Course Learning Outcomes

- The student will demonstrate ability to synthesize prevention and treatment strategies to a clinical problem by utilizing current evidence-based research and integrating this knowledge into clinical practice.
- The student will practice athletic training within their specialty area with professionalism.
- The student will utilize empirical evidence to support theory driven clinical practice while objectively assessing patient progress measures.
- The student will coordinate with their mentor to evaluate the student's clinical performance, utilizing quantitative progress indicators.
- The student will document their progression of clinical competence.

AT 641 Clinical Residency II (3 cr)
This course is designed to improve the clinical skills of the practicing Athletic Training professional in a mentor guided model. Improvement in a selected area of clinical practice will be measured via formative and summative assessment that employs quantitative measures. Impact of the skill improvement to the organization and profession will be demonstrated.
Prereq: Permission
Course Learning Outcomes

- The student will demonstrate ability to synthesize prevention and treatment strategies to a clinical problem by utilizing current evidence-based research and integrating this knowledge into clinical practice.
- The student will practice athletic training within their specialty area with professionalism.
- The student will utilize empirical evidence to support theory driven clinical practice while objectively assessing patient progress measures.
- The student will coordinate with their mentor to evaluate the student's clinical performance, utilizing quantitative progress indicators.
- The student will document their progression of clinical competence.

AT 642 Clinical Residency III (3 cr)
This course is designed to improve the clinical skills of the practicing Athletic Training professional in a mentor guided model. Improvement in a selected area of clinical practice will be measured via formative and summative assessment that employs quantitative measures. Impact of the skill improvement to the organization and profession will be demonstrated.
Prereq: Permission
Course Learning Outcomes

- The student will demonstrate ability to synthesize prevention and treatment strategies to a clinical problem by utilizing current evidence-based research and integrating this knowledge into clinical practice.
- The student will practice athletic training within their specialty area with professionalism.
- The student will utilize empirical evidence to support theory driven clinical practice while objectively assessing patient progress measures.
- The student will coordinate with their mentor to evaluate the student's clinical performance, utilizing quantitative progress indicators.
- The student will document their progression of clinical competence.

AT 643 Clinical Residency IV (3 cr)

This course is designed to improve the clinical skills of the practicing Athletic Training professional in a mentor guided model. Improvement in a selected area of clinical practice will be measured via formative and summative assessment that employs quantitative measures do demonstrate improved patient care. Impact of the skill improvement to the organization and profession will be demonstrated. Summary of all impact of clinical residencies will be presented to the participant's organization

Prereq: Permission

Course Learning Outcomes

- The student will demonstrate ability to synthesize prevention and treatment strategies to a clinical problem by utilizing current evidence-based research and integrating this knowledge into clinical practice.
- The student will practice athletic training within their specialty area with professionalism.
- The student will utilize empirical evidence to support theory driven clinical practice while objectively assessing patient progress measures.
- The student will coordinate with their mentor to evaluate the student's clinical performance, utilizing quantitative progress indicators.
- The student will document their progression of clinical competence from Clinical Residencies I-IV.
- The student will prepare and present a formal report to their specialty practice organization that summarizes their professional growth and how they have impacted quality of care and cost analysis.

Appendix D

Athletic Training Education Competencies (4th Edition)

Competency Code	Competency	Course 1 Instructed	Course 1 Evaluated	Course 2 Instructed	Course 2 Evaluated
PD-C1	Explain the role and function of state athletic training practice acts and registration, licensure, and certification agencies including (1) basic legislative processes for the implementation of practice acts, (2) rationale for state regulations that govern the practice of athletic training, and (3) consequences of violating federal and state regulatory acts.				
PD-C2	Describe the process of attaining and maintaining national and state athletic training professional credentials.				
PD-C3	Describe the current professional development requirements for the continuing education of athletic trainers and how to locate available, approved continuing education opportunities.				
PD-C4	Describe the role and function of the governing structures of the National Athletic Trainers' Association.				
PD-C5	Differentiate the essential documents of the national governing, certifying, and accrediting bodies, including, but not limited to, the Athletic Training Educational Competencies, Standards of Practice, Code of Ethics, Role Delineation Study, and the Standards for the Accreditation of Entry-Level Athletic Training Education Programs.				
PD-C6	Summarize the position statements regarding the practice of athletic training.				
PD-C7	Describe the role and function of the professional organizations and credentialing agencies that impact the athletic training profession.				
PD-C8	Summarize the current requirements for the professional preparation of the athletic trainer.				

PD-C9	Identify the objectives, scope of practice and professional activities of other health and medical organizations and professions and the roles and responsibilities of these professionals in providing services to patients.				
PD-C10	Identify the issues and concerns regarding the health care of patients (e.g., public relations, third-party payment, and managed care).				
PD-C11	Identify and access available educational materials and programs in health-related subject matter areas (audiovisual aids, pamphlets, newsletters, computers, software, workshops, and seminars).				
PD-C12	Summarize the principles of planning and organizing workshops, seminars, and clinics in athletic training and sports medicine for health care personnel, administrators, other appropriate personnel, and the general public.				
PD-C13	Describe and differentiate the types of quantitative and qualitative research and describe the components and process of scientific research (including statistical decision-making) as it relates to athletic training research.				
PD-C14	Interpret the current research in athletic training and other related medical and health areas and apply the results to the daily practice of athletic training.				
PD-C15	Identify the components of, and the techniques for constructing, a professional resume.				
PD-C16	Summarize the history and development of the athletic training profession.				

PD-C17	Describe the theories and techniques of interpersonal and cross-cultural communication among athletic trainers, patients, administrators, health care professionals, parents/guardians, and other appropriate personnel.				
PD-P1	Collect and disseminate injury prevention and health care information to health care professionals, patients, parents/guardians, other appropriate personnel and the general public (e.g., team meetings, parents' nights, parent/teacher organization [PTO] meetings, booster club meetings, workshops, and seminars).				
PD-P2	Access by various methods the public information policy-making and governing bodies used in the guidance and regulation of the profession of athletic training (including but not limited to state regulatory boards, NATA, BOC).				
PD-P3	Develop and present material (oral, pamphlet/handout, written article, or other media type) for an athletic training-related topic.				
PD-P4	Develop a research project (to include but not limited to case study, clinical research project, literature review) for an athletic training-related topic.				

Appendix E

Athletic Training Education Competencies (5th Edition)

Athletic Training Education Competencies

5th Edition

National Trainers' Association®

Health Care for Life & Sport

Table of Contents

Preface

The 5th edition of the Athletic Training Education Competencies (Competencies) provides educational program personnel and others with the knowledge, skills, and clinical abilities to be mastered by students enrolled in professional athletic training education programs. Mastery of these Competencies provides the entry–level athletic trainer with the capacity to provide athletic training services to clients and patients of varying ages, lifestyles, and needs.

The Commission on Accreditation of Athletic Training Education (CAATE) requires that the Competencies be instructed and evaluated in each accredited professional athletic training education program. The Competencies serve as a companion document to the accreditation standards, which identify the requirements to acquire and maintain accreditation, published by CAATE.

The Professional Education Council (PEC) of the NATA was charged with creating the 5th edition of the Competencies. The PEC developed and executed a systematic plan to draft the Competencies and to solicit and integrate feedback from multiple sources as the draft was revised. First, the PEC orchestrated an initial open call for feedback on the 4th edition of the Competencies. Next, groups of subject-matter experts, including practicing athletic trainers, educators, and administrators, were identified. In addition to the feedback on the 4th edition, these subject-matter experts considered today's healthcare system, current best practice in athletic training, and their own expertise in creating an initial draft of the 5th edition. Many conversations ensued and subsequent drafts were submitted. Following revision for form and consistency of language, a draft of the Competencies was again posted for open feedback. This valuable feedback was considered in its entirety by the PEC, and final revisions were made.

We thank the members of the PEC for their untiring efforts in revising this document to reflect the changing needs of athletic training education. The advice, cooperation, and feedback from the Board of Certification and the CAATE have also been instrumental in this process. Finally, the diligent and perceptive feedback that was received from stakeholders during the public comment periods was instrumental in creating a document that ensures that entry-level athletic trainers are prepared to work in a changing healthcare system. Together we are improving healthcare by improving the education of athletic trainers.

— NATA Executive Committee for Education, December 2010

Introduction

This document is to be used as a guide by administrative, academic, and clinical program personnel when structuring all facets of the education experience for students. Educational program personnel should recognize that the Competencies are the **minimum requirements** for a student's professional education. Athletic training education programs are encouraged to exceed these minimums to provide their students with the highest quality education possible. In addition, programs should employ innovative, student-centered teaching and learning methodologies to connect the classroom, laboratory and clinical settings whenever possible to further enhance professional preparation.

The acquisition and clinical application of knowledge and skills in an education program must represent a defined yet flexible program of study. Defined in that knowledge and skills must be accounted for in the more formal classroom and laboratory educational experience. Flexible in that learning opportunities are everywhere. Behaviors are identified, discussed, and practiced throughout the educational program. Whatever the sequence of learning, patient safety is of prime importance; students must demonstrate competency in a particular task before using it on a patient. This begins a cycle of learning, feedback, refinement, and more advanced learning. Practice with concepts by gaining clinical experience with real life applications readies the student for opportunities to demonstrate decision-making and skill integration ability, Clinical Integrated Proficiencies (CIP). CIPs are designed to measure of real life application. Students should be assessed in their performance of CIPs on actual patients. If this is not possible, standardized/simulated patients or scenarios should be used to measure student proficiency.

Also, inherent in this document is the understanding that a comprehensive basic and applied science background is needed for students to develop appropriate levels of professional competence in the discipline-specific knowledge and skills described in this document.

All facets of the educational programs must incorporate current knowledge and skills that represent best practice. Programs must select such content following careful review of the research literature and consideration of the needs for today's entry-level practitioner. Because the knowledge within a profession is dynamic, information regarding current best practice is fluid and requires on-going examination and reflection.

Summary of Major Changes included in 5th Edition

- The 12 content areas of the previous edition have been reorganized into 8 to eliminate redundancies and better reflect current practice.
  - The pathology content area was eliminated, and these competencies are addressed throughout other content areas.
  - The risk management/prevention and nutritional considerations content areas were combined to form the new **Prevention and Health Promotion (PHP)** content area. This change was made to reflect the current emphasis on prevention and wellness across health care and the lifespan.
  - The orthopedic clinical exam/diagnosis and medical conditions/disabilities content areas were combined to form the **Clinical Examination and Diagnosis (CE)** content area. This change was made to emphasize that athletic trainers use one standard clinical examination model that changes based on the findings and needs of the patient.
  - The therapeutic modalities, conditioning and rehabilitative exercise and pharmacology content areas were combined to form one content area that incorporates all aspects of **Therapeutic Interventions (TI)**.
  - A new content area was added to provide students with the basic knowledge and skills related to **Evidence-Based Practice (EBP).** The importance of using EBP concepts and principles to improve patient outcomes is being emphasized throughout the health care system and is reflected within this new content area.
- The **Acute Care (AC)** content area has been substantially revised to reflect contemporary practice.
  - The addition of skill in assessing rectal temperature, oxygen saturation, blood glucose levels, and use of a nebulizer and oropharyngeal and nasopharyngeal airways reflects recommendations of NATA position statements that are published or in development.
- The content areas now integrate knowledge and skills, instead of separate sections for cognitive and psychomotor competencies. The action verb used in each competency statement identifies the expected outcome. In some places, knowledge is the expectation and not skill acquisition. For example, acute care competency #9 (AC-9) requires that athletic training students be knowledgeable about the various types of airway adjuncts including oropharyngeal airways (OPA), nasopharyngeal airways (NPO) and supraglottic airways. However, the accompanying skill competency AC-10 does not require skill acquisition in the use of the supraglottic airways.
- The **Clinical Integration Proficiencies (CIP)**, which are ideally assessed in the context of real patient care, have been removed from the individual content areas and reorganized into a separate section. This reorganization reflects clinical practice and demonstrates the global nature of the Proficiencies. For example, rather than just assessing students' ability to examine a real patient in a real clinical setting, the new CIPs require that students demonstrate the ability to examine and diagnose a patient, provide appropriate acute/emergent care, plan and implement appropriate therapeutic interventions, and make decisions pertaining to safe return to participation. This approach to student assessment better reflects the comprehensive nature of real patient care.

Comparison of the Role Delineation Study/Practice Analysis, 6th Ed and the Competencies

The Role Delineation Study/Practice Analysis, 6th ed (RDS/PA) of the Board of Certification serves as the blue print for the certification examination. As such, the Competencies must include all tasks (and related knowledge and skills) included in the RDS/PA. Working with the BOC, we compared the RDS/PA with this version of the Competencies and can confidently state that the content of the RDS /PA is incorporated in this version.

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Foundational Behaviors of Professional Practice

These basic behaviors permeate professional practice and should be incorporated into instruction and assessed throughout the educational program.

Primacy of the Patient

- Recognize sources of conflict of interest that can impact the client's/patient's health.
- Know and apply the commonly accepted standards for patient confidentiality.
- Provide the best healthcare available for the client/patient.
- Advocate for the needs of the client/patient.

Team Approach to Practice

- Recognize the unique skills and abilities of other healthcare professionals.
- Understand the scope of practice of other healthcare professionals.
- Execute duties within the identified scope of practice for athletic trainers.
- Include the patient (and family, where appropriate) in the decision-making process.
- Work with others in effecting positive patient outcomes.

Legal Practice

- Practice athletic training in a legally competent manner.
- Identify and conform to the laws that govern athletic training.
- Understand the consequences of violating the laws that govern athletic training.

Ethical Practice

- Comply with the NATA's Code of Ethics and the BOC's Standards of Professional Practice.
- Understand the consequences of violating the NATA's Code of Ethics and BOC's Standards of Professional Practice.
- Comply with other codes of ethics, as applicable.

Advancing Knowledge

- Critically examine the body of knowledge in athletic training and related fields.
- Use evidence-based practice as a foundation for the delivery of care.
- Appreciate the connection between continuing education and the improvement of athletic training practice.
- Promote the value of research and scholarship in athletic training.
- Disseminate new knowledge in athletic training to fellow athletic trainers, clients/patients, other healthcare professionals, and others as necessary.

Cultural Competence

- Demonstrate awareness of the impact that clients'/patients' cultural differences have on their attitudes and behaviors toward healthcare.
- Demonstrate knowledge, attitudes, behaviors, and skills necessary to achieve optimal health outcomes for diverse patient populations.
- Work respectfully and effectively with diverse populations and in a diverse work environment.

Professionalism

- Advocate for the profession.
- Demonstrate honesty and integrity.
- Exhibit compassion and empathy.
- Demonstrate effective interpersonal communication skills.

Evidence-Based Practice (EBP)

Evidence-based practitioners incorporate the best available evidence, their clinical skills, and the needs of the patient to maximize patient outcomes. An understanding of evidence-based practice concepts and their application is essential to sound clinical decision-making and the critical examination of athletic training practice.

Practicing in an evidence-based manner should not be confused with conducting research. While conducting research is important to the profession of athletic training, developing the ability to conduct a research project is not an expectation of professional education. This section focuses on the knowledge and skills necessary for entry-level athletic trainers to use a systematic approach to ask and answer clinically relevant questions that affect patient care by using review and application of existing research evidence. One strategy, among others, is to use a five-step approach: 1) creating a clinically relevant question; 2) searching for the best evidence; 3) critically analyzing the evidence; 4) integrating the appraisal with personal clinical expertise and patients' preferences; and 5) evaluating the performance or outcomes of the actions. Each competency listed below is related to such a systematic approach and provides the building blocks for employing evidence-based practice. Other specific evidence-based practice competencies have also been included in appropriate content areas.

All items listed in parentheses (eg) are intended to serve as examples and are not all encompassing or the only way to satisfy the competency.

Knowledge and Skills

EBP-1. Define evidence-based practice as it relates to athletic training clinical practice.

EBP-2. Explain the role of evidence in the clinical decision making process.

EBP-3. Describe and differentiate the types of quantitative and qualitative research, research components, and levels of research evidence.

EBP-4. Describe a systematic approach (eg, five step approach) to create and answer a clinical question through review and application of existing research.

EBP-5. Develop a relevant clinical question using a pre-defined question format (eg, PICO= Patients, Intervention, Comparison, Outcomes; PIO = Patients, Intervention, Outcomes).

EBP-6. Describe and contrast research and literature resources including databases and online critical appraisal libraries that can be used for conducting clinically-relevant searches.

EBP-7. Conduct a literature search using a clinical question relevant to athletic training practice using search techniques (eg, Boolean search, Medical Subject Headings) and resources appropriate for a specific clinical question.

EBP-8. Describe the differences between narrative reviews, systematic reviews, and meta-analyses.

EBP-9. Use standard criteria or developed scales (eg, Physiotherapy Evidence Database Scale [PEDro], Oxford Centre for Evidence Based Medicine Scale) to critically appraise the structure, rigor, and overall quality of research studies.

EBP-10. Determine the effectiveness and efficacy of an athletic training intervention utilizing evidence-based practice concepts.

EBP-11. Explain the theoretical foundation of clinical outcomes assessment (eg, disablement, health-related quality of life) and describe common methods of outcomes assessment in athletic training clinical practice (generic, disease-specific, region-specific, and dimension-specific outcomes instruments).

EBP-12. Describe the types of outcomes measures for clinical practice (patient-based and clinician-based) as well as types of evidence that are gathered through outcomes assessment (patient-oriented evidence versus disease-oriented evidence).

EBP-13. Understand the methods of assessing patient status and progress (eg, global rating of change, minimal clinically important difference, minimal detectable difference) with clinical outcomes assessments.

EBP-14. Apply and interpret clinical outcomes to assess patient status, progress, and change using psychometrically sound outcome instruments.

Prevention and Health Promotion (PHP)

Athletic trainers develop and implement strategies and programs to prevent the incidence and/or severity of injuries and illnesses and optimize their clients'/patients' overall health and quality of life. These strategies and programs also incorporate the importance of nutrition and physical activity in maintaining a healthy lifestyle and in preventing chronic disease (eg, diabetes, obesity, cardiovascular disease).

Knowledge and Skills

General Prevention Principles

PHP-1. Describe the concepts (eg, case definitions, incidence versus prevalence, exposure assessment, rates) and uses of injury and illness surveillance relevant to athletic training.

PHP-2. Identify and describe measures used to monitor injury prevention strategies (eg, injury rates and risks, relative risks, odds ratios, risk differences, numbers needed to treat/harm).

PHP-3. Identify modifiable/non-modifiable risk factors and mechanisms for injury and illness.

PHP-4. Explain how the effectiveness of a prevention strategy can be assessed using clinical outcomes, surveillance, or evaluation data.

PHP-5. Explain the precautions and risk factors associated with physical activity in persons with common congenital and acquired abnormalities, disabilities, and diseases.

PHP-6. Summarize the epidemiology data related to the risk of injury and illness associated with participation in physical activity.

Prevention Strategies and Procedures

PHP-7. Implement disinfectant procedures to prevent the spread of infectious diseases and to comply with Occupational Safety and Health Administration (OSHA) and other federal regulations.

PHP-8. Identify the necessary components to include in a preparticipation physical examination as recommended by contemporary guidelines (eg, American Heart Association, American Academy of Pediatrics Council on Sports Medicine & Fitness).

PHP-9. Explain the role of the preparticipation physical exam in identifying conditions that might predispose the athlete to injury or illness.

PHP-10. Explain the principles of the body's thermoregulatory mechanisms as they relate to heat gain and heat loss.

PHP-11. Explain the principles of environmental illness prevention programs to include acclimation and conditioning, fluid and electrolyte replacement requirements, proper practice and competition attire, hydration status, and environmental assessment (eg, sling psychrometer, wet bulb globe temperatures [WBGT], heat index guidelines).

PHP-12. Summarize current practice guidelines related to physical activity during extreme weather conditions (eg, heat, cold, lightning, wind).

PHP-13. Obtain and interpret environmental data (web bulb globe temperature [WBGT], sling psychrometer, lightning detection devices) to make clinical decisions regarding the scheduling, type, and duration of physical activity.

PHP-14. Assess weight loss and hydration status using weight charts, urine color charts, or specific gravity measurements to determine an individual's ability to participate in physical activity in a hot, humid environment.

PHP-15. Use a glucometer to monitor blood glucose levels, determine participation status, and make referral decisions.

PHP-16. Use a peak-flow meter to monitor a patient's asthma symptoms, determine participation status, and make referral decisions.

PHP-17. Explain the etiology and prevention guidelines associated with the leading causes of sudden death during physical activity, including but not limited to:

- **PHP-17a.** Cardiac arrhythmia or arrest
- **PHP-17b.** Asthma
- **PHP-17c.** Traumatic brain injury
- **PHP-17d.** Exertional heat stroke
- **PHP-17e.** Hyponatremia
- **PHP-17f.** Exertional sickling
- **PHP-17g.** Anaphylactic shock
- **PHP-17h.** Cervical spine injury
- **PHP-17i.** Lightning strike

PHP-18. Explain strategies for communicating with coaches, athletes, parents, administrators, and other relevant personnel regarding potentially dangerous conditions related to the environment, field, or playing surfaces.

PHP-19. Instruct clients/patients in the basic principles of ergodynamics and their relationship to the prevention of illness and injury.

Protective Equipment and Prophylactic Procedures

PHP-20. Summarize the basic principles associated with the design, construction, fit, maintenance, and reconditioning of protective equipment, including the rules and regulations established by the associations that govern its use.

PHP-21. Summarize the principles and concepts related to the fabrication, modification, and appropriate application or use of orthotics and other dynamic and static splints.

PHP-22. Fit standard protective equipment following manufacturers' guidelines.

PHP-23. Apply preventive taping and wrapping procedures, splints, braces, and other special protective devices.

Fitness/Wellness

PHP-24. Summarize the general principles of health maintenance and personal hygiene, including skin care, dental hygiene, sanitation, immunizations, avoidance of infectious and contagious diseases, diet, rest, exercise, and weight control.

PHP-25. Describe the role of exercise in maintaining a healthy lifestyle and preventing chronic disease.

PHP-26. Identify and describe the standard tests, test equipment, and testing protocols that are used for measuring fitness, body composition, posture, flexibility, muscular strength, power, speed, agility, and endurance.

PHP-27. Compare and contrast the various types of flexibility, strength training, and cardiovascular conditioning programs to include expected outcomes, safety precautions, hazards, and contraindications.

PHP-28. Administer and interpret fitness tests to assess a client's/patient's physical status and readiness for physical activity.

PHP-29. Explain the basic concepts and practice of fitness and wellness screening.

PHP-30. Design a fitness program to meet the individual needs of a client/patient based on the results of standard fitness assessments and wellness screening.

PHP-31. Instruct a client/patient regarding fitness exercises and the use of muscle strengthening equipment to include correction or modification of inappropriate, unsafe, or dangerous lifting techniques.

General Nutrition Concepts

PHP-32. Describe the role of nutrition in enhancing performance, preventing injury or illness, and maintaining a healthy lifestyle.

PHP-33. Educate clients/patients on the importance of healthy eating, regular exercise, and general preventative strategies for improving or maintaining health and quality of life.

PHP-34. Describe contemporary nutritional intake recommendations and explain how these recommendations can be used in performing a basic dietary analysis and providing appropriate general dietary recommendations.

PHP-35. Describe the proper intake, sources of, and effects of micro- and macronutrients on performance, health, and disease.

PHP-36. Describe current guidelines for proper hydration and explain the consequences of improper fluid/electrolyte replacement.

PHP-37. Identify, analyze, and utilize the essential components of food labels to determine the content, quality, and appropriateness of food products.

PHP-38. Describe nutritional principles that apply to tissue growth and repair.

PHP-39. Describe changes in dietary requirements that occur as a result of changes in an individual's health, age, and activity level.

PHP-40. Explain the physiologic principles and time factors associated with the design and planning of pre-activity and recovery meals/snacks and hydration practices.

PHP-41. Identify the foods and fluids that are most appropriate for pre-activity, activity, and recovery meals/snacks.

Weight Management and Body Composition

PHP-42. Explain how changes in the type and intensity of physical activity influence the energy and nutritional demands placed on the client/patient.

PHP-43. Describe the principles and methods of body composition assessment to assess a client's/patient's health status and to monitor changes related to weight management, strength training, injury, disordered eating, menstrual status, and/or bone density status.

PHP-44. Assess body composition by validated techniques.

PHP-45. Describe contemporary weight management methods and strategies needed to support activities of daily life and physical activity.

Disordered Eating and Eating Disorders

PHP-46. Identify and describe the signs, symptoms, physiological, and psychological responses of clients/patients with disordered eating or eating disorders.

PHP-47. Describe the method of appropriate management and referral for clients/patients with disordered eating or eating disorders in a manner consistent with current practice guidelines.

Performance Enhancing and Recreational Supplements and Drugs

PHP-48. Explain the known usage patterns, general effects, and short- and long-term adverse effects for the commonly used dietary supplements, performance enhancing drugs, and recreational drugs.

PHP-49. Identify which therapeutic drugs, supplements, and performance-enhancing substances are banned by sport and/or workplace organizations in order to properly advise clients/patients about possible disqualification and other consequences.

Clinical Examination and Diagnosis (CE)

Athletic trainers must possess strong clinical examination skills in order to accurately diagnosis and effectively treat their patients. The clinical examination is an on-going process, repeated to some extent each time the patient is treated. The development of these skills requires a thorough understanding of anatomy, physiology, and biomechanics. Athletic trainers must also apply clinical-reasoning skills throughout the physical examination process in order to assimilate data, select the appropriate assessment tests, and formulate a differential diagnosis.

The competencies identified in this section should be considered in the context of the competencies identified in other domains. For example, the knowledge and skills associated with acute care and therapeutic interventions, while applicable for this domain, are not repeated here.

The clinical examination process is comprehensive and may include a review of the systems and regions identified below based on the patient's relevant history and examination findings. Consideration must also be given to the patient's behavioral and cognitive status and history; competencies addressing this content area are included elsewhere.

Systems and Regions

a. Musculoskeletal
b. Integumentary
c. Neurological
d. Cardiovascular
e. Endocrine
f. Pulmonary
g. Gastrointestinal
h. Hepatobiliary
i. Immune
j. Renal and urogenital
k. The face, including maxillofacial region and mouth
l. Eye, ear, nose, and throat

Knowledge and Skills

CE-1. Describe the normal structures and interrelated functions of the body systems.

CE-2. Describe the normal anatomical, systemic, and physiological changes associated with the lifespan.

CE-3. Identify the common congenital and acquired risk factors and causes of musculoskeletal injuries and common illnesses that may influence physical activity in pediatric, adolescent, adult, and aging populations.

CE-4. Describe the principles and concepts of body movement, including normal osteokinematics and arthrokinematics.

CE-5. Describe the influence of pathomechanics on function.

CE-6. Describe the basic principles of diagnostic imaging and testing and their role in the diagnostic process.

CE-7. Identify the patient's participation restrictions (disabilities) and activity limitations (functional limitations) to determine the impact of the condition on the patient's life.

CE-8. Explain the role and importance of functional outcome measures in clinical practice and patient health-related quality of life.

CE-9. Identify functional and patient-centered quality of life outcome measures appropriate for use in athletic training practice.

CE-10. Explain diagnostic accuracy concepts including reliability, sensitivity, specificity, likelihood ratios, prediction values, and pre-test and post-test probabilities in the selection and interpretation of physical examination and diagnostic procedures.

CE-11. Explain the creation of clinical prediction rules in the diagnosis and prognosis of various clinical conditions.

CE-12. Apply clinical prediction rules (eg, Ottawa Ankle Rules) during clinical examination procedures.

CE-13. Obtain a thorough medical history that includes the pertinent past medical history, underlying systemic disease, use of medications, the patient's perceived pain, and the history and course of the present condition.

CE-14. Differentiate between an initial injury evaluation and follow-up/reassessment as a means to evaluate the efficacy of the patient's treatment/rehabilitation program, and make modifications to the patient's program as needed.

CE-15. Demonstrate the ability to modify the diagnostic examination process according to the demands of the situation and patient responses.

CE-16. Recognize the signs and symptoms of catastrophic and emergent conditions and demonstrate appropriate referral decisions.

CE-17. Use clinical reasoning skills to formulate an appropriate clinical diagnosis for common illness/disease and orthopedic injuries/conditions.

CE-18. Incorporate the concept of differential diagnosis into the examination process.

CE-19. Determine criteria and make decisions regarding return to activity and/or sports participation based on the patient's current status.

CE-20. Use standard techniques and procedures for the clinical examination of common injuries, conditions, illnesses, and diseases including, but not limited to:

- **CE-20a.** history taking
- **CE-20b.** inspection/observation
- **CE-20c.** palpation
- **CE-20d.** functional assessment
- **CE-20e.** selective tissue testing techniques / special tests
- **CE-20f.** neurological assessments (sensory, motor, reflexes, balance, cognitive function)
- **CE-20g.** respiratory assessments (auscultation, percussion, respirations, peak-flow)
- **CE-20h.** circulatory assessments (pulse, blood pressure, auscultation)
- **CE-20i.** abdominal assessments (percussion, palpation, auscultation)
- **CE-20j.** other clinical assessments (otoscope, urinalysis, glucometer, temperature, opthalmoscope)

CE-21. Assess and interpret findings from a physical examination that is based on the patient's clinical presentation. This exam can include:

- **CE-21a.** Assessment of posture, gait, and movement patterns
- **CE-21b.** Palpation
- **CE-21c.** Muscle function assessment
- **CE-21d.** Assessment of quantity and quality of osteokinematic joint motion
- **CE-21e.** Capsular and ligamentous stress testing
- **CE-21f.** Joint play (arthrokinematics)
- **CE-21g.** Selective tissue examination techniques / special tests
- **CE-21h.** Neurologic function (sensory, motor, reflexes, balance, cognition)
- **CE-21i.** Cardiovascular function (including differentiation between normal and abnormal heart sounds, blood pressure, and heart rate)
- **CE-21j.** Pulmonary function (including differentiation between normal breath sounds, percussion sounds, number and characteristics of respirations, peak expiratory flow)
- **CE-21k.** Gastrointestinal function (including differentiation between normal and abnormal bowel sounds)
- **CE-21l.** Genitourinary function (urinalysis)
- **CE-21m.** Ocular function (vision, ophthalmoscope)
- **CE-21n.** Function of the ear, nose, and throat (including otoscopic evaluation)
- **CE-21o.** Dermatological assessment
- **CE-21p.** Other assessments (glucometer, temperature)

CE-22. Determine when the findings of an examination warrant referral of the patient.

CE-23. Describe current setting-specific (eg, high school, college) and activity-specific rules and guidelines for managing injuries and illnesses.

Acute Care of Injuries and Illnesses (AC)

Athletic trainers are often present when injuries or other acute conditions occur or are the first healthcare professionals to evaluate a patient. For this reason, athletic trainers must be knowledgeable and skilled in the evaluation and immediate management of acute injuries and illnesses.

The competencies identified in this section should be considered in the context of the competencies identified in other domains. For example, the knowledge and skills associated with the process of examination and documentation, while applicable for this domain, are not repeated here. Likewise, the knowledge and skills associated with the administrative and risk management aspects of planning for an emergency injury/illness situation are not repeated here.

Knowledge and Skills

Planning

AC-1. Explain the legal, moral, and ethical parameters that define the athletic trainer's scope of acute and emergency care.

AC-2. Differentiate the roles and responsibilities of the athletic trainer from other pre-hospital care and hospital-based providers, including emergency medical technicians/paramedics, nurses, physician assistants, and physicians.

AC-3. Describe the hospital trauma level system and its role in the transportation decision-making process.

Examination

AC-4. Demonstrate the ability to perform scene, primary, and secondary surveys.

AC-5. Obtain a medical history appropriate for the patient's ability to respond.

AC-6. When appropriate, obtain and monitor signs of basic body functions including pulse, blood pressure, respiration, pulse oximetry, pain, and core temperature. Relate changes in vital signs to the patient's status.

AC-7. Differentiate between normal and abnormal physical findings (eg, pulse, blood pressure, heart and lung sounds, oxygen saturation, pain, core temperature) and the associated pathophysiology.

Immediate Emergent Management

AC-8. Explain the indications, guidelines, proper techniques, and necessary supplies for removing equipment and clothing in order to access the airway, evaluate and/or stabilize an athlete's injured body part.

AC-9. Differentiate the types of airway adjuncts (oropharygneal airways [OPA], nasopharyngeal airways [NPA] and supraglottic airways [King LT-D or Combitube]) and their use in maintaining a patent airway in adult respiratory and/or cardiac arrest.

AC-10. Establish and maintain an airway, including the use of oro- and nasopharygneal airways, and neutral spine alignment in an athlete with a suspected spine injury who may be wearing shoulder pads, a helmet with and without a face guard, or other protective equipment.

AC-11. Determine when suction for airway maintenance is indicated and use according to accepted practice protocols.

AC-12. Identify cases when rescue breathing, CPR, and/or AED use is indicated according to current accepted practice protocols.

AC-13. Utilize an automated external defibrillator (AED) according to current accepted practice protocols.

AC-14. Perform one- and two- person CPR on an infant, child and adult.

AC-15. Utilize a bag valve and pocket mask on a child and adult using supplemental oxygen.

AC-16. Explain the indications, application, and treatment parameters for supplemental oxygen administration for emergency situations.

AC-17. Administer supplemental oxygen with adjuncts (eg, non-rebreather mask, nasal cannula).

AC-18. Assess oxygen saturation using a pulse oximeter and interpret the results to guide decision making.

AC-19. Explain the proper procedures for managing external hemorrhage (eg, direct pressure, pressure points, tourniquets) and the rationale for use of each.

AC-20. Select and use the appropriate procedure for managing external hemorrhage.

AC-21. Explain aseptic or sterile techniques, approved sanitation methods, and universal precautions used in the cleaning, closure, and dressing of wounds.

AC-22. Select and use appropriate procedures for the cleaning, closure, and dressing of wounds, identifying when referral is necessary.

AC-23. Use cervical stabilization devices and techniques that are appropriate to the circumstances of an injury.

AC-24. Demonstrate proper positioning and immobilization of a patient with a suspected spinal cord injury.

AC-25. Perform patient transfer techniques for suspected head and spine injuries utilizing supine log roll, prone log roll with push, prone log roll with pull, and lift-and-slide techniques.

AC-26. Select the appropriate spine board, including long board or short board, and use appropriate immobilization techniques based on the circumstance of the patient's injury.

AC-27. Explain the role of core body temperature in differentiating between exertional heat stroke, hyponatremia, and head injury.

AC-28. Differentiate the different methods for assessing core body temperature.

AC-29. Assess core body temperature using a rectal probe.

AC-30. Explain the role of rapid full body cooling in the emergency management of exertional heat stroke.

AC-31. Assist the patient in the use of a nebulizer treatment for an asthmatic attack.

AC-32. Determine when use of a metered-dose inhaler is warranted based on a patient's condition.

AC-33. Instruct a patient in the use of a meter-dosed inhaler in the presence of asthma-related bronchospasm.

AC-34. Explain the importance of monitoring a patient following a head injury, including the role of obtaining clearance from a physician before further patient participation.

AC-35. Demonstrate the use of an auto-injectable epinephrine in the management of allergic anaphylaxis. Decide when auto-injectable epinephrine use is warranted based on a patient's condition.

AC-36. Identify the signs, symptoms, interventions and, when appropriate, the return-to-participation criteria for:

- **AC-36a.** sudden cardiac arrest
- **AC-36b.** brain injury including concussion, subdural and epidural hematomas, second impact syndrome and skull fracture
- **AC-36c.** cervical, thoracic, and lumbar spine trauma
- **AC-36d.** heat illness including heat cramps, heat exhaustion, exertional heat stroke, and hyponatremia
- **AC-36e.** exertional sickling associated with sickle cell trait
- **AC-36f.** rhabdomyolysis
- **AC-36g.** internal hemorrhage
- **AC-36h.** diabetic emergencies including hypoglycemia and ketoacidosis
- **AC-36i.** asthma attacks
- **AC-36j.** systemic allergic reaction, including anaphylactic shock
- **AC-36k.** epileptic and non-epileptic seizures
- **AC-36l.** shock
- **AC-36m.** hypothermia, frostbite
- **AC-36n.** toxic drug overdoses
- **AC-36o.** local allergic reaction

Immediate Musculoskeletal Management

AC-37. Select and apply appropriate splinting material to stabilize an injured body area.

AC-38. Apply appropriate immediate treatment to protect the injured area and minimize the effects of hypoxic and enzymatic injury.

AC-39. Select and implement the appropriate ambulatory aid based on the patient's injury and activity and participation restrictions.

Transportation

AC-40. Determine the proper transportation technique based on the patient's condition and findings of the immediate examination.

AC-41. Identify the criteria used in the decision-making process to transport the injured patient for further medical examination.

AC-42. Select and use the appropriate short-distance transportation methods, such as the log roll or lift and slide, for an injured patient in different situations.

Education

AC-36. Instruct the patient in home care and self-treatment plans for acute conditions.

Therapeutic Interventions (TI)

Athletic trainers assess the patient's status using clinician- and patient-oriented outcome measures. Based on this assessment and with consideration of the stage of healing and goals, a therapeutic intervention is designed to maximize the patient's participation and health-related quality of life.

A broad range of interventions, methods, techniques, equipment, activities using body movement, and medications are incorporated into this domain. These interventions are designed to enhance function by identifying, remediating, and preventing impairments and activity restrictions (functional limitations) to maximize participation. Rehabilitation is conducted in a wide variety of settings (eg, aquatic, clinic) with basic and contemporary equipment/modalities and on a wide range of patients with respect to age, overall health, and desired level of activity. Therapeutic interventions also include the use of prescription and nonprescription medications. For this reason, the athletic trainer needs to be knowledgeable about common prescription and nonprescription drug indications, adverse reactions, and interactions.

The competencies identified in this section should be considered in the context of the competencies identified in other content areas. For example, the knowledge and skills associated with the process of examination and documentation, while applicable for this content area, are not included here.

Therapeutic interventions include:

- Techniques to reduce pain
- Techniques to limit edema
- Techniques to restore joint mobility
- Techniques to restore muscle extensibility
- Techniques to restore neuromuscular function
- Exercises to improve strength, endurance, speed, and power
- Activities to improve balance, neuromuscular control, coordination, and agility
- Exercises to improve gait, posture, and body mechanics
- Exercises to improve cardiorespiratory fitness
- Functional exercises (eg, sports- or activity-specific)
- Exercises which comprise a home-based program
- Aquatic therapy
- Therapeutic modalities
  - superficial thermal agents (eg, hot pack, ice)
  - electrical stimulation
  - therapeutic ultrasound
  - diathermy
  - therapeutic low-level laser and light therapy
  - mechanical modalities
    - traction
    - intermittent compression
    - continuous passive motion
    - massage
    - biofeedback
- Therapeutic medications (as guided by applicable state and federal law)

Knowledge and Skills

Physical Rehabilitation and Therapeutic Modalities

TI-1. Describe and differentiate the physiological and pathophysiological responses to inflammatory and non-inflammatory conditions and the influence of these responses on the design, implementation, and progression of a therapeutic intervention.

TI-2. Compare and contrast contemporary theories of pain perception and pain modulation.

TI-3. Differentiate between palliative and primary pain-control interventions.

TI-4. Analyze the impact of immobilization, inactivity, and mobilization on the body systems (eg, cardiovascular, pulmonary, musculoskeletal) and injury response.

TI-5. Compare and contrast the variations in the physiological response to injury and healing across the lifespan.

TI-6. Describe common surgical techniques, including interpretation of operative reports, and any resulting precautions, contraindications, and comorbidities that impact the selection and progression of a therapeutic intervention program.

TI-7. Identify patient- and clinician-oriented outcomes measures commonly used to recommend activity level, make return to play decisions, and maximize patient outcomes and progress in the treatment plan.

TI-8. Explain the theory and principles relating to expected physiological response(s) during and following therapeutic interventions.

TI-9. Describe the laws of physics that (1) underlay the application of thermal, mechanical, electromagnetic, and acoustic energy to the body and (2) form the foundation for the development of therapeutic interventions (eg, stress-strain, leverage, thermodynamics, energy transmission and attenuation, electricity).

TI-10. Integrate self-treatment into the intervention when appropriate, including instructing the patient regarding self-treatment plans.

TI-11. Design therapeutic interventions to meet specified treatment goals.

- **TI-11a.** Assess the patient to identify indications, contraindications, and precautions applicable to the intended intervention.
- **TI-11b.** Position and prepare the patient for various therapeutic interventions.
- **TI-11c.** Describe the expected effects and potential adverse reactions to the patient.
- **TI-11d.** Instruct the patient how to correctly perform rehabilitative exercises.
- **TI-11e.** Apply the intervention, using parameters appropriate to the intended outcome.
- **TI-11f.** Reassess the patient to determine the immediate impact of the intervention.

TI-12. Use the results of on-going clinical examinations to determine when a therapeutic intervention should be progressed, regressed or discontinued.

TI-13. Describe the relationship between the application of therapeutic modalities and the incorporation of active and passive exercise and/or manual therapies, including therapeutic massage, myofascial techniques, and muscle energy techniques.

TI-14. Describe the use of joint mobilization in pain reduction and restoration of joint mobility.

TI-15. Perform joint mobilization techniques as indicated by examination findings.

TI-16. Fabricate and apply taping, wrapping, supportive, and protective devices to facilitate return to function.

TI-17. Analyze gait and select appropriate instruction and correction strategies to facilitate safe progression to functional gait pattern.

TI-18. Explain the relationship between posture, biomechanics, and ergodynamics and the need to address these components in a therapeutic intervention.

TI-19. Identify manufacturer, institutional, state, and/or federal standards that influence approval, operation, inspection, maintenance and safe application of therapeutic modalities and rehabilitation equipment.

TI-20. Inspect therapeutic equipment and the treatment environment for potential safety hazards.

Therapeutic Medications

TI-21. Explain the federal, state, and local laws, regulations and procedures for the proper storage, disposal, transportation, dispensing (administering where appropriate), and documentation associated with commonly used prescription and nonprescription medications.

TI-22. Identify and use appropriate pharmaceutical terminology for management of medications, inventory control, and reporting of pharmacological agents commonly used in an athletic training facility.

TI-23. Use an electronic drug resource to locate and identify indications, contraindications, precautions, and adverse reactions for common prescription and nonprescription medications.

TI-24. Explain the major concepts of pharmacokinetics and the influence that exercise might have on these processes.

TI-25. Explain the concepts related to bioavailability, half-life, and bioequivalence (including the relationship between generic and brand name drugs) and their relevance to the patient, the choice of medication, and the dosing schedule.

TI-26. Explain the pharmacodynamic principles of receptor theory, dose-response relationship, placebo effect, potency, and drug interactions as they relate to the mechanism of drug action and therapeutic effectiveness.

TI-27. Describe the common routes used to administer medications and their advantages and disadvantages.

TI-28. Properly assist and/or instruct the patient in the proper use, cleaning, and storage of drugs commonly delivered by metered dose inhalers, nebulizers, insulin pumps, or other parenteral routes as prescribed by the physician.

TI-29. Describe how common pharmacological agents influence pain and healing and their influence on various therapeutic interventions.

TI-30. Explain the general therapeutic strategy, including drug categories used for treatment, desired treatment outcomes, and typical duration of treatment, for the following common diseases and conditions: asthma, diabetes, hypertension, infections, depression, GERD, allergies, pain, inflammation, and the common cold.

TI-31. Optimize therapeutic outcomes by communicating with patients and/or appropriate healthcare professionals regarding compliance issues, drug interactions, adverse drug reactions, and sub-optimal therapy.

Psychosocial Strategies and Referral (PS)

Athletic trainers must be able to recognize clients/patients exhibiting abnormal social, emotional, and mental behaviors. Coupled with recognition is the ability to intervene and refer these individuals as necessary. Additionally, athletic trainers appreciate the role of mental health in injury and recovery and use interventions to optimize the connection between mental health and restoration of participation.

Knowledge and Skills

Theoretical Background

PS-1. Describe the basic principles of personality traits, trait anxiety, locus of control, intrinsic and extrinsic motivation, and patient and social environment interactions as they affect patient interactions.

PS-2. Explain the theoretical background of psychological and emotional responses to injury and forced inactivity (eg, cognitive appraisal model, stress response model).

PS-3. Describe how psychosocial considerations affect clinical decision-making related to return to activity or participation (eg, motivation, confidence).

PS-4. Summarize and demonstrate the basic processes of effective interpersonal and cross-cultural communication as it relates to interactions with patients and others involved in the healthcare of the patient.

PS-5. Summarize contemporary theory regarding educating patients of all ages and cultural backgrounds to effect behavioral change.

Psychosocial Strategies

PS-6. Explain the importance of educating patients, parents/guardians, and others regarding the condition in order to enhance the psychological and emotional well-being of the patient.

PS-7. Describe the psychological techniques (eg, goal setting, imagery, positive self-talk, relaxation/anxiety reduction) that the athletic trainer can use to motivate the patient during injury rehabilitation and return to activity processes.

PS-8. Describe psychological interventions (eg, goal setting, motivational techniques) that are used to facilitate a patient's physical, psychological, and return to activity needs.

PS-9. Describe the psychosocial factors that affect persistent pain sensation and perception (eg, emotional state, locus of control, psychodynamic issues, sociocultural factors, personal values and beliefs) and identify multidisciplinary approaches for assisting patients with persistent pain.

PS-10. Explain the impact of sociocultural issues that influence the nature and quality of healthcare received (eg, cultural competence, access to appropriate healthcare providers, uninsured/underinsured patients, insurance) and formulate and implement strategies to maximize client/patient outcomes.

Mental Health and Referral

PS-11. Describe the role of various mental healthcare providers (eg, psychiatrists, psychologists, counselors, social workers) that may comprise a mental health referral network.

PS-12. Identify and refer clients/patients in need of mental healthcare.

PS-13. Identify and describe the basic signs and symptoms of mental health disorders (eg, psychosis, neurosis; sub-clinical mood disturbances (eg, depression, anxiety); and personal/social conflict (eg, adjustment to injury, family problems, academic or emotional stress, personal assault or abuse, sexual assault or harassment) that may indicate the need for referral to a mental healthcare professional.

PS-14. Describe the psychological and sociocultural factors associated with common eating disorders.

PS-15. Identify the symptoms and clinical signs of substance misuse/abuse, the psychological and sociocultural factors associated with such misuse/abuse, its impact on an individual's health and physical performance, and the need for proper referral to a healthcare professional.

PS-16. Formulate a referral for an individual with a suspected mental health or substance abuse problem.

PS-17. Describe the psychological and emotional responses to a catastrophic event, the potential need for a psychological intervention and a referral plan for all parties affected by the event.

PS-18. Provide appropriate education regarding the condition and plan of care to the patient and appropriately discuss with others as needed and as appropriate to protect patient privacy.

Healthcare Administration (HA)

Athletic trainers function within the context of a complex healthcare system. Integral to this function is an understanding of risk management, healthcare delivery mechanisms, insurance, reimbursement, documentation, patient privacy, and facility management.

Knowledge and Skills

HA-1. Describe the role of the athletic trainer and the delivery of athletic training services within the context of the broader healthcare system.

HA-2. Describe the impact of organizational structure on the daily operations of a healthcare facility.

HA-3. Describe the role of strategic planning as a means to assess and promote organizational improvement.

HA-4. Describe the conceptual components of developing and implementing a basic business plan.

HA-5. Describe basic healthcare facility design for a safe and efficient clinical practice setting.

HA-6. Explain components of the budgeting process including: purchasing, requisition, bidding, request for proposal, inventory, profit and loss ratios, budget balancing, and return on investments.

HA-7. Assess the value of the services provided by an athletic trainer (eg, return on investment).

HA-8. Develop operational and capital budgets based on a supply inventory and needs assessment; including capital equipment, salaries and benefits, trending analysis, facility cost, and common expenses.

HA-9. Identify the components that comprise a comprehensive medical record.

HA-10. Identify and explain the statutes that regulate the privacy and security of medical records.

HA-11. Use contemporary documentation strategies to effectively communicate with patients, physicians, insurers, colleagues, administrators, and parents or family members.

HA-12. Use a comprehensive patient-file management system for appropriate chart documentation, risk management, outcomes, and billing.

HA-13. Define state and federal statutes that regulate employment practices.

HA-14. Describe principles of recruiting, selecting, hiring, and evaluating employees.

HA-15. Identify principles of recruiting, selecting, employing, and contracting with physicians and other medical and healthcare personnel in the deployment of healthcare services.

HA-16. Describe federal and state infection control regulations and guidelines, including universal precautions as mandated by the Occupational Safety and Health Administration (OSHA), for the prevention, exposure, and control of infectious diseases, and discuss how they apply to the practicing of athletic training.

HA-17. Identify key regulatory agencies that impact healthcare facilities, and describe their function in the regulation and overall delivery of healthcare.

HA-18. Describe the basic legal principles that apply to an athletic trainer's responsibilities.

HA-19. Identify components of a risk management plan to include security, fire, electrical and equipment safety, emergency preparedness, and hazardous chemicals.

HA-20. Create a risk management plan and develop associated policies and procedures to guide the operation of athletic training services within a healthcare facility to include issues related to security, fire, electrical and equipment safety, emergency preparedness, and hazardous chemicals.

HA-21. Develop comprehensive, venue-specific emergency action plans for the care of acutely injured or ill individuals.

HA-22. Develop specific plans of care for common potential emergent conditions (eg, asthma attack, diabetic emergency).

HA-23. Identify and explain the recommended or required components of a pre-participation examination based on appropriate authorities' rules, guidelines, and/or recommendations.

HA-24. Describe a plan to access appropriate medical assistance on disease control, notify medical authorities, and prevent disease epidemics.

HA-25. Describe common health insurance models, insurance contract negotiation, and the common benefits and exclusions identified within these models.

HA-26. Describe the criteria for selection, common features, specifications, and required documentation needed for secondary, excess accident, and catastrophic health insurance.

HA-27. Describe the concepts and procedures for revenue generation and reimbursement.

HA-28. Understand the role of and use diagnostic and procedural codes when documenting patient care.

HA-29. Explain typical administrative policies and procedures that govern first aid and emergency care.

HA-30. Describe the role and functions of various healthcare providers and protocols that govern the referral of patients to these professionals.

Professional Development and Responsibility (PD)

The provision of high quality patient care requires that the athletic trainer maintain current competence in the constantly changing world of healthcare. Athletic trainers must also embrace the need to practice within the limits of state and national regulation using moral and ethical judgment. As members of a broader healthcare community, athletic trainers work collaboratively with other healthcare providers and refer clients/patients when such referral is warranted.

Knowledge and Skills

PD-1. Summarize the athletic training profession's history and development and how current athletic training practice has been influenced by its past.

PD-2. Describe the role and function of the National Athletic Trainers' Association and its influence on the profession.

PD-3. Describe the role and function of the Board of Certification, the Commission on Accreditation of Athletic Training Education, and state regulatory boards.

PD-4. Explain the role and function of state athletic training practice acts and registration, licensure, and certification agencies including (1) basic legislative processes for the implementation of practice acts, (2) rationale for state regulations that govern the practice of athletic training, and (3) consequences of violating federal and state regulatory acts.

PD-5. Access, analyze, and differentiate between the essential documents of the national governing, credentialing and regulatory bodies, including, but not limited to, the NATA Athletic Training Educational Competencies, the BOC Standards of Professional Practice, the NATA Code of Ethics, and the BOC Role Delineation Study/Practice Analysis.

PD-6. Explain the process of obtaining and maintaining necessary local, state, and national credentials for the practice of athletic training.

PD-7. Perform a self-assessment of professional competence and create a professional development plan to maintain necessary credentials and promote life-long learning strategies.

PD-8. Differentiate among the preparation, scopes of practice, and roles and responsibilities of healthcare providers and other professionals with whom athletic trainers interact.

PD-9. Specify when referral of a client/patient to another healthcare provider is warranted and formulate and implement strategies to facilitate that referral.

PD-10. Develop healthcare educational programming specific to the target audience (eg, clients/patients, healthcare personnel, administrators, parents, general public).

PD-11. Identify strategies to educate colleagues, students, patients, the public, and other healthcare professionals about the roles, responsibilities, academic preparation, and scope of practice of athletic trainers.

PD-12. Identify mechanisms by which athletic trainers influence state and federal healthcare regulation.

Clinical Integration Proficiencies (CIP)

The clinical integration proficiencies (CIPs) represent the synthesis and integration of knowledge, skills, and clinical decision-making into actual client/patient care. The CIPs have been reorganized into this section (rather than at the end of each content area) to reflect their global nature. For example, therapeutic interventions do not occur in isolation from physical assessment.

In most cases, assessment of the CIPs should occur when the student is engaged in real client/patient care and may be necessarily assessed over multiple interactions with the same client/patient. In a few instances, assessment may require simulated scenarios, as certain circumstances may occur rarely but are nevertheless important to the well-prepared practitioner.

The incorporation of evidence-based practice principles into care provided by athletic trainers is central to optimizing outcomes. Assessment of student competence in the CIPs should reflect the extent to which these principles are integrated. Assessment of students in the use of Foundational Behaviors in the context of real patient care should also occur.

Prevention&HealthPromotion

CIP-1. Administer testing procedures to obtain baseline data regarding a client's/patient's level of general health (including nutritional habits, physical activity status, and body composition). Use this data to design, implement, evaluate, and modify a program specific to the performance and health goals of the patient. This will include instructing the patient in the proper performance of the activities, recognizing the warning signs and symptoms of potential injuries and illnesses that may occur, and explaining the role of exercise in maintaining overall health and the prevention of diseases. Incorporate contemporary behavioral change theory when educating clients/patients and associated individuals to effect health-related change. Refer to other medical and health professionals when appropriate.

CIP-2. Select, apply, evaluate, and modify appropriate standard protective equipment, taping, wrapping, bracing, padding, and other custom devices for the client/patient in order to prevent and/or minimize the risk of injury to the head, torso, spine, and extremities for safe participation in sport or other physical activity.

CIP-3. Develop, implement, and monitor prevention strategies for at-risk individuals (eg, persons with asthma or diabetes, persons with a previous history of heat illness, persons with sickle cell trait) and large groups to allow safe physical activity in a variety of conditions. This includes obtaining and interpreting data related to potentially hazardous environmental conditions, monitoring body functions (eg, blood glucose, peak expiratory flow, hydration status), and making the appropriate recommendations for individual safety and activity status.

Clinical Assessment & Diagnosis / Acute Care / Therapeutic Intervention

CIP-4. Perform a comprehensive clinical examination of a patient with an upper extremity, lower extremity, head, neck, thorax, and/or spine injury or condition. This exam should incorporate clinical reasoning in the selection of assessment procedures and interpre- tation of findings in order to formulate a differential diagnosis and/or diagnosis, determine underlying impairments, and identify activity limitations and participation restrictions. Based on the assessment data and consideration of the patient's goals, provide the appropriate initial care and establish overall treatment goals. Create and implement a therapeutic intervention that targets these treatment goals to include,
as appropriate, therapeutic modalities, medications (with physician involvement as necessary), and rehabilitative techniques and procedures. Integrate and interpret various forms of standardized documentation including both patient-oriented and clinician-oriented outcomes measures to recommend activity level, make return to play decisions, and maximize patient outcomes and progress in the treatment plan.

CIP-5. Perform a comprehensive clinical examination of a patient with a common illness/condition that includes appropriate clinical reasoning in the selection of assessment procedures and interpretation of history and physical examination findings in order to formulate a differential diagnosis and/or diagnosis. Based on the history, physical examination, and patient goals, implement the appropriate treatment strategy to include medications (with physician involvement as necessary). Determine whether patient referral is needed, and identify potential restrictions in activities and participa-tion. Formulate and communicate the appropriate return to activity protocol.

CIP-6. Clinically evaluate and manage a patient with an emergency injury or condition to include the assessment of vital signs and level of consciousness, activation of emergency action plan, secondary assessment, diagnosis, and provision of the appropriate emergency care (eg, CPR, AED, supplemental oxygen, airway adjunct, splinting, spinal stabilization, control of bleeding).

Psychosocial Strategies and Referral

CIP-7. Select and integrate appropriate psychosocial techniques into a patient's treatment or rehabilitation program to enhance rehabilitation adherence, return to play, and overall outcomes. This includes, but is not limited to, verbal motivation, goal setting, imagery, pain management, self-talk, and/or relaxation.

CIP-8. Demonstrate the ability to recognize and refer at-risk individuals and individuals with psychosocial disorders and/or mental health emergencies. As a member of the manage- ment team, develop an appropriate management plan (including recom-mendations
for patient safety and activity status) that establishes a professional helping relationship with the patient, ensures interactive support and education, and encourages the athletic trainer's role of informed patient advocate in a manner consistent with current practice guidelines.

CIP-9. Utilize documentation strategies to effectively communicate with patients, physicians, insur- ers, colleagues, administrators, and parents or family members while using appropriate ter- minology and complying with statues that regulate privacy of medical records. This includes using a comprehensive patient-file management system (including diagnostic and proce- dural codes) for appropriate chart documentation, risk management, outcomes, and billing.

Appendix F

Standards and Guidelines for Post-Certification Graduate Athletic Training Education Programs

Standards and Guidelines for Post-Certification Graduate
Athletic Training Education Programs
Jan 2002

PREFACE

Since 1969, the National Athletic Trainers' Association (NATA) Professional Education Committee provided assistance and guidance in curriculum development and officially approved both undergraduate and graduate athletic training education programs in colleges and universities throughout the United States. In 1997, the Graduate Education Committee of the NATA Education Council was charged with evaluating and revising the graduate standards and guidelines. Then, in 1998, the NATA Graduate Review Committee was organized and charged with the responsibility for evaluating and recommending accreditation status of post-certification graduate athletic training education programs to the NATA Board of Directors.

This manual has been prepared as a guide for college and university personnel interested in developing and/or maintaining an NATA accredited post-certification graduate athletic training education program.

This manual is subject to periodic revision by the Graduate Education Committee. While every effort will be made to inform appropriate institution personnel of significant revisions, it is the responsibility of the sponsoring institution to keep abreast of current standards and criteria that may affect accreditation of their program. Questions regarding Standards or Guidelines interpretation or other matters pertaining to development and implementation of an NATA accredited post-certification graduate athletic training education program should be directed to the Chair of the Post-Professional Graduate Review Committee.

I. About this Document

A. Information in this document is presented in 6 sections. The first 3 sections are philosophical in nature. They build the foundation upon which post-certification graduate athletic training education is based. Section IV contains all the standards and guidelines that programs must address. Accreditation policies and a glossary make up the last 2 sections.

1. Section I, About this Document - overview of the entire document.
2. Section II, Principles and Philosophy of Post-certification Graduate Athletic Training Education – statement of philosophy of post-certification graduate athletic training education programs with related goals and objectives.
3. Section III, Program Development and Implementation – overview of developing
4. Section IV, Program Standards and Guidelines – essential elements of NATA-accredited post-certification graduate athletic training education programs. All standards and guidelines are contained in this section.
5. Section V, Accreditation - information necessary for submission of self-study materials, application fee, on-site visitation, approval and appeal processes.
6. Section VI, Glossary – definition and interpretation of key terms used in this manual.

B. An Advocacy Document

These Standards and Guidelines are aimed at encouraging thought and empowering institutions and program directors so they can develop programs around their unique strengths or points of distinctiveness. Thus it is expected that there will be much greater variety in program design, content, and foci amongst graduate programs than amongst undergraduate and entry-level graduate programs.

Institutions will have increased freedom to innovate, to experiment with new ideas and approaches, to venture into the unknown. Not every attempt at innovation will meet with the same level of success. As educators counsel together, successful innovations will be retained and shared with colleagues and will therefore lead to stronger graduate education programs, stronger graduates, and a stronger profession.

II. Principles and Philosophy of Post-Certification Graduate Athletic Training Education

A. General Principles of Graduate Education

1. Mastery of subject matter. Graduate education facilitates mastery over the content and skills of the discipline at a level appropriate to the degree sought.

2. Critical thinking. Graduate education develops and refines critical thinking skills including a thorough knowledge of the assumptions of the discipline and an understanding of viable alternative assumptions.
3. Theoretical understanding. Graduate education provides an understanding of the theoretical bases of the field of study by grounding application and performance in theory.
4. Proficiency in research and/or creative activities. Graduate education develops proficiencies that advance the knowledge and activities of the discipline. These proficiencies include good writing skills as well as the ability to present original insights and creative expressions.
5. Service orientation. Graduate education instills responsibility to return the special benefits of graduate study to the larger community.
6. Diverse representation of perspectives. Graduate education provides for intellectually and culturally rich encounters within the discipline. Study and inquiry are conducted in a context sensitive to ethnic and cultural diversity.

B. Philosophy of Post-Certification Graduate Athletic Training Education Programs

Graduate Education Programs are different from entry-level programs in purpose, design and content. The mission of a post-certification graduate athletic training education program is to expand the depth and breadth of the applied, experiential, and propositional knowledge and skills of entry-level certified athletic trainers, expand the athletic training body of knowledge, and to disseminate new knowledge in the discipline. Graduate education is characterized by advanced systematic study and experience—advanced in knowledge, understanding, scholarly competence, inquiry, and discovery.

C. Principles of Post-certification Graduate Athletic Training Education

Instruction in advanced skills and knowledges, the preparation of certified athletic trainers for leadership roles, and a research experience are considered to be the distinguishing characteristics of graduate education in athletic training. Advanced educational experiences designed to enhance the certified athletic trainer's ability to function in clinical, teaching, administrative, or research environments are considered to be essential components of the post-certification graduate athletic training education program. While minimal graduate courses and resource requirements are specified in this document, flexibility and innovation in curricular development are encouraged. However, the program must demonstrate its contribution to advanced education of athletic training practitioners.

The NATA Education Council has developed a comprehensive list of athletic training educational competencies and clinical proficiencies in order to provide guidance and direction in the professional preparation of entry-level athletic training students. Thus, they represent important guidelines for curriculum design, development of individual course content, and structuring of clinical experiences for the entry-level programs. Development of an effective post-certification graduate athletic training education program depends on a thorough assessment of those education experiences typically offered at the entry-level. Post-certification graduate athletic training education programs include new and advanced, in-depth educational experiences designed to enhance the athletic trainer's professional practice.

III. Program Development and Implementation

A. Appointment of Program Director

The program director is essential in the initial stages of planning and developing a post-certification graduate athletic training program. This appointment also provides a contact person or liaison between the Post-Professional Graduate Review Committee and the sponsoring college or university. Criteria for the selection of a program director are outlined in Section IV.F.2. The program director should be involved in identifying other program faculty and staff.

B. Program Sponsorship

The administrative organization of the program must be compatible with the administrative structure of the department, school, or college in which it is housed. Locating the program in a Department of Athletic Training is desirable.

Although the program director manages the program, ultimate administrative responsibility lies with the head of the academic unit sponsoring the program. The administrative structure must be such that the program director fits within the reporting structure on par with other allied health or similar programs within the institution.

C. Mission, Goals, Objectives, and Points of Distinctiveness

Mission, goals and objectives guide the program, and should be consistent with the missions of the university, college, and department in which the program is housed. A program's mission, goals and objectives should also reflect the points of distinctiveness of the institution, its faculty, resources, or students. Thus, a wide variety in program design, content, and foci are expected between institutions.

D. Assessment of Available and Needed Resources

Appropriate personnel, classroom, laboratory space, and equipment are necessary components for the administrative, instructional, clinical, and research components of the program. A thorough assessment of these resources early in the process will allow time to rectify deficiencies, and ongoing assessment throughout development and implementation is necessary to keep the program viable.

E. Curriculum

The curriculum should be designed around the program's philosophy, mission, goals, and points of distinctiveness. The subject matter areas offered by the program should be based on faculty expertise and institutional resources, and should expand upon NATA entry level education.

1. Clinical experience is optional, but will be part of most graduate programs. Such experiences, if used, must be integrated into the curriculum so that students enhance their knowledge and refine their clinical skills.
2. A hands-on research experience, and the knowledge and skills necessary to complete such, are required curricular components. The experience should be designed so that students deepen their theoretical understanding of the profession, enhance their critical thinking ability, increase their writing & speaking skills, and advance the knowledge of the discipline.

F. Finances

Adequate financial support for development, ongoing operation, and improvement of the program must be provided by normal institutional budgeting processes.

G. Accreditation

Accreditation is a collegial process of self-review and peer review, involving three major activities:

1. A self-evaluation (self-study) by an institution or program using the Standards and Guidelines contained in this document and culminating in submission of a self study report to the NATA Post-Professional Graduate Review Committee.
2. A peer review of the self study and the institution during an on site visit to confirm the accuracy of the self study and gather additional evidence of quality.
3. A decision or judgment by the Post-Professional Graduate Review Committee and the NATA Board of Directors to accredit, accredit with conditions, or not accredit the institution/program.

H. Self-Study

Self-study by a program is the cornerstone of the voluntary peer review system of accreditation. It is both a process and a product, performed, as a cooperative effort, by individuals with varied interests in program improvement (i.e., institutional administration, program faculty, students, clinical staff, and the employers or supervisors of program graduates). The process of self-study requires the detailed analysis of all aspects of the program, so should be an ongoing process. The self-study critically examines the program in structure and substance, judges the program's overall effectiveness relative to its mission, identifies specific strengths and deficiencies, and indicates a plan for necessary modifications and improvements.

I. Initiating Accreditation Review

Pursuit of post-certification graduate athletic training education program accreditation represents a voluntary decision on the part of institution administrative personnel. NATA accreditation review and evaluation of a program (proposed or established) can be initiated only on written request by the chief academic officer (e.g., president, provost, academic vice president) of the institution submitting the proposal. Receipt of this written request and accreditation fee is considered to be official notice of the institution's intent to pursue NATA accreditation of its post-certification graduate athletic training education program.

J. Program Implementation

All aspects of the proposed program must be fully implemented and operational before accreditation can be granted. At least one student must complete the program prior to the site visit.

IV. Program Standards and Guidelines

A. Definitions of Accreditation Standards and Guidelines

1. Standards are mandatory components of the program and are denoted by the verb "must."
2. Guidelines are recommended components of the program and are denoted by the verb "should." Should is used to express obligation, allowing freedom to suggest an alternative for meeting the intent of the guideline. Written explanations are required if an alternative to a guideline is used, or if the program is unable to adhere to a guideline. Strategies used in attempting to meet the guideline must be part of the written explanation.
3. Verbs specific to Standards are bolded while verbs specific to Guidelines are italicized. Note: all Standards and Guidelines are continued in this section of the document. The uses of these verbs in other sections of the document do not constitute Standards or Guidelines.

B. Mission Statement

The programs written mission statement must be congruent with the missions of the university, college, and department in which the program is housed and consistent with the principles and philosophy outlined earlier in this document (see Section II).

C. Goals and Objectives

Programs will differ as they develop around unique institutional philosophies, resources, and faculty strengths. Programs must:

1. Identify specific points of distinctiveness related to the faculty; academic courses; and the program's clinical, administrative, teaching, and/or research components.
2. State specific long and short-term goals and objectives related to the program's points of distinctiveness or uniqueness. Goals and objectives must also address the following issues:
   a. Increase students' depth and breadth of understanding of athletic training subject matter areas and skills beyond those required of the entry-level certified athletic trainer, and/or develop areas new to athletic training. The following documents can be consulted to define the education and practice of an entry level athletic trainer.
      (1) Athletic Training Educational Competencies
      (2) Athletic Training Clinical Proficiencies
      (3) NATA-BOC Role Delineation (see www.nataboc.org)

b. Enhance students' critical thinking so that they have a thorough knowledge of the assumptions of the discipline and an understanding of viable alternative assumptions.
c. Develop student's understanding of the theoretical bases of athletic training knowledge and skills.
d. Expand students' ability to discover and develop new knowledge, and to enhance their desire to continue scholarly growth.
e. Provide students' advanced knowledges and skills to prepare them for leadership roles in athletic training.
f. Instill responsibility within students to serve the profession and their communities.

3. Provide a plan for meeting program goals and objectives.
4. Provide evidence that the programs stated goals and objectives have and/or are being met.

D. Degree Designation

Athletic training has a unique body of knowledge and, therefore, should be treated as a discipline. The institution is strongly encouraged to grant a Masters degree (e.g., MS, MA, MEd) in Athletic Training; however, degrees in related disciplines approved by the institution will be accepted.

E. Transcript Recognition

The name "Athletic Training" should appear on the transcript as the major, specialization, concentration, emphasis, or track.

F. Personnel

1. Administrative Personnel
   a. The dean and department/division head must accept the administrative responsibility of providing appropriate resources for the program.
   b. Due to the interdisciplinary nature of the athletic training curriculum, there should be cooperation between the dean or department/division head and administrators in related academic units.
2. Program Director
   a. Position
      (1) The program director must be appointed at least 1 year prior to program implementation and 2 years prior to site visitation. Thus, the minimum time from hiring a program director to program accreditation is 2 ½ years for a 1 year program and 3 ½ years for a 2 year program.
      (2) The program director must be a full-time employee of the college or university sponsoring the post-certification graduate athletic training education program.
      (3) The program director must be a member of the graduate faculty as defined by institutional policy.
      (4) The program director should be in a tenure track position.
   b. Responsibilities
      (1) The program director must oversee the day-to-day operation, coordination, supervision, and evaluation of all aspects of the program. Close cooperation between the program director and all associated personnel (e.g., faculty, athletic training staff, and research lab directors) will be necessary for effective planning and implementation of student clinical and research experiences.
      (2) The program director must insure that accurate, up-to-date records are kept and analyzed.
      (3) The program director's administrative and supervisory responsibilities must be recognized in terms of released/(re)assigned time from other departmental responsibilities. The amount of released/(re)assigned time should be consistent with departmental or institutional policy and appropriate for the administrative responsibilities of the program director.

c. Qualifications
   (1) The program director must possess a terminal degree (e.g., PhD, EdD) from an institution that the institution sponsoring the education program accepts credit from.
   (2) The program director must be a certified athletic trainer (NATABOC), with 3 years teaching and research experience as a full-time faculty member.
   (3) The program director must have a strong academic orientation, including a demonstrated interest in the professional preparation of students.
   (4) The program director must have an ongoing involvement in athletic training research as evidenced by scholarly publications/presentations and involvement in related professional organizations.
   (5) The Program director should have prior experience in the clinical practice of athletic training.
   (6) Experience in the clinical supervision of athletic training students by the program director is desirable.

3. Program Faculty
   a. The institution must provide appropriate faculty to deliver the program, comparable in number and preparation to other nationally accredited programs within the institution, and at other comparable institutions.
   b. Each faculty member must be qualified, through professional preparation and experience, in their respective academic areas.
   c. The majority of the program should be taught/directed by faculty who are NATABOC certified athletic trainers.
   d. All program faculty and adjunct personnel must be familiar with the goals and objectives of the program relevant to their respective instructional/clinical/ research areas, and should demonstrate a sincere interest in assisting students in attaining their personal and the programs goals.
4. Clerical Staff

   There must be appropriate clerical staff to support the program director and other faculty in their instructional, clinical, administrative, and research responsibilities.
5. Graduate Assistants

   Administration of graduate assistantships must be in compliance with institutional and Council for Graduation School (see www.cgsnet.org) policies.

G. Curriculum
1. The curriculum must be designed to accomplish the established goals and objectives of the program outlined in Section IV.C.2 of this document.
2. The subject matter areas offered by the program should be based on faculty expertise and institutional resources.
3. The majority of course work should relate to athletic training knowledge.
4. Specific courses and experiences that lead to, and involve, a research experience must be included.
   a. The research experiences must be designed to expand the body of knowledge in athletic training through quantitative or qualitative research.
   b. The athletic training faculty should be actively involved in student research to provide mentorship and to serve as role models.
   c. Sufficient time and opportunity must be provided within the curriculum for students to complete a quality research experience that includes a hands-on experience with an established systematic method of inquiry (i.e., thesis, research projects, participation as a co-investigator in faculty research, or similar activity).
   d. Course work and professional experiences should be scheduled so as to facilitate the research experience. For example, offer research methods and statistics courses early in the program so as to facilitate students' hands on research experience

H. Clinical Experience
1. Clinical experiences are a strongly recommended, but not required, part of the program. If the program elects to use clinical experiences, they must provide the opportunity to develop skills beyond entry-level competencies. The purpose of the clinical experience is educational and not just to provide a work force for the institution or affiliate sites.
2. If the institution elects to offer a clinical education component, the sponsoring institution must have a formal plan for organizing and structuring the clinical experiences that will insure effective learning opportunities for all students in the clinical aspect of the program.
3. Plans for clinical experiences should reflect provisions for progressive development of professional skills and knowledge and a system for evaluating and recording student achievement.
4. Advanced clinical experiences at the graduate level must allow for a level of responsibility compatible with the credentials and expertise possessed by the student, and do not necessitate daily, personal supervision. Students who, by virtue of their previous clinical experience, have progressed to an appropriate level of competence should be provided with opportunities to develop their administrative and decision-making skills during their clinical experience.
5. The number of work hours performed during clinical experiences and graduate assistantship experiences must be in compliance with institution, state, or federal laws and regulations.
6. The number of hours spent in clinical education experiences should not be so time intensive that they interfere with classroom and research experiences.
7. Clinical experiences should be enhanced through regularly scheduled in-service training sessions, staff meetings, injury evaluation clinics, and individual consultations.

I. Affiliated Settings

In certain instances, the college or university sponsoring the program may establish affiliation with other units within the institution or at other institutions, to provide instruction, research, clinical, or administrative experiences. If such affiliations are made:
1. There must be formal administrative arrangements for use of all affiliated settings. Written documentation of official approval by appropriate administrators in all cooperating institutions must be forwarded with other specified materials at the time the program proposal is submitted for NATA accreditation consideration.
2. Regular communication between the program director and all affiliated setting supervisors must be maintained with respect to scheduling of affiliated experiences, evaluation of student progress, and other matters affecting the student's learning experiences.

J. Student Recruitment and Selection
1. College or university materials disseminated for the purposes of program publication and/or student recruitment must accurately describe the post-certification athletic training education program.
2. Recruitment materials must not intentionally misrepresent the field of athletic training with respect to career opportunities, financial rewards or other benefits.
3. Full financial responsibilities and benefits (e.g., tuition and fees, tuition wavers, financial aid, graduate assistantships) must be provided to the student, in writing, prior to the student committing to attend the institution.
4. Criteria for acceptance of students into a program:
   a. must have received appropriate institution administrative approval.
   b. must be in written form.
   c. should include specific prerequisites regarding academic background, previous experience, recommendations, or other appropriate factors.
   d. must include NATABOC certification, eligibility for NATABOC certification or an equivalent athletic training credential (e.g., Canadian Certified Athletic Therapist).
   e. must include at least a baccalaureate degree from an accredited college or university.

5. The total number of students accepted into the program, as well as the number enrolled in each class or laboratory, must be consistent with learning experiences at the sponsoring or peer institutions.

K. Facilities and Resources
1. Adequate resources must be provided so the program can meet its goals and objectives. These include:
   a. faculty and staff
   b. administrative support
   c. classroom and laboratory space
   d. research facilities and equipment
   e. finances
   f. clinical opportunities, facilities, and equipment
   g. medical and allied health personnel, where appropriate
   h. library materials, education materials and learning aids (computers, multimedia, etc.).
2. Appropriate line items for the development and ongoing operation of the program should be identified and discussed in the proposal stage. Provisions should be made for funding of any additional resources for program improvements necessary to meet current NATA accreditation requirements.

L. Equal Opportunity (Diversity)
1. Student, faculty recruitment, student admission, and faculty employment practices must be non-discriminatory with respect to race, color, creed, sex, age, disability, and national origin.
2. Post-certification graduate athletic training education programs must assure equal opportunity for classroom instruction, clinical experience, and other educational activities for all students in the program.

M. Program Evaluation
1. The cornerstone of success for any education program is ongoing program evaluation. The educational unit in which the program is housed must have a formal plan for ongoing evaluation of all aspects of the program including:
   a. attainment of program goals
   b. Instructional curricular effectiveness
   c. student achievement, and
   d. all information required for the Annual Report to the Post-Professional Graduate Review Committee.
2. Instructional curricular effectiveness
3. Examples of program and student effectiveness records include:
   a. student learning
   b. student performance in classes
   c. student outcomes
   d. graduation rates
   e. publication of student works (e.g. abstracts, manuscripts)
   f. presentations by students student, alumni, and employer surveys
   g. accomplishments of program alumni
   h. job placement report
4. Results of these evaluations must be analyzed and used to revise and strengthen the program. A satisfactory system of evaluating student performance in both the classroom and other components, (e.g., teaching, administrative, clinical, and/or research), of the program must be established.
5. Program evaluation must be completed on a regular, ongoing basis and results should be shared with students.

V. Accreditation

A. The accreditation process is established by the Post-Professional Graduate Review Committee, based on the principles, philosophy, policies, standards, and guidelines outlined in this document.

B. Accreditation is voluntary and is granted:

1. to programs that are in compliance with the Standards and Guidelines outlined in Section IV of this document.
2. following an extensive review of the program by the institution seeking accreditation (self study) and by peer representatives of the Post-Professional Graduate Review Committee (including an on site visit).
3. by the NATA Board of Directors upon the recommendation of the Post-Professional Graduate Review Committee

C. The maximum duration of accreditation will be 5 years.

D. Decisions of the Post-Professional Graduate Review Committee may be appealed if an institution feels due process was violated or if there is a question concerning the interpretation of the Standards and Guidelines contained in this document. Appeals will be heard by the Graduate Education Committee.

E. The Graduate Education Committee will be the arbitrator of all Standards and Guidelines interpretations.

VI. Glossary

- Accrediting Body: The NATA for post-certification graduate athletic training educational programs and CAAHEA for entry level athletic training educational programs.
- Adjunct Personnel: This term refers to persons who teach in the program but who are not university faculty (e.g. physicians, allied health personnel, and certified athletic trainers from clinics and hospitals.
- Desirable: A term used to designate aspects of a post-certification graduate athletic training program that are not absolutely essential but are considered to be very significant.
- Entry Level Athletic Training Graduate Education Program : a program whose goal is to prepare students for taking the NATA-BOC Certification examination. These programs are accredited by the Commission on the Accreditation of Allied Health Education Programs (CAAHEA).
- Essential: A term that equates with indispensable. It identifies an absolute requirement.
- Guidelines: recommended components of the program and are denoted by the verb "should." Should is used to express obligation, allowing freedom to suggest an alternative for meeting the intent of the guideline. Written explanations are required if an alternative to a guideline is used, or if the program is unable to adhere to a guideline. Strategies used in attempting to meet the guideline must be part of the written explanation.
- Knowledge, Applied : Application of existing knowledge gleaned from the literature or other sources.
- Knowledge, Experiential: Knowledge gained from doing.
- Knowledge, Propositional: New knowledge gained from research and expanding scholarship in the discipline.
- Must: Term used to indicate that something is required, compelled, mandatory or should be done without fail. It connotes an absolute requirement. A Standard.
- NATA: The National Athletic Trainers Association (see www.nata.org)

- NATA Board of Certification (NATA-BOC): The body that certifies athletic trainers and identifies for the public, quality healthcare professionals through a system of certification, adjudication, standards of practice and continuing competency programs. The NATA-BOC is Accredited by the National Commission for Certifying Agencies.(See http://www.nataboc.org)
- Post-certification Graduate Athletic Training Education Program: a program whose goal is to expand the depth and breath of knowledge and skills beyond those required of entry level athletic trainers. Students admitted to these programs must have passed, or be eligible to take, the NATA-BOC examination or hold an equivalent certification. These programs are accreditation by the NATA.
- Post-Professional Graduate Review Committee: A standing committee of the NATA Education Council, charged with reviewing post-certification graduate athletic training education programs and making accreditation recommendations to the NATA Board of Directors.
- The Program: This term refers to post-certification graduate athletic training education program.
- Should: A term used to designate requirements that are so important that their absence must be justified. A program or institution is at risk if it is not in compliance with a "should". A guideline
- Standard: Mandatory components of the program. Denoted by the verb “must.”

Appendix G

Entrance and Credit Requirements of Various Types of Doctoral Programs

In this appendix are tables that identify entrance and credit requirements of various types of doctoral programs. There are institutions that offer each degree type than shown. For comparison purposes, programs were selected to represent peer institutions.

Table 2. Entrance and credit requirements of selected Transitional Doctor of Physical Therapy (TDPT) programs.

University	Degree required for admission	GPA	Licensure	Letters of rec	GRE	Other requirements	Total credits required (with bachelors only)	Total credits required (with masters)
University of Idaho	Entry level	3.0	Y	3	N	- professionalism and one or more of: +a master's degree +1 yr exp +research experience +prof cert or cont ed +in-depth science crse	63	63
Boston University	Entry level	3.0	Y	2	*	6 months exp	22	22
New York University	Entry level	3.0	Y	2	Y		36	36
Northeastern University	Entry level	*	Y	2	*		34	17
University of Kentucky	Entry level	*	Y	*	N		17	17
University of Mississippi	Entry level	*	Y	*	Y		50	35
University of Montana	Entry level	*	Y	*	*		31	21
University of South Dakota	Entry level	2.7	Y	*	*	B + 10 yrs exp M + 2 yrs exp	25	25
University of Tennessee	Entry level	*	Y	2	N	3 months exp	38	25
Idaho State University	Entry level + M	*	*	*	*		Not applicable	18
Temple University	Entry level + M	*	*	*	*		Not applicable	24
Texas Tech University	Entry level + M	3.0	Y	1	N		Not applicable	27
Univ of Cal - San Fran	Entry level + M	*	Y		Y		Not applicable	34

Note: The University of Idaho is listed in the shaded row to provide a comparison between the proposed DAT and the TDPT. The information provided in that row is for the proposed DAT. ***** indicates that there was no information found on the program web page regarding this as a requirement for admission.

Table 3. Entrance and credit requirements of selected Doctor of Science in Physical Therapy (DScPT) programs.

University	Degree required for admission	GPA	Licensure	Letters of rec	GRE	Other requirements	Total credits required (with bachelors only)	Total credits required (with masters)
University of Idaho	Entry level	3.0	Y	3	N	- professionalism and one or more of: +a master's degree +1 yr exp +research experience +prof cert or cont ed +in-depth science crse	63	63
Texas Tech University	Entry level	3.0	Y	2	N	1 year exp	70	47
Univ of Cal - San Franc	Entry level	3.0	Y	3	Y	Leadership & research experience	73-81	54-62
University of Tennessee	Entry level	3.0	Y	3	Y	2 years exp	92	58

Note: The University of Idaho is listed in the shaded row to provide a comparison between the proposed DAT and the DScPT. The information provided in that row is for the proposed DAT.

Table 4. Entrance and credit requirements of selected Doctor of Philosophy (PhD) programs.

University	Degree required for admission	GPA	Letters of rec	GRE	Total credits required (with bachelors only)	Total credits required (with masters)
University of Idaho	Bachelor's	3.0	3	N	78	39
Idaho State University	Bachelor's	*	*	Y	*	*
Temple University	Bachelor's	3.0	*	*	*	*
Texas Tech University	Bachelor's	None	*	Y	60 + dissertation	30 + dissertation
University of Mississippi	Bachelor's	3.0	*	Y	54	36
University of Montana	Bachelor's	None	N	N	60	30

Note: These data reflect the minimum requirements for the Doctor of Philosophy at the institution. Requirements beyond these minimums vary by discipline. ***** indicates that there was no information found on the Graduate School web page regarding this category.

Appendix H

Post-Professional Athletic Training Residency Accreditation Standards & Guidelines

Post-Professional Athletic Training Residency Accreditation Standards & Guidelines

Version 1.2
August, 2010

POST-PROFESSIONAL ATHLETIC TRAINING RESIDENCY STANDARDS & GUIDELINES

Post-Professional Athletic Training Residency Programs are formal educational programs that offer structured curricula, including didactic and clinical components, to educate Athletic Trainers. They are designed to build upon and expand the Athletic Trainer's knowledge and experience acquired during professional (entry-level) education.

Residency program accreditation is designed to evaluate the post-professional athletic training educational program being offered and is not meant to imply that an Athletic Trainer must participate in an accredited residency to obtain the requisite knowledge and skills necessary for practice in a focused area of clinical practice. The standards allow each post-professional athletic training residency program to be creative and innovative with its program design and the methodologies used to enable Athletic Training residents to achieve program goals and acquire defined competencies.

The accreditation process conducted by the Post-Professional Education Review Committee is voluntary and may be pursued by institutions and programs that sponsor a structured educational experience. The process gives applicant programs the opportunity to demonstrate compliance with the approved standards. While the process is voluntary, it provides programs an external validation of their educational offering. Additionally, the process offers prospective athletic training learners a mechanism by which they can judge the quality of the educational experience offered by the program or institution. Programs that successfully demonstrate compliance are accredited by the National Athletic Trainers' Association.

Post-Professional Athletic Training Residency Mission

The mission of a post-professional residency advances preparation of an athletic training practitioner through a planned program of clinical and didactic education in a specialized area utilizing an evidence-based approach to enhance patient care.

Post-Professional Athletic Training Residency Competencies

A Post-Professional Athletic Training Residency (PP-ATR) must prepare athletic trainers for advanced clinical practice that will enhance the quality of patient care, optimize patient outcomes, and improve patients' health-related quality of life through the utilization of evidence-based practice concepts. To realize these objectives, a PP-ATR must ensure that students attain specific "competencies" that relate to professional behaviors.

The Institute of Medicine (IOM) has identified five core competencies for all healthcare providers, regardless of discipline,[2] and similar concepts are represented in six competencies defined by the Accreditation Council for Graduate Medical Education (ACGME)[3] and the American Board of Medical Specialties (ABMS)[4] for all graduate medical education, regardless of specialty.

PP-ATR competencies are consistent with those specified by IOM and ACGME/ABMS, and they are consistent with seven foundational behaviors of professional practice identified by the NATA Education Council.[1] The six core competencies that a PP-ATR must be designed to address include: 1) patient-centered care, 2) interdisciplinary collaboration, 3) evidence-based practice, 4) quality improvement, 5) use of healthcare informatics, and 6) professionalism. Descriptions of the six core competencies are provided:

1) Patient-Centered Care
Patient-centered care is characterized by efforts to clearly inform, educate, and communicate with patients in a compassionate manner. Shared decision-making and management are emphasized, as well as continuous advocacy of injury and disease prevention measures and promotion of a healthy lifestyle.

Competency in patient-centered care relates to the athletic trainer's ability to serve as an advocate for a patient's best interests, to educate the patient about health-related concerns and intervention options, to recognize any conflict of interest that could adversely affect the patient's health, and to facilitate collaboration among the patient, physician, family, and other members of the patient's social network or healthcare system to develop an effective treatment plan that includes agreed-upon implementation steps, short-term goals and long-term goals.

2) Interdisciplinary Collaboration
Cooperation among clinicians who provide care for a patient is far more important than professional prerogatives and roles. Different health professions often perform a subset of overlapping functions, but separate scopes of practice, governance structures, and standards maintained by licensing agencies for the different health professions present obstacles to the delivery of optimum patient care by an interdisciplinary team.

Competency in interdisciplinary collaboration relates to the athletic trainer's ability to interact with other health professionals in a manner that optimizes the quality of care provided to individual patients.

3) Evidence-Based Practice
Evidence-based practice is the integration of best research evidence with clinical expertise and patient values and circumstances to make decisions about the care of individual patients.

Competency in evidence-based practice relates to the athletic trainer's ability to integrate the best available research evidence with clinical expertise and consideration of patient values and circumstances to optimize patient outcomes.

4) Quality Improvement
Healthcare organizations are increasingly adopting quality assessment methods that originated in the industrial manufacturing sector to minimize waste, decrease errors, increase efficiency, and improve quality of care.

Competency in quality improvement relates to the athletic trainer's recognition of the need for constant self-evaluation and life-long learning, and it includes the ability to identify a quality improvement objective, specify changes that are expected to produce an improvement, and quantitatively confirm that an improvement resulted from implementation of the change (e.g., improved patient outcomes from administration of a specific intervention or utilization of a specific protocol).

5) Use of Healthcare Informatics
Clinicians must increasingly use information technology to manage clinical data and access the most recent evidence pertaining to optimum patient care.

Competency in the use of healthcare informatics relates to the athletic trainer's ability to: 1) search, retrieve, and utilize information derived from online databases and/or internal databases for clinical decision support, 2) properly protect the security of personal health information in a manner that is consistent with legal and ethical considerations for use of such data, including control of data access, utilization of patient identity coding, de-identification of aggregated data, and encryption of electronically transmitted data, 3) guide patients to online sources of reliable health-related information, 4) utilize word processing, presentation, and data analysis software, and 5) communicate through email, text messaging, listservs, and emerging modes of interactive electronic information transfer.

6) Professionalism
Professionalism relates to personal qualities of honesty, reliability, accountability, patience, modesty, and self-control. It is exhibited through ethical behavior, a respectful demeanor toward all persons, compassion, a willingness to serve others, sensitivity to the concerns of diverse patient populations, a conscientious approach to performance of duties, a commitment to continuing education, contributions to the body of knowledge in the discipline, appropriate dress, and maintenance of a healthy lifestyle.

Competency in professionalism relates to the athletic trainer's adherence to the NATA *Code of Ethics* and the Board of Certification *Standards of Practice*, and includes intrinsic motivation to continuously exhibit the manifestations of professionalism in all aspects of clinical practice and personal conduct.

STANDARDS AND GUIDELINES FOR ACCREDITATION

Standard 1: Qualifications of the Resident (The resident will be an athletic trainer committed to attaining specialized clinical competence beyond entry-level practice.)

Requirements:

1.1 Residency applicant qualifications will be evaluated through an established, formal procedure that includes an assessment of the applicant's ability to achieve the educational goals and objectives established for the program.

1.2 The resident must be appropriately credentialed to practice athletic training in the state of the residency.

Standard 2: Obligations of the Program to the Resident (The athletic training residency program will provide an exemplary environment conducive to resident learning.)

Requirements:

2.1 Programs must be a minimum of twelve consecutive months with a continuous full-time practice commitment.

2.2 The residency program director (RPD) must ensure that neither the educational outcomes of the program nor the welfare of the resident or the welfare of patients are compromised by excessive reliance on residents to fulfill service obligations. Providing residents with a sound academic and clinical education must be planned and balanced with concerns for patient safety and resident well-being. Programs must comply with the current duty hour standards of the residency program, not to exceed the duty hour standards of the Accreditation Council for Graduate Medical Education (ACGME). www.acgme.org

2.3 The RPD must provide residents who are accepted into the program with a letter outlining their acceptance to the program. Information on the terms and conditions of the appointment must also be provided in a manner consistent with that provided to athletic trainers within the organization conducting the residency. Acceptance by residents of these terms and conditions must be documented prior to the beginning of the residency.

2.4 The residency program must provide a sufficient complement of associated clinical staff to ensure appropriate support and preceptor guidance to all residents.

2.5 The residency program must provide residents an area in which to work, access to appropriate technology, access to extramural educational opportunities related to the specialized residency experience, and sufficient financial support to fulfill the responsibilities of the program.

2.6 Policies concerning professional, family, and sick leave and the effect such leaves would have on the resident's ability to complete the residency program must be defined, published, and readily available.

2.7 Program admission and retention policies, and minimum completion requirements must be clearly defined, published and readily available to prospective and enrolled athletic training residents.

2.8 Upon completion of the program, each resident will receive a certificate of residency from the NATA. These certificates are requested by the RPD from the NATA. A certificate must not be issued to anyone who does not complete the program's requirements.

2.9 The RPD must ensure the program's compliance with the provisions of the current version of the NATA Post-Professional Athletic Training Residency Standards and Guidelines.

2.10 The RPD and preceptors must provide the resident with planned and documented feedback related to performance.

2.11 All health care professionals associated with the residency must be appropriately credentialed to practice in the state of the residency and practice within the code of conduct for their profession.

Standard 3: Obligations of the Resident to the Program (The resident will be committed to attaining the program's educational goals and objectives and will support the organization's mission and values.)

Requirements:

3.1 Residents' primary professional commitment must be a full-time obligation to the residency program.

3.2 Residents must be committed to the values and mission of the organization conducting the residency program.

3.3 Residents must be committed to completing the educational goals and objectives established for the program.

3.4 Residents must seek constructive verbal and documented feedback that directs their learning.

3.5 Residents must be committed to making active use of the constructive feedback provided by the RPD and residency program preceptors.

Standard 4: Requirements for the Design and Conduct of the Residency Program
(The resident's didactic and clinical experiences will be designed, conducted, and evaluated.)

Requirements:

4.1 Program Design. The RPD and, when applicable, program preceptors will collaborate to design the residency program. The program will document its mission, purpose (the type of practice for which the residents are to be prepared); its educational goals (broad, sweeping statements of abilities); educational objectives (observable, measurable statements of resident performance, the sum of which ensure achievement of the educational goal) for each educational goal; plan to meet the objectives; and related outcomes (evidence that the objectives are being met). The resulting design must include the following components:

A. Providing defined, planned and mentored education and training in a focused area of clinical practice within the scope of athletic training. The practice site offering the residency shall provide an exemplary clinical practice environment and mentored athletic training experience.
   - The residency program director must mentor the preceptors as they interact with the resident.
   - Document that the clinical practice environment involves a defined and planned experience within a focused area of athletic training practice.
   - Document that the preceptors provide clinical expertise within the focused area.
   - Document that the resident had consummate clinical experiences within the focused area.
   - The majority of the clinical experience must be completed within the focused area, and at least 20% of the time must occur with the preceptors in a one-on-one basis within that focused area.

B. Providing defined, and planned didactic education experiences in a focused area
   - Document the planned and ongoing educational opportunities (minimum requirement of five hours per week) that the resident must complete throughout the residency (These may include case reviews, didactic classroom instruction, journal club, problem solving sessions, clinical rounds, in-services, seminars, workshops, etc.).

C. Instilling principles of evidence-based practice to include reading and interpreting available patient oriented evidence and integrating into clinical practice.
   - Identify, assimilate and review research within the focused area and disseminate that demonstration of change has occurred within the scope of current practice or demonstration of validation of current clinical practice.

D. Instilling principles of evidence based practice to include the measurement of patient oriented evidence to determine the effectiveness of athletic training interventions
    - Actively engaged in patient oriented outcomes as part of systematic data collection and ongoing assessments within the focused area and disseminate the information that has been compiled.

4.1.1 Preceptors will create a description of their learning experience and a list of activities to be performed by residents in the learning experience that demonstrates adequate opportunity to learn the educational goals and objectives assigned to the learning experience.

4.1.2 The program will create an outcome-based approach to evaluation of resident attainment of the program's educational goals and objectives, resident self-assessment of their performance, and resident evaluation of preceptor performance and of the program. The strategy will be employed uniformly by all preceptors and include a preceptor evaluation of the resident, a resident self assessment, a preceptor self assessment, and a resident evaluation of the preceptor.

4.1.3 Each competency must be incorporated within both the didactic and clinical aspect of the residency program and assessment of each competency must be performed. The six core competencies that a PP-ATR must be designed to address include: 1) patient-centered care, 2) interdisciplinary collaboration, 3) evidence-based practice, 4) quality improvement, 5) use of healthcare informatics, and 6) professionalism.

4.2 Program Delivery. The program's design must be implemented fully, with ongoing attention to fulfillment of both preceptor and resident roles and responsibilities. In delivering the program the following must occur and be documented:

a. The RPD and, when applicable, preceptors will conduct essential orientation activities. Residents will be oriented to the program to include its purpose, the applicable accreditation regulations and standards, designated learning experiences, and the evaluation strategy. When necessary, the RPD will orient staff to the residency program. Preceptors will orient residents to their learning experiences, including reviewing and providing written copies of the learning experience educational goals and objectives, associated learning activities, and evaluation strategies.

b. The RPD and, when applicable, preceptors will customize the training program for the resident based upon an assessment of the resident's entering knowledge, skills, attitudes, and abilities and the resident's interests.

c. The RPD and preceptors will provide the resident with documented feedback on their program objective-based performance through completion of the program's plan for assessment. Overall progress toward achievement of the program's outcomes, through performance of the program's educational goals and objectives, will be assessed at least quarterly, and any necessary adjustments to residents' customized plans, including remedial action(s), will be documented and implemented.

4.3 Program Evaluation and Improvement. Program evaluation and improvement activities will be directed at enhancing achievement of the program's identified outcomes. The RPD will evaluate potential preceptors based on their desire to teach and their aptitude for teaching (as differentiated from formal didactic instruction) and provide preceptors with opportunities to enhance their teaching skills. Further, the RPD will devise and implement a plan for assessing and improving the quality of preceptor instruction including, but not limited to, consideration of the residents' documented evaluations of preceptor performance. At least annually, the RPD and, when applicable, preceptors will consider overall program changes based on evaluations, observations, and other information.

4.4 Tracking of Graduates: The RPD should evaluate whether the residency produces the type of practitioner described in the program's purpose statement. The RPD must document how the outcomes assessment information is utilized to develop the program. (Information tracked may include initial employment, changes in employment, employer evaluations, etc.)

Standard 5: Qualifications of the Residency Program Director (RPD) and Preceptors (The RPD and preceptors will be professionally and educationally qualified clinicians who are committed to providing effective training of residents.)

Requirements of the residency program director:

5.1 The RPD must be an athletic trainer and appropriately credentialed to practice athletic training in the state of the residency and should have a minimum of five years of athletic training practice experience with demonstrated mastery of the knowledge, skills, attitudes, and abilities expected of one who has completed a residency.

5.2 The RPD must have documented evidence of his/her own ability to teach effectively in the clinical practice environment (e.g., through student and/or resident evaluations). The RPD serves as leaders of programs, responsible not only for precepting residents, but also for the evaluation and development of all other preceptors in their programs.

5.3 Each residency program must have a single RPD who must be an athletic trainer from a practice site involved in the program or from a sponsoring organization.

5.4 A single RPD must be designated for multiple-site residencies or for a residency offered by a sponsoring organization in cooperation with one or more practice sites. The responsibilities of the RPD must be defined clearly, including lines of accountability for the residency and to the residency training site. Further, the designation of this individual to be RPD must be agreed to in writing by responsible representatives of each participating organization.

5.5 The RPD must have demonstrated their ability to direct and manage an athletic training residency such as previous involvement as a preceptor in an accredited athletic training residency program, management experience, or previous clinical instruction or supervision experience.

5.6 The RPD must have a sustained record of contribution and commitment to athletic training practice that may be characterized by the following:

a. Documented record of improvements in and contributions to athletic training practice.
b. Formal recognition by peers or supervisors as a model practitioner.
c. An ongoing record of continued contribution to the total body of knowledge in athletic training through publications in professional journals and/or presentations at professional meetings.
d. Serves as a reviewer of manuscripts submitted for publication.
e. Demonstrated leadership in advancing the profession of athletic training through active service in professional organizations and activities at the local, state, and national levels.
f. Demonstrated effectiveness in teaching (e.g., through student and/or resident evaluations, teaching awards).

Requirements of preceptors: (The RPD should document criteria for clinicians to be preceptors. The following requirements may be supplemented with other criteria.)

5.7 Preceptors must be an appropriately credentialed health care provider.

- Preceptors who are athletic trainers, physical therapists, physicians assistants and similarly qualified practitioners must have a minimum of five years of practical experience beyond the entry level certification, appropriately credentialed to practice in the state of residency, and must demonstrate expected mastery of the knowledge, skills, attitudes, and abilities.
- Preceptors who are physicians must have completed their residency programs.

5.8 Preceptors must have training and experience in their formal area of practice for which they serve as preceptors, must maintain continuity-of-practice in that area, and must be practicing in that area at the time residents are being trained.

5.9 Preceptors must have a record of contribution and commitment to their specified area of practice that may be characterized by the following:

a. Documented record of improvements in and contributions to their focused area of practice.
b. Formal recognition by peers or supervisors as a model practitioner.
c. An ongoing record of continued contribution to the total body of knowledge in their specified area of practice through publications in professional journals and/or presentations at professional meetings.
d. Serves as a reviewer of manuscripts submitted for publication.
e. Demonstrated leadership in advancing their profession through active service in professional organizations and activities at the local, state, and national levels.
f. Demonstrated effectiveness in teaching (e.g., through student and/or resident evaluations, teaching awards).

5.10 Preceptors must demonstrate the capability for effective teaching that includes mastery of teaching clinical problem solving. Further, preceptors must demonstrate abilities to provide program outcome-based feedback and evaluation of resident performance. Preceptors must continue to pursue refinement of their teaching skills.

Standard 6: Minimum Requirements of the Sponsoring Organization Conducting the Residency Program (The organization conducting the residency will meet accreditation standards, regulatory requirements, and other nationally applicable standards and will have sufficient resources to achieve the purposes of the program.)

Requirements:

6.1 As appropriate, residency programs must be conducted only in practice settings that have sought and accepted outside appraisal of facilities and patient care practices. The external appraisal must be conducted by a recognized organization appropriate to the practice setting.

6.2 Residency programs must be conducted only in those practice settings where management and professional staff have committed to seek excellence in patient care, demonstrated substantial compliance with professionally developed and nationally applied practice and operational standards, and have sufficient resources to achieve the educational goals and objectives selected for the residency program.

6.3 Two or more practice sites, or a sponsoring organization (e.g., colleges/universities, health system) working in cooperation with one or more practice sites, may provide an athletic training residency.
a. Athletic training residencies are dependent on the availability of a sufficient patient population base and professional practice experience to satisfy the requirements of the residency program.
b. Sponsoring organizations must maintain authority and responsibility for the quality of their residency programs.
c. A mechanism must be established that designates and empowers an

individual to be responsible for directing the residency program and for achieving consensus regarding the evaluation and ranking of applicants for the residency.

d. Sponsoring organizations and practice sites must have contractual arrangement(s) or signed agreement(s) that define clearly the responsibilities for all aspects of the residency program.
e. Each of the practice sites that provide residency training must meet the requirements set forth in Requirement 6.2.

GLOSSARY

Competency. Professional behavior that involves *the habitual and judicious use of communication, knowledge, technical skills, clinical reasoning, emotions, values, and reflection in daily practice*.[2]

Guideline: Requirements that are so important that their absence must be justified. Denoted by the verb "should."

Multiple-site residency. A residency site structure in which multiple organizations/practice sites are involved in the residency program. In a multiple-site residency, a sponsoring organization must be identified to assume ultimate responsibility for coordinating and administering the program.

Must: Verb used to indicate that something is required, compelled, mandatory or shall be done without fail. It connotes an absolute requirement. A Standard.

Preceptor. An expert clinician who provides practical experience and training to an athletic training resident. Preceptors responsibilities include development of a resident's practice competency, therefore it is critical that learning experiences be mentored by preceptors who model clinical practice skills and provide regular criteria-based feedback. It is permissible to use practitioners in addition to athletic trainers (e.g., physicians, physician assistants, and nurse practitioners) as preceptors.

Residency program director. The athletic trainer responsible for direction, conduct, and oversight of the residency program.

Single-site residency. A residency site structure in which the practice site assumes total responsibility for the residency program. In a single-site residency, the majority of the resident's training program occurs at the site; however, the resident may spend assigned time in short elective learning experiences off-site.

Should. A term used to designate requirements that are so important that their absence must be justified. A program is at risk if it is not in compliance with a "should". A guideline.

Sponsoring organization. The organization assuming ultimate responsibility for the coordination and administration of the residency program. The sponsoring organization is charged with ensuring that the resident experiences are educationally sound and are conducted in a quality practice environment. The sponsoring organization is also responsible for submitting the accreditation application and ensuring periodic evaluations are conducted. If several organizations share responsibility for the financial and management aspects of the residency the organizations must mutually designate one organization as the sponsoring organization.

Standard: Mandatory components of the program. Denoted by the verb "**must**" and **"shall."**

*modified from the ASHP Accreditation Materials (www.ashp.org), ARC-PA Accreditation Materials, and APTA Accreditation Materials.

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3. Accreditation Council for Graduate Medical Education: *Common Program Requirements: General Competencies*. Available at: http://www.acgme.org/outcome/comp/GeneralCompetenciesStandards21307.pdf.

4. American Board of Medical Specialties: Maintenance of Certification; Competencies and Criteria. Available at: http://www.abms.org/Maintenance_of_Certification/MOC_competencies.aspx.

5. American Society of Health-System Pharmacists Accreditation Materials (www.ashp.org)

6. Accreditation Review Commission on Education for the Physician Assistant, Inc. Accreditation Materials (http://www.arc-pa.org)

7. American Physical Therapy Association Accreditation Materials (www.apta.org)

Appendix I

The FACTS about Athletic Trainers

The FACTS about Athletic Trainers,

from the National Athletic Trainers' Association, www.NATA.org

This document corrects misinformation about Athletic Trainers (ATs). It is provided to those interested in the facts about the athletic training profession in the 21st century. Readers should note that athletic trainers work under the direction of physicians. ATs are clinically and academically qualified to medically treat patients and clients of all ages in any physical setting. Public safety, injury and illness prevention, and early intervention are keystones to the practice of athletic training.

1. FACT: Athletic trainers know and practice health care at the highest professional, ethical and quality standards in order to protect the public.

Athletic training is practiced by athletic trainers, health care professionals who collaborate with physicians to optimize activity and participation of patients and clients. Athletic training encompasses the prevention, diagnosis, and intervention of emergency, acute, and chronic medical conditions involving impairment, functional limitations, and disabilities. Members of the NATA must agree to abide by the Association's Code of Ethics. The Board of Certification Inc. requires that all credential holders abide by the Standards of Practice.

2. FACT: Athletic trainers are regulated and licensed health care workers.

While practice act oversight varies by state, athletic trainers practice under state statutes recognizing them as qualified health care professionals similar to physical therapists, occupational therapists and other health care professionals. Athletic training licensure/regulation exists in 46 states, with aggressive efforts underway to pursue licensure in the remaining states and to update outdated licensure. Athletic trainers practice under the direction of physicians.

3. FACT: More than 50 percent of athletic trainers work outside of school athletic settings; they provide services to people of all ages.

Athletic trainers work in physician offices as physician extenders. They also work in rural and urban hospitals, hospital emergency rooms, urgent and ambulatory care centers, military hospitals, physical therapy clinics, secondary schools, colleges/universities, youth leagues, commercial settings and professional sports teams. They are in great demand for their versatile health and wellness services and injury and illness prevention skills. The skills of ATs have been sought and valued by sports medicine specialists and other physicians for more than 60 years. As the U.S. continues its focus on reducing the effects of obesity and other chronic diseases, it is important that people have access to health care professionals who can support lifelong, safe physical activity. ATs are an important part of the health care workforce, especially as the demand for workers is projected to greatly increase over the next decade.

4. FACT: ATs improve patient functional and physical outcomes.

Results from a nationwide Medical Outcomes Survey demonstrate that care provided by ATs effects a significant change in all outcome variables measured, with the greatest change in functional outcomes and physical outcomes. The investigation indicates that care provided by ATs generates a positive change in health-related quality of life patient outcomes. (Ref: Albohm MJ, Wilkerson GB. An outcomes assessment of care provided by certified athletic trainers. *Journal of Rehabilitation Outcomes Measure* 1999; 3 (3):51-56.)

5. FACT: ATs specialize in patient education to prevent injury and re-injury and reduce rehabilitative and other health care costs.

Recent studies, reports, outcomes measurement surveys, total joint replacement studies and many other case studies demonstrate how the services of ATs save money for employers and improve quality of life for patients. For each $1 invested in preventive care, employers gained up to a $7 return on investment according to one NATA survey. The use of athletic trainers supports a quality-driven health care economy that increases competition in order to reduce patient and disease costs. With proper rehabilitation and evaluation, athletic trainers prevent re-injury. The patient's standard of care is enhanced, not sacrificed, with ATs.

6. FACT: ATs provide the same or better outcomes in clinical settings as other providers.

Results of a comparative analysis of care provided by athletic trainers and physical therapists in a clinical setting indicated ATs provide the same levels of outcomes, value and patient satisfaction as physical therapists in a clinical setting (Ref: Reimbursement of Athletic Training by Albohm, MJ; Campbell, Konin, pp. 25). Patient satisfaction ratings are more than 96 percent when treatment is provided by ATs. ATs are generally an alternative – not an additional – provider of physical medicine therapies. ATs are an "or" not an "and"; therefore, costs for providing therapy are *not* increased with the use of athletic training services.

7. FACT: ATs work in rural and medically underserved areas and with people of all ages.

ATs are accustomed to working in urgent care environments that have challenging – sometimes even adverse – work and environmental conditions. The athletic training tradition and hands-on clinical and academic education combine to create health care professionals who are flexible and inventive – ideal managers of patient care and health care delivery.

8. FACT: Athletic trainers are well-known, recognized, qualified health care professionals.

ATs are highly qualified, multi-skilled health care professionals and have been part of the American Medical Association's Health Professions Career and Education Directory for more than a decade. Athletic trainers are assigned National Provider Identifier (NPI) numbers like all other health care professionals. The taxonomy code for athletic trainers is 2255A2300X. Additionally, the American Academy of Family Physicians, American Academy of Pediatrics and American Orthopaedic Society for Sports Medicine – among others – are all strong clinical and academic supporters of athletic trainers.

9. FACT: Athletic trainers have designated CPT/UB Codes.

The American Medical Association (AMA) granted Current Procedural Terminology (CPT) codes for athletic training evaluation and re-evaluation (97005, 97006) in 2000. The codes became effective in 2002. These codes are part of the Physical Medicine and Rehabilitation CPT codes. In addition, the American Hospital Association established Uniform Billing (UB) codes – or revenue codes – for athletic training in 1999, effective in 2000.

10. FACT: CPT and UB codes are not provider specific.

The AMA states that the term "provider," as found in the Physical Medicine and Rehabilitation section of the CPT code, is a generic term used to define the individual performing the service described by the code. According to the AMA, the term "therapist" is not intended to denote any specific practice of specialty field. Physical therapists and/or any other type of therapists are not exclusive providers of general physical medicine examinations, evaluations and interventions. Similar to the athletic training evaluation and re-evaluation codes, other therapists have their own evaluation codes.

11. FACT: Athletic trainers have a bachelor's degree from an accredited college or university. Athletic trainers are health care professionals similar to physical, occupational, speech language and other therapists.

All certified and/or licensed athletic trainers **must have a bachelor's or master's degree** from an accredited college or university in order to practice athletic training. Baccalaureate and graduate degrees are in athletic training or are complementary degrees with an athletic training major. All programs include established academic curricula. Academic programs are accredited through an independent process by the Commission on Accreditation of Athletic Training

Education (CAATE). Graduation from a CAATE-accredited program is required for eligibility to take the Board of Certification examination.

12. FACT: The following educational content standards are required for athletic training degree programs. Students must receive formal instruction in the following subject matter:

Basic and Applied Sciences:

- Human anatomy
- Human physiology
- Biology
- Statistics and research design
- Exercise physiology
- Kinesiology/biomechanics
- Chemistry *
- Physics *

* *Recommended but not required by some ATEPs*

Professional Content:

- Risk management and injury prevention
- Pathology of injuries and illnesses
- Orthopedic clinical examination and diagnosis
- Medical conditions and disabilities
- Acute care of injuries and illnesses
- Therapeutic modalities
- Conditioning, rehabilitative exercise and referral
- Pharmacology
- Psychosocial intervention and referral
- Nutritional aspects of injuries and illnesses
- Health care administration

13. FACT: Nearly 70 percent of athletic trainers have a master's or doctoral degree.

Athletic trainers are highly educated. Nearly 70 percent of ATC credential holders have a master's degree or higher advanced degree. Reflective of the broad base of skills valued by the athletic training profession, these master's degrees may be in athletic training (clinical), wellness and health promotion, education, exercise physiology, counseling or health care administration. This great majority of practitioners who hold advance degrees are comparable to other health care professionals.

14. FACT: An independent national board certifies athletic trainers.

The independent Board of Certification Inc. (BOC) nationally certifies athletic trainers. Athletic trainers must pass an examination and hold an entry-level bachelor's or master's degree to become an athletic trainer. To retain certification, credential holders must obtain 75 hours of medically related continuing education credits every three years and adhere to Standards of Professional Practice. The BOC is accredited by the National Commission for Certifying Agencies.

15. FACT: The National Athletic Trainers' Association represents more than 30,000 members.

The National Athletic Trainers' Association (NATA), founded in 1950, represents more than 30,000 members of the international profession. Of the total membership, 26,000 are ATs and the remainder are athletic training students. This represents about 85 percent of all athletic trainers practicing in the United States. NATA accurately claims the distinction of representing the great majority of athletic training professionals.

Testimonials from Employers and Friends of Athletic Trainers

Physicians, Hospitals and Clinics

"Athletic trainers are a committed, essential component to physicians delivering the highest standard of team medical care to the patients of the Andrews Institute. They know how to relate to the patient so his or her recovery is as quick as safely allowable, whether that person is a professional or youth athlete or just an average mom or dad."

-- James Andrews, MD, Andrews Sports Medicine and Orthopaedic Center, Birmingham, Ala.

"Athletic trainers help enhance a physician's communication with patients by serving as another source of expert information that patients can absorb. Athletic trainers are a key part of our sports medicine service delivery model."

-- John Xerogeanes, MD, Chief of Sports Medicine, Emory Orthopedics and Spine Center, Atlanta, Ga.

"I realized early on in my career that ATs are the only health care professionals who devote their entire education and professional lives to taking care of active people. My patients experience excellent outcomes as a result of therapy provided by ATs. My patients love working with them. ATs are a value added service to my practice. I could not do without them."

-- Thomas D. Kohl,MD, medical director, family practice physician; Director, Sports Medicine, Comprehensive Athletic Treatment Center, Wyomissing, Pa.

Legislators and Regulators

"As a state legislator concerned with health policy, affordable and accessible health care for all people is my primary concern. We must look for innovative solutions to providing health care because of the increasing shortages of nurses and other health care workers. One of the best ways to deliver health care services in the community is to better utilize certified athletic trainers. Athletic trainers are multi-skilled health care professionals who provide a unique combination of injury and illness treatment and rehabilitation with a substantial dose of injury prevention and general wellness."

-- Former Representative Jerry Krummel, Oregon House of Representatives, District 26

Occupational and Industrial Setting

"Our company has had a certified athletic trainer on site since 2000 and since that time we have recognized the tremendous upside in the tangible and intangible benefits of this addition, including a savings of more than $245,000 in just 2002 alone in health care-related expenditures. We have also experienced a decrease of 67 percent for health care costs related to the low back. Additionally, our days away from work have decreased by 60 percent in the last three years. In the industrial setting, these results can be best accomplished by an individual with the medical knowledge and training of an athletic trainer. We wouldn't have it any other way and will continue this program for the long term."

-- James E. Marotz, DO, corporate medical director at Appleton Papers, Appleton, Wis.

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