

# The evolution of athletic training education



## **Introduction**

Early civilizations shows little evidence of highly organized sports. It was not until the rise of Greek civilization that strongly organized sports began to evolve. Establishment of the Panhellenic Games, which were originally religious festivals the most famous of which were the Olympic Games in time produced medical personnel to assist the athlete in reaching optimum performance. Many of the roles that emerged during this early period are the same in modern societies (Arnheim, 1993).

With the appearance of the professional athlete in Athenian society, the gymnastes came into existence. These men trained their pupils in the skills and techniques of the sports of their day and a rudimentary knowledge of anatomy, physiology, and dietetics to keep the athletes in good condition. Later the medical gymnastai appeared on the scene. Their concern was conditioning the athlete and maintaining them at a high peak of physical efficiency. Possessing some knowledge of diet, rest and exercise and the effect that each has on physical development and performance they used common modalities of their time (baths, exercise, powders).

Perhaps the greatest of all Greek medical professionals was Herodicus of Megara who was considered a physician as well as what modern society would call an athletic trainer. He performed his duties almost 300 years before Galen, and his chief claim to fame is that was the teacher of Hippocrates who was to become the “ father of modern medicine”. As far as can be determined Herodicus of Megara was the first physician to recommend exercise as a method of treatment (Arnheim, 1993).

Today, Certified athletic trainers (AT's) are healthcare 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. Athletic training is recognized by the American Medical Association (AMA) as a healthcare profession. There are 6 practice domains in athletic training. They include, prevention; clinical evaluation and diagnosis; immediate care; treatment, rehabilitation and reconditioning; organization and administration; and professional responsibility (Board of Certification for the Athletic Trainer, 2007-2010).

The three governing bodies of athletic training include The National Athletic Trainers' Association (NATA), the Commission on Accreditation of Athletic Training Education (CAATE) and the Board of Certification (BOC). The NATA is the national membership organization for the profession of athletic training. The Board of Certification, Inc. (BOC) was incorporated in 1989 to provide a certification program for entry-level Athletic Trainers (ATs). The BOC establishes and regularly reviews both the standards for the practice of athletic training and the continuing education requirements for BOC Certified ATs. The BOC has the only accredited certification program for ATs in the US. The BOC began as a committee of the NATA until it was separately incorporated in 1989. Finally the Commission on Accreditation of Athletic Training Education (CAATE) is the agency responsible for the accreditation of 350+ professional (entry-level) athletic training educational programs. The American Academy of Family Physicians (AAFP), the American Academy of

Pediatrics (AAP), the American Orthopedic Society for Sports Medicine (AOSSM) and the National Athletic Trainers' Association (NATA) cooperate to sponsor the CAATE and collaborate to develop the Standards for Entry-Level Athletic Training Educational Programs.

## **Chronological History of Athletic Training:**

1950: First Meeting of the National Athletic Trainers' Association

1955: NATA Committee on Gaining Recognition appointed

1959: First athletic training curriculum model approved by the NATA

1969: NATA Professional Education Committee (PEC) and NATA Certification Committee developed (former subcommittees of Committee on Gaining Recognition). First undergraduate athletic training curriculums approved by NATA

1970: First national certification examination administered by NATA Certification Committee

1972: First graduate athletic training curriculum approved by NATA

1980: NATA resolution requiring athletic training major, or equivalent, approved by the NATA Board of Directors

1990: Athletic training recognized by as an allied health care profession by the American Medical Association (AMA).

1991: Essential and Guidelines for an Accredited Education Program for the Athletic Trainer approved by the AMA Council on Medical Education

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The Joint Review Committee on Education Programs in Athletic Training (JRC-AT) formed

1994: First entry-level athletic training education programs accredited by the AMA Committee on Allied Health Education and Accreditation (CAHEA). Commission on Accreditation of Allied Health Education Programs (CAAHEP) formed and replaced CAHEA as entry level athletic training education program accreditation agency.

NATA Education Task Force appointed

1996: NATA Education Task Force recommendations approved by NATA Board of Directors

NATA Education Council formed

2006: JRC-AT becomes independent from CAAHEP and changes its name to the Commission on Accreditation of Athletic Training Education (CAATE).

CAATE becomes agency responsible for the accreditation of 368 undergraduate and graduate athletic training education programs

## **Background**

The evolution of athletic training education in the United States is closely intertwined with the history and development of the National Athletic Trainers' Association (NATA). The NATA was founded with a stated purpose to " build and strengthen the profession of athletic training through an exchange of ideas, knowledge, and methods of athletic training." Beginning with this mission statement, athletic training education has continually

benefited from the vision, wisdom, and nurturing of numerous NATA members. Shortly after the NATA was founded in 1950, several events that led to the development of athletic training education programs began to unfold. In 1955, William E. Newell at Purdue University became the first athletic trainer to be appointed to the position of National Secretary of the NATA, a position that subsequently became known as the Executive Director. One of Newell's first significant acts was to appoint a committee on Gaining Recognition, which established a forum through which the seeds of athletic training education were planted. As subsequent events revealed, this committee was the forerunner of the NATA Professional Education Committee, the committee that was to oversee athletic training education program development and approval for nearly 3 decades. From this modest beginning athletic training education can be traced through 60 years of change, maturity and emergence as a highly regarded avenue for the preparation of allied health care professionals.

### **Development of a curriculum model:**

Under Newell's leadership as chair, the Committee on Gaining Recognition focused its attention on professional advancement. In 1956, the NATA Board of Directors authorized the committee to study avenues through which the professionalization of athletic training could be enhanced. Athletic training education along with the national certification of athletic trainers, was chosen as the major vehicle. One of the committee's initial endeavors was the development of a model curriculum for the professional preparation of athletic trainers. In 1959, after 3 years of work, the committee's recommendations for an educational program were approved by the NATA

Board of Directors. Course requirements included in the 1959 athletic training curriculum model included the following:

### **Prerequisite Courses:**

Biology/ Zoology (8 semester hours)

Physics and/or Chemistry (6 semester hours)

Social Sciences (10 semester hours)

Electives

There were also specific and recommended course requirements, if they have not already been met in the above categories. These specific course requirements included the following:

### **Specific Courses:**

Anatomy

Physiology

Physiology of Exercise

Applied Anatomy and Kinesiology

Laboratory Physical Science (6 hours of Physics and/or Chemistry)

Psychology (6 semester hours)

Coaching Techniques

First Aid and Safety

Nutrition of Foods

Remedial Exercise

Organization and Administration of Health and Physical Education

Personal and Community Hygiene

Techniques of Athletic Training

Advanced Techniques of Athletic Training

Laboratory Practices (6 hours of equivalent)

## **Recommended Courses:**

General Physics

Pharmacology

Histology

Pathology

A review of the first athletic training curriculum model adopted in 1959 revealed 2 important features that were directly related to the employability of athletic trainers in the late 1950's and the 1960's. The major feature was an emphasis on the attainment of a secondary-level teaching credential. Largely because of a recognized need for employment of athletic trainers at the secondary school level, the curriculum was designed to prepare the student not only as an athletic trainer but also as a high school teacher, primarily in the areas of health and/ or physical education. Aside from the

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specified courses listed above, athletic training students were required to complete prerequisites for a teaching credential as defined by their respective colleges and universities. A second major feature of the curriculum was the inclusion of courses that represented prerequisites for acceptance to schools of physical therapy suggested by the American Physical Therapy Association. Perhaps because Newell was both a physical therapist and an athletic trainer, Newell recommended that students pursue a physical therapy degree as a method of further study and as a means of professional growth and employability.

Based on the premise that development of a specialized common body of knowledge is a prime characteristic of a profession, some observations can be made regarding the contributions of the athletic training curriculum model proposed by the NATA in 1959. Although the development of the curriculum represented an important initial attempt to identify a specific body of knowledge for athletic trainers, a review of the curriculum reveals that it comprised primarily of course work that already existed in 4-year colleges and universities, particularly in departments of physical education or health. With the exception of an advanced athletic training course and laboratory practice in athletic training, the proposed curriculum contained few courses that distinguished it from a typical major in physical education. Essentially the curriculum represented a packaging of the most relevant courses available in related academic areas, rather than an attempt to add new educational experiences based on the identification of learning outcomes specific to athletic training. This early approach to education of athletic trainers is understandable, however, considering that the athletic

training educator had not yet emerged on the academic scene. Because of the paucity of qualified instructors and specific athletic training course work, it is also understandable that continuation of the athletic training student's academic preparation through schools of physical therapy was encouraged.

### **Emergence of Athletic Training Education Programs:**

The 10 year period after development of the original curriculum model in 1959 represented a significant void in the implementation of athletic training education programs. During the 1960's, only a few colleges and universities responded to the call for curriculum development. Nevertheless, the seeds of athletic training education began to sprout during the late 1960's. It was not until 1969, however that the first undergraduate athletic training education programs were officially recognized by the NATA. In 1968, a survey of physical education department administrators in colleges and universities throughout the United States revealed that less than one half were aware of the proposed curriculum. It became clear that implementation of athletic training education programs needed a renewed emphasis. In 1969, the Committee on Gaining Recognition, which by now had become known as the Professional Advancement Committee, was divided into 2 subcommittees, the Subcommittee on Professional Education and the Subcommittee on Certification. Sayers " Bud" Miller from the University of Washington was appointed Chair of the Subcommittee on Professional Education, which subsequently evolved into the NATA Professional Education Committee. Despite the slow progress, the Professional Education Committee evaluated and recommended NATA recognition of the first undergraduate athletic training education programs in 1969 at Mankato State University, Indiana

State University, Lamar University and University of New Mexico. Thus the NATA curriculum evaluation and approval process was born. During the late 1960's, graduate athletic training curriculums also began to emerge, although the NATA approval of the first graduate athletic training education programs at Indiana State University and the University of Arizona did not occur until 1972.

Paralleling emergence of the first undergraduate athletic training education programs in the late 1960's, a national certification examination was in the process of development by the NATA Certification Committee, formerly the Subcommittee on Certification. Under the chairmanship of J. Lindsay McLean, Jr from the University of Michigan, the NATA Certification Committee administered the first certification examination in 1970. Subsequently, graduation from an NATA approved athletic training education program (undergraduate or graduate) became one of 4 avenues through which eligibility for certification could be attained. During the ensuing years, completion of an apprenticeship program, graduation from a school of physical therapy, and a special consideration route such as a minimum of 5 years as an "actively engaged" athletic trainer were also established as avenues for certification. With the development of the first certification examination in 1970, athletic training education and national certification began to form parallel, complementary paths to future growth and development. In retrospect, the development of the first NATA approved athletic training education programs and implementation of a certification examination were 2 historically significant events in the professionalization of athletic training, especially as related to community recognition and

sanction. As a prime example, the American Medical Association in a 1967 resolution, publicly recognized the importance of the professionally prepared athletic trainer and commended the NATA for its efforts to upgrade professional standards. Similarly, during the next several years, public recognition of the NATA certification process came from various state medical associations, the Joint Commission on Competitive Safeguards and Medical Aspects of Sports and the American Association for Health, Physical Education and Recreation.

### **Proliferation of NATA Approved Curriculums:**

From a historical perspective, the 1970's represented the period of the greatest proliferation of athletic training education programs. In the 12 year period after the NATA recognized the first undergraduate athletic training education programs, the number of curriculums in colleges and universities throughout the country grew steadily, from 4 in 1969 to 62 by 1982. As of June 1982, NATA approved undergraduate programs existed in 33 states. Meanwhile, 9 NATA approved graduate athletic training education programs had been developed. Although the original 1959 curriculum model continued as the basis for undergraduate curriculum approval during the early 1970's the NATA Professional Education Committee continually reviewed and revised course work and clinical experience requirements. As relevant learning experiences evolved and the number of NATA approved undergraduate athletic training education programs increased, expanded opportunities for study specific to athletic training became available to an increasing number of students. Thus, there appeared to be less of a need for athletic training curriculums to include prerequisites for admission to

physical therapy schools. Although attendance at physical therapy schools was still encouraged as a means of enhancing professional growth, the subject matter of athletic training began to assume a separate identity. By the mid 1970's a revised athletic training curriculum had evolved which included the following:

### **Revised Athletic Training Courses:**

Anatomy (1 course)

Physiology (1 course)

Physiology of Exercise (1 course)

Applied Anatomy and Kinesiology (1 course)

Psychology (2 courses)

First aid and safety (1 course)

Nutrition (1 course)

Remedial Exercise (1 course)

Personal, community and school health (1 course)

Basic athletic training (1 course)

Advanced athletic training (1 course)

Laboratory or practical experience in athletic training to include a minimum of 600 total clock hours under the direct supervision of a certified athletic trainer.

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A comparison of this curriculum with the initial 1959 curriculum model indicates a transition from reliance on schools of physical therapy to a focus on courses considered, at the time to be the most specific to athletic training. Although still recommended as a basis for professional preparation in athletic training, extensive course work in subjects such as chemistry and physics typically required by physical therapy programs was no longer required as a condition of curriculum approval by the NATA. These fundamental curriculum revisions were incorporated into the Guidelines for Development and Implementation of NATA Approved Undergraduate Athletic Training Education Programs, one of the first comprehensive documents governing NATA approval of athletic training education programs. In a related endeavor during the 1970's standards and guidelines governing NATA approval of graduate athletic training education programs were formalized and included in an analogous document also referred to as the Guidelines.

The original 1959 athletic training curriculum model required a course of study leading to a secondary-level teaching credential in physical education or health. Consequently, course work in pedagogy and coaching methods was specified. During the 1970's however it became increasingly clear that high school teaching opportunities in physical education and health were limited. In reality, a teaching certificate in one of these 2 disciplines perhaps served to limit rather than enhance employment of certified athletic trainers at the high school level. The response to this realization was elimination of the requirement that athletic training students pursue a teaching credential in physical education or health. Nevertheless, the emphasis on obtaining a

secondary teaching credential was retained throughout the 1970's. Although students in NATA approved undergraduate programs were permitted to pursue the academic major of their choice, completion of requirements for a high school teaching certificate remained as a condition of program approval. This requirement was retained until 1980 after which completion of requirements for a secondary teaching credential was left to the discretion of the student. As a condition of NATA approval, however, colleges and universities sponsoring undergraduate athletic training education programs were still required to offer all courses leading to a secondary- level teaching credential.

A critique of the curriculum model that evolved in the 1970's indicates limited but discernible progress toward identification of specialized common body of knowledge for certified athletic trainers. The elimination of course requirements that were considered to more relevant to physical therapy or physical education than to athletic training serves as an example. Specifying a minimum number of clinical experience hours under the direct supervision of a certified athletic trainer further illustrates a move toward specialized learning experiences. Aside from the establishment of minimum clinical experience requirements, however, no subject matter areas were added to the original 1959 curriculum. Thus, revisions of the 1959 curriculum model that emerged during the 1970's represented an effort to eliminate irrelevant or minimally relevant content rather than an attempt to add new innovative learning experiences. Despite the limited addition of curriculum offerings the effect of these changes was to narrow the focus of athletic training education

to a core of courses that could at least, theoretically contribute the most to attainment of athletic training competencies.

In a related project during the 1970's, the NATA Professional Education Committee formalized a list of behavioral objectives that identified desired learning outcomes for the athletic training student. This endeavor represented a significant early step toward the identification of a specialized body of knowledge. Using the 11 required courses that were revised in the 1970's model as a framework, the NATA Professional Education Committee developed a list of behavioral objectives for each course. In addition, a skill competency checklist was developed to guide and monitor development of the student's clinical skills. Because the scope of the behavioral objectives was dictated and restricted by the existing content of required courses, the behavior objectives did not represent a true competency based approach to education of athletic training students. Nevertheless, with identification of relevant courses and development of corresponding learning objectives, the NATA Professional Education Committee began to identify a unique body of knowledge for the certified athletic trainer. In retrospect, the behavioral objectives developed during the 1970's provided a conceptual stimulus to the formulation of the Competencies in Athletic Training subsequently developed by the Professional Education Committee in 1983.

### **Development of the Athletic Training Major:**

During the late 1970's it became apparent to the NATA Professional Education Committee that the increasing level of expertise expected of certified athletic trainers as health care professionals brought with it an obligation to provide educational programs with a broader and more relevant



base. The impracticality of providing the desired scope of educational experiences within the confines of academic specializations and concentrations was also recognized. Before his untimely death in 1981, Sayers “ Bud” Miller, chair of the Professional Education Committee, proposed the concept of an academic major in athletic training. His creative thinking and vision provided a powerful stimulus for major changes in athletic training education in the 1980’s. As the number of NATA approved undergraduate programs proliferated during the 1970’s and these programs expanded their course offerings the concept of an athletic training major became increasingly viewed as a reasonable and realistic educational goal. In June 1980, the NATA Board of Directors approved a resolution calling for all NATA approved undergraduate athletic training education programs to offer a major field of study in athletic training by July 1, 1986. As subsequent events demonstrated this resolution provided a major catalyst for the most significant changes in athletic training education to date.

Following Sayers Miller death, the concept of an athletic training major was kept alive under the leadership of John Schrader from Indiana State. Soon after that, Gary Delforge from the University of Arizona was appointed as chair. At least 10 colleges and universities had either received institutional approval for program development or had implemented an athletic training major by 1982. Several other schools were in the planning and developmental stages. Receptivity to the concept of an athletic training major among deans and department heads in colleges and universities with NATA approved undergraduate programs was further substantiated by the results of a Professional Education Committee survey conducted during the

1981-1982 academic year. Support from 62 administrators from colleges and universities was nearly unanimous.

With substantial support from college and university administrators as an incentive, the NATA Professional Education Committee began to develop strategic plans for approval of undergraduate education programs as academic majors. In 1982 the NATA Board of Directors approved a revised timetable for development and implementation of an athletic training major. The original 1980 resolution requiring that an athletic training major be fully implemented in all NATA approved undergraduate programs by July 1986 was revised to require that college and university officials be “in the process” of program development by this date. Subsequently, in June 1982 the Board of Directors approved a policy requiring withdrawal of NATA approval if college or university personnel failed to meet the July 1986 deadline. Correspondingly, procedures to demonstrate compliance were approved. To be considered in the process of developing an athletic training major, an institution sponsoring an NATA approved undergraduate program was required to submit a letter from the administrator of the sponsoring department attesting to initiation of program planning and the intent to meet the implementation deadline. Additional required documents included a list of program goals and objectives, strategies for meeting the stated goals and objectives and implementation progress reports. As part of the revised timetable for implementation of an athletic training major, the NATA Board of Directors extended the original deadline to July 1990. This policy applied to all colleges and universities with undergraduate athletic training education programs initially approved by the NATA before July 1986. In addition the

Board of Directors adopted a policy that after July 1986, initial NATA approval would be given only to programs that met the standards for an academic major.

Following the establishment of a realistic timetable for implementation, the Professional Education Committee turned its attention to development of the components of an athletic training major. The Committee's efforts culminated in publication of the 1983 edition of the Guidelines for Development and Implementation of NATA Approved Undergraduate Athletic Training Education Programs. This document contained the standards for development of undergraduate programs as academic majors. Publication of the Guidelines initiated the transformation of NATA approved undergraduate athletic training education programs specializations or concentrations to more comprehensive academic majors. A primary consideration that guided the development of the 1983 Guidelines was the concept of an equivalent academic major. Realizing the difficulty in obtaining administrative approval of new academic programs in some colleges and universities, the Professional Education Committee developed the following definition of an equivalent athletic training major, which was approved by the NATA Board of Directors in February 1982: " A course of study on athletic training which is at least equivalent to the minimum number of semester/quarter hours which constitutes a major in the educational unit in which the athletic training education program is housed. The athletic training education program must also be designed so that students are provided with adequate opportunity to meet NATA specified behavioral objectives".

As a guide to curriculum development the Professional Education Committee offered a definition of an equivalent major as applied to a hypothetical situation. The committee's interpretation stipulated that, if a program of study in athletic training existed in a department of physical education that required a minimum of 45 semester units did not provide adequate opportunity for students to attain NATA specified behavioral objectives.

The policy allowing for NATA approval of an equivalent major precluded the need for an athletic training education program to receive institutional approval as a degree-granting program, thus facilitating implementation. Nevertheless, undergraduate programs receiving NATA approval as equivalent majors were held to the same standards as degree-granting programs with regard to the scope and relevancy of course offerings. The flexibility allowed by the equivalent major facilitated identification of relevant course offerings in the sponsoring department or allied departments, addition of appropriate courses if necessary and incorporation of these courses into an existing bachelor's degree program.

In addition to the athletic training major, the 1983 Guidelines incorporated 2 major features that represented conceptual changes in curriculum design. The first feature was inclusion of specialized subject matter requirements, rather than specific courses. This design included the following:

### **Specialized Subject Matter in Athletic Training:**

Prevention of athletic injuries/ illnesses

Evaluation of athletic injuries/ illnesses

First aid and emergency care

Therapeutic modalities

Therapeutic exercise

Administration of athletic training programs

Human anatomy

Human physiology

Exercise physiology

Kinesiology/ biomechanics

Nutrition

Psychology

Personal/ community health

Instructional methods

In contrast with the curriculum design based on specified courses, the subject matter approach permitted greater flexibility in the development of educational experiences with varying degrees of emphasis on specific learning outcomes. The required subject matter could be developed as separate courses or incorporated as instructional units within existing courses depending on determination of the appropriate emphasis.

Developed during the 1981-1982 academic year, the Competencies in Athletic Training represented the second major component of the 1983

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Guidelines. These Competencies, which replaced the behavioral objectives developed during the 1970's were based on the performance domains of a certified athletic trainer identified in the first role delineation study conducted by the NATA Board of Certification in 1982. Incorporation of the subject matter requirements and athletic training competencies into the 1983 Guidelines represented an effort to promote the development of true competency-based athletic training education programs.

### **AMA Recognition and CAHEA Accreditation:**

During the late 1980's, preliminary work began that led to a milestone in the professional growth of athletic training education. In June 1990, the American Medical Association (AMA) formally recognized athletic training as an allied health care profession. Several preliminary steps related to accreditation of entry-level athletic training education programs preceded AMA recognition. Efforts to obtain AMA recognition began with a decision by the NATA Board of Directors to seek accreditation of entry level programs by the AMA Committee on Allied Health Education and Accreditation (CAHEA).

As per