

Specialty Certifications and Their Place Within the Practice of Athletic Training

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Context: Athletic training has evolved dramatically in the last decade. Professional education has changed to the graduate level. Advanced training has manifested itself in doctoral and residency programs. Clinical practice settings have also evolved along with the knowledge and skills required to care for the diverse patients in these settings. Athletic training specialties are accompanying these changes, and now athletic training has specialty certifications to formally validate a specialty and recognize the athletic trainer (AT) specialist.

Objective: This article conveys key information about credentialing, highlights historical events in the development of AT specialty certifications, and examines the concept of general practice. The purpose of conveying this information is to better understand and explore specialties and certifications in athletic training, which requires also conceptualizing athletic training as a general practice.

Background: One of the earliest documents mentioning specialty certifications within athletic training was published in 1997. In 2018, the Board of Certification formed the Specialty Council to validate athletic training specialties and oversee specialty certifications.

Synthesis: Earning a specialty certification is a rigorous process requiring the credentialed AT to gain, as well as maintain, postprofessional education and experience in a focused practice area. This education and training can come from an accredited residency program but also from on-the-job training and professional development.

Results: Practitioners of a validated athletic training specialty can become board-certified specialists with advanced clinical experience or after completing postprofessional education and training and passing the respective specialty certification examination.

Recommendations: We recommend conceptualizing athletic training as general practice so that we can differentiate the relationships of general, advanced, and specialty practices.

Conclusions: Athletic trainer specialty certifications are part of athletic training. Growing existing and creating new specialties and specialty certifications requires conceptualizing athletic training as general, advanced, and specialized practices.

Key Words: general practice, board certified, credentialing

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KEY POINTS

- Certificates and certifications are different credentialing processes.
- Specialty certifications for athletic trainers evolved conceptually from certificates to certifications.
- To consider specialty certifications for athletic trainers, athletic training must first be conceptualized as a general practice.

INTRODUCTION

Athletic training has undergone significant changes since its inception. A few of the more recent changes include the transition of professional education from an undergraduate to a graduate degree,¹ the discontinuation of accrediting postprofessional athletic training degree programs,² and the development of athletic training doctoral degrees and residency programs. These changes, in part, are tied to new patient populations and practice settings seeking the health care services athletic trainers (ATs) provide. Along with this evolution, the field of athletic training has been challenged to analyze what encompasses professional education so it can be distinguished from advanced clinical practice.³ Anderson et al took a step toward addressing this challenge, and based on the perceptions of ATs employed in the college or university, secondary school, and clinic settings, they defined advanced clinical practice as having formal training and education, informal training and education, knowledge and skills with core competencies and advanced practice abilities, and practice for a certain number of years.⁴

To accompany this work, the field athletic training has established the specialty certification, which is a new level of credentialing after the completion of advanced education, training, and experience.⁵ As defined by the Athletic Training Strategic Alliance, specialization “requires significant clinical experience in a prescribed content area, a sustained training effort, and culminates in a valid credential denoting clinical expertise.”⁶ The valid credential referred to in this definition is the specialty certification, which again by definition is “a credential earned through a post-professional education and training process such as an accredited residency in a specialized area of clinical practice.”⁶

Specialty certifications for ATs did not occur overnight. The first formal record of the field of athletic training pursuing an initial concept of specialty certifications was in 1975 when the National Athletic Trainers’ Association (NATA) Board of Directors (BOD) approved a program to create the teacher or AT in high schools.⁷ In 1997, the NATA Education Task Force reintroduced the concept of recognizing ATs with specialized skills by recommending (ie, Provision 10) the NATA develop programs leading to certificates of advanced qualifications (CAQs).⁸ Interestingly, the rationale for this recommendation recognized all ATs share foundational skills, but some ATs use a particular set of these skills to a greater extent in certain practice settings. This statement appears interesting because this provision, along with the other 17 provisions, were all adopted by the NATA BOD and initiated significant alterations with the educational structure

and processes for ATs. More specifically, these provisions formally initiated a conceptual differentiation between athletic training general practice, advanced practice, and specialized practice.

This article conveys key information about credentialing, highlights historical events in the development of specialty certifications for ATs, and examines the concept of general practice. The purpose of this article, based on this information, is to challenge ATs and athletic training stakeholders to conceptualize athletic training as a general practice to explore specialization and specialty certifications for ATs.

AN OVERVIEW OF CREDENTIALING

While most of the provisions put forward by the NATA Education Task Force⁸ have come to fruition in one form or another, Provision 10 has become something different from a credentialing perspective. Provision 10 specifically called for the development of CAQs. Although these certificates can be involved with advanced care, it appears the provision’s intent was to credential clinicians who provide specialized health care. Such a credential, otherwise known as a specialty certification, usually communicates an individual has advanced knowledge and skills developed from post-professional clinical experience and preparation in a concentrated area of practice. Furthermore, it conveys the individual successfully passed a validated examination and maintains additional professional development activities to retain the credential.

Multiple reasons may explain why Provision 10⁸ did not develop as intended. Although this article is not a comprehensive investigation of this delay, it does present certain events that occurred during the development of athletic training specialty certifications, which is provided for historical reasons and to aid our understanding of athletic training as a general practice, advanced practice, or specialty practice.

In the United States, the Board of Certification (BOC) is a member of the Institute for Credentialing Excellence (ICE), and the BOC is accredited by the National Commission for Certifying Agencies (NCCA).⁹ The ICE is a professional membership association that serves organizations in the credentialing industry, and the NCCA establishes the *Standards for Accreditation of Certification Programs* that organizations offering certification programs may voluntarily choose to meet.¹⁰ National Commission for Certifying Agencies accreditation identifies the program as achieving and maintaining impartial, third-party validation of its credentialing process as recognized by national and international credentialing standards.¹¹ These standards are the foundation for why ATs must complete continuing education units to maintain the athletic trainer certified (ATC) credential and why the NATA and BOC are 2 separate entities. To better understand this structure, it is important to differentiate between assessment-based certificates and professional or personnel certification programs.

Assessment-based certificates recognize completed training or education that is guided by the certificate’s learning objectives. Upon completion of the respective training or education, the

program offering the certificate also assesses if the individual met its learning objectives.¹² One example of an assessment-based certificate program is the Kinesio Taping Practitioner® program.

The Kinesio Taping Practitioner program is globally available to qualified practitioners (eg, ATs, physical therapists, physicians)¹³ to advance their competence and learn a targeted set of knowledge and skills. Upon completing the program, the learner is assessed to ensure the objectives of the program were met, and if so, the learner may earn credentials acknowledging successful completion of the program. As an assessment-based certificate program, both the education or training and the assessment of knowledge or skills are developed and supervised by Kinesio Taping, in other words, the entity offering the program.^{13,14}

On the other hand, a professional or personnel certification program is “designed to test the knowledge, skills, and abilities required to perform a particular job, and, upon successfully passing a certification exam, to represent a declaration of a particular individual’s professional competence.”¹² This certification examination program differs from the assessment-based certificate program in that the assessment and the earned credential are administered and awarded by an organization independent of the body responsible for the education and training. Furthermore, the content assessed is identified through a practice analysis, which is periodically updated to ensure the certification program reflects the most recent practice requirements of the profession or occupation.¹²

Additionally, and contrary to assessment-based certification programs, a governing body is needed to oversee the certification program.¹² This governing body controls the certification legally and is administratively independent of other entities, such as programs responsible for education and training. While the certification and recertification requirements are independent of any educational program, the certification program may recognize certain education and training needed to be eligible to take the certification examination. In short, certification programs are independent organizations with complete power and oversight of the assessment and credential needed for certification and recertification.

For example, the Commission on Accreditation of Athletic Training Education (CAATE) oversees and accredits professional athletic training education programs. For its part, the BOC conducts a practice analysis of athletic training, develops and administers the certification exam, and awards the ATC credential. This process achieves a higher level of accountability and public safety because the training and education are independent of the testing. In addition, the BOC, as the administrator of the professional or personnel certification program, validates and elevates athletic training via an independent practice analysis, which is used to create a more objective BOC examination and maintenance-of-certification process.

To summarize, both assessment-based certificate and professional or personnel certification programs do the following: (1) use a process to identify the knowledge and skills associated with the program, (2) identify eligibility rules and guidelines, (3) establish assessment and passing procedures for the program, and (4) evaluate the overall effectiveness of the program.¹² Areas in which they differ are those activities that professional or personnel certification programs are required to do: (1) use an objective practice analysis to identify and validate the knowledge

and skills the program evaluates, (2) administer the program using a governing board that is independent and autonomous from the education and training, and (3) require individuals to engage in activities demonstrating continued competence with the discipline so they may continue to use the credentials awarded by the program.¹²

HISTORY OF ATHLETIC TRAINING SPECIALTY CERTIFICATIONS

As described in the previous section, credentialing can align with assessment-based certificates or professional or personnel certification programs. It is important to understand the differences between these 2 types of programs because, in the development of athletic training specialties and specialty certifications, both types were explored.

The first record of the field of athletic training pursuing the concept of an AT specialist was the NATA’s 1975 approval of the faculty athletic training instructional program. It is important to note this program did not identify these individuals as specialists, nor did it resemble all aspects of specialty certifications in athletic training as they exist today. The program, however, did propose these individuals would need to be both credentialed teachers and ATs because the dual credentials would best meet the needs of individuals requiring their services, which in this case were high school students and student-athletes. We are unaware of the outcome of this program, but over 20 years later, in 1997, the NATA BOD approved an initial plan for developing and credentialing advanced practices in athletic training.⁸ It is at this point we initiated a focused historical analysis of specialty certifications in athletic training because, shortly after this report, athletic training publications and presentations regularly used the term specialty certifications.

In a January 2003 *NATA News* article, the CAQ Ad Hoc Committee, chaired by Wiksten, presented 7 criteria used to determine content areas of specialty certification.¹⁵ Additionally, they listed the potential “specialty certification domains.”^{15(p26)} The domains appeared to be areas of specialty practice. Within the article, Wiksten introduced 2 options for completing specialty certification programs.¹⁵ One option was to complete a NATA-accredited graduate athletic training program. The second option was to complete an individual education program. Wiksten concluded this article by asking the NATA membership for survey feedback on topics such as specialty certifications, clinician participation, and specialty topics of interest.¹⁵

In September of 2003, Wiksten reported those survey results, elaborated on 2 options the NATA was considering for obtaining a specialty certification, navigated common fallacies about specialty certification, and announced plans for developing the first specialty certification.¹⁶ The survey results indicated a strong consensus in favor of specialty certification and listed primary interest as improving marketability and increasing job performance and personal satisfaction. The survey identified most ATs preferred the individualized education program option but also recognized the graduate program for earning specialty certification. Interestingly, these 2 options fit within the 2 routes to specialty certification today.¹⁷ Additionally, the September 2003 article addressed fallacies that emerged from the survey’s written comments by providing facts aimed at educating the reader and advancing the conversation about specialty certification. The article noted in June

of that year the NATA BOD approved the request to develop a specialty certification in occupational health.¹⁶

In 2004, a guest editorial in *Athletic Therapy Today* summarized the development of specialty certifications in athletic training along with the results from the 2003 NATA membership survey.^{16,18} Additionally, it was announced that the NATA BOD unanimously voted in December 2003 to move forward with the development of the first specialty certification in occupational health. Along with moving the first specialty certification forward, it was mentioned that an experiential fellowship would be required for both specialty certification education routes (ie, graduate education or the individualized education program option). The CAQ Ad Hoc Committee also established criteria defining specialty certification in athletic training and charged a Specialty Certification Committee with ensuring the standardization of the 2 routes to specialty certification. Both routes were to involve an examination to earn the credential and continuing education to maintain the credential. While the specialty certification process presented in this news article resembles the specialty certification process developed today, it still appears to lean toward an assessment-based certificate primarily because no clear separation between education and training and the certification examination existed.

By 2005, the NATA Clinical/Industrial/Corporate (CIC) Athletic Trainers' Committee identified it was working with the Post-Professional Education Committee (PPEC) to establish a specialty certification in corporate health.¹⁹ Outside this proposed plan, no further mention was made of this specialty certification, so we are unable to describe the outcome of the certification; however, the next documented event provided some clarification.

In 2006, the PPEC reported a change in the direction of specialty certifications and practice areas.²⁰ Within the article, the PPEC described 3 of their top priorities. The first goal described was the development of accredited residency programs for ATs. The second goal described was the development of specialty certifications as a path for ATs to seek advanced credentials. Comparisons were made to physician and physical therapy specialization. Also, the article presented an athletic training specialty certification overview and philosophy, which highlighted specialized areas validated by a clinical practice credential demonstrating knowledge and skills beyond entry-level practice and supporting enhanced patient care, clinical outcomes, and patient's quality of life. The third goal explained was to develop standards for accrediting postprofessional graduate athletic training education programs, such as a clinical doctorate degree. The halt to the specialty certification in occupational and corporate health could have been associated with the development of residencies and possibly clinical doctoral degrees; however, we are unable to confirm this inference.

Also in 2006, we identified the initial concept of a board charged with providing advanced practice credentials to ATs in specialized practice areas.²⁰ In this same year, the NATA BOD approved the philosophy of specialization and the purpose of specialty certifications²¹; however, it was not until 2011 that the first formal mentioning of the Board of Athletic Training Specialties (BATS) within the NATA occurred, as well as the first version of the *Petitioner's Guide to Athletic Training Specialty Recognition*.²¹ It was at this point in the timeline in which we identified the concept of specialty certifications for ATs transitioning from assessment-based certificates to professional or personnel certification. For

clarification, therefore, the next 2 sections of our historical examination organize events based on educating specialists and credentialing specialists.

Select Events Regarding Education and Athletic Training Residencies

By 2012, Brown described in the *Future Directions in Athletic Training Education* the shift in specialty areas and specialty certifications more clearly.²² Brown also provided a more direct connection of specialty certifications with the next phase of athletic training education. In addition to specialization and specialty certifications, recommendation #6 encouraged the NATA to develop residencies. This recommendation took root in 2014 when CAATE formally approved accreditation standards for athletic training residency programs.²³

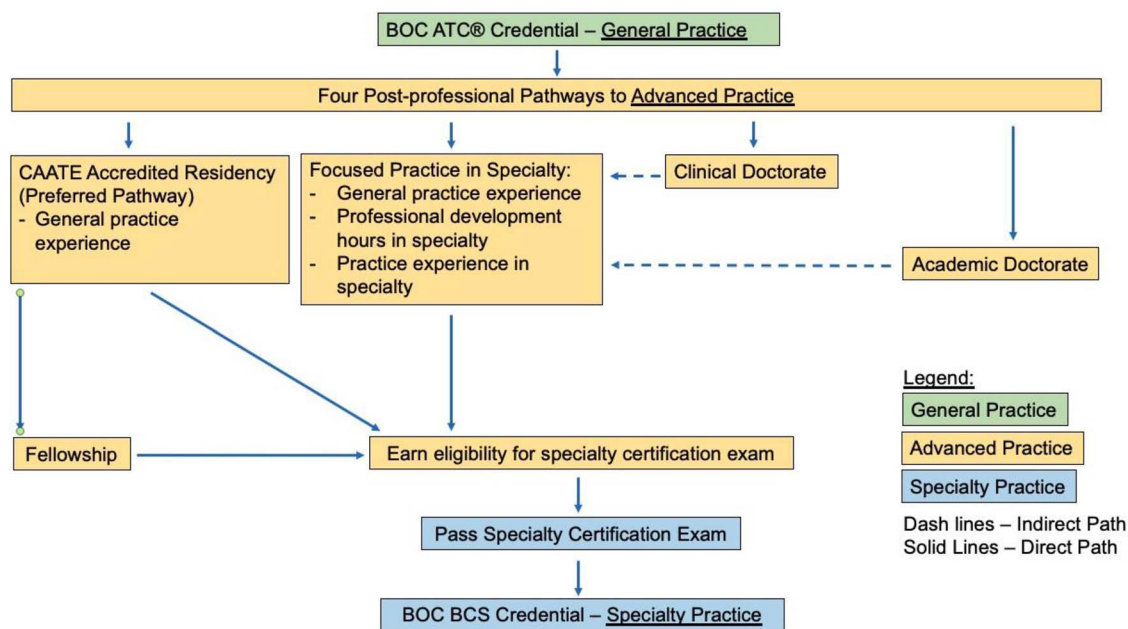
As noted in the history of the Athletic Training Milestones Project, Sauers' presentation at the 2016 CAATE Annual Accreditation Conference discussed integrating the Institute of Medicine Core Competencies into the professional education process for athletic training.²⁴ It is beyond the scope of our commentary to analyze historical changes in professional education for athletic training; however, this event triggered additional work by the Milestones Project Team, which helped clarify the differences between professional education and specialty education or, more specifically, residency program education. By 2017, CAATE formally established residency focus areas (ie, specialties) such as primary care, rehabilitation, and orthopaedics.²⁵

Although residencies are clearly connected to the education and training for specialty practice and specialty certifications, the novelty of these concepts to athletic training made it impractical to have just 1 education route. In 2018, the Educational Pathways Work Group presented their map toward earning a specialty certification, which included the residency route and other advanced training and education.²⁶ The pathway was updated later to simply how this information is communicated²⁷; however, both articles acknowledged ATs have options to develop their clinical practice (Figure 1). These 2 direct paths, residencies and focused practice in the specialty, were confirmed by the BOC in 2021 with the publication of the *Orthopedic Specialty Applicant Handbook* and its recognition of specialty certification eligibility paths: (1) an AT with at least 2 years of experience with the ATC credential and who graduated from a CAATE-accredited residency program that focused on the education and training of the orthopaedic specialty practice (as defined by the Orthopedic Practice Analysis); and (2) an AT who acquired their education and training over at least 4 years via continuing education and experience-based training including a minimum of 260 professional development hours and 3500 hours of practice experience in orthopaedics (as defined by the Orthopedic Practice Analysis).^{17,28}

Select Events Regarding AT Specialist Credentialing

As noted previously, the philosophy of specializations and the purpose of specialty certifications was approved by the NATA BOD in 2006; however, it was a few years later, in 2011, when the process for recognizing and overseeing specialty certifications for ATs was identified. This process would begin with a review and approval of a petition to recognize a specialized area of practice in athletic training. Approval of the petition, however, only initiated the process of validating the specialty by way of a role delineation

Figure 1. Education pathways.



study or more accurately referred to as a practice analysis. If the specialty area was validated, it would generate the creation of a specialty certification examination and credential. Therefore, in 2011, the concept for validating and creating a specialty certification was to be managed by the BATS and the NATA BOD.²¹

In 2015, the NATA Executive Committee for Education moved this work from concept to practice when it established a separate BATS Workgroup and charged the group to create governing policies to administer all aspects of identifying, validating, and credentialing ATs with a specialized area of practice.²⁹ In 2016, Hudson was appointed chair of the BATS Workgroup (Russell Richardson, EdD, ATC, email communication, February 2016), and in this same year, the first petition for a specialty certification in orthopaedics was submitted to the workgroup.³⁰ Although BATS governing policies were still being developed, it was decided in 2017 to move forward with creating the first specialty certification by commissioning a practice analysis for the orthopaedic specialty certification.²⁹

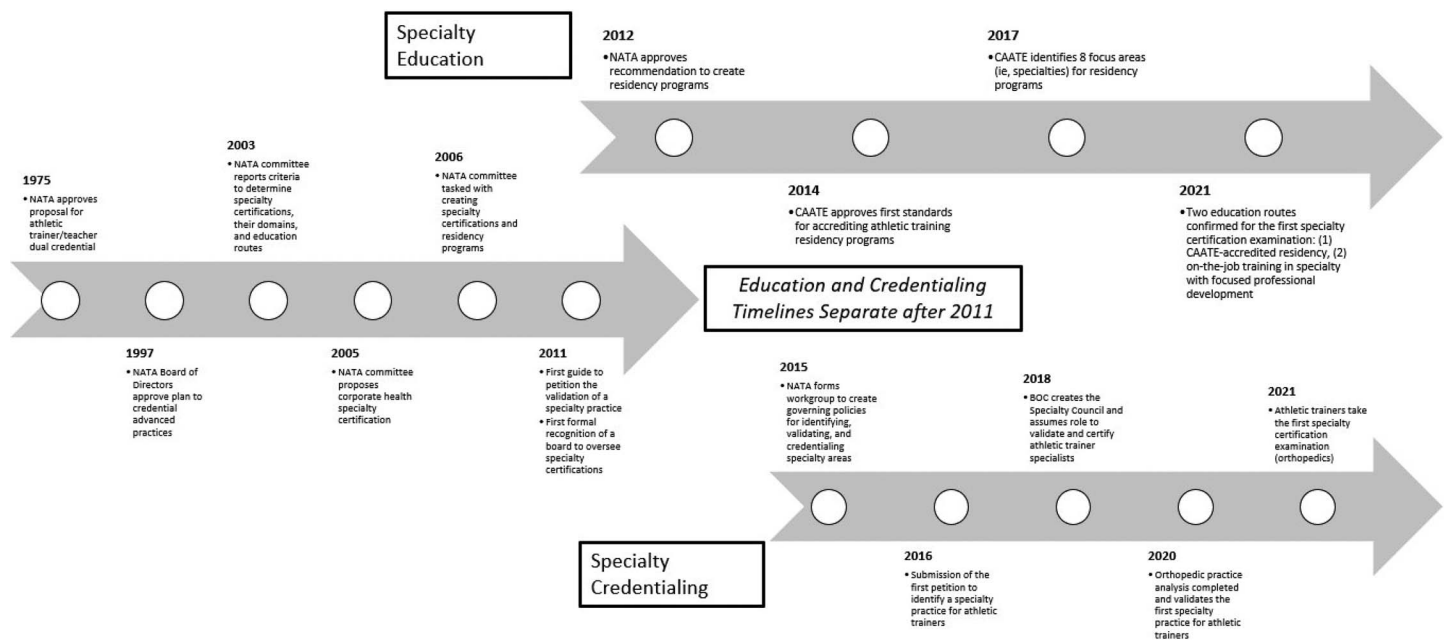
By 2018, it was decided to transition the BATS (ie, membership, tasks, and governing documents) from the NATA to the BOC so the workgroup could take advantage of the BOC's resources and expertise with credentialing.²⁹ This transition also required changing the name of the BATS to the BOC Specialty Council because the BOC was already governed by a BOD. Furthermore, this change made it easier for specialty certifications in athletic training to be accredited by the NCCA, which would achieve a higher level of recognition for the certifications.²⁹ In 2020, the *AT Specialties Petitioner's Guide* was updated to demonstrate these policy and procedural changes, and per the document, the purpose of the BOC Specialty Council was to guide the BOC with recognizing and validating athletic training specialties, plus overseeing credentialing (ie, initial and maintenance) of ATs who are practicing specialized knowledge, skills, and abilities.³¹

In October 2020, the BOC completed and published the Orthopedic Practice Analysis, which identified the 3 domains of the specialty practice: medical knowledge, procedural knowledge, and professional practice.²⁸ These domains were needed to write the first specialty certification examination for ATs, which was launched in October 2021.³² By the summer of 2022, 31 ATs held the credential Board Certified Specialist-Orthopedics (BCS-O), the first recognized and validated specialty certification for ATs.³² These 31 ATs earned their eligibility for the exam by either completing a CAATE-accredited residency in orthopaedics or by completing professional development and on-the-job training in orthopaedics; however, it also included a few ATs with expertise in the practice of orthopaedics and who participated as test writers for the exam (this route was no longer available after writing the first exam).^{17,32} Moving forward, the most credible method for identifying the AT specialist will be to recognize those individuals who challenged and passed a specialty certification examination and maintained the credential of a board-certified AT specialist.

Summary

Based on these historical events (Figure 2), it is evident the profession has desired athletic training specialties and certifying ATs with specialized expertise for some time. Over these years, athletic training learned and created much to support this new area of the profession. An aspect of athletic training specialties, however, that appears to have changed from initial discussions is the movement from assessment-based certificate programs to professional certification. Accompanying this change have been alterations to the education and experiential learning for specialty practice or, more specifically, the development of accredited residency programs. Both attributes, certification and residency programs, are important transitions with the development of specialties and specialty certifications because they elevate the credibility of specialty practices in athletic training. To continue down this

Figure 2. History of specialty certifications for athletic trainers.



road, however, athletic training needs to be conceptualized as a general practice.

ATHLETIC TRAINING AS GENERAL PRACTICE

Basically, it is a 4-step process to become an AT. First, complete undergraduate coursework that includes prerequisite coursework and foundational knowledge as mandated by the 2020 CAATE *Standards for Accreditation of Professional Athletic Training Programs*.³³ Second, apply to and complete a graduate CAATE-accredited professional athletic training program. Third, pass the BOC exam to earn the ATC credential, which is a requirement to practice in almost every state. Finally, become licensed, registered, or certified in the respective state to practice. At this point, individuals are legally recognized as practitioners of athletic training.

Like all professions, ATs will add to their knowledge and skills after entering and practicing the discipline. Also, they may earn additional credentials (eg, academic, assessment-based certificates) for providing knowledge and skills beyond what was taught during the professional education process. This additional education and experience will transition the individual from entry-level to advanced practitioner.

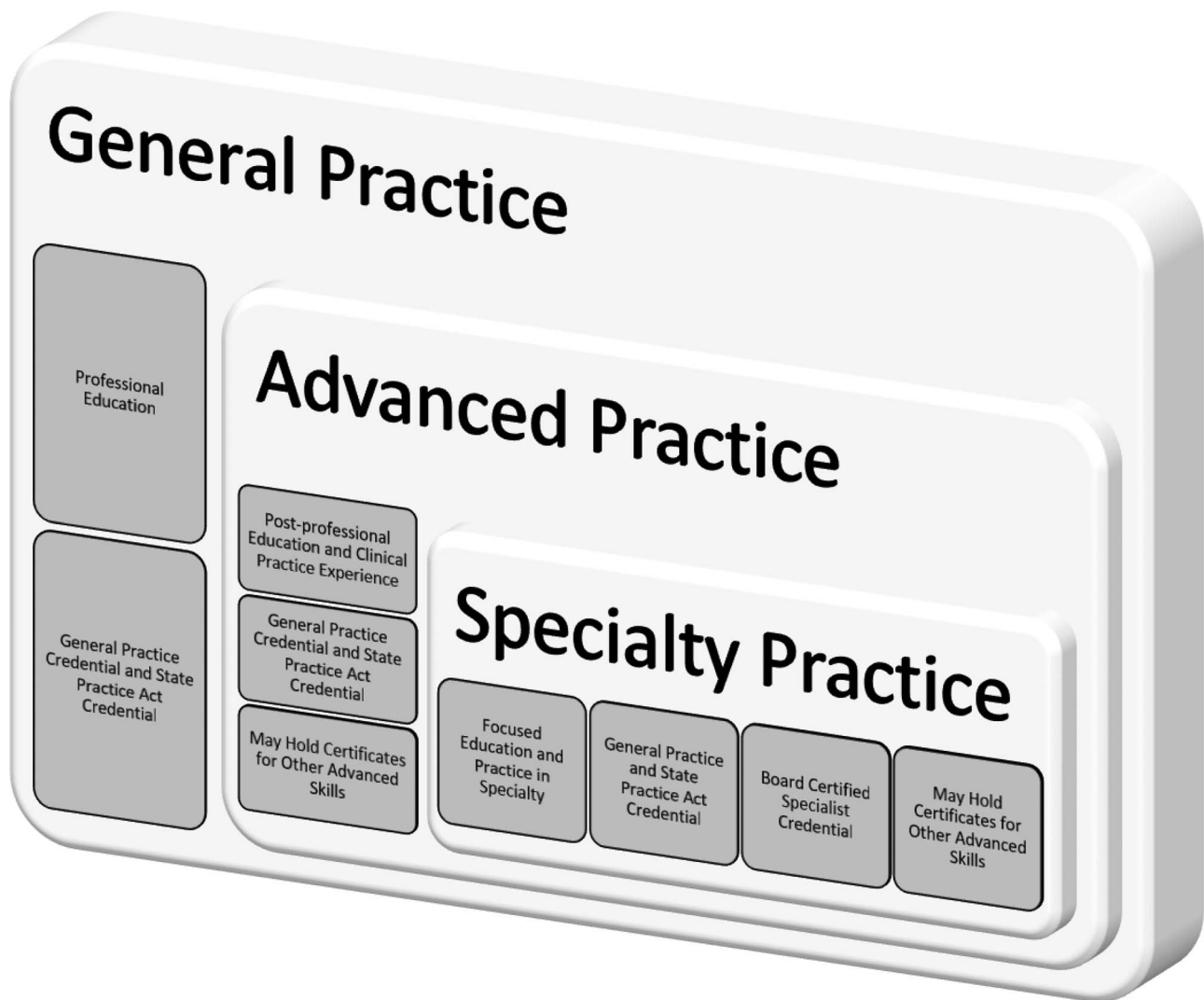
Athletic training has now entered the world of board-certified specialty practices; therefore, it is faced with answering a question it has not explored previously: Is athletic training a general or specialized practice? At times in the past, athletic training was presented as a specialized practice. It appears, however, these references were relative to the body of knowledge for other professional disciplines. For example, literature during the 1970s characterizing athletic training as being specialized was in reference to the 1959 model of an athletic training curriculum, which was founded on the practices of physical education or health teaching and physical therapy.³⁴ In other words, the description of athletic training as a clinical practice was based on other professional practices. By the 1970s, however, the education process to

become an AT was no longer seen as a direct pathway to practicing physical education or health teaching or physical therapy. Instead, the athletic training education process needed to prepare the student to practice the core content and skills of the profession. Delforge and Behenke described this progress by stating: “limited but discernible progress [has been made] toward identification of a specialized, common body of knowledge for certified athletic trainers.”^{34(p56)} By the 1980s, athletic training further developed academically as an independent and comprehensive academic major versus a specialization in another discipline, and by the 1990s, the profession determined the practice of athletic training could be learned through only 1 professional education route.³⁴

It might appear reasonable to view athletic training as a specialized practice of physical therapy or physical education if ATs were educated and trained to practice these disciplines, but this is not the case. Athletic training is an independent health care practice, and these historical changes in the academic development of the discipline demonstrate this fact. This evidence, however, does not solely answer the question of athletic training being a general or specialized practice. Turocy argued a similar notion, stating athletic training must determine what constitutes entry-level practice before deciding what is advanced practice.³ We agree with Turocy, but we believe additional clarification is needed because entry-level practice is not synonymous with general practice. Entry-level identifies a point in time when an individual enters a professional discipline versus describing the knowledge and skills used when practicing the discipline at any point in time.

To help address this question, Anderson et al studied the perceptions of ATs regarding the advanced clinical practice of athletic training.⁴ They reported that defining advanced clinical practice encompassed 4 characteristics: (1) formal training and education beyond the professional level, (2) informal training and education (eg, hands-on clinical practice), (3) knowledge and skills with core competencies (eg, evidence-based practice) as well as

Figure 3. Relationship of general, advanced, and specialty practices.



an advanced scope of practice, and (4) a certain number of years practicing. Furthermore, Anderson et al described the characteristics of advanced practice ATs as including (1) intrapersonal skills (eg, lifelong learning, open-mindedness, and critical thinking), (2) interpersonal skills (eg, communication and leadership), (3) discipline-specific knowledge and skills (eg, specialty area), and (4) amount of experience with advanced practice (eg, 5 to 10 years).³⁵

While this literature is helpful, it still does not specifically answer the question: Is athletic training a general or specialized practice? For example, the findings from Anderson et al assist with clarifying the professional development changes occurring after entry into the profession, and the findings suggest specialty practice aligns more with advanced practice; however, the authors concluded their findings aligned with the NATA definition of advanced clinical practice, which states advanced practice can be both general practice or specialized practice.^{4,6,35} While we do not disagree with this definition, it is difficult differentiating these 3 concepts without first having an established concept of what general practice is.

For example, Anderson et al reported some participants believed advanced clinical practice was associated with a higher-level scope of practice.⁴ Hudson et al reported a similar perception

in that ATs perceived specialty certifications as expanding their scope of practice.³⁶ Technically, however, a health care practitioner's scope of practice is not expanded because it is governed by the respective individual's state practice act.³⁷ Although the education and training needed to become an advanced practitioner or to earn a specialty certification provides additional knowledge and skills, these abilities cannot extend beyond the boundaries of the discipline's general practice as defined by the state practice act regulating the discipline.

Other researchers have also reported confusion with these concepts. Frank et al interviewed ATs during their transition-to-practice years (ie, individuals who entered the profession within the previous 12 years) to better understand the barriers they perceived with earning a specialty certification.³⁸ They identified 2 overarching themes, 1 of which was barriers perceived before taking a specialty certification exam. A specific barrier identified under this overarching theme was participants could not comprehend athletic training as a general practice that could also support specialized practice areas.

This reported evidence suggests confusion about these concepts as they pertain to athletic training. To help alleviate this confusion, athletic training must be conceptualized as a general

practice. By doing so, it allows the profession to move forward with the concept of advanced clinical practice and, more so, with the concept of specialty practices and specialty certifications (Figure 3). To do this, however, it is important to define the concept of general practice for any discipline.

The online dictionary Merriam-Webster defines general practice as “a usual way of doing things.”³⁹ Obviously, this definition is too broad. The dictionary’s definition for general practitioner is more focused: “a physician or veterinarian whose practice is not limited to a specialty.”⁴⁰ While this definition is more focused and differentiates the term from specialty practice, it is not useful for our purposes because it appears to address only human and veterinary medicine. Other online dictionaries provide similar problems: (1) “the work of a doctor who treats people for a wide range of medical problems, rather than concentrating on a specific type of medical problem,”⁴¹ and (2) “when a doctor is in general practice, he or she treats sick people at an office, and does not specialize in a particular type of medicine.”⁴² In addition to these definitions focusing on medicine, they are short and do not capture the complexity of larger concepts.

As these definitions note, the concept of general practice is associated with medicine, so another group to reference consists of medical associations. Before 1971, medicine in the US used the term general practice to refer to the traditional practice of the physician being the immediate care provider for the family and public; however, in 1971, the American Academy of General Practice changed its name to the American Academy of Family Physicians to more accurately reflect the optimal levels of study and certification needed to practice family medicine, a medical specialty and offshoot of general practice.⁴³ The name was changed to also reflect the practice of primary care, which the American Academic of Family Physicians defines as the patient’s entry point to the health care system as well as the focal point for all of his or her health care needs.⁴⁴ It appears this change was less about defining the concept of general practice and more about accurately highlighting the standards of family practice and the comprehensive health care practiced by family medicine physicians.

Medical associations in other countries have undergone similar work to define general practice and clarify the value of their discipline in their health care system. For example, the Australian Medical Association in 2021 updated its definition of general practice to recognize its need within the country’s primary care services. Specifically, the association described general practice as providing “comprehensive whole-patient medical care to individuals, families, and their communities” and stated these services “may be for care that is urgent or routine, for minor or complex health issues and includes preventative care, diagnosis of undifferentiated illness, the management of acute and chronic illness, [and] palliative care.”⁴⁵ This position statement also noted general practice is the first point of contact for people seeking health care.

Recognizing the need for medical disciplines to update definitions of general practice, Olesen et al described why disciplines should have a definition of general practice:

Definitions may set the boundaries to delineate one field from others, but this is difficult for medical specialties, which inevitably have unclear overlapping boundaries. It is more important to define the centre of the discipline positively, necessarily accepting the overlap with what is required of good doctors in other fields.

*The definition then provides a framework for research, teaching, and development.*⁴⁶

To facilitate this process, Olesen et al proposed 5 criteria for developing a definition of general practice.⁴⁶ Our objective is not to define athletic training because that work has already been completed. Instead, we believe these 5 criteria provide the road map to conceptualize athletic training as a general practice, which then helps with recognizing athletic training when it is an advanced clinical practice, and more importantly, for identifying specialty practices and specialty certifications for ATs.

1. Describe the core content and function of the discipline to identify the specific characteristics of the clinical work.
2. Be supplementary to the description of the medical discipline and accept that overlaps exist between many medical specialties.
3. Be universal, independent of country specific systems, settings, or working methods.
4. Provide a framework for the content of teaching and training.
5. Describe where evidence must be sought to develop the best science-based core function.

Criterion 1: Describe the Core Content and Function of the Discipline to Identify the Specific Characteristics of the Clinical Work

The core content and function of athletic training is formally described in 2 documents. The first document is the BOC practice analysis, which serves as the blueprint for the BOC examination and outlines the knowledge and skills one must possess to earn the ATC credential.^{47,48} Since 2017, the BOC has used the 7th edition practice analysis for the exam,⁴⁹ but starting in 2023, the 8th edition of the practice analysis and its 5 domains of athletic training will provide the exam’s framework: (1) Domain I: Risk Reduction, Wellness and Health Literacy; (2) Domain II: Assessment, Evaluation and Diagnosis; (3) Domain III: Critical Incident Management; (4) Domain IV: Therapeutic Intervention; and (5) Domain V: Healthcare Administration and Professional Responsibility.⁵⁰

The second document is the CAATE’s *Standards and Procedures for Accreditation of Professional Programs in Athletic Training*.³³ The CAATE accreditation standards for professional athletic training programs includes over 40 curricular content standards that programs must teach all athletic training students. The scope of practice for a medical discipline is the profession’s state practice act³⁷ and the 49 states as well as the District of Columbia, with legislative agencies regulating athletic training recognize the BOC examination to legally practice athletic training.⁴⁷ It could be argued, therefore, the BOC practice analysis legally describes the core content and function of the discipline. A key eligibility requirement, however, for the examination is the candidate must have graduated or be in the final stages of graduating from a CAATE-accredited professional athletic training program.⁴⁷ Because of this, the CAATE accreditation standards for professional programs also describe the core content of the discipline, and to demonstrate this connection, the BOC details the association of the 2 documents.⁵¹ As athletic training continues to develop specialty practices and specialty certifications, it will be important for the profession to maintain a close association between the 2 documents. As both Turocy and Olesen et al noted, it is important to have a clear understanding and agreement of what constitutes a discipline’s entry-level or general practice so that advanced and specialized practices can be developed.^{3,46}

Table. Milestones General and Specialty Competencies

General competencies
Patient care and procedural skills
Medical knowledge
Practice-based learning and improvement
Interpersonal and communication skills
Professionalism
System-based practice
Proposed specialty competencies
Prevention and wellness
Urgent and emergent care
Primary care
Orthopaedics ^a
Rehabilitation
Behavioral health ^b
Pediatrics ^b
Performance enhancement

^a Orthopaedics is the only specialty with milestone competencies and which has been validated with a practice analysis.

^b Behavioral health and pediatrics have milestone competencies only.

Criterion 2: Be Supplementary to the Description of the Medical Discipline and Accept That Overlaps Exist Between Many Medical Specialties

A discipline's general practice is the foundation from which specialty practices develop; consequently, all specialty practices will include knowledge and skills in certain areas of the general practice. Some of these areas will be shared among specialty practices because each specialty was derived from the discipline's general practice. These specialty practices will also complement each other because of this relationship; however, they will not be identical. Although athletic training currently has just 1 validated specialty practice and specialty certification, documents demonstrate this criterion for future specialties, with the first document being *The Athletic Training Milestones*.⁵²

The milestones described in *The Athletic Training Milestones* are not required of any program accredited by the CAATE; however, the AT's transition and growth the milestones outline are based on the often cited 5 stages of skill acquisition proposed by Dreyfus and Dreyfus.⁵³ The milestones are also based on the work of the Accreditation Council for Graduate Medical Education.⁵² Basically, the different milestones are competencies and subcompetencies illustrating the breadth and depth of the knowledge, skills, attitudes, and behaviors required of a practicing AT at each stage of his or her development from novice to advanced practitioner and possibly specialist. The individual milestones are organized into 6 general competencies adopted from the Accreditation Council for Graduate Medical Education plus 8 specialty competencies representing focused areas of athletic training practice (ie, specialties; Table).⁵²

Specific to our assertion, Sauers et al proposed these 8 specialty competencies to represent core practice areas for all ATs; consequently, these specialties are distinct, but they should also share similar practice domains.⁵² It is important to note these domains should be shared because, at this time, the individual milestones have been completed for just 3 of the 8 specialties. In addition, no empirical evidence demonstrates the existence of all 8 specialties in athletic training. It seems logical, however, to assume these specialties or close variations of them do exist in athletic training for

2 reasons. First, the CAATE has recognized these 8 specialty areas to support its work with creating residency programs for ATs.²⁵ In addition, the orthopaedic specialty has been validated, which brings us to the other documents supporting criterion 2.

The first of these other documents is the BOC practice analysis for the orthopaedic specialty in athletic training. This analysis, completed and published in the fall of 2020, formally validated the practice for ATs who specialize in orthopaedics and provided the framework for the BOC orthopaedic specialty certification examination.⁵⁴ The orthopaedic specialty consists of 3 domains—Domain I: Medical Knowledge; Domain II: Procedural Knowledge; and Domain III: Professional Practice. The next document is the 8th edition of the practice analysis, which as noted previously is used to write the examination needed to earn the ATC credential and consists of 5 domains. A simple comparison of the domains' task statements from both practice analyses identifies content and function areas that overlap; however, the orthopaedic practice analysis focuses on certain practice domains and adds to the content and function of the specialist. For example, Domain IV: Therapeutic Intervention from the 8th edition practice analysis includes the task statement, "Administer therapeutic modalities and devices using evidence-based procedures and parameters to address impairments and enhance activity and participation levels."⁵⁰ For the orthopaedic specialty, Domain II: Procedural Knowledge includes the task statement, "Provide postoperative care to ensure optimal patient outcomes."⁵⁴ Both task statements address interventions; however, the task statement from the 8th edition practice analysis broadly addresses interventions, and the orthopaedic task statement focuses on specialized interventions. It seems logical to assume that, if athletic training validated a specialty practice in pediatrics—we are using pediatrics as an example because this is a proposed specialty in *The Athletic Training Milestones*—a domain of that specialty would also address therapeutic interventions and, more precisely, interventions specializing in the care of the pediatric patient.⁵² Consequently, the 2 specialties (ie, orthopaedics and pediatrics) would have overlapping content and skills, which would also be shared with the general practice of athletic training; however, the content and skills for each specialty would add to general practice abilities as well as focus on the specific needs of their respective patient populations.

Criterion 3: Be Universal, Independent of Country Specific Systems, Settings, or Working Methods

In 1998, the NATA BOD began exploring the role of the AT globally.⁵⁵ In 2000, the World Federation of Athletic Training and Therapy was created; and since 2001, every 2 years, a World Congress brings together health care professionals around the globe and provides them with a platform to exchange ideas, techniques, and knowledge about providing optimal health care. In 2005, a mutual recognition arrangement (MRA) was signed between the BOC and the Canadian Athletic Therapist Association (CATA), and in 2012, the Athletic Rehabilitation Therapy Ireland association joined the MRA.^{55,56} The CATA exited the MRA in late 2019. In 2020, work began to revise the arrangement, as it was to expire on December 31, 2020.⁵⁷ The result was the international arrangement (IA), which was implemented in August 2021. The organizations included in the IA are Athletic Rehabilitation Therapy Ireland, BOC, CATA, and the British Association of Sports Rehabilitators.⁵⁸ In collaboration with the International Consultants of Delaware (ICD), each IA credentialing organization partakes in continuous analysis of its education and credentialing standards.⁵⁸ The ICD's outcome

of the analysis highlights the differences between each credentialing organization and communicates those to the applicant who wants to challenge another country's credentialing exam. The goal of the ICD is "to ensure that entry-to-practice skills and competencies as an athletic training and therapy professional have been acquired by the applicant."⁵⁸ The ATC credential has been recognized in health care internationally and continues to grow.^{59,60} Therefore, athletic training and therapy globally fits the definition of general practice, as each country is independent of country-specific systems, settings, or working methods.

Criterion 4: Provide a Framework for the Content of Teaching and Training

As already presented, the CAATE *Standards and Procedures for Accreditation of Professional Programs in Athletic Training* outline the prerequisite, foundational, and curricular content for educating and preparing the entry-level AT.³³ Specific to the 4th criterion of general practice, however, are the other standards listed in Sections I, II, and III of this reference. Section I of the CAATE *Standards and Procedures for Accreditation of Professional Programs in Athletic Training* includes 7 standards outlining how professional programs must be designed (eg, Standard 1 requires programs to have a mission statement addressing the professional education that is also aligned with the institution's mission) and how their quality is evaluated (eg, Standard 5 requires programs to collect certain student achievement measurements annually, such as the program's retention rate). Section II of the document lists 12 standards describing how the program is to be delivered (eg, Standard 16 requires programs to have at least 1 immersive clinical experience). Finally, Section III identifies 35 standards addressing organizational and administrative factors for the institution (eg, Standard 20 requires programs to grant a master's degree in athletic training, and this academic degree must be identified in institutional publications) and the program (eg, Standard 33 mandates that all active clinical sites be evaluated by the program annually). The CAATE document also declares current standards can be amended as well as new standards be added, and professional programs will be required to incorporate these changes as they are made.

Criterion 5: Describe Where Evidence Must be Sought to Develop the Best Science-based Core Function

Athletic trainers must be taught evidence-based knowledge and skills.³³ To maintain their ATC credential, they must also complete continuing education activities for credentialed health care providers that include knowledge, skills, and techniques consistent with the domains outlined in the current practice analysis for entering the discipline.⁶¹ Athletic trainers and athletic training educators may draw from a number of resources to identify the knowledge, skills, and techniques needed to practice the discipline. These resources include but are not limited to (1) peer-reviewed journals publishing current evidence regarding athletic training or the larger umbrella of sports medicine; (2) funding agencies with the mission of supporting research projects that advance the practice of athletic training and sports medicine; and (3) state, regional, national, and international conferences presenting peer-reviewed proposals. For brevity purposes, the following paragraphs present just a few of the many sources committed to developing and sharing the discipline's knowledge and skills.

Regarding peer-reviewed journals, the publication most closely aligned with the practice of athletic training is the *Journal of*

Athletic Training. Per the journal's Web page, the mission of the *Journal of Athletic Training* is "to advance the science and clinical practice of athletic training and sports medicine."⁶² A second peer-reviewed journal is the *Athletic Training Education Journal*. Although it is not centered on the practice of athletic training, it is focused on presenting "high quality scholarly works that will address and advance the continuum of teaching and learning from educational preparation to professional development and continuing education."⁶³ Athletic trainers and athletic training educators can also use the new knowledge presented in international peer-reviewed journals, such as the *International Journal of Athletic Therapy and Training*.

Regarding funding agencies, the NATA Research and Education Foundation is dedicated to developing the body of knowledge for athletic training. The foundation oversees the philanthropic activities of the NATA and "champions research, supports education, and enhances knowledge to optimize the clinical experience and outcomes within the diverse patient populations serviced by the athletic training profession."⁶⁴

Along with publishing current evidence, ATs may refer to other sources of evidence to develop the discipline's core function, such as professional conferences like the NATA Clinical Symposia & AT Expo or any of the conferences presented by the state and district professional associations aligned with the NATA. In addition, the NATA communicates through its Website practice updates and other informative topics via position, official, consensus, and support statements.⁶⁵

CONCLUSIONS

Athletic training has evolved greatly in the last 10-plus years. Professional education has changed to the graduate level, and advanced education and training has progressed to doctoral and residency programs. Clinical practice settings have also expanded; consequently, the knowledge and skills ATs need to care for their diverse patient population has and continues to evolve. The first concept of educating, preparing, and credentialing ATs for growing practice settings was put forward in the mid-1970s. Just over 20 years later, the profession took a more definitive step in its educational processes that supported developing specialties and specialty certifications; however, it was another 17-plus years before the field of athletic training formalized processes for preparing and credentialing these specialists. Through this time, the idea for recognizing AT specialists progressed from certificates to specialty practices and board certification.

Although much progress has been made with advancing athletic training, recently presented evidence suggests ATs do not agree with or understand the concept underpinning these changes, which is athletic training as a general practice. This is an issue the field of athletic training needs to resolve. The continued development of specialty practices and specialty certifications relies on practitioners recognizing the discipline as a general practice. In 2018, the BOC formed the Specialty Council to validate athletic training specialties and oversee specialty certifications. It is a rigorous process to not only earn a specialty certification but also to create a specialty certification, and both processes depend upon ATs valuing the need for having and maintaining specialty certifications. Establishing this value begins with recognizing athletic training as a general practice.

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