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Current Athletic Training Educational Preparation for Dry Needling

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Purpose: Dry needling is an advanced practice skill that many athletic trainers are being trained to perform. The purpose of this study is to determine the degree to which the current athletic training educational competencies and standards prepare practitioners for the performance of dry needling tasks. **Methods:** An expert panel review was used to verify which of the dry needling tasks are currently taught through entry-level athletic education as defined by the 5th edition competencies and 2020 standards. **Results:** Results demonstrated that 11% of the tasks were dry needling specific and these were regarded as not provided through entry-level education. However, 89% of the tasks were provided through entry-level education. **Conclusions:** It is clear that current athletic training education adequately prepares an athletic trainer to learn dry needling as an advanced practice skill as a large number of the Competencies for Dry Needling are taught within athletic training entry-level education. **Keywords:** Dry Needling, Athletic Training

INTRODUCTION

Dry needling is becoming a common treatment technique in orthopedic sports medicine. Dry needling refers to the insertion of a thin monofilament needle/s to penetrate the skin and/or underlying structures to affect changes in body structure and function targeted toward various treatment goals.¹⁻³ Dry needling is used to treat various tissues of the body including muscles, ligaments, tendons, myofascial structures, scar tissue, perineural and neurovascular bundles for the management of a variety of conditions.¹⁻⁶ A recent review of dry needling literature has demonstrated that there is evidence that the technique is effective for a wide range of areas and conditions including; the reduction of pain and disability in knee osteoarthritis, hip osteoarthritis, piriformis syndrome, carpal tunnel syndrome, migraines, tension type headaches, temporomandibular disorder, shoulder pain, neck pain, low back pain, and plantar fasciitis.¹

As dry needling has increased in its popularity, so too has the questioning of the practice by state licensing boards and professional organizations. Questions regarding educational preparation, safety of the public and training are familiar conversation points across and among

professions and licensing boards when dry needling is performed by athletic trainers, physical therapists and other healthcare providers. In response to the questions raised by these professions and state licensing boards the Federation of State Boards of Physical Therapy recently set out to define the knowledge and skills necessary for safe performance of dry needling. As a result of this work the Taskforce went through a job tasks analysis and identified 123 discrete tasks required for the competent performance of dry needling. The findings were published in the Analysis of Competencies for Dry Needling by Physical Therapists.⁷ The report concluded that “86% of the knowledge requirements needed to be competent in dry needling is acquired during the course of PT entry-level education, including knowledge related to evaluation, assessment, diagnosis and plan of care development, documentation, safety, and professional responsibilities.”⁷ This provided the kind of direction Physical Therapy licensing boards were looking for in terms of clarifying the practice. While this process provided clarity for physical therapy, it does not speak to other professions preparation even though the APTA recognizes that no one profession should be taking ownership of dry needling- “it is very clear that no single profession owns any procedure or

intervention”.⁸ Continued clarity is still necessary for state licensing boards of other professions.

Athletic Trainers are healthcare professionals who render service or treatment, under the direction of or in collaboration with a physician, in accordance with their education and training and the states' statutes, rules and regulations. As a part of the healthcare team, services provided by Athletic Trainer's include injury and illness prevention, wellness promotion and education, emergent care, examination and clinical diagnosis, therapeutic intervention, and rehabilitation of injuries and medical conditions.⁹ To date, federal regulations and state practice acts vary on athletic trainers performing dry needling. However, many states prohibit the performance of general invasive procedures. The NATA Dry Needling fact sheet states that “currently, there is no profession-wide standard that defines athletic trainer competence in dry needling. Prior to performing dry needling, athletic trainers must ensure their state practice act does not prohibit them from performing dry needling as part of the athletic training plan of care. Additionally, athletic trainers must satisfy any requisite educational and training necessary to provide dry needling.”¹⁰ Athletic trainers may have to produce evidence of appropriate training and demonstrate knowledge and competency in dry needling. It is recommended that employers require appropriate documentation proving competency in the training and technical ability to perform dry needling.¹¹ While the Board of Certification (BOC) for Athletic Trainers, the national organization that establishes and reviews the standards for the practice of athletic training, has not offered an official statement regarding the legality of athletic trainer's performing dry needling, several states have determined that dry needling is within athletic trainer's scope of practice.

There are many questions about the educational preparation of athletic trainers as it relates to dry needling practice. Athletic training education has been clearly defined by the Commission on Accreditation of Athletic Training Education through two documents the 2020 Standards for Accreditation of Professional Athletic Training Programs as well as the Athletic Training Education Competencies - 5th Edition.¹²⁻¹³ These documents outline the knowledge, skills, and clinical abilities to be mastered by students enrolled in professional athletic training education programs. By reviewing the Analysis of Competencies for Dry Needling by Physical Therapists in comparison with the 2020 Standards for Accreditation of Professional Athletic Training Programs as well as the Athletic Training Education Competencies - 5th Edition, clarity could be provided to the question of whether or not athletic trainers possess the required knowledge and skills to safely perform the dry needling.^{7, 13} This is important as this is the primary concern for state licensing boards who focus on public safety issues.

The purpose of this study is to determine the degree to which the 123 tasks outlined in the Analysis of Competencies for Dry Needling by Physical Therapists are covered within Athletic Training Education as defined by the 2020 Standards for Accreditation of Professional Athletic Training Programs as well as the Athletic Training Education Competencies - 5th Edition.^{7, 12, 13}

METHODS

Instrument Development

In order to accurately discern the degree to which athletic training education prepares an athletic trainer to perform the 123 discrete tasks required for the competent performance of dry needling, a survey was developed. The first step of the research methodology was to obtain institutional review board approval for development of the survey. The research team and two expert dry needling instructors used

a two-round process of matching the 2020 Standards for Accreditation of Professional Athletic Training Programs as well as the Athletic Training Education Competencies - 5th Edition to each of the 123 tasks outlined in the tasks outlined in the Analysis of Competencies for Dry Needling by Physical Therapists.^{7, 12, 13} Once there was consensus that the corresponding tasks were matched with appropriate standards and competencies, the instrument was finalized and sent back to the IRB for approval to be sent to the expert panel.

Expert Panel Review

The survey was sent to 18 identified experts. Nine of which were athletic training dry needling experts the other nine were program directors identified as AT competency experts. These experts were identified using the Dreyfus five stage skill acquisition model.¹⁴ According to Dreyfus, an expert is someone who not only has experience being a proficient performer of the skill, but also in accordance with his or her vast experience, has situational discrimination. It is this subtle and refined discriminatory capability that distinguishes the expert from the proficient performer. Thus, the expert has a depth of experience in a wide range of diverse application scenarios, enabling their decision making to be instinctive, intuitive and focused more on subtle and refined discriminations of clinical application.

Following Dreyfus's model, dry needling experts were identified based upon the following criteria; three or more years of consistent "daily" dry needling experience and multiple dry needling certifications. Additionally, one third of those identified as dry needling experts currently teach dry needling classes. In looking for experts on the competencies and standards using the Dreyfus's model, we identified program directors with more than 10 years of experience. This provided program directors with more than 10 years' experience who had participated in multiple program

accreditations, many were current CAATE site visitors.

Sixteen experts responded to the survey, an 88% response rate. All responses were anonymous, and the sixteen responses were recorded and analyzed. The expert panel was given two choices in the survey. They were presented a single task and asked to either; agree/disagree that each individual competency and standard prepared an athletic trainer for the given task. Next, they were asked to respond if they would agree or disagree that the given task was a dry needling specific task not covered by entry-level competencies or standards. Lastly, they were given a comment box to give the competency or standard that they believed was a match to the given task if they believed there was one not listed or to make general comments to the research team. Decision making criteria were established by the research team prior to summarizing responses. An 80% agreement was necessary for a competency or standard to be accepted as a match for the task. If there were one or more competencies and/or standards that matched the task was deemed "provided through entry-level education". If 80% or more agreed that the task was dry needling specific, then it was deemed "dry needling specific".

RESULTS

After analyzing the data, the 123 tasks could be grouped into one of two categories: represented in the entry-level competencies and standards or dry needling specific tasks. The experts had 80% or more agreement that 110 of the 123 tasks were "provided through entry-level education" within the AT 5th Edition Competencies/will be taught through the CAATE 2020 Standards (Appendix A).¹²⁻¹³ The second category contained the remaining 13 of the 123 tasks, and these were regarded as not "provided through entry-level education" by AT 5th Edition Competencies/CAATE 2020 Standards and were therefore deemed "dry needling specific" (Appendix B).¹²⁻¹³ After completion

of the expert panel review, results demonstrated that 89% of the dry needling tasks were “provided through entry-level education” within the AT 5th Edition Competencies/will be taught through the CAATE 2020 Standards and 11% were not “provided through entry-level education” by AT 5th Edition Competencies/CAATE 2020 Standards and were therefore deemed “dry needling specific”.¹²⁻¹³

DISCUSSION

It would appear from this expert panel review that solid evidence can be presented regarding Athletic Trainers entry-level education and their preparation for dry needling practice. Of the 123 discrete tasks required for the competent performance of dry needling as described in the Analysis of Competencies for Dry Needling by Physical Therapists the expert panel deemed 89% of the tasks “provided through entry-level education” within the AT 5th Edition Competencies/going to be taught through the CAATE 2020 Standards.⁷ This would then provide evidence to state licensing boards that in states where Physical Therapists are deemed as able to be competently trained to dry needle, so should athletic trainers, given the entry level knowledge and skills taught through the 5th Edition Competencies and CAATE 2020 Standards. This would further add credence to the APTA statement that recognizes that no one profession should be taking ownership of dry needling - “it is very clear that no single profession owns any procedure or intervention” as it is clear that athletic trainers are adequately prepared to learn dry needling as a large number of the competencies for dry needling are covered within AT entry-level education.⁸

This research should provide further direction for state licensing boards in clarifying the types of tasks dry needling continuing education courses for athletic trainers should be teaching to adequately prepare an athletic trainer to dry needle competently (Appendix B). This should serve

to help state licensing boards in the evaluation of adequate educational preparation of an athletic trainer regarding this advanced practice skill. It should also serve to help these licensing boards understand that a large amount of knowledge and skills (evaluation, assessment, diagnosis and plan of care development, documentation, safety etc.) necessary for this advanced practice skill are taught through the 5th Edition of the Athletic Training Education Competencies which has served as the foundation of entry-level education for the last decade.

Lastly, when looking at the comments from the expert panel many comments were made that even the tasks in the “dry needling specific” list had some congruence with many of the 5th Edition of the Athletic Training Education Competencies or 2020 Standards however, they felt that there was a dry needling specific application or additional content needed to adequately state the athletic training competency covered the task. An example of this is task 103 “Implement emergency response procedures to treat patient/client injuries sustained during dry needling (e.g., perforation of hollow organs, heavy bleeding, broken needles)”. Certainly Athletic Trainers are educated in dealing with life threatening conditions such as abdominal trauma and internal bleeding from other sources of trauma, but the dry needling specific issues are not taught. There should be an understanding that the reason the Athletic Training Education Competencies or 2020 Standards are listed in appendix B was to reflect this idea of partial coverage of some of the content needed.

LIMITATIONS

This study provides evidence of current educational preparation in Athletic Training related to the practice of dry needling. As such, anyone educated prior to the 5th Edition Competencies may look at their individual educational experience and scope of practice differently than what is described here. Each athletic trainer should evaluate their ability to

engage dry needling practice relative to their scope and educational background. However, the 5th Edition Educational Competencies were published in 2011 and there was a transition of programs implementing them that lasted until the 2013-14 accreditation cycle. Therefore, this transition time had some number of certified Athletic Trainers educated on the 5th Edition Competencies, but there is no way to know how many. What we do know after contacting the board of certification (e-mail communication, September 2018) is that 25,610 or 48% of the total 53,609 certified athletic trainers were certified after the publication of the 5th Education Competencies and 17,596 or 33% were certified after the full transition. Therefore, state boards should know this reflects current education and that roughly a third or more athletic trainers reflect this entry-level educational preparation.

IMPLICATIONS FOR CLINICAL PRACTICE

Clinical practice of dry needling is an advanced skill being used by many athletic trainers in states where it is allowed by law. The expert panel review presented here lends credence to the addition of dry needling to the clinical practice of athletic trainers. Given the fact that dry needling is used to treat various tissues of the body muscles, ligaments, tendons, myofascial structures, scar tissue, perineural, and neurovascular bundles for the management of a variety of pathologic conditions.¹⁻⁶ It should be of great use to athletic trainers who upon training could use this skill on patients for which there is evidence that the technique is effective, such as (the reduction of pain and disability in knee osteoarthritis, hip osteoarthritis, piriformis syndrome, carpal tunnel syndrome, migraines, tension type headaches, temporomandibular disorder, shoulder pain, neck pain, low back pain, and plantar fasciitis).¹ Continued education in dry needling could be of benefit to the athletic trainer's patient population and is within the scope of practice for athletic trainers who are adequately trained.

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Appendix A: Tasks identified as “provided through entry-level education” and their corresponding competency and/or standard.

Tasks Number	Task (as identified by APTA) ⁷	AT 5th Edition Competency	CAATE 2020 Standard
1	Interview patients/clients, caregivers, and family to obtain patient/client history and current information (e.g., medical, surgical, medications, social, cultural, economic) to establish prior and current level of function.	CE-7 and CE-20	60 and 71
2	Interview patients/clients, caregivers, and family to obtain patient/client history and current information (e.g., medical, surgical, medications, social, cultural, economic) to establish general health status (e.g. fatigue, fever, malaise, unexplained weight change).	CIP-1	71
3	Interview patients/clients, caregivers, and family to obtain patient/client history and current information (e.g., medical, surgical, medications, social, cultural, economic) to identify risk factors and needs for preventative measures.	PHP-2 and PHP-3	79 and 80
4	Interview patients/clients, caregivers, and family to obtain patient/client history and current information (e.g., medical, surgical, medications, social, cultural, economic) to identify patient/client's, family, caregiver's goals.	CIP-1	59, 69, 80, and 82
5	Interview patients/clients, caregivers, and family to obtain patient/client history and current information (e.g., medical, surgical, medications, social, cultural, economic) to determine if patient/client is appropriate for therapy.	CE-22	70, 76, and 77
8	Interview patients/clients, caregivers, and family to obtain patient/client history and current information (e.g., medical, surgical, medications, social, cultural, economic) to review medical records (e.g., lab values, diagnostic tests, specialty reports, narrative, consults).	CE-13 and HA-9	69, 71, and 89
9	Interview patients/clients, caregivers, and family to obtain patient/client history and current information (e.g., medical, surgical, medications, social, cultural, economic) to gather information/discuss client/ patient's current health status with interprofessional/interdisciplinary team members (e.g., teacher, physicians, rehabilitation member).	CE-13	59, 69, and 71
10	Perform screen of the patient/client current affect, cognition, communication, and learning style (e.g... ability to make needs known, consciousness, orientation, expected emotional/ behavioral responses, learning preferences).	CE-21 and PS-1	71 and 77
11	Perform screen of the patient/client's quality of speech, hearing, vision (e.g., dysarthria, pitch/tone, use corrective lenses, use of hearing aid).	CE-21	71
12	Perform screen of the vestibular system (e.g., dizziness, vertigo).	CE-20 and CE-21	76
13	Perform screen of the gastrointestinal system (e.g., difficulty swallowing, heartburn, indigestion, change in appetite/diet).	CE-21	71
14	Perform screen of the genitourinary system (e.g., frequency, volume, urgency, incontinent episodes).	CE-21	71
15	Perform screen of the genital reproductive system (e.g., sexual and/or menstrual dysfunction).	PHP-43	71

16	Perform screen of the cardiovascular/pulmonary system (e.g. blood pressure, heart rate).	CE-20 and CE-21	71
17	Perform screen of the integumentary system (e.g. presence of scar formation, skin integrity, edema).	CE-b	71
18	Perform screen of the musculoskeletal system (e.g., gross symmetry, strength, weight, height, range of motion).	CE-21	71
19	Perform screen of the neuromuscular system (e.g., gross coordinated movements, motor function, locomotion).	CE-21	71
20	Select and perform tests and measures of cardiovascular function (e.g., blood pressure, heart rate, heart sounds).	CE-21	71 and 72
21	Select and perform tests and measures of pulmonary function (e.g., respiratory rate, oxygen saturation, breathing patterns, breath sounds, chest excursion).	CE-21	71 and 72
22	Select and perform tests and measures of peripheral circulation (e.g., peripheral pulses, capillary refill, blood pressure in upper versus lower extremities).	CE-20	71 and 72
23	Select and perform tests and measures of physiological responses to position change (e.g., orthostatic hypotension, skin color, blood pressure, heart rate).	CE-20, CE-21, and TI-11	71 and 72
24	Quantify edema (e.g., palpation, volume test, circumference).	CE-20 and CE-21	69, 71, and 72
25	Select and perform tests and measures of attention and cognition (e.g., ability to process commands).	CE-20 and CE-21	71 and 76
26	Select and perform tests and measures of patient's/client's ability to communicate (e.g., expressive and receptive skills, following instructions).	CE-20 and CE-21	71
27	Select and perform tests and measures of arousal and orientation to time, person, place, and situation.	CE-20 and CE-21	71 and 76
28	Select and perform tests and measures of recall (including memory and retention).	CE-20 and CE-21	71 and 76
29	Select and perform tests and measures of neural provocation (e.g., tapping, tension/stretch).	CE-20 and CE-21	71
30	Select and perform tests and measures of cranial nerve integrity (e.g., facial asymmetry, oculomotor function, hearing).	AC-36 and CIP-4	70, 71, and 76
31	Select and perform tests and measures of peripheral nerve integrity (e.g., sensation, strength).	CE-21	71
32	Select and perform tests and measures of spinal nerve integrity (e.g., dermatome, myotome).	CE-21	71
33	Select and perform test and measures of postural alignment and position (static and dynamic).	CE-21 and TI-11	71
34	Select and perform tests and measures of balance (dynamic and static) with or without the use of specialized equipment.	CE-20 and CE-21	71
35	Select and perform tests and measures of gait and locomotion (e.g., ambulation, wheelchair mobility) with or without the use of specialized equipment.	CE-21, AC-39, and TI-17	71 and 73
36	Select and perform tests and measures of mobility during functional	CE-21	71

	activities and translational movements (e.g., transfers, bed mobility).		
37	Assess skin characteristics (e.g., blistering, continuity of skin color, dermatitis, hair growth, mobility, nail growth, sensation, temperature, texture, and turgor).	CE-21	71
38	Assess scar tissue characteristics (e.g., banding, pliability, sensation, and texture).	CE-21	71
39	Select and perform tests and measures of spinal and peripheral joint stability (e.g., ligamentous integrity, joint structure).	CE-21	71
40	Select and perform tests and measures of spinal and peripheral joint mobility (e.g., glide, end feel).	CE-21	71
41	Select and perform test and measures of range of motion (e.g., functional and physiological).	CE-21	71
42	Select and perform test and measures of active and passive joint range of motion (e.g., goniometry).	CE-21	71
43	Select and perform test and measures of flexibility (e.g., muscle length, soft tissue extensibility).	PHP-26 and CE-21	71
44	Select and perform tests and measures of muscle strength, power, and endurance (e.g., manual muscle test, isokinetic testing, dynamic testing).	PHP-26 and CE-21	71
45	Select and perform tests and measures of muscle tone (e.g., hypertonicity, hypotonicity, dystonia).	CE-20 and CE-21	71
46	Select and perform tests and measures of patient's need for assistance (e.g., during transfers, in the application of devices).	CE-7 and AC-25	60, 69, 70, 71, and 78
47	Select and perform test and measures of deep tendon/muscle stretch reflexes (e.g., quadriceps, biceps).	CE-21	71
48	Select and perform tests and measures of superficial reflexes and reactions (e.g., cremasteric reflex, abdominal reflex).	CE-21	71
49	Select and perform test and measures of upper motor neuron integrity (e.g., Babinski reflex, Hoffman sign).	CE-21	71
50	Select and perform tests and measures of pain (e.g., location, intensity, characteristics, frequency).	AC-6, AC-7, and PS-9	71
51	Select and perform tests and measures of deep sensation (e.g., proprioception, kinesthesia, pressure).	CE-20 and CE-21	73
52	Select and perform tests and measures of superficial sensation (e.g., touch, temperature discrimination).	CE-20 and CE-21	73
53	Interpret each of the following types of data to determine the need for intervention or the response to intervention of: cardiovascular/pulmonary system.	CE-d and CE-f	71, 72, and 73
54	Interpret each of the following types of data to determine the need for intervention or the response to intervention of: lymphatic system.	CE-i	72
55	Interpret each of the following types of data to determine the need for intervention or the response to intervention of: neuromuscular system.	CE-a and CE-c	71 and 72
56	Interpret each of the following types of data to determine the need for intervention or the response to intervention of: vestibular system.	CE-c and CE-i	71 and 72
57	Interpret each of the following types of data to determine the need for	CE-a	71 and 72

	intervention or the response to intervention of: musculoskeletal system.		
58	Interpret each of the following types of data to determine the need for intervention or the response to intervention of: integumentary system.	CE-b	71 and 72
59	Interpret each of the following types of data to determine the need for intervention or the response to intervention of: anthropomorphic.	PHP-26, PHP-43, PHP-44, and CIP-1	79, 80, and 82
60	Interpret each of the following types of data to determine the need for intervention or the response to intervention of: genitourinary.	CE-g and CE-j	71 and 72
61	Interpret each of the following types of data to determine the need for intervention or the response to intervention of: pain.	CE-13, AC-6, AC-7, TI-14, and PS-9	71, 73, 74, and 75
62	Interpret each of the following types of data to determine the need for intervention or the response to intervention of: imaging, lab values, and medication.	CE-13	71, 72, and 74
63	Interpret each of the following types of data to determine the need for intervention or the response to intervention of: develop therapy diagnosis by integrating system and non-system data.	CIP-4 and CIP-5	71 and 72
64	Establish therapy prognosis based on information gathered during the examination process.	CE-11	62, 71, and 72
65	Develop plan of care based on data gathered during the examination process, incorporating information for the patient/client, caregiver, payer, family members, and other professionals.	PS-18 and CIP-5	58 and 71
66	Revise treatment intervention plan based on treatment outcomes, change in patient/client's health status, and ongoing evaluation.	EBP-13, EBP-14, CE-14, TI-12, and CIP-1	62, 63, 69, 71, and 73
67	Develop goals based on information gathered during examination process, incorporating information from the patient/client, caregiver, payers, family members, and other professionals.	TI-11, CIP-1, and CIP-4	71, 73, 80, and 82
68	Select interventions based on information gathered during the examination process, incorporating information from the patient/client, caregiver, payer, family members, and other professionals.	TI-11, CIP-4, and CIP-5	71 and 73
71	Position the patient/client to reduce the risk of harm to the patient/client and/or therapist.	PHP-2, PHP-3, and TI-11	73 and 80
73	Position the patient/client to perform palpation techniques to identify the area(s) to be needled.	CE-20 and TI-11	71, 73, and 80
74	Position the patient/client to apply needle handling techniques that ensure compliance with relevant and current professional standards (e.g., wash hands, wear gloves, minimize needle contamination).	TI-11 and HA-16	66 and 88
75	Position the patient/client to apply draping materials (e.g., linens, towels) to minimize unnecessary exposure and respect patient privacy.	TI-11	73
79	Position the patient/client to facilitate homeostasis as necessary.	AC-36 and TI-11	70
80	Position the patient/client to dispose of medical waste (e.g., needles, gloves, swabs) in accordance with regulatory standards and local	TI-11 and HA-16	66 and 88

	jurisdictional policies and procedures (e.g., sharps container).		
81	Position the patient/client to discuss post-treatment expectation with the patient/client or family/caregiver.	TI-11	73
82	Discuss therapy evaluation, interventions, goals, prognosis, discharge, planning, and plan of care with interprofessional/interdisciplinary team members (e.g., teacher, physician, rehabilitation member).	PS-18, HA-11, and CIP-9	58, 59, and 77
83	Discuss therapy evaluation interventions, goals, prognosis, discharge planning, and plan of care with patient/client and caregivers.	PS-18, HA-11, and CIP-9	58, 59, and 77
84	Provide written and oral information to the patient/client and/or caregiver.	PS-18, HA-11, and CIP-9	59
85	Document examination results.	CIP-9	64,65, 66, and 89
86	Document evaluation to include diagnosis, goals, and prognosis.	CIP-4	64, 65, 66, and 89
87	Document intervention(s) and patient/client response(s) to intervention.	CIP-4	64, 65, 66, and 89
88	Document patient/client and caregiver education.	HA-11	64, 65, 66, and 89
89	Document outcomes (e.g., discharge summary, reassessments).	HA-12	64, 65, 66, and 89
90	Document communication related to the patient/client's care (e.g., with the doctor, teacher, case manager).	HA-11	64, 65, 66, and 89
91	Assign billing codes for therapy diagnosis and treatment provided.	HA-12	64, 88, and 89
92	Document disclosure and consent (e.g., disclosure of medical information, consent for treatment).	CIP-9	66
93	Document letter of medical necessity (e.g., wheelchair, assistive equipment, continued therapy).	HA-11	89
94	Educate patient/client about current condition and health status (e.g., treatment outcomes, plan of care, risk and benefit factors).	PS-18	58
95	Educate caregivers about patient/client current condition and health status (e.g., treatment outcomes, plan of care, risk and benefit factors).	PS-18	58
96	Educate healthcare team about role of the therapist in patient/client management.	PD-11	68
97	Educate patient/client and caregiver on lifestyle and behavioral changes to promote wellness (e.g., nutritional interventions, physical activity, tobacco cessation).	PHP-33	77, 83, and 84
101	Implement emergency life support procedures.	CIP-6	70
102	Perform first aid.	AC-22 and CIP-6	70
104	Implement emergency response procedures to treat practitioner injuries sustained during dry needling (e.g., needle stick).	CIP-6	70
105	Perform regular equipment inspections (e.g., modalities, assistive devices).	TI-20	73 and 88
106	Prepare and maintain a safe and comfortable environment for	HA-5	88

	performing dry needling (e.g., unobstructed walkways, areas for patient/client privacy).		
107	Perform regular equipment inspections (e.g., modalities, needle expiration, sharps containers).	TI-20	88
108	Stock dry needling supplies and equipment in safe proximity during treatment.	HA-6	88
109	Perform activities using appropriate infection control practices.	HA-16	66
110	Create and maintain an aseptic environment for patient/client interaction.	HA-16	66
111	Implement infection control procedures to mitigate the effects of needle stick injuries.	HA-16	66
112	Clean and disinfect blood and bodily fluids spills in accordance with regulatory standards and local jurisdictional policies and procedures.	PHP-7	66
113	Replace surfaces that cannot be cleaned.	PHP-7	66
114	Integrate current best evidence, clinical experience, and patient value in clinical practice (e.g., clinical prediction rules, patient preference).	EBP-2, EBP-10, EBP-14, and CE-12	62, 64, and 69
115	Discuss ongoing patient care with the interprofessional/interdisciplinary team members.	PS-18	58 and 77
116	Refer patient/client to specialist or other healthcare providers when necessary.	CE-22 and PD-9	69, 71, 72, and 77
117	Disclose financial interest in recommended products or services to patient/client.	PD-5	65
118	Provide notice and information about alternative care when the therapist terminates provider relationship with the patient/client.	CE-22 and PD-9	69, 71, 72, and 77
119	Document transfer of patient/client care to another therapist (therapist of record).	CE-22 and PD-9	64, 65, 66, 69, 71, 72, 77, and 89
120	Determine own need for professional development (i.e., continued competence).	PD-7	67
121	Participate in learning and/or development activities to maintain the currency of knowledge, skills, and abilities.	PD-7	67
122	Practice within the jurisdiction regulations and professional standards.	PD-4 and PD-6	66

Dry needling tasks that the expert panel agreed were “provided through entry-level education” and their corresponding competencies and standards from AT 5th Edition Competencies and CAATE 2020 Standards respectively (EBP – Evidence-Based Practice, PHP – Prevention and Health Promotion, CE – Clinical Examination and Diagnosis, AC – Acute Care of Injuries and Illnesses, TI – Therapeutic Interventions, PS – Psychosocial Strategies and Referral, HA – Healthcare Administration, PD – Professional Development and Responsibility, CIP – Clinical Integration Proficiencies).⁷

Appendix B. Tasks identified as “dry needling specific” and their corresponding competency and/or standard.

Task Number	Task (as identified by APTA) ⁷	AT 5th Edition Competency	CAATE 2020 Standard
6	Interview patients/clients, caregivers, and family to obtain patient/client history and current information (e.g., medical, surgical, medications, social, cultural, economic) to identify prior experience with and tolerance for dry needling (e.g., needle phobia, response to treatment, ability to comply with treatment requirements).	CE-13	69 and 71
7	Interview patients/clients, caregivers, and family to obtain patient/client history and current information (e.g., medical, surgical, medications, social, cultural, economic) to identify contraindications and precautions related to dry needling (e.g., age, allergies/sensitivities, diseases/conditions, implants, areas of acute inflammation, acute systemic infections, medication).	TI-11a	73
69	Sequence dry needling with other procedural interventions and techniques (e.g., therapeutic exercise, neuromuscular re-education, manual therapy, physical modalities) to augment therapeutic effects and minimize risk due to adverse outcomes and/or contraindication.	TI-11	73
70	Position the patient/client to expose the area(s) to be needled.	TI-11	73
72	Position the patient/client to educate the patient/client on the impact of movement during treatment.	TI-11 and PS-18	58 and 73
76	Position the patient/client to perform dry needling techniques consistent with treatment plan (i.e., place, manipulate, and remove needles).	TI-11	73
77	Position the patient/client to manage needle removal complications (e.g., stuck needle, bent needle).	TI-11	73
78	Position the patient/client to monitor patient/client's emotional and physiological response to dry needling.	TI-1, TI-8, TI-11, and PS-6	58, 73, and 77
98	Educate patient/client or family/caregiver about dry needling (e.g., purpose, techniques, methods of action, benefits, tools and equipment).	None	None
99	Educate patient/client or family/caregiver about potential adverse effects associated with dry needling (e.g., fainting, bruising, soreness, fatigue).	TI-11	73
100	Educate patient/client or family/caregiver about precautions and contraindications for dry needling (e.g., age, allergies/sensitivities, disease/conditions, implants, areas of acute inflammation, acute systemic infections, medications).	TI-11	73
103	Implement emergency response procedures to treat patient/client injuries sustained during dry needling (e.g., perforation of hollow organs, heavy bleeding, broken needles).	CIP-6	70
123	Determine own ability to perform dry needling safely and effectively.	PD-7	67

Dry needling tasks that the expert panel agreed were not “provided through entry-level education” and their corresponding competencies and standards from AT 5th Edition Competencies and CAATE 2020 Standards respectively (CE – Clinical Examination and Diagnosis, TI – Therapeutic Interventions, PS – Psychosocial Strategies and Referral, PD – Professional Development and Responsibility, CIP – Clinical Integration Proficiencies).⁷