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Dry Needling Competency Update: Report Memo 2024

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This memo summarizes the processes and results of the review of dry needling competencies conducted by the Healthcare Regulatory Research Institute (HRRRI) in partnership with the Federation of State Boards of Physical Therapists (FSBPT) and the Human Resources Research Organization (HumRRO). The activities documented in this report were conducted between January and July 2024 with a task force established by FSBPT. The task force consisted of 10 physical therapists with experience performing dry needling and/or teaching dry needling principles and techniques. Additionally, six task force members are serving or have served on a state regulatory board. A complete list of the task force members is presented in Appendix A.

The goals of this effort were to (a) review and update FSBPT/HRRRI's definition for dry needling to ensure it reflects current practice, (b) assess the current state of the competencies needed by physical therapists to perform dry needling safely and effectively, and (c) determine the need for additional research to ensure the competencies accurately and faithfully represent the dry needling domain of practice. The work described in this report represents a continuation of HRRRI's efforts to support state boards' decisions regarding the scope of physical therapy practice related to dry needling. This work builds on the 2015 and 2020 analyses of dry needling competencies conducted by HRRRI and HumRRO to define the minimum competency requirements for dry needling (see Caramagno et al., 2015; Caramagno et al., 2021), as well as the recurring analysis of practice studies conducted by FSBPT to define the entry-level knowledge and skill requirements for physical therapists (see Howald et al., 2023; Harris et al., 2022; Harris et al., 2021; Rogers & Caramagno, 2020; Rogers & Caramagno, 2019; Caramagno, 2018; Caramagno et al., 2016).

Background Information

In 2015, HRRRI sponsored a study to analyze and identify the competencies needed by physical therapists to perform dry needling safely and effectively (Caramagno et al., 2015). The study involved compiling, reviewing, and finalizing a set of competencies that accurately reflect the scope of practice for the intervention. The study's results led to the creation of two lists of work and worker requirements identified as relevant and important for dry needling. One list defined 123 work activities (WAs) that physical therapists carry out when performing dry needling, and the other list defined 117 knowledge and skills requirements (KSRs) that physical therapists must possess to perform the work activities safely and effectively.

A key step in developing the dry needling competencies was a thorough review of entry-level physical therapy requirements specified on the content outline for the National Physical Therapy Examination (NPTE) licensure exam. The NPTE content outline lists WAs and KSRs that are relevant to entry-level physical therapy practice, reflecting the knowledge and skills physical therapy students acquire during their formative education. This review was performed by a task force of subject matter experts assembled by FSBPT. The task force determined that a majority (86%) of the WAs and KSRs identified as necessary for dry needling are taken directly from the NPTE content outline and are acquired during entry-level physical therapist education. This finding suggests that a substantial part of dry needling competence is part of standard clinical physical therapy practice (e.g., gathering information, determining the best treatment options, and documenting a plan of care and progress). A small, but no less important, proportion of additional knowledge and skills must be developed through post-graduate or specialized training in dry needling.

Since the publication of the first dry needling competencies report, FSBPT conducted two comprehensive practice analysis studies (in 2016 and 2022) that resulted in adjustments to the NPTE content outline and exam blueprint weights (i.e., percentages of items allocated for each content domain). Additionally, in 2018, FSBPT started conducting annual practice analysis surveys to evaluate trends in physical therapy practice (e.g., emerging interventions and changes in the perceived importance of the KSRs). In 2020, HRRR conducted a content validity study to determine if the changes made to the NPTE content outline or practice analysis competencies since 2016 were applicable to the dry needling competencies (Caramagno et al., 2021). During this study, editorial updates were primarily made to the dry needling competencies.

Because the NPTE content outline was updated in 2022, HRRR sponsored the current study to replicate the goals and procedures of the 2020 update to the dry needling competencies. These included (a) reviewing the definition of dry needling to determine the need for updates, (b) determining if the changes made to the NPTE content outline or practice analysis competencies since 2020 are also applicable to the dry needling competencies, and (c) gathering feedback to help inform the design and administration of the next full analysis of dry needling competencies study. The remainder of this report describes the processes and outcomes of the work.

Methodology

The methodology for reviewing the dry needling competencies involved three steps—an independent review of existing materials, a compilation of the review results, and an in-person meeting to discuss and reach an agreement on the updates to the dry needling competencies. Each step is presented below with summary descriptions to clarify important details.

Independent Review

The purpose of the independent review was to collect task force members' opinions and insights on the current dry needling definition and changes made to the NPTE content outline. The task force completed an independent rating assignment to answer the following questions.

1. Does the definition of dry needling accurately describe the practice?
2. Do changes made to the NPTE content outline and/or practice analysis competencies apply to the dry needling competencies?

Prior to beginning the assignment, task force members attended a live training hosted via virtual meeting software.¹ The training provided information on the history of the development of the dry needling competencies, the process for updating the NPTE content outline, the purpose of the task force's current review, and the steps and considerations for comparing and evaluating the competencies during the task.

¹ Three task force members were not able to attend the training. HumRRO provided these members a recording of the training as an alternative.

The assignment was split into two parts. In the first part, task force members evaluated the existing definition of dry needling (generated in 2015), juxtaposed against the definitions adopted by state boards around the country since 2015, and provided recommendations for revisions to ensure it is broadly applicable and accurately describes the principal tenets of the intervention. The definition the task force reviewed is presented below.

Dry needling is a skilled technique performed by a physical therapist using filiform needles to penetrate the skin and/or underlying tissues to affect change in body structures and functions for the evaluation and management of neuromusculoskeletal conditions, pain, movement impairments, and disability. (Caramagno, Adrian, Mueller, & Purl, 2015)

In the second part, task force members reviewed changes made to individual WAs and KSRs as part of the ongoing NPTE updates. These changes included editorial and substantive revisions (e.g., adding or removing punctuation, replacing individual words to improve clarity or comprehension, adding or removing examples presented in parentheses after WAs and KSRs) and whole-statement changes (i.e., separating or combining WA and KSR statements, adding or removing entire WAs or KSRs).

For each listed change, the task force members made a dichotomous rating:

- Accept: This change is appropriate for the dry needling competencies.
- Reject: This change is NOT appropriate for the dry needling competencies.

In total, task force members reviewed changes for 32 WAs and 32 KSRs. However, task force members were invited to provide commentary and feedback on any WA or KSR in the dry needling competency list, including competencies for which no changes were being considered.

Compilation of Results

The purpose of the second step was to evaluate the task force members' feedback and ratings from the independent review and identify aspects of the dry needling definition and competencies in the NPTE content outline that required further review and discussion. HumRRO researchers compiled and reviewed the task force member's comments on the dry needling definition and implemented the recommended changes using edit tracking. A simple majority of the task force (60%) stated that the dry needling definition was applicable and required no changes, and the remaining members recommended minor editorial changes to improve clarity and accuracy. HumRRO applied the recommended edits to the definition and sent it back to the task force for a second review (via a Web-based form), where they viewed the changes to the definition and responded to questions regarding the applicability of those edits. During this review, there was agreement for some editorial changes to improve the clarity of the definition, such as replacing "technique" with "intervention"; however, two changes garnered divided opinions and warranted further discussion at the task force meeting (see below for more details).

For the WA and KSR edits considered by the task force, HumRRO calculated a numeric threshold for the ratio of accepted and rejected changes to identify instances of disagreement that required additional discussion. The numeric threshold was based on Lawshe's Content

Validity Ratio (CVR) and Ayre and Scally's (2014) critical values table.² We established a minimum threshold of 9 out of 10 votes in favor of or against the changes to indicate adequate agreement among the task force members. Fewer than nine votes for a given WA or KSR change resulted in flagging it for discussion. In total, 22 competencies were flagged for discussion (16 WAs and 6 KSRs).

Task Force Meeting

The task force members participated in a 6-hour in-person meeting at FSBPT's headquarters in Alexandria, VA, to review the results and discuss the flagged WAs and KSRs. The purpose of the meeting was to finalize the dry needling definition and reach a consensus on whether the changes that were applied to the WAs and KSRs on the NPTE content outline should also be applied to the corresponding dry needling competencies. The meeting was attended by 10 task force members, one FSBPT staff member, three HumRRO staff members, and a liaison from the FSBPT Board.

Updates to the Dry Needling Definition

As noted above, the asynchronous review of the dry needling definition resulted in two edits that required further review by the task force. The first edit discussed by the task force revolved around the use of "filiform needles." Members considered whether the specification of the type of needle is necessary to avoid confusion with other techniques or interventions or if generalizing the term to "needles" is sufficient. The task force reflected on the fact that the types of needles available may change over time as technology advances needle development. Accordingly, the task force agreed the use of "needles" without additional modifiers was appropriate to ensure the definition remains applicable over time without losing descriptive information about the practice itself.

The second point of discussion involved the phrase "body structures." Some task force members suggested the term "body" did not align with the language used within the existing list of WAs and KSRs. During the meeting, the task force discussed a couple of considerations regarding the proper term, including the target audience (i.e., for whom is the definition intended and will one or another term be more familiar to them) and the need to distinguish dry needling from other interventions that use needles. Ultimately, the task force unanimously decided that "anatomical" accurately expresses the range of structures that can be positively impacted by the use of dry needling and matched the phrasing used in the WAs and KSRs. The task force's final definition is shown below.

Dry needling is a skilled intervention performed by a physical therapist using needles to penetrate the skin and/or underlying tissues to affect functional change in anatomical structures and systems for the evaluation, management, and prevention of neuromusculoskeletal conditions, pain, movement impairments, and disability.

² The CVR (Lawshe, 1975) is a statistic used to estimate the amount of agreement among a panel of judges/experts on whether an item (e.g., test item, job task, competency statement) is a member of a set (e.g., test blueprint domain, group of critical/important elements, job task category, competency category). It is a linear transformation of the proportional level of agreement among the panel of judges/experts. CVR values range from -1.00 (perfect disagreement) to 1.00 (perfect agreement). Values greater than 0 indicate that more than half of the panel members agree. Ayre and Scally (2014) provided a critical values table based on exact binomial probabilities to aid in identifying the minimum number of judges/experts needed to agree that an item is a member of a set. Critical values vary based on the total number of judges/experts participating in the judgment activity. The critical values provide statistical support that the agreement among the judges/experts is not due to chance.

Updates to the Dry Needling Competencies

As noted earlier in this document, the scope of the changes to the WAs and KSRs varied from minor editorial revisions to additions or removals of entire WAs or KSRs. Because of this variation, it was necessary to consider the impact the changes might have on (a) the content validity of the dry needling competencies and (b) the use of the competencies by practitioners and policymakers. Changes that alter the substantive content and/or conceptual meaning of the competencies have the potential to impact decisions and policies that have already been made based on the original publication of the competencies.

It is worth mentioning that the changes to WAs and KSRs reviewed by the task force were primarily based on updates to the NPTE content outline in 2022; however, some of the changes were based on updates made to the version of the statements as they appear on FSBPT’s annual practice analysis surveys. This latter collection of changes—two WAs and three KSRs—is not currently reflected in the NPTE content outline but may be adopted in the future. The task force reviewed these changes in anticipation of them going into effect on the next iteration of the NPTE content outline.

Table 1 displays summative information on the decisions made about the proposed changes based on the task force’s ratings and discussion. Of the changes proposed for 32 dry needling WAs during the independent review, 24 (75%) representing minor editorial adjustments, additional content relative to dry needling, or removal of topics that are no longer relevant to practice or are covered by existing WAs were approved by the task force. The changes proposed for the remaining eight WAs (25%) were identified as involving the introduction of new topics or concepts to the competencies that either (a) are not relevant to dry needling practice due to being a separate physical therapy intervention or (b) not commonly used when practicing dry needling.

Of the changes proposed for the 32 KSRs reviewed, the task force approved 29 (90.6%). Many of the accepted changes involve adjustments to clarify the KSRs without impacting their underlying meaning. The accepted statement additions were primarily in the areas of Professional Responsibilities (eight statements) and Skills (four). Changes proposed for the remaining three KSRs were rejected as they represent the introduction of information to the competencies that is not necessary for dry needling or not frequently used in dry needling.

Table 1. Summary of Competency Update Decisions

	WA		KSR	
	n	%	n	%
Total Reviewed	32	-	32	-
Accepted Change to Dry Needling Competencies	24	75.0	29	90.6
<i>Editorial change</i>	9	28.1	11	34.4
<i>Statement added to competencies</i>	12	37.5	18	56.3
<i>Statement removed from competencies</i>	3	9.4	0	0.0
Rejected Change to Dry Needling Competencies	8	25.0	3	9.4
<i>Introduced topic not relevant to dry needling</i>	7	21.9	2	6.3
<i>New topic not common for use in dry needling</i>	1	3.1	1	3.1

It is worth mentioning that the task force members highlighted a topic they believe may impact the practice of dry needling based on the way the competencies are presented. The topic they discussed involved whether it is necessary for practitioners to understand the insurance and financial information involved with the practice. The task force members agreed that patients should be made aware of any financial costs—what is covered by insurance and what they will need to contribute themselves. The task force members also admitted that payment can be a salient issue because dry needling is not always covered by insurance. Members felt that it was important to be transparent with patients about costs and how costs impact their treatment plans.

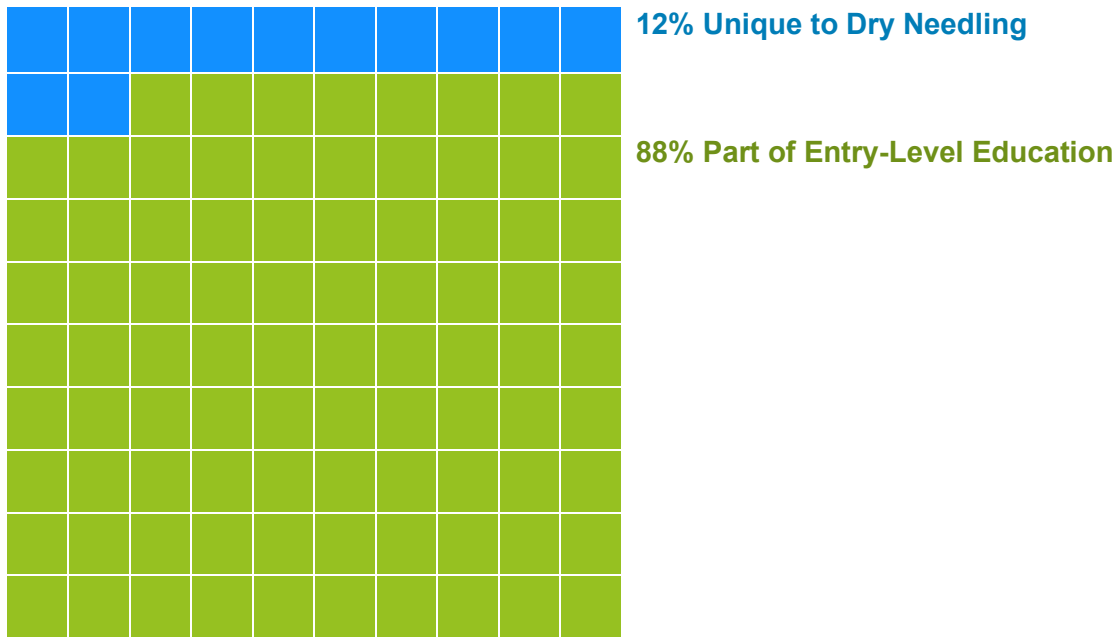
Additionally, the task force reviewed the full lists of WAs and KSRs and determined that one WA and one KSR unique to the dry needling competency lists required updating. For the WA “Perform dry needling techniques consistent with the treatment plan (e.g., place, manipulate, and remove needles),” the task force added “select” to the list of examples to improve the clarity of the statement. The KSR statement “Solid filament needles (e.g., physical characteristics)” was rewritten to “Needle characteristics (e.g., length, gauge/diameter, solid, hollow).” This update was made to maintain consistency with the changes the task force applied to the dry needling definition and to ensure the statement would maintain applicability as research around needle use evolves. The complete lists of dry needling WAs and KSRs, with proposed changes and final decisions, are presented in Appendices B and C, respectively.

Conclusion

The focus of this work was on exploring whether changes made to the NPTE content outline in 2022 apply to the dry needling competencies originally developed in 2015 and revised in 2020. Based on the collective review of 10 subject matter experts who are familiar with dry needling through practice and/or instruction, many of the changes appear to be applicable and can be implemented without obscuring or altering the underlying meaning of the competencies. The review and acceptance of many of these changes preserve the empirical link between the NPTE content outline and the dry needling competencies and continue to support the conclusion that much of the knowledge and skills needed to perform dry needling are acquired during physical therapists’ entry-level education.

The updated set of dry needling competencies includes 144 work activities, 133 knowledge requirements, and 20 skills/abilities. Of the 133 knowledge requirements identified as critical for competence in dry needling, 117 (88%) represent knowledge that physical therapists acquire and develop during entry-level physical therapist education (see Figure 1). This includes knowledge related to Examination, Evaluation, Interventions, System Interactions, Safety and Protection, and Professional Responsibilities. The remaining knowledge requirements ($n = 16$) are specific to dry needling and are acquired and developed through advanced or specialized training (e.g., dry needling course, residency program). As noted in the 2015 and 2020 dry needling reports, the dry needling-specific knowledge is predominantly related to the needling technique (e.g., needle selection and placement, identification of contraindications, emergency preparedness, and response).

Figure 1. Proportion of NPTE Knowledge Requirements Included in Dry Needling Knowledge Requirements



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Appendix A. Task Force Members

- David Bertone, PT, DPT, OCS, Cert DN
- Tracey Adler, DPT, CMTPT/DN
- Michelle Finnegan, PT
- Oday Lavergne, PT
- Ruth M. Maher, PT, PhD, DPT, WCS
- Keri Maywhort, PT, DPT
- Tina McLean, PT, DPT, ATC, CMTPT, GTS
- Ron Pavkovich, PT, DPT, FAAOMPT, Cert. DN, Cert. SMT, CIDN, CDNMT
- JJ Thomas, DPT, CMTPT, FDNS
- Edo Zylstra, DPT

Appendix B. Dry Needling Work Activities

Work Activity	Status	Decision	Additional Comments
PATIENT/CLIENT ASSESSMENT			
Information Gathering & Synthesis			
Interview patients/clients, caregivers, and family to obtain patient/client history and current information (e.g., medical, surgical, medications, social, cultural, language preference, economic) to...			
... establish prior and current level of function/activity			
... establish general health status			
... identify red flags (e.g., fever, malaise, unexplained weight change) and contraindications			
... identify risk factors and needs for preventative measures			
... identify patient/client's, family/caregiver's goals, values, and preferences			
... determine if patient/client is appropriate for PT			
... determine insurance and financial resources and issues (e.g., co-pays, deductibles, insurance limitations)	Added	Accept	
...determine impact of medications on plan of care (e.g., medication reconciliation, timing of intervention delivery, adherence)	Added	Accept	
... identify prior experience with and tolerance for dry needling (e.g., needle phobia, response to treatment, ability to comply with treatment requirements)			
... identify contraindications and precautions related to dry needling (e.g., age, allergies/sensitivities, diseases/conditions, implants, areas of acute inflammation, acute systemic infections, medications)			
Administer standardized questionnaires (e.g., pain inventory, fall risk assessment)	Added	Accept	
Review medical records (e.g., lab values, diagnostic tests, imaging , specialty reports, narrative, consults)	Edited	Accept	
Gather information/discuss patient/client's current health status with interprofessional/interdisciplinary team members			
Identify signs/symptoms of change in patient/client's health status that require intervention by interprofessional/interdisciplinary team members			

Work Activity	Status	Decision	Additional Comments
Systems Review			
Perform screen of the...			
... patient/client's current affect, cognition, communication, and learning preferences (e.g., ability to convey needs, consciousness, orientation, expected emotional/behavioral responses)			
... patient/client's quality of speech, hearing, and vision (e.g., dysarthria, pitch/tone, use corrective lenses, use of hearing aids)	Edited	Accept	
... vestibular system (e.g., dizziness, vertigo)			
... gastrointestinal system (e.g., difficulty swallowing, nausea, change in appetite/diet, change in bowel function)			
... genitourinary system (e.g., changes in bladder function, catheter complications)			
... reproductive system (e.g., sexual and/or menstrual dysfunction, menstrual dysfunction , menopause/ andropause status)	Edited	Accept	
... cardiovascular/pulmonary system (e.g., blood pressure, heart rate, respiration rate)			
... lymphatic system (e.g., primary and/or secondary lymphedema)	Edited	Accept	
... integumentary system (e.g., presence of scar formation, skin integrity, discoloration)			
... musculoskeletal system (e.g., gross symmetry, strength, range of motion)			
... neuromuscular system (e.g., gross coordination, motor function, balance, locomotion, gross sensory function)			
Tests & Measures			
Cardiovascular and Pulmonary			
Select and perform tests and measures of...			
... cardiovascular function (e.g., blood pressure, heart rate, heart sounds)			
... pulmonary function (e.g., respiratory rate, breathing patterns, breath sounds, chest excursion)			
... peripheral circulation (e.g., capillary refill, blood pressure in upper versus lower extremities)			
... physiological responses to position change (e.g., orthostatic hypotension, skin color, blood pressure, heart rate)			
Anthropometric			
Quantify and qualify edema (e.g., palpation pitting , volume test , circumference)	Edited	Accept	

Work Activity	Status	Decision	Additional Comments
<i>Arousal, Attention, & Cognition</i>			
Select and perform tests and measures of...			
... attention and cognition (e.g., ability to process commands, delirium, confusion)			
... communication (e.g., expressive and receptive skills, following instructions)			
... arousal and orientation (e.g., level of consciousness, time, person, place, situation)			
... recall (including memory and retention)			
<i>Nerve Integrity</i>			
Select and perform tests and measures of...			
... neural provocation (e.g., tapping, tension, stretch)			
... cranial nerve integrity (e.g., facial asymmetry, oculomotor function, hearing)			
... peripheral nerve integrity (e.g., sensation, strength)			
... spinal nerve integrity (e.g., dermatome, myotome)			
<i>Environmental & Community Integration/Reintegration (Home, Work, Job, School, Play, & Leisure)</i>			
Assess safety in home, community, work, or school environments			
<i>Ergonomics and Body Mechanics</i>			
Select and perform tests and measures of...			
... ergonomics and body mechanics during functional activities			
... postural alignment and position (static and dynamic)			
<i>Functional Mobility, Balance, & Vestibular</i>			
Select and perform tests and measures of...			
... balance (dynamic and static) with or without the use of specialized equipment			
... gait and locomotion (e.g., ambulation, wheelchair mobility) with or without the use of specialized equipment			
... mobility during functional activities and transitional movements (e.g., transfers, bed mobility)			
<i>Integumentary Integrity</i>			
Assess skin characteristics (e.g., continuity of skin color, sensation, temperature, texture, turgor)			
Assess scar tissue characteristics (e.g., banding, pliability, sensation, and texture)			

Work Activity	Status	Decision	Additional Comments
Joint Integrity & Range of Motion			
Select and perform tests and measures of...			
... spinal and peripheral joint stability (e.g., ligamentous integrity, joint structure)			
... spinal and peripheral joint mobility (e.g., glide, end feel)			
... range of motion (e.g., passive, active, functional)			
... flexibility (e.g., muscle length, soft tissue extensibility)			
Motor Function			
Select and perform tests and measures of...			
... muscle tone (e.g., hypertonicity, hypotonicity, dystonia)			
...movement quality (e.g., purpose, precision, efficiency, biomechanics, kinematics, compensatory strategies)	Added	Accept	
... patient's need for assistance (e.g. during transfers, in the application of devices)	Removed	Accept	This topic is covered by other WA statements
Muscle Performance			
Select and perform tests and measures of...			
... muscle strength, power, and endurance without specialized equipment (e.g., manual muscle test, functional strength testing)			
... muscle strength, power, and endurance with specialized equipment (e.g., isokinetic testing, dynamometry)			
...muscle integrity (using ultrasound imaging)	Added	Reject	Not currently necessary for dry needling practice.
Neuromotor Development & Sensory Integration			
Select and perform tests and measures of...			
... oral motor function, phonation, and speech production	Removed	Accept	This topic is covered by other WA statements
Reflex Integrity			
Select and perform tests and measures of...			
... deep tendon/muscle stretch reflexes (e.g., quadriceps, biceps)			
... superficial reflexes and reactions (e.g., cremasteric plantar reflex, abdominal reflexes)	Edited	Accept	
... upper motor neuron integrity (e.g., Babinski reflex, Hoffman sign)			

Work Activity	Status	Decision	Additional Comments
<i>Pain & Sensory Integrity</i>			
Select and perform tests and measures of...			
... pain (e.g., location, intensity, frequency, central, peripheral, psychogenic)			
... deep sensation (e.g., proprioception, kinesthesia, pressure)			
... superficial sensation (e.g., touch, temperature discrimination)			
...visceral organ sensitivity and integrity (e.g., palpation, auscultation)	Added	Accept	
<i>Evaluation & Diagnosis</i>			
Interpret each of the following types of data to determine the need for intervention or the response to intervention:			
Cardiovascular/pulmonary system			
Lymphatic system			
Arousal, attention, cognition, and communication			
Neuromuscular system			
Functional mobility, balance, and vestibular			
Musculoskeletal system			
Integumentary system			
Anthropometric			
Genitourinary system			
Ergonomics and body mechanics			
Pain and sensory integrity	Edited	Accept	
Imaging, lab values, and medications			
Electrodiagnostic test results (e.g., electromyography, nerve conduction velocity)	Added	Accept	
Develop physical therapy diagnosis by integrating system and non-system data			
<i>Development of Prognosis, Plan of Care, & Goals</i>			
Establish PT prognosis based on information gathered during the examination process			
Develop plan of care based on data gathered during the examination process, incorporating information from the patient/client, caregiver, family members, and other professionals			
Revise treatment intervention plan based on treatment outcomes, change in patient/client's health status, and ongoing evaluation			

Work Activity	Status	Decision	Additional Comments
Develop objective and measurable goals based on information gathered during the examination process, in collaboration with the patient/client, caregiver, family members, and/or other professionals			
Select interventions based on information gathered during the examination process, incorporating information from the patient/client, caregiver, family members, and other professionals			
Modify plan of care based on patient/client's resources (e.g., financial, transportation, time, insurance benefits, available technologies)	Added	Accept	
Sequence dry needling with other procedural interventions and techniques (e.g., therapeutic exercises, neuromuscular reeducation, manual therapy, physical modalities) to augment therapeutic effects and minimize risk due to adverse outcomes and/or contraindications.			
INTERVENTIONS			
Procedural Interventions			
Therapeutic Exercise/Therapeutic Activities			
Perform and/or train patient/client/caregiver in...			
...postural drainage	Added	Reject	Not relevant to dry needling practice
Functional Training			
Perform and/or train patient/client in...			
...gross motor developmental progression	Added	Accept	
Perform continuous hemodynamic monitoring and safe handling of a patient who has a mechanical circulatory device	Added	Reject	Unlikely to provide dry needling to a patient with a condition requiring this type of monitoring.
Manual Therapy Techniques			
Perform instrument-assisted soft tissue mobilization	Added	Reject	Not relevant to dry needling practice
Perform peripheral joint range of motion	Added	Accept	
Perform spinal mobilization/manipulation (thrust)	Removed	Accept	Removed due to overlap with other WAs, making this competency redundant content.

Work Activity	Status	Decision	Additional Comments
Apply taping for...			
... neuromuscular reeducation	Added	Reject	
... edema management	Added	Reject	
... pain management	Added	Reject	
Position the patient/client to...			
... expose the area(s) to be needled			
... reduce the risk of harm to the patient/client and/or therapist			
Educate the patient/client on the impact of movement during treatment			
Perform palpation techniques to identify the area(s) to be needled			
Apply needle handling techniques that ensure compliance with relevant and current professional standards (e.g., wash hands, wear gloves, minimize needle contamination)			
Apply draping materials (e.g., linens, towels) to minimize unnecessary exposure and respect patient privacy			
Perform dry needling techniques consistent with treatment plan (e.g., select , place, manipulate, and remove needles)	task force Edit		Added “select” to examples to improve clarity of the statement.
Manage needle removal complications (e.g., stuck needle, bent needle)			
Monitor patient/client’s emotional and physiological response to dry needling			
Facilitate hemostasis as necessary			
Dispose of medical waste (e.g., needles, gloves, swabs) in accordance with regulatory standards and local jurisdictional policies and procedures (e.g., sharps container)			
Discuss post-treatment expectations with the patient/client or family/caregiver			
Equipment & Devices			
Apply and/or adjust prescribed oxygen during interventions	Added	Reject	Not relevant to dry needling practice
Therapeutic Modalities			
Perform and/or train patient/client/caregiver in...			
... hydrotherapy (e.g., aquatic exercise, underwater treadmill)			

Work Activity	Status	Decision	Additional Comments
Non-Procedural Interventions			
Communication			
Discuss physical therapy evaluation findings, interventions, goals, prognosis, discharge planning, and plan of care with...			
... physical therapists, physical therapist assistants, and/or support staff			
... interprofessional/interdisciplinary team members			
... patient/client/caregiver			
Provide written, oral, and electronic information to the patient/client and/or caregiver			
Documentation			
Document...			
... examination results			
... evaluation to include diagnosis, goals, and prognosis			
... intervention(s) and patient/client response(s) to intervention			
...patient/client/caregiver education			
...outcomes (e.g., discharge summary, reassessments)			
... rationale for billing and reimbursement	Added	Accept	
...communication with the interdisciplinary/interprofessional team related to the patient/client's care			
...disclosure and consent (e.g., disclosure of medical information, consent for treatment)			
...letter of medical necessity (e.g., wheelchair, assistive equipment, disability parking placard)			
Assign billing codes for physical therapy diagnosis and treatment provided			
Education			
Educate patient/client and/or caregiver about...			
... the patient/client's current condition and health status (e.g., nature of the condition, prognosis, potential benefits of physical therapy interventions, potential treatment outcomes)			
... the role of the physical therapist and/or physical therapist assistant in patient/client management			
... lifestyle and behavioral changes to promote wellness (e.g., nutrition, physical activity, tobacco cessation)			

Work Activity	Status	Decision	Additional Comments
Educate healthcare team about...			
... the role of the physical therapist and/or physical therapist assistant in patient/client management			
... safe patient handling (e.g., injury prevention, ergonomics, use of equipment)	Added	Accept	
Educate patient/client or family/caregiver about dry needling (e.g., purpose, technique, methods of action, benefits, tools and equipment)			
Educate patient/client or family/caregiver about potential adverse effects associated with dry needling (e.g., fainting, bruising, soreness, fatigue)			
Educate patient/client or family/caregiver about precautions and contraindications for dry needling (e.g., age, allergies/sensitivities, diseases/conditions, implants, areas of acute inflammation, acute systemic infections, medications)			
Patient/client & Staff Safety			
Emergency Procedures			
Implement emergency procedures (e.g., CPR AED, calling a code)			
Perform first aid			
Prepare and maintain a safe working environment for performing interventions (e.g., unobstructed walkways, equipment availability)			
Implement emergency response procedures to treat patient/client injuries sustained during dry needling (e.g., perforation of hollow organs, heavy bleeding, broken needles)			
Implement emergency response procedures to treat practitioner injuries sustained during dry needling (e.g., needle stick)			
Environmental Safety			
Perform regular equipment inspections and/or maintenance (e.g., modalities, assistive devices)	Edited	Accept	
Prepare and maintain a safe and comfortable environment for performing dry needling (e.g., unobstructed walkways, areas for patient/client privacy)			
Perform regular equipment inspections and/or maintenance (e.g., modalities, needle expiration, sharps containers)			
Stock dry needling supplies and equipment in safe proximity during treatment			
Infection Control			
Perform and/or train patient/client and/or caregiver on appropriate infection control practices (e.g., universal precautions, hand hygiene, isolation, airborne precautions, equipment cleaning)			

Work Activity	Status	Decision	Additional Comments
Create and maintain an aseptic environment for patient/client interaction			
Implement infection control procedures to mitigate the effects of needle stick injuries			
Clean and disinfect blood and bodily fluids spills in accordance with regulatory standards and local jurisdictional policies and procedures			
Replace surfaces that cannot be cleaned			
Research & Evidence-Based Practice			
Integrate current best evidence, clinical experience, and patient values in clinical practice (e.g., clinical prediction rules, patient preference, clinical practice guidelines)	Edited	Accept	
Professional Responsibilities			
Discuss ongoing patient care with the interprofessional/interdisciplinary team members			
Refer patient/client to specialists or other healthcare providers when necessary			
Disclose financial interest in recommended products or services to patient/client			
Provide notice and information about alternative care when the physical therapist terminates provider relationship with the patient/client			
Document transfer of patient/client care to another physical therapist (therapist of record)			
Determine own need for professional development			
Participate in learning and/or development activities (e.g., journal clubs, self-directed reading, continuing competence activities) to maintain the currency of knowledge, skills, and abilities			
Practice within the federal and jurisdiction regulations and professional standards			
Determine own ability to perform dry needling safely and effectively			
Participate in performance improvement and quality reporting activities (e.g., Physician Quality Reporting System, standardized outcomes measurement, application of health informatics)	Added	Accept	

Appendix C. Dry Needling Knowledge and Skill Requirements

Knowledge and Skill Requirements	Status	Decision	Additional Comments
CARDIOVASULAR/PULMONARY SYSTEM			
Physical Therapy Examination			
Cardiovascular/pulmonary systems tests/measures, including outcome measures, and their applications according to current best evidence			
Anatomy and physiology of the cardiovascular/pulmonary systems as related to tests/measures			
Movement analysis as related to the cardiovascular/pulmonary system (e.g., rib cage excursion, breathing pattern)	Edited	Accept	
Foundations for Evaluation, Differential Diagnosis, & Prognosis			
Cardiovascular/pulmonary systems diseases/conditions and their pathophysiology to establish and carry out a plan of care, including prognosis			
Non-pharmacological medical management of the cardiovascular/pulmonary system (e.g., diagnostic imaging, laboratory test values, other medical tests, surgical procedures)			
The impact of pharmacology used to treat the cardiovascular/pulmonary system on physical therapy management			
Differential diagnoses related to diseases/conditions of the cardiovascular/pulmonary system			
Interventions			
Anatomy and physiology of the cardiovascular/pulmonary system as related to physical therapy interventions, daily activities, and environmental factors			
Adverse effects or complications on the cardiovascular/pulmonary system from physical therapy interventions used on the cardiovascular/pulmonary systems	Edited	Accept	
Adverse effects or complications on the cardiovascular/pulmonary systems from physical therapy interventions used on other systems			
LYMPHATIC SYSTEM			
Physical Therapy Examination			
Lymphatic system tests/measures, including outcome measures, and their applications according to current evidence			
Anatomy and physiology of the lymphatic system as related to tests/measures			
Movement analysis as related to the lymphatic system (e.g., compensatory movement, extremity range of motion)			

Knowledge and Skill Requirements	Status	Decision	Additional Comments
Foundations for Evaluation, Differential Diagnosis, & Prognosis			
Lymphatic system diseases/conditions and their pathophysiology to establish and carry out plan of care, including prognosis			
Non-pharmacological medical management of the lymphatic system (e.g., diagnostic imaging, laboratory test values, other medical tests, surgical procedures)			
Differential diagnoses related to diseases/conditions of the lymphatic system			
Interventions			
Anatomy and physiology of the lymphatic system as related to physical therapy interventions, daily activities, and environmental factors			
Adverse effects or complications on the lymphatic system from physical therapy interventions used on the lymphatic system	Edited	Accept	
Adverse effects or complications on the lymphatic system from physical therapy interventions used on other systems			
MUSCULOSKELETAL SYSTEM			
Physical Therapy Examination			
Musculoskeletal system tests/measures, including outcome measures, and their applications according to current best evidence			
Anatomy and physiology of the musculoskeletal system as related to tests/measures			
Movement analysis as related to the musculoskeletal system			
Joint biomechanics and their applications			
Foundations for Evaluation, Differential Diagnosis, & Prognosis			
Muscular and skeletal diseases/conditions and their pathophysiology to establish and carry out a plan of care, including prognosis			
Non-pharmacological medical management of the musculoskeletal system (e.g., diagnostic imaging, laboratory test values, other medical tests, surgical procedures)			
The impact of pharmacology used to treat the musculoskeletal system on physical therapy management			
Differential diagnoses related to diseases/conditions of the musculoskeletal system			
Connective tissue diseases/conditions and their pathophysiology to establish and carry out plan of care, including prognosis			
Differential diagnoses related to diseases/conditions of the connective tissue			

Knowledge and Skill Requirements	Status	Decision	Additional Comments
Interventions			
Musculoskeletal system physical therapy interventions and their applications for rehabilitation, health promotion, and performance according to current best evidence			
Anatomy and physiology of the musculoskeletal system as related to physical therapy interventions, daily activities, and environmental factors			
Adverse effects or complications on the musculoskeletal system from physical therapy interventions used on the musculoskeletal system	Edited	Accept	
Adverse effects or complications on the musculoskeletal system from physical therapy interventions used on other systems			
NEUROMUSCULAR & NERVOUS SYSTEM			
Physical Therapy Data Collection			
Neuromuscular and nervous systems tests/measures, including outcome measures, and their applications according to current best evidence			
Anatomy and physiology of the neuromuscular and nervous systems as related to tests/measures			
Movement analysis as related to the neuromuscular and nervous systems			
Foundations for Evaluation, Differential Diagnosis, & Prognosis			
Neuromuscular and Nervous system (CNS, PNS, ANS) diseases/conditions and their pathophysiology to establish and carry out a plan of care, including prognosis	Edited	Accept	
Non-pharmacological medical management of the neuromuscular and nervous systems (e.g., diagnostic imaging, laboratory test values, other medical tests, surgical procedures)			
The impact of pharmacology used to treat the neuromuscular and nervous systems on physical therapy management			
Differential diagnoses related to diseases/conditions of the nervous system (CNS, PNS, ANS)			
The impact of regenerative medicine (e.g., platelet rich plasma, stem cells) on physical therapy prognosis and interventions related to the neuromuscular and nervous systems	Added	Accept	
Interventions			
Neuromuscular and nervous systems physical therapy interventions and their applications for rehabilitation, health promotion, and performance according to current best evidence			
Anatomy and physiology of the neuromuscular and nervous systems as related to physical therapy interventions, daily activities, and environmental factors			

Knowledge and Skill Requirements	Status	Decision	Additional Comments
Adverse effects or complications on the integumentary system from physical therapy interventions used on the neuromuscular and nervous systems	Edited	Accept	
Adverse effects or complications on the neuromuscular and nervous systems from physical therapy interventions used on other systems			
Motor control as related to neuromuscular and nervous systems physical therapy interventions			
Motor learning as related to neuromuscular and nervous systems physical therapy interventions			
INTEGUMENTARY SYSTEM			
Physical Therapy Examination			
Integumentary system tests/measures, including outcome measures, and their applications according to current best evidence			
Anatomy and physiology of the integumentary system as related to tests/measures			
Movement analysis as related to the integumentary system (e.g., friction, shear, pressure, and scar mobility)			
Foundations for Evaluation, Differential Diagnosis, & Prognosis			
Integumentary system diseases/conditions and their pathophysiology to establish and carry out a plan of care, including prognosis			
Non-pharmacological medical management of the integumentary system (e.g., diagnostic imaging, laboratory test values, other medical tests, surgical procedures)			
The impact of pharmacology used to treat the integumentary system on physical therapy management			
Differential diagnoses related to diseases/conditions of the integumentary system			
Interventions			
Anatomy and physiology of the integumentary system as related to physical therapy interventions, daily activities, and environmental factors			
Adverse effects or complications on the integumentary system from physical therapy and medical/surgical interventions used on the integumentary system	Edited	Accept	
Adverse effects or complications on the integumentary system from physical therapy interventions used on other systems			

Knowledge and Skill Requirements	Status	Decision	Additional Comments
METOBOLIC & ENDOCRINE SYSTEMS			
Foundations for Evaluation, Differential Diagnosis, & Prognosis			
Metabolic and endocrine systems diseases/conditions and their pathophysiology to establish and carry out plan of care, including prognosis			
Non-pharmacological medical management of the metabolic and endocrine systems (e.g., diagnostic imaging, laboratory test values, other medical tests, surgical procedures)			
The impact of pharmacology used to treat the metabolic and endocrine systems on physical therapy management			
Differential diagnoses related to diseases/conditions of the metabolic and endocrine systems			
Interventions			
Anatomy and physiology of the metabolic and endocrine systems as related to physical therapy interventions, daily activities, and environmental factors			
Adverse effects or complications on the metabolic and endocrine systems from physical therapy interventions used on the metabolic and endocrine systems	Edited	Accept	
Adverse effects or complications on the metabolic and endocrine systems from physical therapy interventions used on other systems			
GASTROINTESTINAL SYSTEM			
Physical Therapy Examination			
Gastrointestinal system tests/measures, including outcome measures, and their applications according to current best evidence (e.g., bowel dysfunction impact questionnaires, Murphy test, Rovsing test, McBurney point sign)	Added	Accept	
Anatomy and physiology of the gastrointestinal system as related to tests/measures	Added	Accept	
Movement analysis as related to the gastrointestinal system (e.g., effects of muscular tension or trigger points, positioning for bowel movement)	Added	Accept	
Foundations for Evaluation, Differential Diagnosis, & Prognosis			
Gastrointestinal system diseases/conditions and their pathophysiology to establish and carry out plan of care, including prognosis			
Non-pharmacological medical management of the gastrointestinal system (e.g., diagnostic imaging, laboratory test values, other medical tests, surgical procedures)			
Differential diagnoses related to diseases/conditions of the gastrointestinal system			

Knowledge and Skill Requirements	Status	Decision	Additional Comments
Interventions			
Anatomy and physiology of the gastrointestinal system as related to physical therapy interventions, daily activities, and environmental factors			
Adverse effects or complications on the gastrointestinal system from physical therapy interventions used on the gastrointestinal system	Edited	Accept	
Adverse effects or complications on the gastrointestinal system from physical therapy interventions used on other systems			
GENITOURINARY SYSTEM			
Physical Therapy Examination			
Genitourinary system tests/measures, including outcome measures, and their applications according to current best evidence			
Anatomy and physiology of the genitourinary system as related to tests/measures			
Physiological response of the genitourinary system to various types of tests/measures			
Foundations for Evaluation, Differential Diagnosis, & Prognosis			
Genitourinary system diseases/conditions and their pathophysiology to establish and carry out plan of care, including prognosis			
Non-pharmacological medical management of the genitourinary system (e.g., diagnostic imaging, laboratory test values, other medical tests, surgical procedures)			
The impact of pharmacology used to treat the genitourinary system on physical therapy management			
Differential diagnoses related to diseases/conditions of the genitourinary system			
Interventions			
Genitourinary system physical therapy interventions and their applications for rehabilitation, health promotion, and performance according to current best evidence (e.g., bladder programs, biofeedback, pelvic floor retraining)			
Anatomy and physiology of the genitourinary system as related to physical therapy interventions, daily activities, and environmental factors			
Adverse effects or complications on the genitourinary system from physical therapy interventions used on the genitourinary system	Edited	Accept	
Adverse effects or complications on the genitourinary system from physical therapy interventions used on other systems			

Knowledge and Skill Requirements		Status	Decision	Additional Comments
SYSTEM INTERACTIONS				
Foundations for Evaluation, Differential Diagnosis, & Prognosis				
Diseases/conditions where the primary impact is on more than one system (e.g., cancer, multi-trauma, sarcoidosis, autoimmune disorders, pregnancy) to establish and carry out plan of care, including prognosis				
Non-pharmacological medical management of multiple systems (e.g., diagnostic imaging and other medical tests, surgical procedures)				
The impact of pharmacology used to treat multiple systems, including polypharmacy, on physical therapy management				
Differential diagnoses related to diseases/conditions where the primary impact is on more than one system				
The impact of co-morbidities/co-existing conditions on patient/client management (e.g., diabetes and hypertension; obesity and arthritis; dementia and hip fracture)				
Psychological and psychiatric conditions that impact patient/client management (e.g., grief, depression, schizophrenia)				
Dimensions of pain (acute or persistent) that impact patient/client management (e.g., psychological, social, physiological, neurological, mechanical)		Added	Accept	
THERAPUTIC MODALITIES				
Applications, indications, contraindications, and precautions of:				
Thermal modalities	cryotherapy (e.g., cold pack, ice massage, vapocoolant spray)	Edited; Split topic	Reject	Statement changes not necessary for applicability to dry needling practice
	hot pack thermotherapy			
	dry heat thermotherapy (e.g., Fluidotherapy)			
Electrotherapy modalities, excluding iontophoresis (e.g., neuromuscular electrical stimulation (NMES), transcutaneous electrical nerve stimulation (TENS), functional electrical stimulation (FES), interferential therapy, high-voltage pulsed current)				
Intermittent pneumatic compression (e.g., sequential compression devices)		Edited	Accept	
blood-flow restriction training		Added	Reject	Not necessary for dry needling practice
cupping		Added	Reject	Not necessary for dry needling practice

Knowledge and Skill Requirements	Status	Decision	Additional Comments
SAFETY & PROTECTION			
Factors influencing safety and injury prevention (e.g., safe patient handling, fall prevention, equipment maintenance, environmental safety)			
Patient positioning techniques (e.g., side-lying, prone, supine) and their effect on anatomy and physiology			
Draping techniques			
Infection control procedures (e.g., standard/universal precautions, isolation techniques, sterile technique)			
Environment cleaning and sanitization procedures			
Equipment cleaning and sanitization procedures (not including needles)			
Local laws and regulations regarding the disposal of needles and medical waste			
Regulations and standards regarding infection prevention (e.g., Occupational Safety and Health Administration Standards)			
Medical waste disposal equipment			
Signs/symptoms of physical, sexual, and psychological abuse and neglect			
PROFESSIONAL RESPONSIBILITIES			
Standards of documentation			
Standards of professional ethics	Added	Accept	
Standards of billing, coding, and reimbursement	Added	Accept	
Patient/client rights (e.g., ADA, IDEA, HIPAA, patient bill of rights)			
Obligations for reporting illegal, unethical, or unprofessional behaviors (e.g., fraud, abuse, neglect)	Added	Accept	
State and federal laws, rules, regulations, and industry standards set by state and accrediting bodies (e.g., state licensing entities, Joint Commission, CARF, CMS)	Added	Accept	
Risk management and quality assurance (e.g., policies and procedures, incident reports, peer chart review)	Added	Accept	
Human resource legal issues (e.g., OSHA, sexual harassment)			
The roles and responsibilities of the PT, PTA, other healthcare professionals, and support staff			
Cultural factors and/or characteristics that affect patient/client management (e.g., language differences, disability, ethnicity, customs, demographics, religion, health literacy)	Added	Accept	

Knowledge and Skill Requirements	Status	Decision	Additional Comments
Socioeconomic factors that affect patient/client management (e.g., social determinants of health)	Added	Accept	
Applications and utilization of health information technology (e.g., electronic medical records)	Added	Accept	
RESEARCH & EVIDENCE-BASED PRACTICE			
Techniques for accessing evidence (e.g., peer-reviewed publications, scientific proceedings, guidelines, clinical prediction rules)	Added	Accept	
DRY NEEDLING-SPECIFIC KNOWLEDGE			
Anatomy and Physiology			
Surface anatomy as it relates to underlying tissues, organs, and other structures, including variations in form, proportion, and anatomical landmarks			
Emergency Preparedness and Response			
Emergency preparedness (e.g., CPR, first aid, disaster response)			
Emergency preparedness and/or response procedures related to secondary physiological effects or complications associated with dry needling (e.g., shock, vasovagal)			
Emergency preparedness and/or response procedures related to secondary emotional effects or complications associated with dry needling (e.g., claustrophobia, anxiety, agitation)			
Standards for needle handling (e.g., hand hygiene, application of single-use needles)			
Safety & Protection			
Personal protection procedures and techniques as related to dry needling (e.g., positioning self to access treatment area, use of personal protective equipment)			
Theoretical basis for dry needling (e.g., applications for rehabilitation, health promotion, fitness and wellness, performance)			
Theoretical basis for combining dry needling with other interventions			
Secondary effects or complications associated with dry needling on other systems (e.g., gastrointestinal, cardiovascular/pulmonary, musculoskeletal)			
Theoretical basis of pain sciences, including anatomy, physiology, pathophysiology, and relation to body structures and function			
Contraindications and precautions related to dry needling (e.g., age, allergies, diseases/conditions)			
Palpation techniques as related to dry needling			
Needle insertion techniques			

Knowledge and Skill Requirements	Status	Decision	Additional Comments
Needle manipulation techniques			
Physiological responses to dry needling			
Solid filament needles (e.g., physical characteristics) Needle characteristics (e.g., length, gauge/diameter, solid, hollow)	task force Edit		Changes made to increase the applicability of the statement
SKILLS			
Active listening - Giving full attention to what other people are saying, taking time to understand the points being made, asking questions as appropriate, and not interrupting at inappropriate times			
Reading comprehension - Understanding written sentences and paragraphs in work related documents			
Writing - Communicating effectively in writing as appropriate for the needs of the audience			
Speaking - Talking to others to convey information effectively			
Active learning - Understanding the implications of new information for both current and future problem solving and decision-making			
Critical thinking - Using logic and clinical reasoning to identify the strengths and weaknesses of alternative solutions, conclusions or approaches to problems			
Coordination - Adjusting actions in relation to others' actions			
Social perceptiveness - Being aware of others' reactions and understanding why they react as they do			
Judgment and decision-making - Considering the relative costs and benefits of potential actions to choose the most appropriate one			
Time management - Managing one's own time and the time of others	Added	Accept	
Persuasion - Persuading others to change their minds or behavior	Added	Accept	
Negotiation - Bringing others together and trying to reconcile differences	Added	Accept	
Service orientation - Actively looking for ways to help people	Added	Accept	
Arm-Hand Steadiness - The ability to keep your hand and arm steady while moving your arm or while holding your arm and hand in one position			
Finger Dexterity - The ability to make precisely coordinated movements of the fingers of one or both hands to grasp, manipulate, or assemble very small objects			
Gross Body Coordination - The ability to coordinate the movement of your arms, legs, and torso together when the whole body is in motion			

Knowledge and Skill Requirements	Status	Decision	Additional Comments
Gross Body Equilibrium - The ability to keep or regain your body balance or stay upright when in an unstable position			
Manual Dexterity - The ability to quickly move your hand, your hand together with your arm, or your two hands to grasp, manipulate, or assemble objects			
Speed of Limb Movement - The ability to quickly move the arms and legs			
Wrist-Finger Speed - The ability to make fast, simple, repeated movements of the fingers, hands, and wrists			

Appendix D. Work Activities Required for the Competent Performance of Dry Needling

Dry Needling Work Activities
PATIENT/CLIENT ASSESSMENT
Information Gathering & Synthesis
Interview patients/clients, caregivers, and family to obtain patient/client history and current information (e.g., medical, surgical, medications, social, cultural, language preference, economic) to...
... establish prior and current level of function/activity
... establish general health status
... identify red flags (e.g., fever, malaise, unexplained weight change) and contraindications
... identify risk factors and needs for preventative measures
... identify patient/client's, family/caregiver's goals, values, and preferences
... determine if patient/client is appropriate for PT
... determine insurance and financial resources and issues (e.g., co-pays, deductibles, insurance limitations)
...determine impact of medications on plan of care (e.g., medication reconciliation, timing of intervention delivery, adherence)
... identify prior experience with and tolerance for dry needling (e.g., needle phobia, response to treatment, ability to comply with treatment requirements)
... identify contraindications and precautions related to dry needling (e.g., age, allergies/sensitivities, diseases/conditions, implants, areas of acute inflammation, acute systemic infections, medications)
Administer standardized questionnaires (e.g., pain inventory, fall risk assessment)
Review medical records (e.g., lab values, diagnostic tests, imaging, specialty reports, narrative, consults)
Gather information/discuss patient/client's current health status with interprofessional/interdisciplinary team members
Identify signs/symptoms of change in patient/client's health status that require intervention by interprofessional/interdisciplinary team members
Systems Review
Perform screen of the...
... patient/client's current affect, cognition, communication, and learning preferences (e.g., ability to convey needs, consciousness, orientation, expected emotional/behavioral responses)
... patient/client's quality of speech, hearing, and vision (e.g., dysarthria, pitch/tone, use corrective lenses, use of hearing aids)
... vestibular system (e.g., dizziness, vertigo)
... gastrointestinal system (e.g., difficulty swallowing, nausea, change in appetite/diet, change in bowel function)
... genitourinary system (e.g., changes in bladder function, catheter complications)
... reproductive system (e.g., sexual dysfunction, menstrual dysfunction, menopause/andropause status)

Dry Needling Work Activities
... cardiovascular/pulmonary system (e.g., blood pressure, heart rate, respiration rate)
... lymphatic system (e.g., primary or secondary lymphedema)
... integumentary system (e.g., presence of scar formation, skin integrity, discoloration)
... musculoskeletal system (e.g., gross symmetry, strength, range of motion)
... neuromuscular system (e.g., gross coordination, motor function, balance, locomotion, gross sensory function)
Tests & Measures
<i>Cardiovascular and Pulmonary</i>
Select and perform tests and measures of...
... cardiovascular function (e.g., blood pressure, heart rate, heart sounds)
... pulmonary function (e.g., respiratory rate, breathing patterns, breath sounds, chest excursion)
... peripheral circulation (e.g., capillary refill, blood pressure in upper versus lower extremities)
... physiological responses to position change (e.g., orthostatic hypotension, skin color, blood pressure, heart rate)
<i>Anthropometric</i>
Quantify and qualify edema (e.g., pitting, volume, circumference)
<i>Arousal, Attention, & Cognition</i>
Select and perform tests and measures of...
... attention and cognition (e.g., ability to process commands, delirium, confusion)
... communication (e.g., expressive and receptive skills, following instructions)
... arousal and orientation (e.g., level of consciousness, time, person, place, situation)
... recall (including memory and retention)
<i>Nerve Integrity</i>
Select and perform tests and measures of...
... neural provocation (e.g., tapping, tension, stretch)
... cranial nerve integrity (e.g., facial asymmetry, oculomotor function, hearing)
... peripheral nerve integrity (e.g., sensation, strength)
... spinal nerve integrity (e.g., dermatome, myotome)
<i>Environmental & Community Integration/Reintegration (Home, Work, Job, School, Play, & Leisure)</i>
Assess safety in home, community, work, or school environments

Dry Needling Work Activities
<i>Ergonomics and Body Mechanics</i>
Select and perform tests and measures of...
... ergonomics and body mechanics during functional activities
... postural alignment and position (static and dynamic)
<i>Functional Mobility, Balance, & Vestibular</i>
Select and perform tests and measures of...
... balance (dynamic and static) with or without the use of specialized equipment
... gait and locomotion (e.g., ambulation, wheelchair mobility) with or without the use of specialized equipment
... mobility during functional activities and transitional movements (e.g., transfers, bed mobility)
<i>Integumentary Integrity</i>
Assess skin characteristics (e.g., continuity of skin color, sensation, temperature, texture, turgor)
Assess scar tissue characteristics (e.g., banding, pliability, sensation, and texture)
<i>Joint Integrity & Range of Motion</i>
Select and perform tests and measures of...
... spinal and peripheral joint stability (e.g., ligamentous integrity, joint structure)
... spinal and peripheral joint mobility (e.g., glide, end feel)
... range of motion (e.g., passive, active, functional)
... flexibility (e.g., muscle length, soft tissue extensibility)
<i>Motor Function</i>
Select and perform tests and measures of...
... muscle tone (e.g., hypertonicity, hypotonicity, dystonia)
... movement quality (e.g., purpose, precision, efficiency, biomechanics, kinematics, compensatory strategies)
<i>Muscle Performance</i>
Select and perform tests and measures of...
... muscle strength, power, and endurance without specialized equipment (e.g., manual muscle test, functional strength testing)
... muscle strength, power, and endurance with specialized equipment (e.g., isokinetic testing, dynamometry)

Dry Needling Work Activities
<i>Reflex Integrity</i>
Select and perform tests and measures of...
... deep tendon/muscle stretch reflexes (e.g., quadriceps, biceps)
... superficial reflexes and reactions (e.g., plantar reflex, abdominal reflexes)
... upper motor neuron integrity (e.g., Babinski reflex, Hoffman sign)
<i>Pain & Sensory Integrity</i>
Select and perform tests and measures of...
... pain (e.g., location, intensity, frequency, central, peripheral, psychogenic)
... deep sensation (e.g., proprioception, kinesthesia, pressure)
... superficial sensation (e.g., touch, temperature discrimination)
... visceral organ sensitivity and integrity (e.g., palpation, auscultation)
<i>Evaluation & Diagnosis</i>
Interpret each of the following types of data to determine the need for intervention or the response to intervention:
Cardiovascular/pulmonary system
Lymphatic system
Arousal, attention, cognition, and communication
Neuromuscular system
Functional mobility, balance, and vestibular
Musculoskeletal system
Integumentary system
Anthropometric
Genitourinary system
Ergonomics and body mechanics
Pain and sensory integrity
Imaging, lab values, and medications
Electrodiagnostic test results (e.g., electromyography, nerve conduction velocity)
Develop physical therapy diagnosis by integrating system and non-system data

Dry Needling Work Activities
<i>Development of Prognosis, Plan of Care, & Goals</i>
Establish PT prognosis based on information gathered during the examination process
Develop plan of care based on data gathered during the examination process, incorporating information from the patient/client, caregiver, family members, and other professionals
Revise treatment intervention plan based on treatment outcomes, change in patient/client's health status, and ongoing evaluation
Develop objective and measurable goals based on information gathered during the examination process, in collaboration with the patient/client, caregiver, family members, and/or other professionals
Select interventions based on information gathered during the examination process, incorporating information from the patient/client, caregiver, family members, and other professionals
Modify plan of care based on patient/client's resources (e.g., financial, transportation, time, insurance benefits, available technologies)
Sequence dry needling with other procedural interventions and techniques (e.g., therapeutic exercises, neuromuscular reeducation, manual therapy, physical modalities) to augment therapeutic effects and minimize risk due to adverse outcomes and/or contraindications.
INTERVENTIONS
Procedural Interventions
<i>Functional Training</i>
Perform and/or train patient/client in...
...gross motor developmental progression
<i>Manual Therapy Techniques</i>
Perform peripheral joint range of motion
Position the patient/client to...
... expose the area(s) to be needled
... reduce the risk of harm to the patient/client and/or therapist
Educate the patient/client on the impact of movement during treatment
Perform palpation techniques to identify the area(s) to be needled
Apply needle handling techniques that ensure compliance with relevant and current professional standards (e.g., wash hands, wear gloves, minimize needle contamination)
Apply draping materials (e.g., linens, towels) to minimize unnecessary exposure and respect patient privacy
Perform dry needling techniques consistent with treatment plan (e.g., select, place, manipulate, and remove needles)
Manage needle removal complications (e.g., stuck needle, bent needle)
Monitor patient/client's emotional and physiological response to dry needling
Facilitate hemostasis as necessary

Dry Needling Work Activities
Dispose of medical waste (e.g., needles, gloves, swabs) in accordance with regulatory standards and local jurisdictional policies and procedures (e.g., sharps container)
Discuss post-treatment expectations with the patient/client or family/caregiver
<i>Therapeutic Modalities</i>
Perform and/or train patient/client/caregiver in...
... hydrotherapy (e.g., aquatic exercise, underwater treadmill)
Non-Procedural Interventions
<i>Communication</i>
Discuss physical therapy evaluation findings, interventions, goals, prognosis, discharge planning, and plan of care with...
... physical therapists, physical therapist assistants, and/or support staff
... interprofessional/interdisciplinary team members
... patient/client/caregiver
Provide written, oral, and electronic information to the patient/client and/or caregiver
<i>Documentation</i>
Document...
... examination results
... evaluation to include diagnosis, goals, and prognosis
... intervention(s) and patient/client response(s) to intervention
... patient/client/caregiver education
... outcomes (e.g., discharge summary, reassessments)
... rationale for billing and reimbursement
... communication with the interdisciplinary/interprofessional team related to the patient/client's care
... disclosure and consent (e.g., disclosure of medical information, consent for treatment)
... letter of medical necessity (e.g., wheelchair, assistive equipment, disability parking placard)
Assign billing codes for physical therapy diagnosis and treatment provided
<i>Education</i>
Educate patient/client and/or caregiver about...
... the patient/client's current condition and health status (e.g., nature of the condition, prognosis, potential benefits of physical therapy interventions, potential treatment outcomes)
... the role of the physical therapist and/or physical therapist assistant in patient/client management

Dry Needling Work Activities
... lifestyle and behavioral changes to promote wellness (e.g., nutrition, physical activity, tobacco cessation)
Educate healthcare team about...
... the role of the physical therapist and/or physical therapist assistant in patient/client management
... safe patient handling (e.g., injury prevention, ergonomics, use of equipment)
Educate patient/client or family/caregiver about dry needling (e.g., purpose, technique, methods of action, benefits, tools and equipment)
Educate patient/client or family/caregiver about potential adverse effects associated with dry needling (e.g., fainting, bruising, soreness, fatigue)
Educate patient/client or family/caregiver about precautions and contraindications for dry needling (e.g., age, allergies/sensitivities, diseases/conditions, implants, areas of acute inflammation, acute systemic infections, medications)
Patient/client & Staff Safety
<i>Emergency Procedures</i>
Implement emergency procedures (e.g., CPR AED, calling a code)
Perform first aid
Prepare and maintain a safe working environment for performing interventions (e.g., unobstructed walkways, equipment availability)
Implement emergency response procedures to treat patient/client injuries sustained during dry needling (e.g., perforation of hollow organs, heavy bleeding, broken needles)
Implement emergency response procedures to treat practitioner injuries sustained during dry needling (e.g., needle stick)
<i>Environmental Safety</i>
Perform regular equipment inspections and/or maintenance (e.g., modalities, assistive devices)
Prepare and maintain a safe and comfortable environment for performing dry needling (e.g., unobstructed walkways, areas for patient/client privacy)
Perform regular equipment inspections and/or maintenance (e.g., modalities, needle expiration, sharps containers)
Stock dry needling supplies and equipment in safe proximity during treatment
<i>Infection Control</i>
Perform and/or train patient/client and/or caregiver on appropriate infection control practices (e.g., universal precautions, hand hygiene, isolation, airborne precautions, equipment cleaning)
Create and maintain an aseptic environment for patient/client interaction
Implement infection control procedures to mitigate the effects of needle stick injuries
Clean and disinfect blood and bodily fluids spills in accordance with regulatory standards and local jurisdictional policies and procedures
Replace surfaces that cannot be cleaned
<i>Research & Evidence-Based Practice</i>
Integrate current best evidence, clinical experience, and patient values in clinical practice (e.g., clinical prediction rules, patient preference, clinical practice guidelines)

Dry Needling Work Activities
<i>Professional Responsibilities</i>
Discuss ongoing patient care with the interprofessional/interdisciplinary team members
Refer patient/client to specialists or other healthcare providers when necessary
Disclose financial interest in recommended products or services to patient/client
Provide notice and information about alternative care when the physical therapist terminates provider relationship with the patient/client
Document transfer of patient/client care to another physical therapist (therapist of record)
Determine own need for professional development
Participate in learning and/or development activities (e.g., journal clubs, self-directed reading, continuing competence activities) to maintain the currency of knowledge, skills, and abilities
Practice within the federal and jurisdiction regulations and professional standards
Determine own ability to perform dry needling safely and effectively
Participate in performance improvement and quality reporting activities (e.g., Physician Quality Reporting System, standardized outcomes measurement, application of health informatics)

Appendix E. Knowledge and Skill Requirements for the Competent Performance of Dry Needling

Dry Needling Knowledge and Skill Requirements
CARDIOVASULAR/PULMONARY SYSTEM
Physical Therapy Examination
Cardiovascular/pulmonary systems tests/measures, including outcome measures, and their applications according to current best evidence
Anatomy and physiology of the cardiovascular/pulmonary systems as related to tests/measures
Movement analysis as related to the cardiovascular/pulmonary system (e.g., rib cage excursion, breathing pattern)
Foundations for Evaluation, Differential Diagnosis, & Prognosis
Cardiovascular/pulmonary systems diseases/conditions and their pathophysiology to establish and carry out a plan of care, including prognosis
Non-pharmacological medical management of the cardiovascular/pulmonary system (e.g., diagnostic imaging, laboratory test values, other medical tests, surgical procedures)
The impact of pharmacology used to treat the cardiovascular/pulmonary system on physical therapy management
Differential diagnoses related to diseases/conditions of the cardiovascular/pulmonary system
Interventions
Anatomy and physiology of the cardiovascular/pulmonary system as related to physical therapy interventions, daily activities, and environmental factors
Adverse effects or complications on the cardiovascular/pulmonary system from physical therapy interventions used on the cardiovascular/pulmonary systems
Adverse effects or complications on the cardiovascular/pulmonary systems from physical therapy interventions used on other systems
LYMPHATIC SYSTEM
Physical Therapy Examination
Lymphatic system tests/measures, including outcome measures, and their applications according to current evidence
Anatomy and physiology of the lymphatic system as related to tests/measures
Movement analysis as related to the lymphatic system (e.g., compensatory movement, extremity range of motion)
Foundations for Evaluation, Differential Diagnosis, & Prognosis
Lymphatic system diseases/conditions and their pathophysiology to establish and carry out plan of care, including prognosis
Non-pharmacological medical management of the lymphatic system (e.g., diagnostic imaging, laboratory test values, other medical tests, surgical procedures)
Differential diagnoses related to diseases/conditions of the lymphatic system

Dry Needling Knowledge and Skill Requirements
Interventions
Anatomy and physiology of the lymphatic system as related to physical therapy interventions, daily activities, and environmental factors
Adverse effects or complications on the lymphatic system from physical therapy interventions used on the lymphatic system
Adverse effects or complications on the lymphatic system from physical therapy interventions used on other systems
MUSCULOSKELETAL SYSTEM
Physical Therapy Examination
Musculoskeletal system tests/measures, including outcome measures, and their applications according to current best evidence
Anatomy and physiology of the musculoskeletal system as related to tests/measures
Movement analysis as related to the musculoskeletal system
Joint biomechanics and their applications
Foundations for Evaluation, Differential Diagnosis, & Prognosis
Muscular and skeletal diseases/conditions and their pathophysiology to establish and carry out a plan of care, including prognosis
Non-pharmacological medical management of the musculoskeletal system (e.g., diagnostic imaging, laboratory test values, other medical tests, surgical procedures)
The impact of pharmacology used to treat the musculoskeletal system on physical therapy management
Differential diagnoses related to diseases/conditions of the musculoskeletal system
Connective tissue diseases/conditions and their pathophysiology to establish and carry out plan of care, including prognosis
Differential diagnoses related to diseases/conditions of the connective tissue
Interventions
Musculoskeletal system physical therapy interventions and their applications for rehabilitation, health promotion, and performance according to current best evidence
Anatomy and physiology of the musculoskeletal system as related to physical therapy interventions, daily activities, and environmental factors
Adverse effects or complications on the musculoskeletal system from physical therapy interventions used on the musculoskeletal system
Adverse effects or complications on the musculoskeletal system from physical therapy interventions used on other systems
NEUROMUSCULAR & NERVOUS SYSTEM
Physical Therapy Examination
Neuromuscular and nervous systems tests/measures, including outcome measures, and their applications according to current best evidence
Anatomy and physiology of the neuromuscular and nervous systems as related to tests/measures
Movement analysis as related to the neuromuscular and nervous systems

Dry Needling Knowledge and Skill Requirements
Foundations for Evaluation, Differential Diagnosis, & Prognosis
Neuromuscular and nervous system (CNS, PNS, ANS) diseases/conditions and their pathophysiology to establish and carry out a plan of care, including prognosis
Non-pharmacological medical management of the neuromuscular and nervous systems (e.g., diagnostic imaging, laboratory test values, other medical tests, surgical procedures)
The impact of pharmacology used to treat the neuromuscular and nervous systems on physical therapy management
Differential diagnoses related to diseases/conditions of the nervous system (CNS, PNS, ANS)
The impact of regenerative medicine (e.g., platelet rich plasma, stem cells) on physical therapy prognosis and interventions related to the neuromuscular and nervous systems
Interventions
Neuromuscular and nervous systems physical therapy interventions and their applications for rehabilitation, health promotion, and performance according to current best evidence
Anatomy and physiology of the neuromuscular and nervous systems as related to physical therapy interventions, daily activities, and environmental factors
Adverse effects or complications on the integumentary system from physical therapy interventions used on the neuromuscular and nervous systems
Adverse effects or complications on the neuromuscular and nervous systems from physical therapy interventions used on other systems
Motor control as related to neuromuscular and nervous systems physical therapy interventions
Motor learning as related to neuromuscular and nervous systems physical therapy interventions
INTEGUMENTARY SYSTEM
Physical Therapy Examination
Integumentary system tests/measures, including outcome measures, and their applications according to current best evidence
Anatomy and physiology of the integumentary system as related to tests/measures
Movement analysis as related to the integumentary system (e.g., friction, shear, pressure, and scar mobility)
Foundations for Evaluation, Differential Diagnosis, & Prognosis
Integumentary system diseases/conditions and their pathophysiology to establish and carry out a plan of care, including prognosis
Non-pharmacological medical management of the integumentary system (e.g., diagnostic imaging, laboratory test values, other medical tests, surgical procedures)
The impact of pharmacology used to treat the integumentary system on physical therapy management
Differential diagnoses related to diseases/conditions of the integumentary system

Dry Needling Knowledge and Skill Requirements
Interventions
Anatomy and physiology of the integumentary system as related to physical therapy interventions, daily activities, and environmental factors
Adverse effects or complications on the integumentary system from physical therapy and medical/surgical interventions used on the integumentary system
Adverse effects or complications on the integumentary system from physical therapy interventions used on other systems
METOBOLIC & ENDOCRINE SYSTEMS
Foundations for Evaluation, Differential Diagnosis, & Prognosis
Metabolic and endocrine systems diseases/conditions and their pathophysiology to establish and carry out plan of care, including prognosis
Non-pharmacological medical management of the metabolic and endocrine systems (e.g., diagnostic imaging, laboratory test values, other medical tests, surgical procedures)
The impact of pharmacology used to treat the metabolic and endocrine systems on physical therapy management
Differential diagnoses related to diseases/conditions of the metabolic and endocrine systems
Interventions
Anatomy and physiology of the metabolic and endocrine systems as related to physical therapy interventions, daily activities, and environmental factors
Adverse effects or complications on the metabolic and endocrine systems from physical therapy interventions used on the metabolic and endocrine systems
Adverse effects or complications on the metabolic and endocrine systems from physical therapy interventions used on other systems
GASTROINTESTINAL SYSTEM
Physical Therapy Examination
Gastrointestinal system tests/measures, including outcome measures, and their applications according to current best evidence (e.g., bowel dysfunction impact questionnaires, Murphy test, Rovsing test, McBurney point sign)
Anatomy and physiology of the gastrointestinal system as related to tests/measures
Movement analysis as related to the gastrointestinal system (e.g., effects of muscular tension or trigger points, positioning for bowel movement)
Foundations for Evaluation, Differential Diagnosis, & Prognosis
Gastrointestinal system diseases/conditions and their pathophysiology to establish and carry out plan of care, including prognosis
Non-pharmacological medical management of the gastrointestinal system (e.g., diagnostic imaging, laboratory test values, other medical tests, surgical procedures)
Differential diagnoses related to diseases/conditions of the gastrointestinal system

Dry Needling Knowledge and Skill Requirements
Interventions
Anatomy and physiology of the gastrointestinal system as related to physical therapy interventions, daily activities, and environmental factors
Adverse effects or complications on the gastrointestinal system from physical therapy interventions used on the gastrointestinal system
Adverse effects or complications on the gastrointestinal system from physical therapy interventions used on other systems
GENITOURINARY SYSTEM
Physical Therapy Examination
Genitourinary system tests/measures, including outcome measures, and their applications according to current best evidence
Anatomy and physiology of the genitourinary system as related to tests/measures
Physiological response of the genitourinary system to various types of tests/measures
Foundations for Evaluation, Differential Diagnosis, & Prognosis
Genitourinary system diseases/conditions and their pathophysiology to establish and carry out plan of care, including prognosis
Non-pharmacological medical management of the genitourinary system (e.g., diagnostic imaging, laboratory test values, other medical tests, surgical procedures)
The impact of pharmacology used to treat the genitourinary system on physical therapy management
Differential diagnoses related to diseases/conditions of the genitourinary system
Interventions
Genitourinary system physical therapy interventions and their applications for rehabilitation, health promotion, and performance according to current best evidence (e.g., bladder programs, biofeedback, pelvic floor retraining)
Anatomy and physiology of the genitourinary system as related to physical therapy interventions, daily activities, and environmental factors
Adverse effects or complications on the genitourinary system from physical therapy interventions used on the genitourinary system
Adverse effects or complications on the genitourinary system from physical therapy interventions used on other systems
SYSTEM INTERACTIONS
Foundations for Evaluation, Differential Diagnosis, & Prognosis
Diseases/conditions where the primary impact is on more than one system (e.g., cancer, multi-trauma, sarcoidosis, autoimmune disorders, pregnancy) to establish and carry out plan of care, including prognosis
Non-pharmacological medical management of multiple systems (e.g., diagnostic imaging and other medical tests, surgical procedures)
The impact of pharmacology used to treat multiple systems, including polypharmacy, on physical therapy management
Differential diagnoses related to diseases/conditions where the primary impact is on more than one system
The impact of co-morbidities/co-existing conditions on patient/client management (e.g., diabetes and hypertension; obesity and arthritis; dementia and hip fracture)

Dry Needling Knowledge and Skill Requirements
Psychological and psychiatric conditions that impact patient/client management (e.g., grief, depression, schizophrenia)
Dimensions of pain (acute or persistent) that impact patient/client management (e.g., psychological, social, physiological, neurological, mechanical)
THERAPUTIC MODALITIES
Applications, indications, contraindications, and precautions of:
Thermal modalities
Electrotherapy modalities, excluding iontophoresis (e.g., neuromuscular electrical stimulation (NMES), transcutaneous electrical nerve stimulation (TENS), functional electrical stimulation (FES), interferential therapy, high-voltage pulsed current)
Intermittent pneumatic compression (e.g., sequential compression devices)
SAFETY & PROTECTION
Factors influencing safety and injury prevention (e.g., safe patient handling, fall prevention, equipment maintenance, environmental safety)
Patient positioning techniques (e.g., side-lying, prone, supine) and their effect on anatomy and physiology
Draping techniques
Infection control procedures (e.g., standard/universal precautions, isolation techniques, sterile technique)
Environment cleaning and sanitization procedures
Equipment cleaning and sanitization procedures (not including needles)
Local laws and regulations regarding the disposal of needles and medical waste
Regulations and standards regarding infection prevention (e.g., Occupational Safety and Health Administration Standards)
Medical waste disposal equipment
Signs/symptoms of physical, sexual, and psychological abuse and neglect
PROFESSIONAL RESPONSIBILITIES
Standards of documentation
Standards of professional ethics
Standards of billing, coding, and reimbursement
Patient/client rights (e.g., ADA, IDEA, HIPAA, patient bill of rights)
Obligations for reporting illegal, unethical, or unprofessional behaviors (e.g., fraud, abuse, neglect)
State and federal laws, rules, regulations, and industry standards set by state and accrediting bodies (e.g., state licensing entities, Joint Commission, CARF, CMS)
Risk management and quality assurance (e.g., policies and procedures, incident reports, peer chart review)
Human resource legal issues (e.g., OSHA, sexual harassment)
The roles and responsibilities of the PT, PTA, other healthcare professionals, and support staff

Dry Needling Knowledge and Skill Requirements
Cultural factors and/or characteristics that affect patient/client management (e.g., language differences, disability, ethnicity, customs, demographics, religion, health literacy)
Socioeconomic factors that affect patient/client management (e.g., social determinants of health)
Applications and utilization of health information technology (e.g., electronic medical records)
Techniques for accessing evidence (e.g., peer-reviewed publications, scientific proceedings, guidelines, clinical prediction rules)
DRY NEEDLING-SPECIFIC KNOWLEDGE
Anatomy and Physiology
Surface anatomy as it relates to underlying tissues, organs, and other structures, including variations in form, proportion, and anatomical landmarks
Emergency Preparedness and Response
Emergency preparedness (e.g., CPR, first aid, disaster response)
Emergency preparedness and/or response procedures related to secondary physiological effects or complications associated with dry needling (e.g., shock, vasovagal)
Emergency preparedness and/or response procedures related to secondary emotional effects or complications associated with dry needling (e.g., claustrophobia, anxiety, agitation)
Standards for needle handling (e.g., hand hygiene, application of single-use needles)
Safety & Protection
Personal protection procedures and techniques as related to dry needling (e.g., positioning self to access treatment area, use of personal protective equipment)
Theoretical basis for dry needling (e.g., applications for rehabilitation, health promotion, fitness and wellness, performance)
Theoretical basis for combining dry needling with other interventions
Secondary effects or complications associated with dry needling on other systems (e.g., gastrointestinal, cardiovascular/pulmonary, musculoskeletal)
Theoretical basis of pain sciences, including anatomy, physiology, pathophysiology, and relation to body structures and function
Contraindications and precautions related to dry needling (e.g., age, allergies, diseases/conditions)
Palpation techniques as related to dry needling
Needle insertion techniques
Needle manipulation techniques
Physiological responses to dry needling
Needle characteristics (e.g., length, gauge/diameter, solid, hollow)

Dry Needling Knowledge and Skill Requirements
SKILLS
Active listening - Giving full attention to what other people are saying, taking time to understand the points being made, asking questions as appropriate, and not interrupting at inappropriate times
Reading comprehension - Understanding written sentences and paragraphs in work related documents
Writing - Communicating effectively in writing as appropriate for the needs of the audience
Speaking - Talking to others to convey information effectively
Active learning - Understanding the implications of new information for both current and future problem solving and decision-making
Critical thinking - Using logic and clinical reasoning to identify the strengths and weaknesses of alternative solutions, conclusions or approaches to problems
Coordination - Adjusting actions in relation to others' actions
Social perceptiveness - Being aware of others' reactions and understanding why they react as they do
Judgment and decision-making - Considering the relative costs and benefits of potential actions to choose the most appropriate one
Time management - Managing one's own time and the time of others
Persuasion - Persuading others to change their minds or behavior
Negotiation - Bringing others together and trying to reconcile differences
Service orientation - Actively looking for ways to help people
Arm-Hand Steadiness - The ability to keep your hand and arm steady while moving your arm or while holding your arm and hand in one position
Finger Dexterity - The ability to make precisely coordinated movements of the fingers of one or both hands to grasp, manipulate, or assemble very small objects
Gross Body Coordination - The ability to coordinate the movement of your arms, legs, and torso together when the whole body is in motion
Gross Body Equilibrium - The ability to keep or regain your body balance or stay upright when in an unstable position
Manual Dexterity - The ability to quickly move your hand, your hand together with your arm, or your two hands to grasp, manipulate, or assemble objects
Speed of Limb Movement - The ability to quickly move the arms and legs
Wrist-Finger Speed - The ability to make fast, simple, repeated movements of the fingers, hands, and wrists