

# THE AMERICAN PHYSICAL THERAPY ASSOCIATION'S ACADEMY OF PELVIC HEALTH PHYSICAL THERAPY ULTRASOUND IMAGING TASK FORCE

## Physical Therapist-Administered Ultrasound Imaging In Pelvic Health: A Review of History, Current Realities, Uses, and Support

Physical therapists integrate affordable, efficient Ultrasound Imaging (USI) into Physical Therapy Practice across various specialties to improve and expedite differential screening for diverse populations and in public healthcare. Many other healthcare practitioners are currently also utilizing this technology in clinical practice.<sup>1,2</sup>

State licensure boards are constantly examining the best available evidence to inform deliberations on technology in physical therapy practice and delivery. APTA Pelvic Health is committed to providing support, resources, and evidence to support the growing popularity of ultrasound imaging in rural and urban areas.

We, the APTA Pelvic Health Ultrasound Imaging Task Force, are sharing the attached Physical Therapist Administered Ultrasound Imaging position statement, which includes current evidence, background, and information to help inform decision-making on this vital and timely issue.

### Position:

The APTA Academy of Pelvic Health recognizes the use of ultrasound imaging in pelvic health as a part of the physical therapy scope of practice.

### Background:

Ultrasound imaging is safe, inexpensive, effective, portable, and non-invasive. It is used for musculoskeletal (MSKUS, including myofascial tissue), neural, spinal, cardiac, vascular, and pulmonary applications in the United States and globally.<sup>3</sup>

As described in the APTA Academy of Orthopaedic Physical Therapy Imaging Special Interest Group statement, "Physical Therapist-Administered Ultrasound Imaging: A Review

of History, Current Realities, Use, and Institutional Support”, physical therapists have safely utilized and investigated ultrasound imaging for decades across numerous areas of practice, including pelvic health, orthopaedics, spinal conditions, peripheral nerve health, cardiovascular and pulmonary applications, arthrology, hemarthrosis, hematoma, joint health, hemophilia, myositis ossificans, and fracture detection.<sup>4</sup>

There are many examples in pelvic health, specifically, where ultrasound imaging enhances the physical therapist’s specialized skills. Pelvic floor dysfunction (PFD), for instance, affects millions of individuals across the lifespan, contributing to conditions such as urinary and fecal incontinence, pelvic organ prolapse, chronic pelvic pain, and postural instability.<sup>5</sup>

Traditionally, pelvic floor muscle (PFM) assessment relied on digital examination, patient-reported outcomes, and electromyography (EMG) biofeedback. However, these methods have limitations in objectively visualizing muscle activity, morphology, and movement patterns.<sup>6,7</sup>

In physical therapy practice, ultrasound imaging can be defined as “a form of examination using ultrasound undertaken in a clinical practice setting with the intent of clarifying uncertain clinical examination findings to enhance the quality and effectiveness of a physical therapy intervention.”<sup>8</sup>

In the context of pelvic health, USI enables real-time visualization of the pelvic floor, abdominal and lumbar spine muscles, abdominal viscera, and other associated structures throughout the body. It supports the comprehensive assessment of core muscle coordination and function and serves as an effective modality for delivering biofeedback during patient training. Compared with palpation alone, USI provides quantifiable measures of muscle thickness, contraction, and relaxation, thereby enabling a more objective evaluation of muscle function and structural integrity.<sup>7</sup> USI has been demonstrated to be a reliable and valid tool for assessing levator ani activation, bladder neck mobility, and core muscle synergy.<sup>7</sup> There are many other examples of specific uses of USI in the abdominal, lumbar spine, and pelvic regions, including, but not limited to: transversus abdominis, internal/external oblique, rectus abdominis, and multifidus morphological characteristics; abdominal wall defects: diastasis recti abdominis (DRA) and umbilical hernias; linea alba width and behavior at rest and with abdominal muscle contractions; diaphragm excursion, thickness, contractility, and coordination; pelvic floor muscle activation and relaxation using transabdominal and transperineal approaches; anorectal angle measurement and behavior during muscle contraction and relaxation; pre and post-void residual bladder volume; bladder wall thickness; rectal diameter; and visualization of bladder neck mobility.<sup>9,10,11,12,13,14,4</sup>

The APTA Pelvic Health vision statement proclaims that we will advocate for a world that prioritizes optimal pelvic and abdominal health at every life stage. The APTA Pelvic Health mission is, “Advancing pelvic and abdominal health physical therapy to elevate the profession, empower individuals, and serve society.”<sup>15</sup>

By recognizing USI as a valuable component of pelvic health, the profession can continue to advance evidence-based practice, improve patient outcomes, and promote interdisciplinary collaboration in the management of pelvic health.

## Scope of Practice & Strategic Alignment:

The APTA House of Delegates acknowledged that imaging falls within the scope of practice for licensed physical therapists according to APTA's House of Delegates' position statement HOD P06-12-10-09, titled "Diagnosis by Physical Therapists." The APTA position statement states that, "Physical therapists are authorized to order appropriate tests, including imaging and other studies, which are performed and interpreted by other health professionals. Additionally, physical therapists may perform or interpret selected imaging or other studies. Physical therapist-administered ultrasound imaging is implicit and further reinforced by the APTA scope of practice." APTA has clarified that "ultrasound imaging for evaluative, diagnostic, and rehabilitative purposes is part of the physical therapy professional scope of practice."<sup>16</sup> To date, there are no federal or state-level prohibitions that restrict licensed physical therapists from using ultrasound imaging for evaluative or rehabilitative purposes. The Federation of State Boards of Physical Therapy (FSBPT) Model Practice Act for Physical Therapy, 7th edition, articulates that the practice of physical therapy encompasses determining a diagnosis, formulating a plan of intervention, and referring patients/clients to other healthcare providers and facilities for services and testing to inform the physical therapist's plan of care. "Testing" is defined as using standard methods and techniques to gather data about the patient/client, including but not limited to imaging, electrodiagnostic, and electrophysiologic tests and measures.

APTA advocacy efforts include integrating imaging technologies into physical therapist practice. APTA provides policy resources, model legislative language, and ongoing support to affirm physical therapists' authority to use and interpret imaging to guide clinical decision-making. In partnership with organizations such as the American Academy of Orthopedic Manual Physical Therapists (AAOMPT), APTA acknowledges the role of USI in enhancing the physical therapy assessment. APTA Pelvic Health supports USI as a safe, evidence-based application in alignment with APTA's mission to transform society by optimizing movement and improving the human experience through physical therapy. Physical therapists can perform ultrasound imaging as part of the evaluation and treatment of patients nationwide.

As part of its strategic practice goals, APTA Pelvic Health aims to provide members with practical tools, guidance, and support on best practices, reimbursement policies, and emerging changes affecting the delivery of pelvic and abdominal health physical therapy. We support USI as an inclusive, non-invasive, real-time method for evaluating pelvic health across the lifespan of diverse populations. Its use exemplifies the APTA Academy of Pelvic Health's commitment to advancing physical therapist practice through evidence-informed tools that reflect the highest standards of clinical care, while also empowering therapists to meet the evolving needs of society with compassion and competence.

As the initial point of contact for patients seeking physical therapy services in states with direct access, physical therapists often are the first healthcare professionals to evaluate and manage a range of conditions, including pelvic health, and have a duty to refer when a condition falls outside the physical therapist's scope of practice.<sup>4</sup>

Physical therapists have extensive education in anatomy, physiology, differential screening, and assessment. Ultrasound imaging enables the evaluation and treatment of pelvic health

and related conditions, including pelvic floor and abdominal structures, diaphragmatic function, bladder and bowel dynamics, and core stability.<sup>9</sup> Physical therapists possess the clinical expertise to perform, interpret, and apply USI findings to guide evidence-based care, complement digital, sEMG, and other metrics, and optimize patient outcomes<sup>6,8,12</sup>

APTA Academy of Pelvic Health supports physical therapists and physical therapist assistants in practice in accordance with the respective Physical Therapy Practice Act, professional guidelines, and workplace policies regarding USI.

## Supporting Evidence & Clinical Utility Examples:

Ultrasound imaging is a validated and reliable tool in pelvic health physical therapy, supporting the assessment and treatment of pelvic floor dysfunction across the lifespan. Evidence demonstrates its clinical utility in evaluating muscle function, providing real-time biofeedback, and enhancing outcomes for conditions such as urinary incontinence, pelvic organ prolapse, chronic pelvic pain, and bowel dysfunction.<sup>6,7</sup> USI also effectively assesses core stability and diaphragmatic function, critical elements in pelvic health rehabilitation.<sup>17</sup>

### Reliability & Validity

Ultrasound imaging demonstrates strong reliability and validity in the assessment of the lumbo-pelvic region. A study reports high intraclass correlation coefficients when comparing USI to surface EMG (sEMG) for motor unit recruitment timing.<sup>9</sup> In pelvic floor evaluation, USI shows greater concordance ( $K = 0.618$ ) than digital palpation ( $K = 0.467$ ) for identifying dysfunctions such as puborectalis avulsion.<sup>18</sup> USI measurements of muscle thickness and cross-sectional area also correlate highly with MRI findings, with intra- and inter-rater correlation indexes exceeding 97% at the L4–L5 level.<sup>9,19</sup>

Studies confirm ultrasound imaging's accuracy in representing pelvic floor muscle function and morphology<sup>10</sup> and its reliability in assessing bladder neck mobility and urethral support in stress urinary incontinence<sup>20</sup>. By providing objective, real-time feedback, USI improves neuromuscular re-education, patient engagement, and rehabilitation adherence.<sup>21</sup> It also offers a more precise evaluation of diastasis recti abdominis (DRA) and postpartum abdominal muscle activation than manual palpation.<sup>22</sup> Several peer-reviewed studies have assessed the reliability and validity of USI in evaluating the male pelvic floor following prostatectomy. A study by Colarieti et al<sup>11</sup> demonstrated that USI of the male pelvic floor had good reliability, with an intra-class correlation coefficient (ICC) of 0.90, and moderate validity when compared to digital rectal examination findings ( $r = 0.57$ ).

### Clinical Utility

Imaging sites applicable to pelvic health therapists include, but are not limited to, abdominal, suprapubic, transperineal, and spine probe placements. Ultrasound imaging is utilized across pediatric, adult, and older adult populations. In pediatrics, it aids in assessing pelvic floor coordination in bladder and bowel dysfunction and serves as an effective biofeedback tool for improving continence outcomes.<sup>23,24</sup> In adults, it supports the evaluation of pelvic floor integrity, bladder neck displacement, and myofascial contributions to chronic pelvic

pain.<sup>10</sup> Among older adults, USI enables targeted interventions for urinary incontinence and pelvic organ prolapse through real-time assessment of pelvic floor activation.<sup>12,20</sup>

A study found that transperineal ultrasound (TPUS) provided reliable dynamic assessments of pelvic floor function pre- and post-prostatectomy, with excellent technical feasibility in over 85% of patients.<sup>11</sup> Additionally, another article highlighted that anatomical parameters such as membranous urethral length and striated urethral sphincter morphology, assessed via ultrasound, are associated with continence status post prostatectomy.<sup>25</sup>

Emerging research suggests a potential role for USI in obstetric care. Visualization of pelvic floor muscle relaxation during pregnancy may help address paradoxical contractions associated with prolonged labor and adverse outcomes.<sup>26</sup> Postpartum, USI facilitates precise assessment and rehabilitation of pelvic floor and abdominal muscles, particularly in individuals with DRA or pelvic dysfunction following childbirth.<sup>22</sup> Physical therapists and physical therapist assistants are uniquely positioned to integrate USI biofeedback into prenatal and postnatal training and future research efforts.

In summary, incorporating USI into pelvic health physical therapy enhances outcomes compared to traditional assessment alone by providing validated, reliable, and objective measures of pelvic floor and core function.<sup>2</sup> Evidence demonstrates that USI improves diagnostic accuracy, delivers real-time biofeedback to optimize neuromuscular re-education, and increases patient engagement, leading to better rehabilitation results across conditions such as urinary incontinence, pelvic organ prolapse, chronic pelvic pain, and postpartum dysfunction.<sup>13,22</sup>

## Training & Qualifications:

Physical therapists can acquire competence in USI in a variety of ways. While it is not required, some physical therapists choose to pursue post-professional coursework at USI to enhance their confidence and expertise. Imaging is also part of entry-level physical therapist education, consistent with requirements set by the Commission on Accreditation in Physical Therapy Education.<sup>27</sup>

APTA Academy of Pelvic Health supports adherence to professional, workplace, and state practice act standards for maintaining proficiency and ensuring USI is integrated responsibly and effectively into pelvic health rehabilitation.

## Risk & Safety:

Ultrasound imaging is considered very safe. There are no well-documented adverse events in the literature with either therapeutic or diagnostic ultrasound applications.<sup>14</sup> Unlike many other imaging modalities, ultrasound does not involve ionizing radiation, supporting its safety profile.

The primary risk is clinicians misinterpreting findings, with a secondary risk of varying reliability when imaging dynamic structures such as the pelvic floor.<sup>6,9</sup> However, ultrasound

imaging has very high intra-rater reliability, minimizing this risk when a trained physical therapist or physical therapist assistant is using the tool as a biofeedback tool for neuromuscular control. Ultrasound imaging intensity levels are very low, typically between 5-50 mW/cm<sup>2</sup>. This low intensity creates images without significant heating or mechanical effects in tissues. The ALARA (“as low as reasonably achievable”) principle is usually invoked when adjusting frequency to minimize any unwanted effects and obtain the most useful images possible.

## APTA Pelvic Health Recommendations:

In alignment with current practice, research, and education, we, the APTA Academy of Pelvic Health USI Task Force, support physical therapists and physical therapist assistants in utilizing USI in accordance with the Scope of Practice, respective Practice Act language, professional guidelines, and workplace policies.

We recommend USI as an important tool. Ultrasound imaging is safe, inexpensive, effective, portable, and non-invasive in pelvic health physical therapy. It is utilized for all aspects of pelvic health, including musculoskeletal (MSKUS), including myofascial tissue- neural, spinal, vascular, and other important aspects. Ultrasound imaging has benefits for all populations, from children through older adults, in all genders, and people with all genitalia. It offers a less invasive tool than internal examination at the abdomen or perineum and helps the patient be an active participant in their recovery process.

APTA Academy of Pelvic Health recommends the continued advancement of USI integration within pelvic health physical therapy. Given its value in enhancing assessment and treatment precision, USI is considered a best practice tool when used by appropriately trained physical therapists and PTAs. APTA Pelvic Health encourages education, continuing education, advocacy, research, and clinical pursuits specific to ultrasound imaging.

## Advocate for Recognition:

The purpose of the statement is to provide members with a tool to support USI clinical, research, advocacy, reimbursement, and education endeavors within their scope of practice and workplace guidelines.

Advocacy efforts should focus on educating internal and external stakeholders, supporting policy changes, and integrating USI into physical therapy training and practice guidelines. By championing the broader acceptance of USI, the physical therapy profession can enhance clinical decision-making, improve functional recovery, and contribute to the evolution of pelvic health rehabilitation.

## Appendices

Appendix A: Related Position and Support Statements



Internal Physical Therapy Pelvic Examinations and Interventions Position Statement: This statement supports the role of licensed physical therapists in performing internal pelvic examinations and interventions for individuals with pelvic dysfunctions, emphasizing the need for specialized training and adherence to ethical standards.<sup>28</sup>

Use of Chaperones Position Statement: APHPT recommends the presence of chaperones during sensitive examinations and interventions, such as internal pelvic assessments, to ensure patient comfort and maintain professional integrity. The guidelines also address trauma-informed care and include protocols for situations in which patients decline a chaperone or prefer a family member's presence.<sup>29</sup>

APTA's Position on Imaging and Physical Therapy: APTA acknowledges that physical therapists have been integrating imaging, including ultrasound, into practice, research, and education for decades. The association supports the expanded role of imaging in physical therapy to enhance patient management and encourages physical therapists to develop a solid understanding of current and emerging imaging technologies.<sup>16</sup>

APTA Academy of Orthopedic Physical Therapy (AOPT) Support: The AOPT has been a strong advocate for the role of physical therapists in imaging. It is committed to providing resources to keep members informed about the current status and future directions of imaging in physical therapy.<sup>30</sup> The AOPT provides a starting point on state acts and regulations, recognizing variability among jurisdictions.<sup>31</sup> The AOPT and its imaging SIG have been instrumental in providing the PT-administered Ultrasound Imaging Report that has paved the way for physical therapists on this issue.<sup>4</sup>

American Academy of Orthopedic Manual Physical Therapists (AAOMPT) Position Statement: Ultrasound imaging is within the scope of physical therapist practice. It recognizes ultrasound as an evidence-based tool used by physical therapists to evaluate, diagnose, and treat altered muscle and soft-tissue morphology and behavior during physical tasks, thereby assisting in the application of therapeutic interventions to improve neuromuscular function.<sup>32</sup>

Inteleos' Alliance for Physician Certification and Advancement (APCA) and the Point-of-Care Ultrasound Certification Academy (POCUS): Physical therapists are recognized providers of musculoskeletal ultrasonography by the Inteleos Foundation certification alliances, including APCA and POCUS. Physical therapists are eligible for the APCA-conferred RMSK certification, a gold-standard physician's board certification, and POCUS certifications in MSKUS and other point-of-care applications.<sup>33</sup>

The American Physical Therapy Association (APTA), the American Institute of Ultrasound in Medicine (AIUM), and Inteleos are committed to a collaborative effort to support the education, performance, certification, and accreditation of physical therapists and their practices in the field of musculoskeletal ultrasound through the formation of a structured pathway of education and training to provide physical therapists with quality opportunities to advance their proficiency. By successfully completing the pathway, they can earn the Registered in Musculoskeletal (RMSK) sonography certification and improve their practice's eligibility for AIUM practice accreditation.<sup>34</sup>

The American Institute of Ultrasound in Medicine (AIUM): The AIUM recognizes physical therapists as qualified licensed medical providers of musculoskeletal ultrasound. The AIUM, through its Journal of Ultrasound in Medicine, advances the use of ultrasound in medicine via professional and public education, research, guidelines development, and accreditation. Physical therapists contribute significantly to AIUM's educational initiatives and research efforts. Physical Therapists provide considerable webinar content, including adult and pediatric MSKUS, neuromuscular ultrasonography, and Cardiopulmonary applications. The webinars provide CMEs and are watched by physicians, physical therapists, and sonographers alike.<sup>35</sup>

The National Bleeding Disorders Foundation's (NBDF) Medical and Scientific Advisory Council (MASAC): MASAC acknowledges physical therapists as providers of musculoskeletal ultrasound (MSKUS) for detecting hemarthrosis and hematoma, monitoring joint health, and conducting differential musculoskeletal diagnosis in hemophilia and bleeding disorders care. MASAC, established in 1954, is comprised of a diverse group of medical professionals who issue recommendations and advisories on various health concerns, including MSKUS guidelines in hemophilia. MASAC comprises physicians (21 hematologists/oncologists), scientists, and other medical professionals with a wide range of expertise on bleeding disorders, blood safety, infectious diseases, government agencies' representatives, and people with bleeding disorders. It also comprises the chairs of NHF's nursing, social work, and physical therapy working groups. The NBDF's Physical Therapy Working Group is the custodian of MSKUS guidelines in Hemophilia.<sup>36</sup>

The International Prophylaxis Study Group (ISPG): The ISPG is an international board of hematology/oncology physicians, radiologists, orthopedists, and physical therapists. The Toronto, Canada-based ISPG recognizes Physical Therapists as appropriate providers of MSKUS to acquire and interpret images in the context of hemophilia care. Physical Therapists provide 70% of all MSKUS imaging studies globally, with a robust presence in the USA.<sup>37</sup>

Physical Therapist Involvement in MSKUS Research: Physical therapists have been involved in the use of ultrasound imaging since the 1980s and have continued to contribute high-quality, peer-reviewed publications to scientific literature, including journals such as the American Journal of Ultrasound in Medicine, The International Journal of Sports Physical Therapy, Hemophilia, JOSPT, British Journal of Sports Medicine, and more.

US Department of Defense (DOD), US Public Health Service, and the Department of Veterans Affairs: MSKUS is currently taught to physical therapists in the Military Services under the direction of Jon Umlauf, DPT, DSc, RMSK<sup>38</sup>. In federal systems' In military branches, physical therapists are authorized to refer patients for imaging. The Department of Defense (DoD) has recently recognized physical therapists as Neuromusculoskeletal Experts (NMSEs) and has demonstrated that direct access to Physical therapy in a primary care role is safe and effective, improves patient outcomes, military readiness, and force preservation, and reduces costs associated with imaging and more invasive procedures.<sup>39,40</sup>



## Appendix B: References

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