

Physical Agent Modalities

The American Occupational Therapy Association (AOTA) asserts that physical agent modalities (PAMs) may be used by occupational therapists and occupational therapy assistants in preparation for or concurrently with purposeful and occupation-based activities or interventions that ultimately enhance engagement in occupation (AOTA, 2008a, 2008b). AOTA further stipulates that PAMs may be applied only by occupational therapists and occupational therapy assistants who have documented evidence of possessing the theoretical background and technical skills for safe and competent integration of the modality into an occupational therapy intervention plan (AOTA, 2008b). The purpose of this paper is to clarify the appropriate context for use of PAMs in occupational therapy. It is the professional and ethical responsibility of occupational therapy practitioners to be knowledgeable of and adhere to applicable state laws.

Physical agent modalities are those procedures and interventions that are systematically applied to modify specific client factors when neurological, musculoskeletal, or skin conditions are present that may be limiting occupational performance. PAMs use various forms of energy to modulate pain, modify tissue healing, increase tissue extensibility, modify skin and scar tissue, and decrease edema or inflammation. PAMs are used in preparation for or concurrently with purposeful and occupation-based activities (Bracciano, 2008).

Categories of physical agents include superficial thermal agents, deep thermal agents, and electrotherapeutic agents and mechanical devices.

- *Superficial thermal agents* include but are not limited to hydrotherapy/whirlpool, cryotherapy (cold packs, ice), Fluidotherapy,TM hot packs, paraffin, water, infrared, and other commercially available superficial heating and cooling technologies.
- *Deep thermal agents* include but are not limited to therapeutic ultrasound, phonophoresis, short-wave diathermy, and other commercially available technologies.
- *Electrotherapeutic agents* use electricity and the electromagnetic spectrum to facilitate tissue healing, improve muscle strength and endurance, decrease edema, modulate pain, decrease the inflammatory process, and modify the healing process. Electrotherapeutic agents include but are not limited to neuromuscular electrical stimulation (NMES), functional electrical stimulation (FES), transcutaneous electrical nerve stimulation (TENS), high-voltage galvanic stimulation for tissue and wound repair (ESTR), high-voltage pulsed current (HVPC), direct current (DC), iontophoresis, and other commercially available technologies (Bracciano, 2008).
- *Mechanical devices* include but are not limited to vasopneumatic devices and continuous passive motion (CPM).

PAMs are categorized as preparatory methods (AOTA, 2008a) that also can be used concurrently with purposeful activity or during occupational engagement. Preparatory methods support and

promote the acquisition of the performance skills necessary to enable an individual to resume or assume habits, routines, and roles for engagement in occupation.

The exclusive use of PAMs as a therapeutic intervention without direct application to occupational performance is not considered occupational therapy. When used, *PAMs are always integrated into a broader occupational therapy program* as a preparatory method for the therapeutic use of occupations or purposeful activities (AOTA, 2008a).

Occupational therapists and occupational therapy assistants must have demonstrated and verifiable competence in order to use PAMs in occupational therapy practice. The foundational knowledge necessary for proper use of these modalities requires appropriate, documented professional education, which includes continuing education courses, institutes at conferences, and accredited higher education courses or programs. Integration of PAMs in occupational therapy practice must include foundational education and training in biological and physical sciences. Modality-specific education consists of biophysiological, neurophysiological, and electrophysiological changes that occur as a result of the application of the selected modality. Education in the application of PAMs also must include indications, contraindications, and precautions; safe and efficacious administration of the modalities; and patient preparation including the process and outcomes of treatment (i.e., risks and benefits). Education should include essential elements related to documentation, including parameters of intervention, subjective and objective criteria, efficacy, and the relationship between the physical agent and occupational performance.

Supervised use of the PAM should continue until service competency and professional judgment in selection, modification, and integration into an occupational therapy intervention plan is demonstrated and documented (AOTA, 2009).

The occupational therapist makes decisions and assumes responsibility for use of PAMs as part of the intervention plan. The occupational therapy assistant delivers occupational therapy services under the supervision of the occupational therapist. Services delivered by the occupational therapy assistant are selected and delegated by the occupational therapist (AOTA, 2009). When an occupational therapist delegates the use of a PAM to an occupational therapy assistant, both must comply with appropriate supervision and state regulatory requirements and ensure that preparation, application, and documentation are based on service competency and institutional rules. Only occupational therapists with service competency in this area may supervise the use of PAMs by occupational therapy assistants. Occupational therapy assistants may gain competency only in those modalities allowed by state and laws and regulations.

The *Occupational Therapy Code of Ethics and Ethics Standards (2010)* (AOTA, 2010) provides principles that guide safe and competent professional practice and that must be applied to the use of PAMs. The following principles from the *Code and Ethics Standards* are relevant to the use of PAMs:

Occupational therapy personnel shall:

- *Principle 1E*: provide occupational therapy services that are within each practitioner’s level of competence and scope of practice (e.g., qualifications, experience, and the law).
- *Principle 1F*: use, to the extent possible, evaluation, planning, intervention techniques, and therapeutic equipment that are evidence-based and within the recognized scope of occupational therapy practice.
- *Principle 1G*: take responsible steps (e.g., continuing education, research, supervision, and training) and use careful judgment to ensure their own competence and weigh potential for client harm when generally recognized standards do not exist in emerging technology or areas of practice.
- *Principle 5*: take responsibility for maintaining high standards and continuing competence in practice, education, and research by participating in professional development and educational activities to improve and update knowledge and skills.
- *Principle 5G*: ensure that all duties assumed by or assigned to other occupational therapy personnel match credentials, qualifications, experience, and scope of practice.
- *Principle 5H*: provide appropriate supervision to individuals for whom they have supervisory responsibility in accordance with AOTA official documents and local, state, and federal or national laws, rules, regulations, policies, procedures, standards, and guidelines. (AOTA, 2010)

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Authors

Alfred G. Bracciano, EdD, OTR, FAOTA
Scott D. McPhee, DrPH, OT, FAOTA
Barbara Winthrop Rose, MA, OTR, CVE, CHT, FAOTA

for

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