College of
HEALTH AND CARE
PROFESSIONALS OF BC

Electrophysical Agents

Informed Decision-Making

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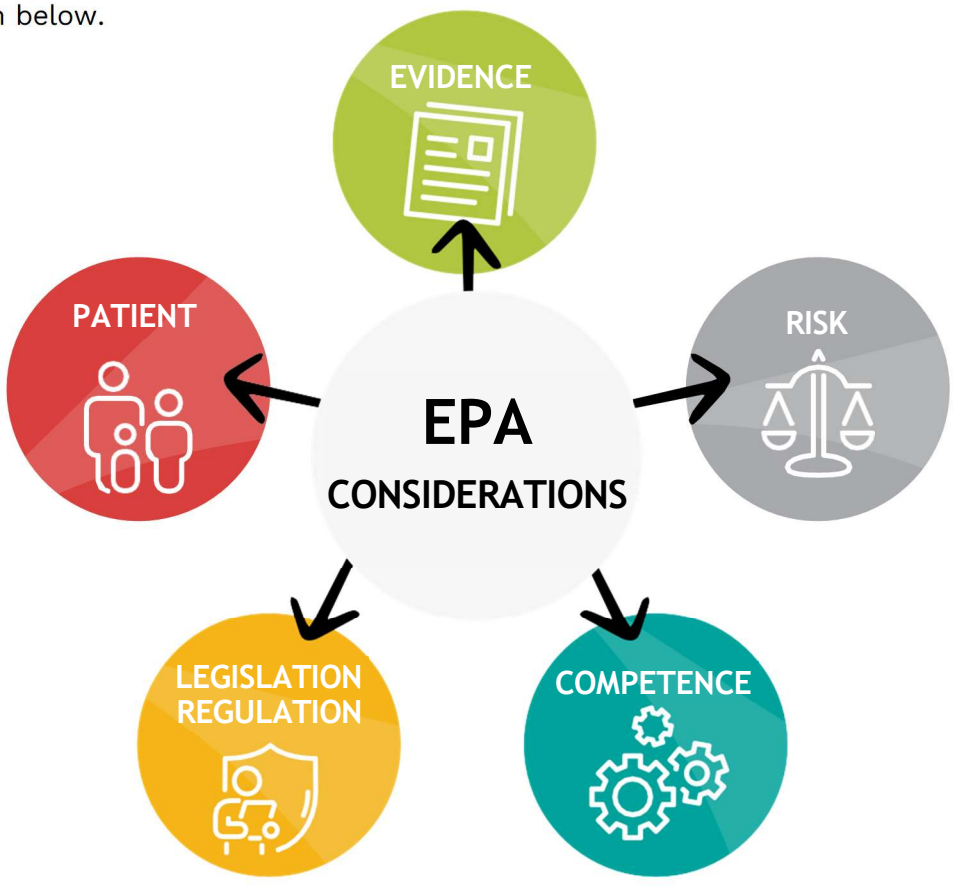
As with many interventions, there are several factors to consider when contemplating whether to use an electrophysical agent (EPA) with a patient. The purpose of this resource is to support informed decision making; however, this is not a standalone document—it should be used in conjunction with the considerations outlined in the "Is it PT?" tool and with the relevant College Practice Standards. Physical therapy treatment decisions involving EPAs can be complex and require consideration of factors related to both the EPAs and to the patient. When considering the use of an EPA, consideration must be given to evidence, risk, legislation and regulation, competence, and the specific patient needs as shown in the diagram below.



Evidence

The College Standard for Evidence-Informed Practice and Outcome Evaluation requires that the physical therapist:

- Uses the best available evidence in their practice, which means that they incorporate relevant and current evidence in their area of practice and that they integrate evidence with professional experience and the patient's unique needs, preferences, values, and goals in planning and delivering care and services.
- Updates their practice when evidence evolves, when new evidence becomes available, when professional guidelines are updated, and when concerns about the safety or effectiveness of specific health services are identified.

When considering how to evaluate the evidence for an EPA, the five criteria listed below set out a useful framework for PTs (adapted from Robertson et al., 2006):

Criterion 1: The underlying theory justifying the use of an EPA must be sound and supported by appropriate biophysical, anatomical, and physiological evidence.

Criterion 2: How a modality is used or applied should be based on appropriate biophysical, anatomical, and physiological evidence.

Criterion 3: Evidence of potential risks should be ascertained prior to initial use and data should subsequently be actively collected and reviewed by independent researchers.

Criterion 4: Evidence of beneficial outcomes that justify the use of EPAs may be sought from the general scientific literature and must be sought in the clinical literature. Clinical studies should include people who have the condition for which a benefit is claimed. The methodologies used, while ideally randomized controlled trials, will also include others such as quality cohort studies, series of cases, single-subject experimental designs, and case studies.

Criterion 5: In clinical trials, patient selection should relate to the expected effects of a modality, and the outcomes should be assessed using relevant outcome measures.

Questions and considerations related to evidence:

- Is there evidence that this EPA is safe for this patient?
- Are there any device-related contraindications to the proposed application?
- Is this EPA appropriate for this patient? That is, can you explain the current understanding of the clinical evidence for the effectiveness of this EPA for this

specific purpose (e.g., pain management, strengthening, wound healing, etc.) in this patient? Can you explain the current understanding of the clinical evidence for the effectiveness of this EPA for specific conditions, what stage of healing, at what dose, for what duration of application, and for how many treatments?
- Are there any patient-specific contraindications to the proposed application?
- Is there evidence this EPA is effective for this intended purpose?
- Does the evidence support the use of this EPA to help the patient reach their physical therapy goal(s)?

Be cautious not to overvalue an encouraging clinical outcome in one patient, or a recommendation from a colleague. While valuable, a treatment outcome, single study or anecdotal support for an EPA should not be considered to carry the same weight as scientifically credible evidence. Confidence in treatment choices is contingent on a combination of studies or multiple sources of evidence (where available).

Risk

A critical component of obtaining informed consent from a patient is disclosure of risks related to the proposed treatment plan. With respect to the potential risks related to an EPA, the physical therapist should consider and disclose:

- **Absolute risk** of EPA application, e.g., risk of burn.
- **Relative risk** of EPA application, i.e., for this patient under these conditions.
- Seriousness of adverse reaction:
    - **Serious:** Potential adverse reaction could be catastrophic (e.g., cardiac dysfunction, fetal abnormality).
    - **Moderate:** Potential adverse reaction could be a major inconvenience for the patient and could require medical attention; however, the reaction is temporary and not likely to compromise the patient's overall medical health (e.g., deep skin burn, tissue necrosis).
    - **Minor:** Potential adverse reaction could be a minor inconvenience to the patient and would resolve spontaneously (e.g., increased pain, superficial burn).

Questions and considerations related to risk:

- What are the device-related safety risks specific to the application of this EPA?
- What are the unique risks for the specific patient being treated?
- What is the level of risk related to the application?
- Have risks been transparently disclosed to the patient?
- If there was an adverse treatment outcome linked to the EPA, how would you demonstrate what had been done to reduce the likelihood of an adverse effect?

Legislation & Regulation

The College Standard for Risk Management and Safety outlines that the physical therapist:

- Ensures that all equipment and electrophysical modalities (within their control or responsibility) are inspected and maintained according to applicable regulations and manufacturer guidelines.
- Retains documentation of equipment inspection and maintenance activities.
- Applies appropriate safety procedures when using equipment or electrophysical modalities.

Questions and considerations for the physical therapist related to risk management and safety:

- Does the use of this EPA fit within the scope of practice for physical therapists in BC?
- Have you confirmed that the EPA has a Health Canada device license?
- Does the EPA bear a BC Safety Authority approved safety label?
- Is the application of this EPA a restricted activity* in BC?
- What are the safety procedures specific to the patient and related to the device that should be considered?

*The scope of practice and restricted activities for physical therapists are outlined in the Health and Care Professionals Regulation.

Competence

The College Standard for Professional Performance and Responsibility as well as the Code of Ethics outlines that the physical therapist:

- Practices within their level of competence.
- Recognizes when a patient's needs exceed their competence or qualifications and takes appropriate steps to ensure the patient receives competent service, such as referring to another healthcare professional, obtaining additional training and competencies, or collaborating with other healthcare providers.
- Maintains and develops the competencies and clinical judgement required to provide safe, effective, and evidence-informed practice.

Questions and considerations related to competence:

- Do you have the knowledge, skills, and ability/experience to apply the EPA safely and effectively?

- Do you know what dose to use, for how long, and under what conditions the EPA should be applied?
- Do you know what types of patients (who) and conditions (what) can be treated safely and effectively with this EPA?
- Is this EPA the only way to achieve the therapeutic goals? Or could these be achieved with other modalities?

Patient

Questions and considerations related to the patient:

- Do assessment findings support the use of this EPA, for this patient, and for their intended physical therapy goal(s)?
- What are the application parameters to best achieve the desired result with this patient?
- Does the patient know what to expect during treatment, and understand the potential risks and benefits of the EPA, and has the patient consented to the use of the emerging EPA?
- Is the use of this EPA in the interest of the patient and does it serve their treatment needs? Has the patient been informed of any costs associated with using the EPA?
- Does the decision to use the EPA serve the patient's interest or does it better serve your interest (e.g., financial motivation, saves time).
- Is there an appropriate plan in place to monitor the response to treatment with the EPA?

References

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