

Non-pharmacological Pain and Symptom Management

THERMOTHERAPY COLD AND HEAT

Thermotherapy is the application of therapeutic heat or cold to increase or decrease temperature to the area impacted by pain.

Thermotherapy may help with musculoskeletal pain, muscle spasm, and inflammation.

Risks of thermotherapy may include nerve and tissue damage, burns or frostbite, inflammation, or circulation-related problems. Use with caution if there are circulatory, cognitive, or sensory motor deficits.

Principles of thermotherapy (both heat and cold):

- Educate the older adult on the difference between heat and cold therapy.
 - **Cold therapy** works by numbing nerve endings in skin, reducing muscle spasms, and decreasing swelling. Cold applications may work better than heat in some older adults.
 - Cold may relieve more quickly than heat.
 - Pain relief from cold may last longer than pain relief from heat.
 - Cold is more effective in decreasing pain and swelling in the first 72 hours following acute injury.
 - **Heat therapy** works by increasing blood flow to the area which promotes healing.
 - **Contrast therapy** is the alternation of cold and heat which can be achieved with hot/cold packs or wraps.
- Regularly assess skin areas once therapy is applied and removed.
- Protect the skin with a single layer of material between heat/cold source and the skin.
- Set a timer to monitor time of thermotherapy use (e.g., 20 minutes on every two hours or as ordered per provider).
- Do not leave on skin for long period or use with a person unable to remove it if uncomfortable.
- Do not use plug-in devices with a damaged cord. Attempt to use devices with built-in timers.
- Do not apply over areas treated by radiation or on open wounds.
- Do not apply heat directly over transdermal medication patch.
- Do not put boiling water in a hot water bottle or on a washcloth - water temperature should be between 104 and 113 degrees Fahrenheit or per manufactures guidelines. Older adults' skin is thinner and loses fat tissue with increased age.
- **Never use products containing menthol when using heat.** These products cause skin to absorb heat more deeply and might cause burns (examples: Icy Hot or Ben-Gay).
- **Never** use a heat lamp.
- For some, a gradual onset of cold application is preferred. This can be achieved by wrapping the cold pack with many layers of cloth and removing the layers slowly, one at a time, so that skin gradually becomes accustomed to cold.

NOTE: The clinician should only administer non-pharmacological therapies that are within their particular scope of practice. Follow the policies and procedures of your organization regarding administration of non-pharmacological therapies.

Revised April 2023

References:

Andrews-Cooper IN. Kozachik SL. How Patient Education Influences Utilization of Nonpharmacological Modalities for Persistent Pain Management: An Integrative Review, Pain Management Nursing, Volume 21, Issue 2,2020,Pages 157-164,ISSN 1524-9042,https://doi.org/10.1016/j.pmn.2019.06.016. (<https://www.sciencedirect.com/science/article/pii/S1524904218301681>).