

SESLHD GUIDELINE COVER SHEET

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EXECUTIVE SPONSOR or EXECUTIVE CLINICAL SPONSOR	Claire O'Connor Director of Allied Health
AUTHOR	Daniel Treacy Physiotherapy Advisor, SESLHD Physiotherapy Head of Department, POWH
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Application of Heat or Cold Therapy

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Section 1 - Background

Overview

The use of cold and heat therapy can be an extremely effective treatment for a number of conditions and injuries. Heat and cold therapy may be used to reduce musculoskeletal and joint pains, improve range of movement and reduce swelling.

How it works

Cold Therapy

- Cold therapy works by reducing blood flow to a particular area, which can significantly reduce inflammation and swelling that causes pain, especially around a joint or tendon. It can temporarily reduce nerve activity, inducing an analgesic or numbing effect that plays an important role in pain management.

Heat Therapy

- Heat therapy works by improving the circulation and blood flow to a particular areas due to increased temperature. Increasing the temperature of the afflicted areas can soothe discomfort and increase muscle flexibility. Heat therapy can help treat pain by reducing muscle spasm.

Section 2 - Principles

Clinical practice requires the assessment of the sensory status and condition of the patient's skin prior to any heat or cold therapy being used. The sensory status of the treated area and the condition of the patient's skin should be regularly monitored while the heat or cold therapy is in use. Continuous application of heat or cold therapy should not exceed 20 minutes and may need to be less, depending on individual circumstances. At the first indication of any adverse signs, treatment must be ceased.

Prior to commencement of either heat or cold therapy, the patient must be provided with relevant testing and education/warnings. The healthcare worker providing the heat or cold therapy is responsible for ensuring the patient has the information required to make an informed decision and consent to treatment. This information should include the relative risks and benefits of the proposed treatment as well as what the patient should usually expect and their responsibilities regarding notifying the healthcare worker of undesirable effects.

2.1 USE OF COLD THERAPY

2.1.1 Cold therapy may be used to:

- Reduce pain/relief of pain
- Prevent or reduce swelling
- Aid in the control of haemorrhage
- Reduce the sting from insect bites.

2.1.2 Common cooling agents:

- Commercial cold packs
- Cryo cuffs
- Crushed ice compresses (crushed ice cubes placed in a small plastic bag) and cold disposable cloths.

2.1.3 Sensation Testing Prior to Application

- An Ice Reaction skin test should be performed at the first treatment and subsequently after any relevant changes in a patient's condition. This can be performed by examining for a skin reaction after the initial application.

2.1.4 Skin Protection

- The patient must be warned about the risk of ice burn, and advised to contact the healthcare professional immediately if any concerns. This warning should be provided on every treatment. It is important to use an insulation layer (i.e. damp towel/disposable wipes) between ice and the skin to increase effectiveness and decrease the risk of nerve or skin damage which could lead to frostbite. Visually check the area of the body being treated with ice packs or other cooling agents regularly. While there may be discomfort and redness initially, treatment must be discontinued if these symptoms persist.

2.1.5 Duration and Frequency of Application

After the initial application, cold therapy may be used periodically throughout the day for no more than 20 minutes within any one hour period. The optimal time between ice applications should be guided by pain and discomfort levels. Change cold packs as necessary to maintain coldness.

2.1.6 Contraindication for Cold Therapy

- Hypersensitivity to cold
- Vasospasm (Raynaud's disease)
- Areas with impaired circulation or ischemia
- Open or infected wound
- Absence of skin sensitivity (anaesthesia)
- Acute dermatitis or eczema
- Persons with cognitive or communication problems that interfere with their ability to follow directions
- Cryoglobulinemia or hemoglobulinemia
- It should not be applied to the anterior neck and carotid sinus.

2.2 USE OF HEAT THERAPY

2.2.1 Heat therapy may be used to:

- Reduce pain/relief of pain
- Vein dilation.

2.2.2 Common heating agents:

- Commercial heat packs
- Heating sponges.

The following should NOT be used:

- Hot water bottles or containers filled with hot water
- Wheat filled heat packs

2.2.3 Skin Testing Prior to Application

- A thermal sensitivity skin test should be performed at the first treatment and subsequently after any relevant changes in a patient's condition. This involves the patient demonstrating their ability to discriminate between hot and cold sensations placed on their skin.

2.2.4 Skin Protection

- **Hot packs must not be placed on direct contact with the patients' skin.** Wrap the heat pack in a disposable wipe or special purpose non-woven pouch (e.g. Livingstone). Alternatively, wrap hot pack in two towels and place in pillow slip to prevent burns. Expected degree of heat must be explained to patient.
- Patient should not lie on top of heat pack
- Skin should be checked after the first five minutes then regularly during heat application to evaluate the effect of heat on patient's skin.
- If a new hot pack is provided or reheated, the skin should be checked after the first 5 minutes then regularly during heat application to evaluate the effect of heat on patient's skin.

2.2.5 Contraindications for Heat Therapy

- Persons with active deep vein thrombosis
- Areas of impaired sensation that prevent the patient from giving accurate and timely feedback
- Areas with impaired circulation or ischaemia
- Areas affected by heat-sensitive skin diseases (e.g. eczema)
- Areas of severe oedema
- Persons with cognitive or communication impairments sufficient to prevent them from giving accurate and timely feedback
- Acute musculoskeletal injury
- Actively bleeding tissues or persons with untreated haemorrhagic disorders
- Regions of known or suspected malignancy
- Infected tissues or persons with tuberculosis
- Should not be given to a mother while breastfeeding

2.3 DOCUMENTATION

- All intervention, tests and any reactions should be documented in the health care record. This should include duration of application, area treated and any subsequent skin reaction.

2.4 CLEANING OF REUSABLE HOT AND/OR COLD PACKS

These should be cleaned as per manufacturer's instructions. Please refer to [SESLHDGL/029 Infection Control: Cleaning \(Shared\) Patient Equipment Guidelines](#) for more information.

2.5 COMMERCIAL PRODUCTS

Commercially available heating or cooling devices should comply with the relevant Australian Standard, where this exists, and be used in compliance with the manufacturer's instructions and locally developed business rules.

Section 3 – Definitions

Cold Therapy – the local application of a cold modality (i.e. cold pack, Cryo Cuff, Ice) to the external surface of the body to help reduce pain, inflammation or swelling.

Heat Therapy – the superficial heating of tissues achieved through a heat modality (such as heat packs) applied to the external surface of the body.

Section 4 – References

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Wheat filled heat packs. Fire and Rescue New South Wales

Revision and Approval History

Date	Revision no:	Author and approval
August/ September 2018	Draft	Draft for Comment period
September 2018	Draft	Feedback collated and considered. Final draft endorsed by Executive Sponsor.
September 2018	Draft	Processed by Executive Services prior to progression to Clinical and Quality Council.
October 2018	1	Approved by Clinical and Quality Council for publishing.
July 2019	1	Minor review approved by Executive Sponsor. Review included: <ul style="list-style-type: none"> • information that hot water bottles and wheat filled heat packs should not be used • changes to the wording for monitoring the hot pack on patient's skin • additional contra indication for heat therapy – “should not be given to a mother while breastfeeding”