Physical Therapy Practice Guidelines for Persons with Bleeding Disorders: Cryotherapy

The following practice guidelines were developed through the consensus of the therapists that work with patients with bleeding disorders and edited by the National Hemophilia Foundation’s Physical Therapy Working Group. The information contained in the practice guidelines is not intended in any way to be used as primary medical advice or to replace medical advice. They are intended to guide the physical therapist caring for individuals with bleeding disorders in the important factors and elements of quality care.

**Therapeutic Use**

- For inflammation, pain and edema control
- Pre and post activity

**Application Technique**

- Determine that cryotherapy is not contraindicated for the patient or condition (see below)
- Inspect the area to be treated for skin integrity and assess sensation
- Select the appropriate cooling agent i.e. cold pack, ice packs, ice cups, controlled compression units
- Use towels or pillow cases for hygiene, skin protection, and/or insulation
- Apply cryotherapy over the affected area for 10 to 20 minutes and repeat every 1 to 2 hours prn
- Reassess the patient after the treatment and check for any signs of adverse effects of the intervention
- Consider combining with compression, elevation, and rest (RICE) to enhance effectiveness

**Commonly Used Cryotherapy Agents**

<table>
<thead>
<tr>
<th>Cold pack- filled with silica gel i.e. Coldpacs®</th>
<th>Frozen ice cups- used to apply ice massage on small or irregular areas</th>
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</thead>
<tbody>
<tr>
<td>... conforms to body contours</td>
<td>... generally not tolerated by children</td>
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<tr>
<td>... patients can use plastic bags of frozen vegetables at home as a substitute for cold packs</td>
<td>... short-duration of treatment based on patient tolerance</td>
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<tr>
<td>Ice packs- made of crushed ice placed in a plastic bag</td>
<td>Cold Compression Unit- alternately pumps cold water and air into a sleeve that is wrapped around a patient’s limb - most commonly used directly after surgery for the control of postoperative inflammation and edema.</td>
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<td>... provides more aggressive cooling</td>
<td>... works well prior to physical therapy treatment</td>
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</table>

This material is provided for your general information only. NHF does not give medical advice or engage in the practice of medicine. NHF under no circumstances recommends particular treatment for specific individuals and in all cases recommends that you consult your physician or local treatment center before pursuing any course of treatment.
Sample of products available in the market:

○ **Cryo/Cuff System®** - can be used on small and large joints and muscles
  - available for children and adults
  - user friendly and appropriate for frequent users such as inhibitor patients
  - can be used as compression alone
  - improved patient tolerance compared to cold or ice packs
  - should not be placed over an ace wrap or ted stocking

○ **Game Ready ®** - similar to Cryo/Cuff ® except that the temperature and amount of compression are both adjustable -cannot be used as compression alone

○ **Aquawrap ®** - provide cold/compression simultaneously
  - self-adhesive and reusable
  - does not need refrigeration

**Contraindications for the Application of Cryotherapy**

- Cold hypersensitivity (Cold-induced Urticaria)
- Cold intolerance
- Raynaud’s Disease and Phenomenon
- Over a regenerating peripheral nerve
- Presence of sensory impairment or other signs of nerve dysfunction
- Over an area with circulatory compromise or peripheral vascular disease

**Precautions for the Application of Cryotherapy**

- Inhibitor patients: Please contact the physical therapist at your regional Hemophilia Treatment Center (HTC) for more information on these complex patients
- Over the superficial main branch of a nerve
- Over an open wound
- Treating patients with hypertension
- Treating patients with poor sensation or mentation
- Treating very young or very old patients
- Some patients with acute bleeding may not tolerate cryotherapy

Please visit NHF’s website @ [www.hemophilia.org](http://www.hemophilia.org) for HTC contact information and PT references.
Additional information is available through NHF @ 1 800 42-HANDI.