

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 pain, activity tolerance
- Pre and post activity

Application Technique

- Determine that cryotherapy is not contraindicated for the patient or condition (see reference articles)
- 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 pillowcases 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

Cold pack- filled with silica gel i.e., Coldpacs ®

- conforms to body contours
- patients can use plastic bags of frozen vegetables at home as a substitute for cold packs

Ice packs- made of crushed ice placed in a plastic bag

- provides more aggressive cooling

Frozen ice cups- used to apply ice massage on small or irregular areas

- generally, not tolerated by children
- short duration of treatment based on patient

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

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.

Please visit NHF’s website @ www.hemophilia.org for HTC contact information. Additional information is also available through NHF @ 1 800 42-HANDI.

- tolerance
- works well prior to physical therapy treatment

and edema.

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

References:

- Insights into cryotherapy and joint bleeding: cryotherapy and hemophilia. Ravanbod R et al. Blood Coagul Fibrinolysis. (2017)

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.

Please visit NHF’s website @ www.hemophilia.org for HTC contact information. Additional information is also available through NHF @ 1 800 42-HANDI.



2. The effect of cooling on coagulation and haemostasis: should "Ice" be part of treatment of acute haemarthrosis in haemophilia? Forsyth AL, Zourikian N, Valentino LA, Rivard GE. **Haemophilia**. 2012 Nov;18(6):843-50. doi: 10.1111/j.1365-2516.2012.02918.x. Epub 2012 Aug 23. Review
3. Effects of Therapeutic Exercise and Hydrotherapy on Pain Severity and Knee Range of Motion in Patients with Hemophilia: A Randomized Controlled Trial Vahid Mazloun, Nader Rahnema, Khalil Khayambashi. *Int J Prev Med*. 2014 Jan; 5(1): 83–88.

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.

Please visit NHF's website @ www.hemophilia.org for HTC contact information. Additional information is also available through NHF @ 1 800 42-HANDI.