



# PRAIRIE

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## Cold Therapy (Cryotherapy)

After an injury or surgery, the body's natural response is inflammation of the injured or operative site. Inflammation is characterized by swelling, warmth, redness, and pain. Ice has long been used to combat inflammation.

The regular use of ice or cold after an injury or surgery is known as cold therapy (AKA cryotherapy). Cold therapy is thought to work by several mechanisms:

- Decreases blood flow to the injured/operative site and helps control swelling
- Decreases the release of chemicals that cause inflammation & pain
- Slows the conduction of nerves, limiting their ability to conduct pain impulses

Thus through all of these mechanisms, cold therapy helps to reduce inflammation, swelling, and pain, resulting in improved range of motion and a quicker recovery.

Research studies demonstrate that cold therapy decreases pain<sup>1,2,3</sup> & narcotic use<sup>1,4</sup>, decreases swelling, increases range of motion<sup>1,4</sup>, and improves performance in physiotherapy<sup>4</sup>.

There are a few small risks with cold therapy, including skin damage (frostbite) and temporary nerve palsy (loss of function). However, these occurrences are most often associated with improper or excessive use of cold therapy.

We highly recommend cold therapy for you post-operatively. There are specialized machines known as cryocuffs, or cold therapy units, that can be rented or purchased. The original models provide excellent cooling and include the Ossur Cold Rush and the DonJoy Iceman. There are also newer cold therapy units that apply compression in addition to cooling, helping further to eliminate swelling (and are perhaps more effective at cooling as the compression allows for more uniform cooling). These newer models are the Breg Polar Care Wave (purchase only) and the Game Ready (rent only). Please see the chart on the next page for more information on where to obtain these cold therapy units. **Note:** it is best if you make arrangements to rent or purchase one of these units **prior** to your surgical date to ensure availability.

It is not mandatory that you rent or purchase a cold therapy machine. You can use bags of ice or gel packs for cold therapy, as long as you use them regularly as per the instructions above (and as long as you are not leaking water onto your incision). However, the cold therapy units are more effective and convenient, and patients who have rented or purchased one of these units are almost always highly satisfied. If you do choose to rent or purchase a unit, your surgeon can provide you with a prescription for insurance/reimbursement purposes if needed.

## Cold Therapy Unit Guide

Vendor	Contact Info	Cold Therapy Unit	Compression	Purchase	Rental
TSB Custom Bracing & Orthopedics	Trevor Len 306-526-8683 tsbbracing@sasktel.net	Ossur Cold Rush	No	= \$324.95 + tax (includes one pad)	= \$180.00 + tax / 4 weeks (includes one pad) Additional time: \$25.00 + tax/week
		Breg Polar Care Wave	Yes	= \$424.95 + tax (includes one pad)	= \$275.00 + tax / 4 week (includes one pad) Additional time: \$25.00 + tax / week
		DonJoy Iceman Clear 3	No	= \$349.95 + tax (includes one pad)	Please contact for options
		Game Ready	Yes	Please Contact	\$475 + tax (2 week rental, includes pad)
Thoms Medical Inc.	Stephanie Thoms 306-229-6093	Breg Polar Care Wave	Yes	= \$425.00 + tax (includes one pad as well as shipping directly to your residence)	N/A
Health Works	306-525-0007	Ossur Cold Rush	No	\$275.99 (machine) + \$89.99 (pad) = \$365.98 + tax	\$79.99 (machine rental for 3 weeks) + \$89.99 (pad must be purchased) = \$169.98 + tax / 3 weeks Additional time: \$25.99 + tax/week
Regina Sports Group	306-522-4722	Ossur Cold Rush or DonJoy Iceman Clear 3	No	\$400.00 (machine) + \$100.00 (pad) = \$500.00 + tax	\$100.00 (machine rental for 4 weeks) + \$100.00 (pad must be purchased) = \$200.00 + tax / 4 weeks Additional time: \$30.00 + tax/week or \$100.00 + tax/month
		Game Ready	Yes	N/A	Please contact for options
Jolly's Medical + Athletic Supplies	306-522-3833	Ossur Cold Rush	No	\$289.95 (machine) + \$79.95 (pad) = \$369.90 + tax	\$100 (machine rental for 4 weeks) + \$79.95 (pad must be purchased) = \$179.95 + tax / 4 weeks Additional time: \$5.00 + tax/day
Independent Living Inc.	1-800-667-6003	DonJoy Iceman Classic	No	= \$275.00 + tax (includes one pad)	N/A
		DonJoy Iceman Clear 3	No	= \$475.00 + tax (includes one pad)	N/A
Game Ready	1-844-441-3278	Game Ready	Yes	N/A	= \$500.00 + tax (machine rental for 2 weeks) (includes one pad and shipping directly to your residence)

## Instructions for Cold Therapy

- Apply cold therapy for **20-30 minutes at a time**. Application longer than this may result in skin injury and is not recommended. (Note: with the specialized cold therapy units, it is possible to safely leave on for periods longer than this, but caution should be employed).
- Apply cold therapy **regularly**. Take a 60-90 minute break between sessions, but ensure you are applying several times per day (minimum of 5, but ideally closer to 8-10) (Note: if using cold-compression devices such as the Breg Polar Care Wave or Game Ready, it is not recommended to apply much more than 3 times per day)
- Begin applying cold therapy on the day of surgery. Sometimes the bandages get in the way; try to work around them. Once your bulky dressing comes off, it is much easier to apply cold therapy directly to the affected body part.
- Continue cold therapy for up to 4 weeks after surgery, although it is most crucial in the first 2 weeks after surgery.
- To prevent skin injury, consider using a thin cloth or towel between your skin and the cold therapy product (particularly the case with ice/gel packs; you may not need to do this with the cold therapy machines). Also, make sure nothing is melting or dripping onto your wound, which could result in surgical site infection.
- Do not use cold therapy immediately prior to your range of motion exercises, as it may cause a bit of stiffness of the joint and tightness of the muscles. It is best to use after your exercises.
- If you start to develop numbness below the site of application, or if you start to experience pain at the site of application, discontinue use and wait several hours before restarting. If these symptoms recur upon restarting, discontinue cold therapy altogether and contact our office.

**If you have any questions or concerns, please contact our office.**

### References

1. Barber FA, *et al.* Continuous-flow cold therapy for outpatient anterior cruciate ligament reconstruction. *Arthroscopy* 1998;14(2):130-135.
2. Raynor MC *et al.* Cryotherapy after ACL reconstruction: a meta-analysis. *Journal of Knee Surgery* 2005;18(2):123-129.
3. Waterman B, *et al.* The efficacy of combined cryotherapy and compression compared with cryotherapy alone following anterior cruciate ligament reconstruction. *Journal of Knee Surgery* 2012;25:155-160.
4. Cohn BT *et al.* The effects of cold therapy in the postoperative management of pain in patients undergoing anterior cruciate ligament reconstruction. *American Journal of Sports Medicine* 1989;17(3):344-349.