

# Ice and modern sports physiotherapy: still cool?

Mario Bizzini

PRICE (protection, rest, ice, compression, elevation) has been for decades the magic five-letter word in the acute management of injuries, in sports medicine and among the general population when administering first aid. Putting the ice bag on a painful area has become one of those rituals (like stretching) which are simply 'part of the game'. In many cases, the athletes say 'it just feels good' or 'it helps'...

In a systematic review on therapeutic interventions for acute hamstring injuries which highlighted that there is a lack of high-quality research, PRICE was part of many of the treatment protocols.<sup>1</sup> In reality, there is little or no evidence in the literature to support the use of PRICE. Recently, a group of UK researchers has critically discussed the effectiveness of cooling a muscle injury in a series of papers, two of them in *BJSM*.<sup>2-4</sup> The cooling effect is influenced by the depth of the injury and adipose thickness at the injury site; therefore, for deeper injuries, applying the ice bag may have little effect on the injury itself. While ice, compression, elevation (ICE) may retain its role for pain relief, more debatable is the amount of protection and rest needed after injury.

## IS IT TIME TO CALL THE POLICE?

Optimal loading (OL), via an adapted early active rehabilitation programme, was effective in treatment of acute ankle sprains. Specifically, OL seems an omission and rest (R), an oversimplification. Therefore, Bleakley *et al* suggested the far catchier acronym – POLICE – instead of PRICE.<sup>3</sup> Research to determine what 'optimal' means in terms of dosage, nature and timing of loading an injured structure is still required. You can find a review of the science that underpins the benefits of mechanical loading in *BJSM*.<sup>5</sup>

Bleakley and colleagues have also produced a manual with updated PRICE guidelines for the Association of Chartered Physiotherapists in Sports and Exercise Medicine.<sup>6</sup> Phil Glasgow (Sports Institute of Northern Ireland, University of Ulster), one of the contributors, will be one of the invited speakers at the 10th edition of the Swiss Sports Physiotherapy Conference (see below).

Another popular use of ice in sports, as a recovery modality, is cold water immersion (CWI). The meta-analysis of Leeder *et al* represents an important contribution to a field, where there is also a paucity of evidence-based guidelines.<sup>7</sup> The results show that CWI is effective in reducing delayed onset muscle soreness (DOMS) after high-intensity exercise, while the effects on muscle recovery are less clear. The physiological background of CWI needs to be further investigated, as well as the chronic application of CWI on adaptation to training (ie, understanding the role of inflammatory response after strenuous exercise).

Sackett defined evidence-based rehabilitation as 'the integration of the current best evidence with clinical expertise, pathophysiological knowledge and patient's preferences in decision making'.<sup>8,9</sup> It is clear that more research on PRICE and CWI is needed, but we should also respect the athlete's rituals with ice bags, water immersions or other cryogenic therapies. If CWI or PRICE make athletes say 'feels good' or 'it helps' and it does no harm, then there is no problem with it. However, as specialists, we should ensure that the application of these modalities is within the latest evidence-based guidelines.

## SWISS SPORTS PHYSIO CONFERENCE

If you are keen to be at the cutting edge of sports physiotherapy, then don't miss the 10th Swiss Sports Physiotherapy Conference in Bern (16 November 2012). This friendly meeting attracts more than 300 participants annually. This is an ideal size for you to engage with our

international speakers (including this year: Karim Khan, Jill Cook, Kevin Wilk, Phil Glasgow and Jay Irrgang) in beautiful Switzerland. Don't miss the opportunity to catch new knowledge which can be immediately applied in your practice: as an example, the latest current concepts in rehabilitation of the athlete's shoulder by Kevin Wilk. This year's programme will also include an update on the activities of the International Federation of Sports Physical Therapy, with the participation of its president Nicola Philipps (Cardiff, UK).

Keep an eye on this conference by checking the Swiss Sports Physiotherapy Association website ([www.sportfisio.ch](http://www.sportfisio.ch)) and the *BJSM* website, with its impressive array of free videos, podcasts and blog. Updates are very easy to follow on your phone @BJSM\_BMJ and Facebook!

**Competing interests** None.

**Provenance and peer review** Commissioned; internally peer reviewed.

Received 13 January 2012

Accepted 13 January 2012

*Br J Sports Med* 2012;**46**:219.

doi:10.1136/bjsports-2012-090960

## REFERENCES

1. Reurink G, Goudswaard GJ, Tol JL, *et al*. Therapeutic interventions for acute hamstring injuries: a systematic review. *Br J Sports Med* 2012;**46**:103–9.
2. Bleakley CM, Costello JT, Glasgow PD. Should athletes return to sport after applying ice?: a systematic review of the effect of local cooling on functional performance. *Sports Med* 2012;**42**:69–87.
3. Bleakley CM, Glasgow P, MacAuley DC. PRICE needs updating, should we call the POLICE? *Br J Sports Med* 2012;**46**:220–1.
4. Bleakley CM, Glasgow P, Webb MJ. Cooling an acute muscle injury: can basic scientific theory translate into the clinical setting? *Br J Sports Med* 2012;**46**:296–8.
5. Khan KM, Scott A. Mechanotherapy: how physical therapists' prescription of exercise promotes tissue repair. *Br J Sports Med* 2009;**43**:247–52.
6. Bleakley CM, McDonough SM, MacAuley DC. Some conservative strategies are effective when added to controlled mobilisation with external support after acute ankle sprain: a systematic review. *Aust J Physiother* 2008;**54**:7–20.
7. Leeder J, Gissane C, van Someren K, *et al*. Cold water immersion and recovery from strenuous exercise: a meta-analysis. *Br J Sports Med* 2012;**46**:233–40.
8. Sackett DL. Clinician-trialist rounds: 6. Testing for blindness at the end of your trial is a mug's game. *Clin Trials* 2011;**8**:674–6.
9. Sherrington C. Integrating evidence into clinical practice to make quality decisions. In: Brukner P, Blair S, Bahr R, Cook J, Crossley K, McConnell J, eds. *Brukner & Khan's Clinical Sports Medicine*. Fourth edition. Sydney: McGraw Hill 2012:11–13.

**Correspondence to** Mario Bizzini, Schulthess Clinic, Research/F-MARC, Lengghalde 2, Zürich 8008, Switzerland; [mario.bizzini@kws.ch](mailto:mario.bizzini@kws.ch)