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External support and early mobilisation works best for mild or moderate ankle sprains

Research question What is the best method of treating first time ankle sprains?

Answer External support with a combination of an elastic wrap and a stirrup brace and early mobilisation are best for moderately severe injuries.

Why did the authors do the study? There is still debate about the best way to treat ankle sprains of differing severity. External support coupled with controlled, early mobilisation probably works best for mild injuries, but which kind of support? These authors also wanted find out whether a cast works better than support and early mobilisation for people with moderate or severe sprains.

What did they do? Two hundred and twelve young adults who had sprained their ankle for the first time took part in a randomised controlled trial. Doctors at a sports medicine clinic classified their injuries as grade I (partial tear of the lateral ligament complex), II (partial disruption with some loss of function), or III (complete disruption of the ligament complex with instability, severe pain, swelling, and total loss of function).

Participants with grade I injuries were treated with a stirrup brace, an elastic wrap, or both. Those with grade II injuries were treated with a stirrup brace, an elastic wrap, both, or a fibreglass walking cast worn for 10 days followed by the elastic wrap. Those with grade III injuries had either the stirrup brace or the walking cast followed by an elastic wrap. All participants followed the same rehabilitation programme for at least three weeks and completed a daily log of their pain and functional ability. The authors made a final assessment of the movement and function of participants' ankles six months after randomisation, and used intention to treat analysis to compare treatments for the three grades of ankle injury.

What did they find? Combined treatment with a brace and an elastic wrap worked best for grade I injuries, reducing by about half the time it took for participants to walk and climb stairs normally compared with either treatment alone (for walking, 4.6 days *v* 10.3 days with brace alone and 11.2 with wrap alone, $P < 0.05$ for both comparisons).

For patients with grade II injuries, any kind of functional treatment (brace, elastic wrap, or both) worked significantly better than an immobilising cast. The combination of wrap and brace, for example, cut the time it took to return to normal walking and climbing stairs by about 60% compared with a cast (10 days *v* 24 days, $P = 0.0001$). Patients with grade III injuries did equally well after treatment with a brace or a cast followed by an elastic wrap: they were all walking and climbing stairs normally by 18-21 days after randomisation.

After six months, there were no differences in ankle function or movement between any of the treatment groups for any severity of ankle injury.

What does it mean? Patients with moderately severe injuries of the ankle lateral ligaments get better faster if they are treated with external support and early mobilisation rather than a cast. The best support seems to be a combination of an elastic wrap and a stirrup brace, at least for people with grade I injuries. In this trial, severe injuries responded equally well to functional treatment or immobilisation in a cast for 10 days, but the authors failed to recruit enough severely injured patients to be sure of this result.

Beynnon et al. A prospective, randomized clinical investigation of the treatment of first-time ankle sprains. *Am J Sports Med* 2006;34:1401-12

Editor's choice

Obviously

There are some lively discussions on bmj.com. One that makes it on to this week's letters pages is about whether it's ever OK to assume that an intervention is effective based on observational studies alone. Are there times in medicine when we should act without waiting for randomised trials? Malcolm Potts and colleagues argued that there were (30 September, p 701), citing oral rehydration therapy, circumcision to prevent HIV infection, and misoprostol for postpartum haemorrhage. Some responders accepted aspects of their argument, but most expressed a mixture of outrage and scorn (p 807). What about adverse effects? Why should people in the developing world be treated on a lesser standard of evidence? Richard Lehman concludes in his journal blog on bmj.com, "This article is so bad it may actually do some good." Presumably the potential good lies in getting us to think about what we base our actions on.

One intervention whose effectiveness may seem obvious, if only in biological terms, is calcium supplementation to strengthen bones. In fact, as Tania Winzenberg and colleagues show in this week's *BMJ* (p 775), there is no evidence of a clinically important decrease in fracture risk during or after supplementation in children. In an accompanying editorial (p 763), Amy Joy Lanou asks whether we might in fact be doing harm by encouraging healthy children to consume dairy products in view of our obesity epidemic and high rates of lactose intolerance globally. And what of the opportunity costs? "The focus on calcium ... draws attention away from more comprehensive research on how to promote long term bone health among young people," she says.

Of course, even randomised controlled trials can be misleading. Carl Heneghan and colleagues call for caution in interpreting the results of the recently published diabetes reduction assessment with ramipril and rosiglitazone medication (DREAM) trial of drug treatments to prevent diabetes (p 764). The reported positive effect of rosiglitazone looks less good at three years, when the rate of all cardiovascular events was higher in the intervention group, and if rates of heart failure are taken into account. Like Lanou, they conclude that we might do better to focus attention on evaluating pragmatic lifestyle measures rather than expensive and potentially harmful drugs.

You may notice that none of these articles end by saying "More research is needed." That's because the phrase has been banned at the *BMJ* for as long as I can remember. Stephen Lock, one of my predecessors as editor, viewed it as a fatuous conclusion to any piece of work because more research is almost always needed. Polly Brown and colleagues take up his banner (p 804), calling on researchers to be more specific with their recommendations for more research. After all, they will have looked at the literature, designed their own research, and learnt from doing it. The least they can do, say Brown and colleagues, is take the trouble to record their views on what the next research steps might be. I agree. But your views via bmj.com will be welcome.

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