



The virtues of compression

From origins in hospital operating theatres, compression garments have begun to infiltrate mainstream sport.



Compression garments have been around for more than a century, primarily used in the medical industry upon patients to increase blood flow after surgery. They aid recovery by facilitating the circulation of nutrients and oxygen to the damaged region.

The sports industry started to embrace 'compression' in the past 10-15 years. However, it's been a chequered past. Some manufacturers 'cashed in' early when there wasn't a great deal of research to quantify how garments actually performed and whether they lived up to some rather wishful claims.

But as innovation and fabric technology improved, so did the performance-enhancing qualities of compression garments. In swimming, for instance, we've seen more than 100 world records broken in the past two years with the introduction of high-tech body suits.

How do they work?

Compression garments serve two main purposes: muscle containment and increased blood circulation. With regard to muscle containment, compression garments literally support muscles during exercise. Usually muscles tend to hang off the bone, so when muscles oscillate – move or shake – the result is 'micro tears'. By compressing muscles tightly, the garments offer support to reduce oscillations and tears. Apart from preventing injury, they also facilitate recovery. Muscles tend to swell after exercising and compression garments reduce soreness, which is why physios and doctors wrap limbs tightly.

Compressing muscles also links them to the brain through what is called proprioception. Having a muscle tightly wrapped puts the muscle into a 'firing' position. Athletes wearing compression garments tend to find they're better able to perform a repeated movement (such as the golf swing), which requires fine motor skills. This cerebral attribute translates into accuracy.

The second purpose of a compression garment is to increase blood circulation, particularly through long-sleeve compression tops and tights (leggings). By having muscles tightly compressed, the arteries and veins return blood to the heart much quicker, thereby 'oxygenating' the blood and pumping it back to the muscles more rapidly. Hence athletes gain greater endurance and stamina from wearing compression garments, which have been embraced by aerobic sports such as triathlon and cycling.



Ewan Porter is one Aussie professional to have trialled compression garments during tournament play.

As well as increased blood flow, they help to flush out lactic acids and minimise build up. Muscles fatigue with lactic acid, inhibiting peak performance. Compression garments help disperse lactic acid more quickly in the body and it's estimated they might reduce build up by 10 per cent.

Compressed for success

Triathlete Chris Bradford has noticed a quantum leap in the quality of compression garments over the past decade. He recalls being given a pair of 'tights' during his time riding with the national cycling team. The fabric lacked compression and tightness so he tossed them in a bedside drawer.

These days, Bradford is a sales representative for 2XU (pronounced two-times-you). Since 2004 the Melbourne-based manufacturer has forged a formidable reputation with triathlon 'speedsuits' (specifically designed for the Hawaiian Ironman) and neoprene wetsuits for elite swimmers. 2XU is the official supplier of compression garments to the AIS, Triathlon Australia, Swimming Australia, Melbourne Victory and Rowing Australia.

2XU's point of distinction is the development of a 'circular knit' that gives a 360-degree stretch of fabric. Basically, the garment stretches every which way. Most compression brands use a 'warp knit', which is left-right, up-and-down and so doesn't stretch diagonally. In terms of 'fabric memory', a circular knit is more inclined to snap back into shape every time it's stretched.

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Fabric quality is measured in denier, which relates to the thickness of the yarn. Medical-grade compression leggings are said to be super robust, boasting a 250-denier fabric. By comparison, 50-denier feels like a thick rubber band. 2XU's range includes 70-denier elite tights (\$185), compression tights (\$140), long-sleeve compression tops (\$110), short-sleeve compression tops (\$90) and compression socks (\$50).

While the cost may be a little prohibitive at \$300 for an 'outfit', it's a multi-functional ensemble. "The wearer can use it running, for the gym or on long-haul flights to increase blood-flow through the legs and minimise risk of deep-vein thrombosis," Bradford says.

Bradford testifies to their benefit. Runner-up at the recent Australian triathlon championships (35-39 age group), Bradford says his run times can improve by up to 20 seconds per kilometre when wearing compression leggings compared to without them.

Benefits to golfers?

Golf is yet to recognise the benefits of compression garments, according to Bradford, who likens the potential to the introduction of hybrid clubs by Adams Golf in the 1990s. Sales of hybrid clubs

exploded once tour players showed they could get a competitive edge from them.

It stands to reason tights or leggings should benefit a walking sport such as golf. Being on their feet for four hours at a time, golfers are likely to notice less soreness in an area like the calf muscles. But in reality, the calves become tired from overcompensating for primary muscles such as the glutes.

With long-sleeve compression tops, golfers are offered more support through the rotator cuffs, triceps, forearms and wrists. In theory, this should enable a professional to practice longer by minimising muscle oscillations. It should also help in terms of accuracy. As mentioned earlier, compressing those muscles quite tightly provides a link with the brain, enhancing 'feels' through proprioception.

Touring professional James McLean has won two pro-ams since he began wearing 2XU compression garments earlier this year. In fact, McLean has taken to sleeping in the tights at night in order to feel fresher and maximise the recovery benefits. (For recovery purposes, the AIS recommends wearing a garment for a minimum of four hours.)

"It might be a 3 or 4 per cent advantage from wearing those

10 BENEFITS OF COMPRESSION GARMENTS FOR GOLFERS

- Assists posture so golfers are less sluggish on the course
- Helps senior golfers with circulation problems
- Maintains 'core' temperature from cold weather and wind chills
- Assists in working the 'Golf Christmas Tree' muscle group
- Enhances the feeling of 'compression' in the golf swing
- Assists in preventing skin cancer
- Offers multifunctional training usage – pool, park, beach, gym – without changing clothes
- Minimises risk of DVT with long-distance travel in cars and planes
- Enables the lower body to feel more connected with the trunk and upper body
- Improves 'feels' in the golf swing

garments," Bradford says. "But if you are using less energy and put that into shot execution and concentration, that could be the difference between winning or losing by one or two shots."

Generally speaking, compression garments offer up to 340 hours of usage before the fabric starts to break down from sweat, washing, plus wear and tear. Once the tightness disappears, the benefit of wearing a garment is lost. Elite athletes would go through a pair of tights every six months if they're using them two or three times a week.

Wearing compression garments should not replace massage or physiotherapy. It's just another element to maximise performance. Furthermore it's not the type of product you're going to buy and wear on the odd occasion. You can use it for a multitude of activities.

For more information about golf-specific injuries, fitness or golf camps, contact The Melbourne Golf Injury Clinic on (03) 9569 9448 or visit my new website ramsaymcmaster.com.



2XU compression garments are used by a number of elite athletes and national squads.