

FOOTWEAR TECHNOLOGY



Special shoe throws Wales rugby captain a lifeline

Having been passionate about sport since a very early age, Welsh rugby player Ryan Jones has, until recently, been incredibly frustrated about an injury that prevented him from reaching his potential for some time. The foot condition, known as Morton's Neuroma, even caused the Wales captain to miss games. However, Welsh sports clinic Ace – Feet in Motion has given the player a real boost by creating a custom-made shoe that seems to have cured the problem.

Mr Jones' sporting career actually began on the football field playing in goal for nearby Bristol City's junior side at the age of 14. However, he decided to give rugby a go when several of his friends started playing for rugby union club Risca RFC, based in South Wales. In 2004, he was offered a contract with the Ospreys, who went on to win the Celtic League

in 2004-05. The number eight player in the pack was appointed captain in 2007.

Mr Jones made his international debut for Wales against South Africa in November 2004 and featured in Wales' 2005 Grand Slam-winning side. He was appointed captain of Wales in January 2008 and, in his first Six Nations tournament as captain, he led the team to a second Grand Slam in four years.

Pain in the foot

However, despite his success, the number eight has had his fair share of injuries over the years. He was unable to take part in the recent 2009 British and Irish Lions tour to South Africa because of head injuries he had sustained during a previous Wales test match. But one problem in particular affected his performance on the pitch for a prolonged period. His experience of Morton's Neuroma, a thickening of the tissue surrounding

Ryan Jones (right) with Ace – Feet in Motion bootmaker Gareth Innes (left) and podiatrist Andrew James (at rear) who diagnosed the condition.

Rob Stratton

the digital nerve leading to the toes, prevented him from playing as well as he knew he was able to, and even stopped him from taking part in some games because of the persistent pain he was experiencing.

Morton's Neuroma usually occurs in the third interspace, which is between the third and fourth toes. Problems often develop in this area because part of the lateral plantar nerve combines with part of the medial plantar nerve at this point. When the two nerves combine, they are typically larger in diameter than those going to the other toes. Also, the nerve lies in subcutaneous tissue, just above the fat pad of the foot, close to an artery and vein.

Above the nerve is a structure known as the deep transverse metatarsal ligament. This ligament is very strong, holds the metatarsal bones together and creates the ceiling of the nerve compartment. With each step, the ground pushes up on the enlarged nerve and the deep transverse metatarsal ligament pushes down. This can cause compression in a confined space.

Finding a solution

Minor surgery is usually necessary for sufferers of the condition. However, in Mr Jones' case, a new pair of rugby boots has proved to be a much simpler, and less painful, solution. Using the latest computerised scanning technology, Ace - Feet in Motion was able to identify that his feet were too wide for a regular boot, and that the tight fit was causing pressure on a nerve in his right foot. Working with components supplied by the player's sponsor, UK-based technical rugby apparel and accessories firm KooGa, a pair of tailor-made rugby boots, complete with corrective insoles, was created at its Cardiff manufacturing facility.

The company's managing director, Bob Cooper, explains: "Incorrect biomechanical foot function is a common cause of many sports injuries such as shin splints, knee, ankle and foot pain. The provision of corrective insoles and the use of appropriate sports footwear can help eliminate these problems."

According to Mr Jones, playing rugby, and even just walking, was incredibly painful before the new boots were developed. "While wearing my regular boots I always felt as though I was walking around with a stone in my shoe because of the pressure they created in my foot," he says. He adds that simple tasks such as walking the dog were causing him pain.

After scanning his feet and diagnosing the condition, Ace - Feet in Motion developed a bespoke boot for the Welsh number eight. Made from blue leather, it contains an insole that fits Mr Jones' unique foot specifications. "One of the functions of the special insole is to create more space between the metatarsals. An

exceptionally broad boot is then specifically designed to accommodate this feature and the wide foot, thus allowing the pressure on the nerve to be relieved," comments podiatrist Andrew James, clinical director at the company.

Furthermore, although the boots contain the corrective insoles that enable the player to perform well, they look exactly like regular sporting boots. "Nobody would know the difference but me," he says. "But my new boots have transformed my playing career and have meant that no games have had to be sacrificed to this problem." He adds that he is now able to "function fine", for which he is extremely grateful. "It's thanks to my new boots that I am still able to play rugby. They are a perfect fit and pretty much provided an instant cure," he explains.

Branching out

The one hitch for sufferers of Morton's Neuroma is that this type of boot is currently only available to top professional athletes. "It's a very common problem among athletes, who experience persistent pain as a consequence, but at present only the elite have bespoke boots made for them to address the problem," explains Mr James. However, the company is looking to change this; as Mr Cooper says: "We already produce bespoke boots for top athletes, among them a number of premier league footballers, but we are looking to make this service available to all serious sports enthusiasts."

Ace - Feet in Motion was established in 2001 to provide sports injury services using computerised pressure plate scanning equipment to analyse the biomechanics of the foot and identify any irregularities in foot function. It employs around 100 staff at its manufacturing facility and produces bespoke, semi-bespoke (modular) and stock foot orthoses. Its efficient manufacturing techniques enable orthoses to be produced during the client assessment, which means the customer can take them away on the same day. Its main site houses a biomechanics/sports clinic, a chiropody clinic, a specialist sports footwear centre and a comfort footwear centre. The company is also official podiatrist to the Welsh Rugby Union and Disability Sport Wales. 

Ryan Jones' bespoke boot. The Wales and Ospreys player claims it has provided an instant cure.

 Rob Stratton

