

# New minimally invasive bunion surgery

## Applying new technology to established modern philosophy

*Bunions are a very common. An estimated 33 per cent of women will develop bunions at some stage in their lives and these can often be painful. The term bunion refers to a swelling on the side of the big toe joint which usually occurs when the big toe leans too much towards the second toe. The medical term for this is hallux valgus.*



For a long time, bunion surgery had a reputation for being very painful with a lengthy recovery period and for this reason, many people tended to put up with their bunions for years rather than consider surgery. This was because older techniques involved cutting the bone and not using any form of fixation. Newer techniques introduced during the past decade have enabled surgeons to securely fix the bones in the correct position which in turn helps to reduce pain and promote a more controlled and predictable recovery.

In recent years, there has been a tendency to move away from open surgery to minimally invasive. For example, arthroscopic techniques ('keyhole' joint surgery) has largely replaced open surgery for most joint problems, replacing large incisions with small incisions called portals ('keyholes') through which the surgeon works. In doing so, the surgeon is trying to minimise the damage to surrounding tissue with the aim of preserving blood supply to the operated area, reduce scarring, and minimise the risk of infection.

### A new minimally invasive surgical approach

It was during collaboration between French and UK surgeons based in Sussex that this new minimally invasive surgical approach was developed. David Redfern, Joel Vernois and Stephen Bendall have together developed a technique which is intended to combine the strengths of established bunion surgery with minimally invasive methods.

Unlike another form of minimally invasive bunion surgery offered in the UK, there is no need for a wire to remain in the foot after surgery.



Above: David Redfern & Stephen Bendall

Traditional open bunion surgery involves making a cut of 5cm or so on the side of the foot and a smaller incision on the top of the foot to release the tissues holding the toe. The incisions used in this minimally invasive surgery are just 3mm - the diameter of the lead in a pencil.



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'High-tech' specialised instruments evolved from those used in head, face and neck surgery are then inserted via the portals ("keholes") and used to make cuts in the bone. The cuts are made in precise positions and planes as guided by a specialised miniature xray system in theatre. The main bone cut has a 'v' shape profile which is far more stable than a simple straight cut. Once the surgeon has corrected the position of the bones with these cuts then 'high-tech' screws are inserted via tiny incisions in order to fix the bones securely in place. The MISUK surgeons believe that there are two important features of modern bunion surgery which must not be sacrificed in minimally invasive methods. Firstly, it is important to make cuts in the bone that are stable and secondly, the bone correction must be securely fixed in place with specialist screws (as we have learnt to be important in modern 'open' surgery and which substantially reduces pain in the period after surgery). Together these technical aspects enable precise correction of the deformity and confidence that this will be maintained during healing.

Unlike other forms of minimally invasive bunion surgery offered in the UK and on the continent, there is no need for a wire to remain protruding from the foot after surgery.

The screws are designed to stay within the bones without the need for removal at a later stage. It is very unusual for the patient to be aware of these screws after surgery and so they are very rarely removed.

The procedure is usually performed under a general anaesthetic but can be performed under regional anaesthesia.

It is very important that this new technique is performed by a specialist foot and ankle surgeon who has extensive experience of all open bunion surgery techniques, which form the basis for this operation.



The Sussex Foot & Ankle Centre was founded in 2005 by two orthopaedic surgeons, David Redfern and Stephen Bendall, with the aim of providing a high quality specialist service for the diagnosis and treatment of all foot and ankle problems. Both orthopaedic surgeons are specialists in problems affecting the foot and ankle and have many years of experience. They operate the service with outpatient clinics at the Brighton and Haywards Heath Nuffield Hospitals.

The Sussex foot and ankle center strives to provide the best advice and treatment for all foot and ankle problems. This includes sports injuries and trauma, bunions, metatarsalgia, and arthritis. Both surgeons have particular interests in minimally invasive surgery and are at the forefront of developing such techniques in this country.

Both surgeons are also academically very active and have appointments within the national (BOFAS) and international (EFAS) professional foot and ankle surgery societies.

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