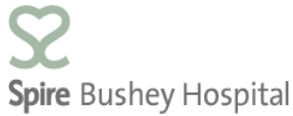


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Forefoot Overload – A Patient Guide

What is it?

The forefoot is the part of the foot from the arch to the tips of the toes. Certain conditions can place excessive pressure on this whole area or one part of it and this leads to pain often under the balls of the toes.

What Causes it?

There are a many causes of forefoot overload and Mr Gordon will take a thorough history and examination in order to determine the cause. Some causes are:

Footwear – High heels places increased pressure under the balls of the toes

Bunions (hallux valgus) – Deviation of the big toe allows weight to be transferred to the lesser toes which are not used to bearing this load

Short 1st metatarsal / Long lesser metatarsal– If the lesser metatarsal is longer relative to 1st metatarsal, weight may be transferred to the lesser metatarsal

Tight calf muscles (gastrocnemius) – Inability to lift the foot up fully during walking places increased pressure on the forefoot

Tight Achilles tendon – As for tight calf muscles

High arches (cavus foot) – The natural increased metatarsal angle places higher pressure on the metatarsals heads

Following Surgery – After bunion surgery the 1st ray (big toe metatarsal) may become shorter, transferring weight to the lesser toes

Rheumatoid arthritis – Fat pad atrophy (thinning) and migration uncovers the metatarsal heads increasing pressure

What are the Symptoms?

Forefoot overload can cause a variety of symptoms, one or several in combination may occur. The most common symptom is pain on top of the foot and/or the sole of the foot. Symptoms include:

Metatarsalgia - Pain under the balls of the toes

Plantar Callosities – Hard skin on the sole of the foot under the metatarsal heads, which may be painful

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Synovitis – Inflammation, swelling and pain of one or more (metatarsophalangeal) joints

Lesser Toe Deformity – Synovitis causes a deformity within the joint eg. toe deviation or elevation

Hammer toe – If the deformity causes the toe to become elevated, the toe bends at the next joint down to stay in contact with the ground. If it is longstanding this joint becomes stiff and cannot be straightened. It may rub on shoes and be painful

Metatarsophalangeal Joint Instability / Plantar Plate Rupture – Continued inflammation of the joint may cause an important stabilising structure (the plantar plate) to rupture. This leads to continued pain and deformity

Stress Fractures – Where a constant stress in one point of the bone eventually causes it to break leading to pain on top of the foot

Interdigital neuralgia ('Morton's Neuroma') - Irritation and swelling of a nerve to the toes, causing pain around the foot.

How is it Investigated?

Mr Gordon will take a thorough history and examination in order to determine the cause. X Rays will normally be taken and other imaging modalities such as ultrasound or MRI may be needed.

How is it Treated?

This will depend on the cause.

Weight loss – Reduces the load through the foot

Activity modification – Alter the types of activity that exacerbate pain

Anti inflammatory tablets and ice

Calf / Achilles tendon stretches – see www.davidgordonortho.com

Footwear – A smaller heel, wider toe box, rocker sole, more cushioned sole and more accommodating fit may be useful

Insoles(orthoses) – A metatarsal dome can raise the painful area off the ground, reducing pressure through it

Pads – Gel or silicon pads can cushion or cover prominent areas and prevent rubbing

Taping – This can correct a deformity

Steroid injections – Anti inflammatory injection can give short term relief, but do not usually cure

Surgery

If non surgical measures fail to keep symptoms manageable, then surgery is an option. A number of options can be used depending on the cause. Broadly these may be:

Gastrocnemius release – The tight muscle is released to allow better ankle movements

Osteotomies – Bone is cut and moved to a better position in the foot, then fixed with a screw

Fusion – Hammer toes if fixed, may be fused straight to prevent further rubbing

Reconstruction - A complex procedure involving realignment of the joint(s) by releasing contracted tissue, repairing structures (eg plantar plate), tendon lengthening and sometimes an osteotomy

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Examples can be bought in the high street or on the internet



Rocker soled shoe



Metatarsal Dome Insole



Silicon Gel Sock (for hammer toe)



Taping second toe (before and after)



Taping second toe (underneath foot)
(3M Durapore tape recommended)