foot diagnostics international

# orthotics

+modifications

2018 / 2019 Catalogue

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# FDI orthotics

## Premium

### Description

The dual density *Premium* is our premier product for biomechanical and general use. It has a high performance BK fabric topcover that improves comfort and durability. The antibacterial coating helps limit foot odour while the dual density base provides superior levels of shock absorption and comfort.

### Function

Multi-purpose, Biomechanical, Comfort

### Topcover

BK fabric with antibacterial coating.
Colour: Black

### Base

Dual density EVA

### Density

Medium (Shore 65) Hard (Shore 75)

### Sizes

XS, S, M, L, XL

## Premium Plus

### Description

The dual density *Premium Plus* accommodates larger foot profiles with a wider and deeper fit than the standard *Premium* model. The arch support has been strengthened and both the first ray recess and integrated forefoot lateral posting removed to provide a more neutral base for modification.

### Function

Multi-purpose, Biomechanical, Comfort

### Topcover

BK fabric with antibacterial coating.
Colour: Black

### Base

Dual density EVA

### Density

Medium (Shore 65)

### Sizes

XS, S, M, L, XL

## Medical

### Description

The dual density *Medical* range has been developed specifically for healthcare use. Its topcover is engineered for ultimate cushioning and reduction of shearing stress, which makes them ideally suited for diabetic and arthritic foot problems.

### Function

Multi-purpose, Biomechanical, Comfort

### Topcover

Soft EVA with antibacterial coating.
Colour: Black

### Base

Dual density EVA

### Density

Soft (Shore 45)

### Sizes

XS, S, M, L, XL

FDI orthotics support the foot and lower limb to prevent foot fatigue and facilitate motion throughout the kinetic chain. They can be used to treat mechanical misalignment, improve lower limb kinematics, reduce tissue stress that predisposes to foot and lower limb injury, and aid in pain reduction. At the same time, they are engineered to provide superior levels of comfort, cushioning, flexibility and durability.

The following range of orthotics has been developed to accommodate the range of symptoms associated with lower limb injury. All models can be easily customised using FDI *Easy Fit Modifications*.

## Medical Plus

### Description

The *Medical Plus* accommodates larger foot profiles with a wider and deeper fit than the standard *Medical* model. The arch support has been strengthened and both the first ray recess and integrated forefoot lateral posting removed to provide a more neutral base for modification.

### Function

Multi-purpose, Biomechanical, Comfort

### Topcover

BK fabric with antibacterial coating.
Colour: Red

### Base

Dual density EVA

### Density

Soft (Shore 45)

### Sizes

XS, S, M, L, XL

## Kids

### Description

The *Kids* range provides comfort and control for growing feet. The medial arch is slightly flared to control hyper mobility and aggressive pronation while the higher heel cup offers additional support around the subtalar joint. Inherently supportive, FDI *Easy Fit Modifications* can still be applied to the flat base profile if required.

### Function

Multi-purpose, Biomechanical, Comfort

### Topcover

BK fabric with antibacterial coating.
Colour: Royal Blue

### Base

Dual density EVA

### Density

Soft (Shore 45)

### Sizes

K1 (XXS), K2 (XXXS)

## Three-Quarter

### Description

The *Three-Quarter* offers *Premium* model features with reduced footprint and an emphasis on lower profile, volume and weight. This enables use in a wide variety of shoe types including dress wear. The *Three-Quarter* anterior edge extends to the sulcus to allow use of forefoot additions for added biomechanical control.

### Function

Multi-purpose, Biomechanical, Comfort

### Topcover

Cambrelle with antibacterial coating.
Colour: Black

### Base

EVA

### Density

Medium (Shore 65)

### Sizes

XS, S, M, L, XL

# FDI orthotics+mods

## Naked Orthotic

### Description

The *Naked* orthotic range offers *Premium* model features without a topcover, making it the ideal base for a fully customised solution using FDI *Easy Fit Modifications* or bespoke postings and topcovers.

### Function

Multi-purpose, Biomechanical, Comfort

### Topcover

None

### Base

EVA

### Density

Medium (Shore 65) Hard (Shore 75)

### Sizes

XS, S, M, L, XL

## Easy Fit Modifications

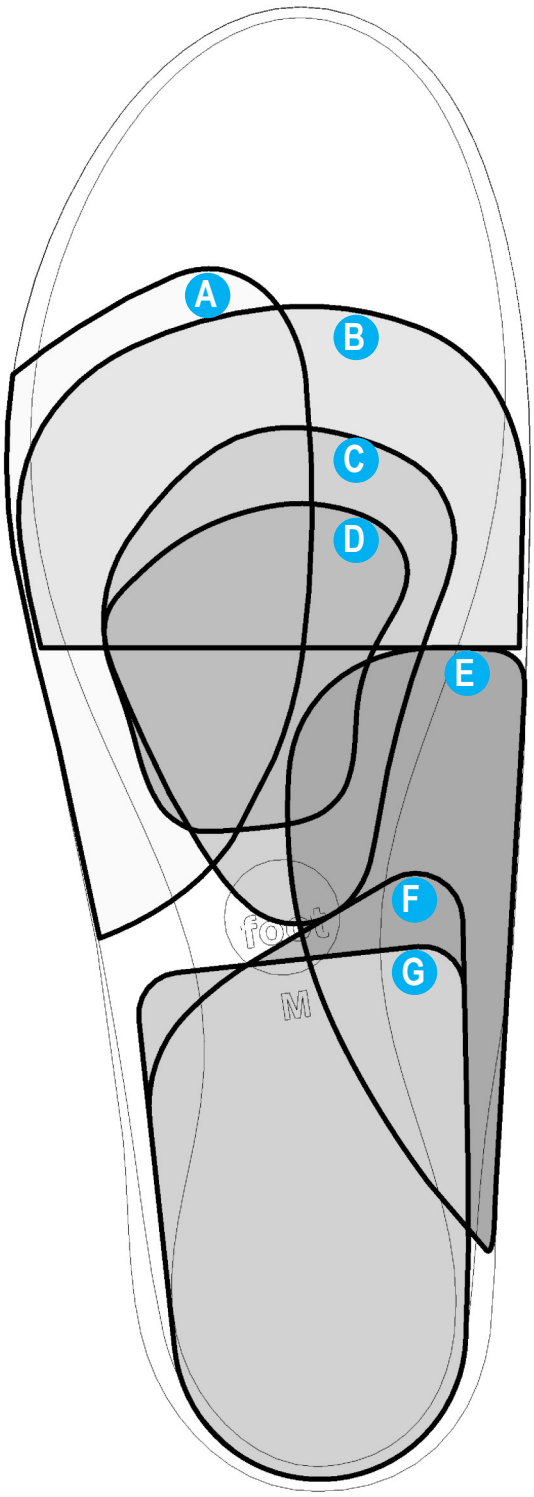
### Description

FDI has developed the following range of *Easy Fit Modifications* (contoured postings) for use with the FDI range of orthotics.

- **A. Forefoot Lateral Wedge** (Sizes: S, L)
- **B. Plantar Pad** (Sizes: M)
- **C. Met Dome Plus** (Sizes: M)
- **D. Met Pad** (Sizes: S, L)
- **E. Arch Cookie** (Sizes: S, L)
- **F. Rearfoot Wedge** (Sizes: S, L)
- **G. Heel Raise** (Sizes: S, L)

FDI *Easy Fit Modifications* can be glued on in seconds to achieve a professional looking fit without grinding or shaping (*refer photo above*). They can also be modified further to meet the specific needs of the patient.

Available in packs of 5 pairs. *Mods* are available in either one size fits all (M) or two sizes (S, L) to best cover the full range of FDI orthotics while minimising stock



# design features


FDI orthotics are designed for optimum comfort, durability and performance without compromising natural foot function.

Design features include:

1. Low Profile & Pitch Height
2. Flat Base
3. First Ray Facilitation
4. Forefoot Lateral Posting
5. Lateral Arch
6. Rearfoot Design
7. Base Material
8. Topcovers
9. Research & Development

# design features

## 1. Low Profile & Pitch Height

FDI uses the latest computer modelling techniques to develop orthotics with both low profile and pitch height. We believe prefabricated orthoses should not be too thick to avoid discomfort and shoe fitting complications.

FDI orthotics will fit into most shoes and offer the following advantages:

- Lower profile without losing functionality.
- Minimal impact on the pitch height of shoes without altering the lever arm between the heel and ground.
- Does not alter muscle activation patterns during the gait cycle.
- Maintains the required interface between the foot and the shoe.

Adding FDI *Easy Fit Modifications* (contoured postings) to the rearfoot and forefoot can be achieved without undue shoe fitting complications.

## 2. Flat Base

FDI prefer a flat base for their orthotics. This concept is based on individual professional experience of utilising and modifying prefabricated orthoses for over 30 years and treating thousands of patients with lower limb disorders.

A flat base provides a stable platform without providing any unnecessary lateral or medial shift at the subtalar joint, allowing the orthoses to sit perfectly into the shoe. Why would you purchase an orthotic with a curved base if you then have to apply modifications to create a flat stable base?

Additional rearfoot postings also sit better on a flat base and are easily glued into position. The photo above shows an FDI *Easy Fit Modification* glued directly to an FDI orthotic. A perfect fit was achieved straight out of the packet, with no grinding or shaping required.

## 3. First Ray Facilitation

FDI standard orthotics incorporate a first ray recess. The first ray consists of the first metatarsal and the medial cuneiform.

The functional implications of incorporating a first ray recess into the orthotic design are as follows:

- Encourages sagittal plane motion by allowing the first ray to plantar flex in gait, thereby assisting the initiation of the windlass mechanism. This will relieve tensile stress of the plantar fascia and promote shock absorption during loading at the forefoot.
- Promotes stability during the propulsive phase of gait.
- Provides a better overall relationship for the biomechanics of the lower limb and foot.

## 4. Forefoot Lateral Posting

FDI standard orthotics have been designed with an integrated minimal forefoot lateral posting. This design feature, especially when combined with a first ray recess, assists in plantar flexion of the first ray. This may provide additional stability to the lateral column of the foot, supporting the locking of the midtarsal joint, thereby facilitating transfer of weight for forward propulsion to occur.

If abnormities occur during this phase of the gait cycle the foot may become unstable causing disruption of the calcaneocubiod joint and possibly predisposing to injuries.

## 5. Lateral Arch

FDI has catered for the medial and lateral longitudinal arches of the foot. We have contoured a lateral arch support into the orthotic which we believe is important in aiding locking of the midtarsal joint, in gait, to allow re-supination to occur for propulsion.

A lateral arch will help the following:

- Lock the calcaneo-cuboid joint to foster supination to occur at midstance.
- Facilitate peroneus longus contraction required for the locking mechanism of the midfoot to occur.

## 6. Rearfoot Design

FDI have carefully considered the design of our orthoses, particularly at the heel and navicular region of the foot. We have developed a comfortable heel cup and have not been too aggressive constructing the medial arch.

Based on personal experience, patient feedback and clinical observations, we believe an overly bulky medial arch profile can be uncomfortable. By way of proprioception it can also cause the foot to over supinate in gait leading to premature muscle fatigue.

## 7. Base Material

FDI orthotic base materials were selected with great care to facilitate optimal comfort, durability and performance.

The base is made from moulded and compressed EVA which is a light weight, durable, shock attenuating material that is also heat mouldable for a perfect fit.
FDI orthotics are available in the following 3 densities: Soft (Shore 45), Medium (Shore 65), Hard (Shore 75).

## 8. Topcovers

Topcovers provide the interface between the functional base of an orthotic and the user's foot. FDI topcovers were selected to enhance the function of each model while maximising user comfort and durability.

The *Premium* range has a high performance BK fabric topcover that is treated with an antibacterial agent to help limit malodour.

The *Medical* range topcover is specifically engineered for ultimate cushioning and reduction of shearing stress, which makes them ideally suited for diabetic and arthritic foot problems. The *Three-Quarter* range has a durable Cambrelle topcover also treated with antibacterial coating.

## 9. Research & Development

FDI orthotics were designed by experienced podiatrists specifically for health professionals.

The design team has over 30 years' experience treating thousands of patients and manufacturing orthotic devices. We have painstakingly designed a range of products that include all of the design features that we believe work in the real world.

Use of the latest computer modelling techniques has enabled features to be included that were previously too difficult to incorporate. During the development phase, each product was tested under extreme conditions including extended running and walking programmes.

# Instructions

## Sizing Chart

| Size | US Men | US Women | UK | EUR |
|---|---|---|---|---|
| XL | 12-13 | 13-14.5 | 11-12 | 46-48 |
| L | 10-11.5 | 11-12.5 | 9-10.5 | 44-46 |
| M | 8-9.5 | 9-10.5 | 7-8.5 | 41-43 |
| S | 6-7.5 | 7-8.5 | 5-6.5 | 38-40 |
| XS | 3-5.5 | 5-6.5 | 3-4.5 | 35-37 |
| K1 (XXS) | - | - | - | - |
| K2 (XXXS) | - | - | - | - |

## Fitting

FDI orthotics may be thermo moulded by your health professional or simply placed into shoes and worn straight away.

FDI recommends that the orthotics are worn for a short period of time (approx. 2 hours) on the first day. The wear time should then be increased slowly on a daily basis.

Most people find that the orthotics are completely comfortable in about one week.

## Care

Gently hand wash in cold or warm water with a mild detergent and rinse.

Towel or air dry in shade only.

Do not tumble dry.

Do not expose to direct heat or sun.

## Orthotic Modification

Please refer to our website for 'how to' information.

www.footdiagnostics.com

# FAQs

**Q. Who designed FDI orthotics?**

A. A team of professional podiatrists with a combined background in orthotic design and manufacture, sports, general practice, diabetic and rheumatoid foot disorders.

**Q. What makes FDI orthotics different?**

FDI orthotics are designed for optimum comfort, durability and performance without compromising natural foot function. Please also refer to *FDI Design Features.*

**Q. What are FDI orthotics made from?**

A. Moulded and compressed EVA which is a lightweight, durable, shock attenuating material that is also heat mouldable for a perfect fit.

The *Premium, Premium Plus* and *Kids* range have a high performance BK fabric topcover that improves comfort and durability. They are also treated with an antibacterial coating to minimize odour.

The *Medical* and *Medical Plus* range topcover is specifically engineered for ultimate cushioning and reduction of shearing stress, which makes them ideally suited for diabetic and arthritic foot problems.

**Q. Are FDI orthotics available in different densities?**

A. Yes. They are typically dual density with one or more of the following core density options: Soft (Shore 45 in colour light grey), Medium (Shore 65 in colour black) and Hard (Shore 75 in colour dark grey).

**Q. What colour options are there?**

A. FDI orthotics generally have black topcovers as this is the most requested and popular colour. The *Medical Plus* has a red topcover for easy identification and the *Kids* range has royal blue. The colour of the base identifies the product density.

**Q. What sizes do FDI orthotics come in?**

Typically Extra Small (XS) to Extra Large (XL).

The *Kids* range is available in sizes K1 (XXS) and K2 (XXXS).

**Q. What is the expected life span of an FDI orthotic?**

A. This will depend on numerous factors such as volume of use, body weight, type of activity etc.

FDI orthotics have been tested under load and running conditions and an average life time of 12 months is typical under normal conditions. Ideally, orthotics should be replaced with every pair of new shoes as this is often a good indicator of use.

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