

Device/Orthotic Type

NCV

The foundation of NCV is a carbon fiber-reinforced polymer developed specifically for our next-generation custom orthotics. Nearly as thin as our Superglass® composite, NCV strikes a compelling balance between form, function and value.

Uniquely, NCV devices have softer medial and lateral edges for increased peripheral soft tissue accommodation, while at the same time, more firmly supportive underfoot.

Approximately 2.5mm thin through the center of the shell and 1.5mm thin on the medial and lateral flanges.

Options

Gentle: Comparable to Superglass® #1/#2 flex. Mild support along the long axis of the device.

Firm (recommended): Comparable to Superglass® #2/#3 flex. Moderate support along the long axis of the device.

Superglass®

Superglass® functional orthotics incorporate today's most advanced fiberglass/graphite/epoxy resin components, a patented reinforcement system and our proprietary manufacturing technique.

Superglass® is 1.5mm thin (less than 1/16"), no matter how rigid we craft the orthotic shell. Rigidity is independent of thickness.

Options

Everyday (#1, #2 and #3 flex): The perfect blend of control and flexibility to comfortably treat the majority of patients.

Recommended for: *Day-to-day use for most adults. *Light to moderate activities like walking, jogging or casual athletics.

*The majority of children. *Geriatric patients (#1 flex).

*Adults looking for an orthotic with extra flexibility (#1 flex).

Performance® (#4 and #5 flex): Amazingly thin & rigid orthotics for serious athletes or patients who require a firmer device.

Recommended for: *Moderate to competitive athletes participating in activities like running, basketball, tennis, soccer, football or other high impact sports. *Extremely active males ages 15 to 30. *Adults who require or prefer more control.

Prescription Comfort™

Premium accommodative orthotics offering exceptional comfort and light control. A thin and flexible 1.0mm composite shell ensures devices don't lose their shape or "bottom out."

With a maximum total thickness of 4.0mm, Prescription Comfort™ devices fit in nearly any shoe. A black microsuede plantar cover is standard.

Options

Composite (most commonly prescribed): A hybrid between accommodative & functional orthotics with a flexible composite shell topped with a layer or pre-stressed foam. Add additional cushion and/or a top cover, as needed.

*Ideal for treating diabetic, geriatric, pre- and post-surgical patients and those with chronic foot disorders.

Multi-Density: Our most accommodative orthotics, featuring a very flexible composite shell with a layer of pre-stressed, dual-density foam. Add additional cushion and/or a top cover, as needed.

*Ideal for diabetics or those seeking comfort over control.

Length

3/4-Length and Classic

3/4-Length: 3/4 orthotic shell with a 3/4-length top cover (proximal to the met heads). Additional cushion is optional.

Classic: 3/4 orthotic shell only, no cushion, no top cover.

Pros:

*Will fit in almost any shoe, including: men's dress, women's flats, soccer cleats, etc. *No top cover or cushion to wear out (Classic). Extremely durable. *Easy to move from shoe to shoe. *More likely to fit different shoes. *Lower cost.

Cons:

*Allows for accomm. for the midfoot & rearfoot only (3/4). *Exposes patients' forefoot to the unfinished interior of the shoe. *Less positional stability within the shoe. *Can tear nylons (Classic).

Sulcus

3/4 orthotic shell, top cover that ends proximal to the planges. Infrequently prescribed by healthcare professionals.

Pros:

*Provides cushion for the met heads, but allows for additional space in the toe box.

Cons:

*Drop off from the distal edge of the top cover to the inside of the shoe can be irritating for some patients.

Full-length

3/4 orthotic shell with a full-length top cover (to toes). Requires additional forefoot cushion/extension.

Pros:

*Full-length top cover provides in-shoe positional stability for the orthotic. *Is a direct replacement for the sock liner found in most shoes. *Full array of in-cushion accommodations available. *Assists shock absorption for forefoot.

Cons:

*Can cause shoe fit issues, depending on shoe type and top cover/cushion type. *May be somewhat difficult to move from shoe to shoe. *Forefoot/extension will eventually wear out.

Common Foot Pain/Pathologies

Accessory navicular

- *Superglass® #3 or #4.
- *Deep heel cup.
- *Forefoot extension.
- *If plantar prominent, accommodate in device.
- *If medially prominent, with HMO and cutout.

Achilles tendinitis

- *Superglass® #3 or #4.
- *Deep heel cup with higher lateral flange.
- *Heel post.
- *Consider heel raise (bilat).

Ataxic gait

- *Stabilize foot to floor.
- *Very deep heel cup.
- *Flat/vertical posting of forefoot and rearfoot.
- *Forefoot extension.

Bunion/Hallux valgus

- *Superglass® #3 or #4.
- *Heel post.
- *Consider Dancer's met pad with cutout 1st.

Cerebral palsy

- *Rigid device for stability.
- *Flat/vertical heel post.

Charcot-Marie-Tooth disease

- *Superglass® #4.
- *Correct forefoot valgus with 3 or 4 degrees.
- *Extrinsic and the remainder intrinsic.
- *Consider a flat/vertical heel post.

Elevated first ray

- *Deep heel cup.
- *Higher lateral flange.
- *Forefoot extension.
- *Morton's extension (soft).

Forefoot valgus

- *Correct intrinsic, extrinsic or a combination of both.

Haglund's deformity

- *For regular shoes - orthotic with heel post.
- *For shoes with heels above 1.25" - use custom or OTC High Heel device.

Hallux limitus

- *Superglass® #3 or #4.
- Three options:**
- *Balance tip post with forefoot extension.
- *Dancer's met pad with cutout 1st.

Hallux rigidus

- *Rigid Morton's, with dorisflexed extension.

Hammer/claw toes

- Flexible deformity:**
- *Standard orthotic with Superglass® #3 or #4.
- Rigid deformity:**
- *Unaffected with an orthotic.
- *Consider toe crest accomm. or met pad.

Heel spurs

- *Extra deep heel cup to reduce pressure on heel.
- *Heel cushion, horseshoe cushion or medial accommodation, if desired.

In-toeing/out-toeing gait

- *Gait plate.

Ligamentous laxity (very flexible flat foot)

- *Very deep heel cup.
- *High lateral flange.
- *Forefoot extension.
- *PTTD/AAF device.

Metatarsalgia

- *Superglass® #2.
- *Forefoot extension.

Plantar faciitis

- *Superglass® #3 or #4.
- *NCV Firm.
- *Deep heel cup.

Plantarflexed first ray

- *Cutout first.
- *Balance tip post with or without forefoot extension.
- *Dancer's met pad with cutout 1st.

Posterior tibial tendon dysfunction (PTTD)/ Adult Acquired Flatfoot

- *PTTD/AAF device.

Short 1st metatarsal

- *Cutout first.
- *Balance tip post with forefoot extension.

Rigid cavus foot

- *Flat plantar medial.
- *Correct first four degrees of valgus extrinsically and correct the remainder intrinsically.

Sesamoiditis

- *Superglass® #3 or #4.
- *NCV Firm.
- *Consider Dancer's met pad with cutout 1st and met raise.

Shin splints

- *Superglass® #3 or #4.
- *HMO or scaphoid pad.
- *Deep heel cup.

Sinus tarsi pain

- *Superglass® #3 or #4.
- *Six degree heel post to promote STJ motion.

Tailor's bunion

- Forefoot varus:**
- *Correct intrinsically.
- Forefoot valgus:**
- *Correct 3 to 4 degrees extrinsic and correct remainder intrinsic.

Tarsal tunnel syndrome

- *Superglass® #4 or #5.
- *Device only affects mild cases.
- *Device offers additional effect if arch is medially displaced.

Triple arthrodesis

- *Deep heel cup.
- *Correct forefoot valgus, if present (adds stability)
- *Don't correct forefoot varus (possible lateral instability).
- *Consider vertical heel post.

Common Activities

Intense sports

- *Superglass® #4.
- *Superglass® #3 for faster running sports.
- *Optional frontal plane flex for court sports.

Runners

- *Superglass® #3 or #4 for casual runners.
- *Superglass® #3 for sprinters (more motion facilitates hip flexion/extension).

Casual/everyday

- *Superglass® #2 or #3.
- *NCV Firm.

Men's dress

- *Superglass® #3.
- *NCV Firm.

Women's high heel

- *Custom High Heel.

Geriatric

- *Prescription Comfort.
- *Superglass® #1 or #2.
- *NCV Gentle.

Moderate sports

- *Superglass® #3 or #4.
- *NCV Firm.

Skiing, cycling or hockey

- *Specialty Ski, Skate or Cycle device.

Black vinyl with 1/8" EVA cushion

- *Our popular, high-end black vinyl (Naugahyde®) bonded to a versatile 1/8" EVA foam. Standard on NCV. Available for Superglass at no additional charge.
- *Top cover + cushion combination.

Pros:

- *Very durable. *Affordable.
- *Top cover and cushion in one.
- *Designed to complement the NCV shell (can be used with Superglass shell).

Cons:

- *Black vinyl only. *Not breathable.
- *In-cushion options limited to heel cushion, met pad, scaphoid pad and cutouts (1-5). *Can feel "slippery."

Common uses:

- *With the Gentle or Firm NCV device.
- *As an alternative to a vinyl top cover with Vylyte or DuraFORM™ cushion.

PORON® (most popular cushion)

- *Extra soft cushion.
- *Popular, orthotic-grade urethane foam that can be used as a cushion/extension or top cover.
- *Cushion/extension or top cover.

Pros:

- *Great combo of softness & durability.
- *Commonly used with long track record.

Cons:

- *Bottoms out somewhat quickly.
- *Can abrade or wear out more quickly than other materials.
- *Tears easily.

Common uses:

- *Accommodative devices.
- *Extra comfort for functional devices.

Vinyl (most popular top cover)

- *High quality synthetic leather (Naugahyde®). Our most popular top cover.
- *Top cover only.

Pros:

- *Durable with a long lifespan.
- *Very similar in appearance to leather.
- *Included in Superglass price.
- *Available in three colors (sand, gunmetal and black).

Cons:

- *Not breathable.
- *Can feel "slippery" to some patients.
- *Can become brittle & crack over time.

Common uses:

- *Everyday orthotics for most patients.
- *When durability is important (children, teenagers, work boots, etc.).

DuraFORM™

- *Firm cushion.
- *Low density, closed-cell EVA that's softer than Vylyte and firmer than PORON®.
- *Cushion/extension or top cover.

Pros:

- *Won't absorb perspiration.
- *A single layer of material can act as a top cover AND cushion.
- *Molds slightly to the foot, but "rebounds" when not in use.

Cons:

- *Neither firm nor soft.

Common uses:

- *Good all-purpose cushion material - consider as an alternative to Vylyte.

Neoprene

- * 1/8" thick synthetic rubber with a fine weave cloth top layer.
- *Top cover + cushion combination.

Pros:

- *Top cover and cushion in one.
- * Good feel under foot.
- * Some breathability.

Cons:

- * Less durable than vinyl.
- * Can hold odors.

Common uses:

- * Athletic devices.

Vylyte

- *Firm cushion.
- *Cushion/extension only.

Pros:

- *Very durable. *Slow to "bottom out."
- *Excellent shock absorption.

Cons:

- *Not available as a top cover materials.
- *Not a "soft" material.

Common uses:

- *Most functional orthotics.

P-Cell®

- *Soft cushion.
- *Closed-cell EVA foam.
- *Cushion/extension or top cover.

Pros:

- *Compresses and molds to the foot.
- *More durable than popularly prescribed Plastazote®.

Cons:

- *Can "bottom out." *Can abrade or wear out more quickly than other materials.

Common uses:

- *Accommodative orthotics.
- *Geriatric patients. *Diabetics.

Microsuede

- *High-end microsuede fabric from a leading manufacturer.
- *Top cover only.

Pros:

- *Feels great under foot.
- *Not slippery. *Breathability.
- *Color won't bleed.

Cons:

- *Can "grip" patients' socks.
- *Will eventually lose its soft, plush feel.

Common uses:

- *Excellent alternative to vinyl.

Leather

- * Natural leather with light graining.
- * Top cover only.

Pros:

- * Luxurious feel. *Durable
- * Complements high end shoes.
- * Available in two colors (tan & black).

Cons:

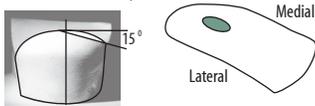
- * Can bleed, discolor and/or smell.
- * Cost.

Common uses:

- * When aesthetics are important (e.g. sandals, dress shoes, high heels, etc.).
- * Patients with allergies to man-made materials.

1 Kirby skive

Flat area on medial aspect of heel cup (intrinsic varus wedge). Increases the supinatory force to the subtalar joint. Often used with a heel post for increased stability.

**2 Arch fill**

Flat arch fill = orthotic less intimate to medial arch. Tight arch fill = orthotic contours intimately to the medial arch.

3 Plantar medial fill

Flattens medial border of orthotic only. Forms a flatter lip on the high point of the arch. More comfortable for high arches.

**4 Deep heel cup**

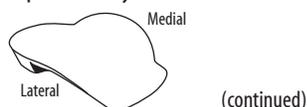
Adds lateral stability, reduces heel pain (increased weight-bearing area and decreases direct pressure), helps stabilize foot on device.

5 High medial/lateral

High flanges on medial and lateral aspect of device. Increases control of rearfoot/midfoot. Potential for irritation on medial flange.

6 PTTD

Features: - High medial overlay - 22mm heel cup - Lateral clip - 3° extrinsic forefoot post - Neutral extrinsic rearfoot post - Kirby skive - Flat arch fill



(continued)

Designed specifically to treat PTTD/AAF. Immobilizes and stabilizes the foot. Potential alternative to AFO's.

7 Child's device

Increases height of medial & lateral flange. Increases control of rearfoot/midfoot. Potential for irritation on medial flange.

8 Gait plate

Available for children and adults to correct in-toeing and out-toeing. Promotes a more normal angle of gait. Most effective when deformity lies in the lower leg. Out-toe devices have an added prominence distal to the 5th met head. In-toe devices have an added prominence to the 1st and 2nd met heads.

9 Forefoot post

Extrinsic forefoot posting controls the foot better than intrinsic forefoot correction. However, extrinsic forefoot posting requires increased shoe volume & can be destructive to the shoe. Keep extrinsic posting to 3 to 4 degrees. Further correction should be intrinsic.

10 Heel post

Flat/vertical: Immobilizes the subtalar joint at the moment of heel contact and maintains the calcaneus vertical. For tarsal coalitions, flat feet associated with muscle spasm or any time that the prime concern is for stability.

Varus: Is generally 4° but could be 6° (rarely more). This places the heel 4 (or 6, or 8) degrees inverted at heel contact and permits the calcaneus to evert to perpendicular. The post mandates motion in the subtalar joint for normal locomotion.

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Motion at the subtalar joint absorbs shock, promotes internal/external rotation & flexion/extension at the hips.

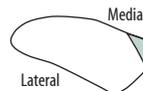
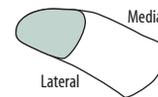
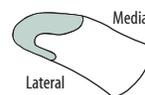
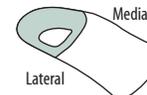
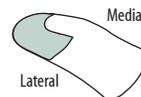
11 Heel raise

Heel lifts decrease the tension on the Achilles tendon and reduces the pronatory force of the foot. Heel raises greater than 1/8" can raise the heel out of the shoe. Heel raises of up to 1/2" are available to correct limb-length discrepancy.

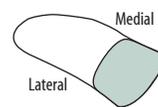
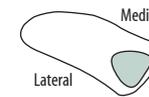
12 Balance tip post

A neutral forefoot post with cutout for 1st met.

The post maintains medial-lateral stability of the device while while the cutout allows the first met to drop.

**13 Heel cushion****14 Horseshoe****15 Donut****16 Medial accomm.****17 Met pad full**

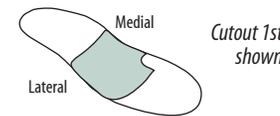
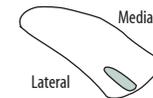
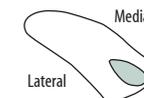
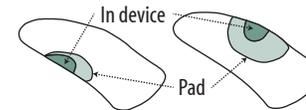
Pad to support metatarsal arch and increase loading of met shafts and decrease loading of met heads prior to heel off.

**18 Met pad****19 Met raise**

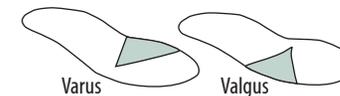
Same as met pad, but in shell. Generally lower than met pads as they can cause pain if too high or too distal.

20 Dancer's met pad

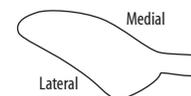
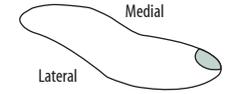
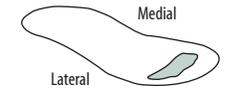
Pad across distal 1/3 of met shafts to base of toes. Allows for cutouts to offload a given metatarsal.

**21 Neuroma****22 Shaft pad****23/24 Cuboid/base 5th/navicular****25 Forefoot wedge**

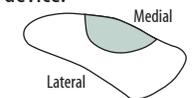
Wedge shape extension from distal end of orthotic shell to toes. Provides inversion or eversion positioning on foot after heel raise.

**26 Morton's extension**

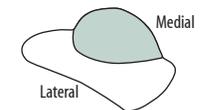
Soft extension elevates met and limits motion. Rigid extension prevents motion.

**27 Hallux accomm.****28 Toe crest accomm.****29 Scaphoid pad**

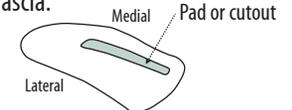
Supports the talo-navicular joint, decreasing the medial displacement of the midfoot. Pad ends at medial border of device.

**30 High medial overlay**

Like scaphoid pad, but pad extends past the medial border of the device.

**31 Plantar fascia**

Linear groove in the device or cushion underlying the medial slip of the plantar fascia.

**32 Cutouts**

Available in shell or in cushion. Reduces weight-bearing, providing a sweet spot for met heads 1 to 5.

33 Amputee**34 X-Guard**

A strip of black material, approximately 1.25" wide, covering the seam between the orthotic shell and extension from the medial edge to lateral edge of the device.