

Evidence Based Orthotic Therapy

Maximizing clinical outcomes with evidence based orthotic prescriptions

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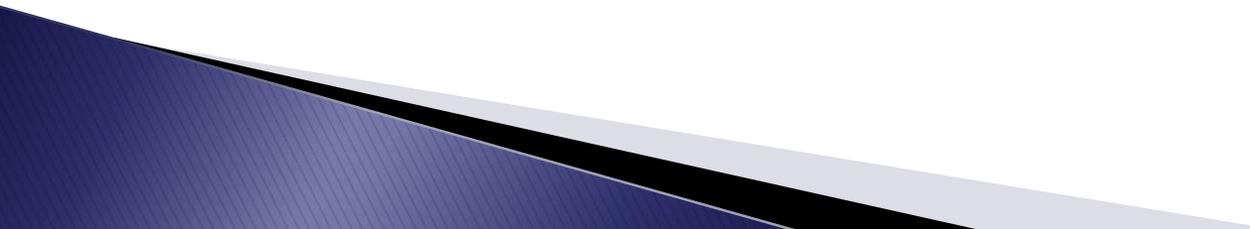
Disclosures

I disclose the following financial relationships with commercial entities that produce health care related products and services relevant to the content of this lecture:

- Employee (Medical Director) of ProLab Orthotics, manufacturer of foot orthoses

Prescription foot orthoses are generally only as good as the biomechanics knowledge and training of the prescribing health care provider.

Kevin Kirby, DPM



Orthotic Therapy in Podiatry

- ▶ 23% of *average* podiatrists income
- ▶ Colleges devote less than 10% of clinical education to orthotic therapy
- ▶ Residencies ignore orthotic therapy
- ▶ CME conferences devote less than 5% of educational programs on orthotic therapy
- ▶ Underserved market niche
- ▶ Either we recognize the clinical and economic value or someone else will



**MAYBE IT'S
TIME TO
RETHINK THE
NO-BRAINER
APPROACH
TO FOOT
ORTHOSES.**

- ▶ Specific pathologies of the foot require certain specifications in order for the orthotics to obtain the maximum outcome.
- ▶ “Tissue Stress Theory”

McPoil, Hunt. **Evaluation and Management of Foot and Ankle Disorders: Present Problems and Future Directions.** Journal of Orthopaedic & Sports Physical Therapy, 1995

Tissue Stress Theory

- ▶ Your ability to match the unique needs of each pathology, with unique orthotic construction, is directly related to your success with clinical outcomes

Mert Root, DPM



Merton L. Root, DPM

CLINICAL BIOMECHANICS-VOLUME II



normal and abnormal
FUNCTION OF THE FOOT

BY NUTTALL, M.D., D.P.M. • WILLIAMS, M.D., D.P.M. • JOHN S. WOOD, D.P.M.

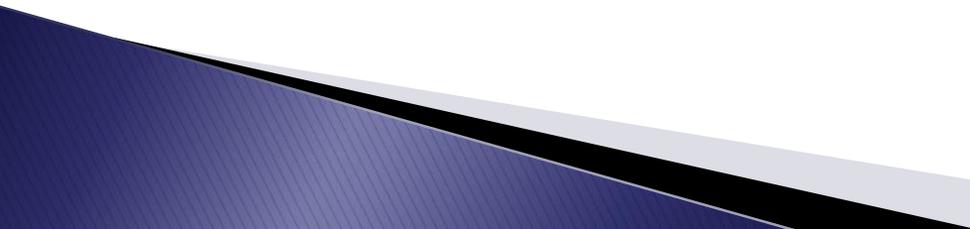
Common Diagnoses with Evidence

- ▶ Posterior Tibial Dysfunction
- ▶ Heel Pain
- ▶ Functional Hallux Limitus
- ▶ Pediatric Flexible Flatfoot
- ▶ Metatarsalgia
- ▶ Apophysitis
- ▶ Tarsal Coalition
- ▶ Tarsal Tunnel Syndrome
- ▶ Achilles Tendinitis
- ▶ Chondromalacia Patella

The Orthotic Prescription



The Orthotic Prescription

- ▶ Shell Material
 - ▶ Size – Width and Heel Cup Height
 - ▶ Positive Cast Arch Fill
 - ▶ Cast Correction and Intrinsic Accommodations
 - ▶ Posts
 - ▶ Top Covers
 - ▶ Forefoot Extensions
 - ▶ Special Additions
- 

The Orthotic Prescription

- ▶ Shell Material
 - Is there a “best” orthotic material?



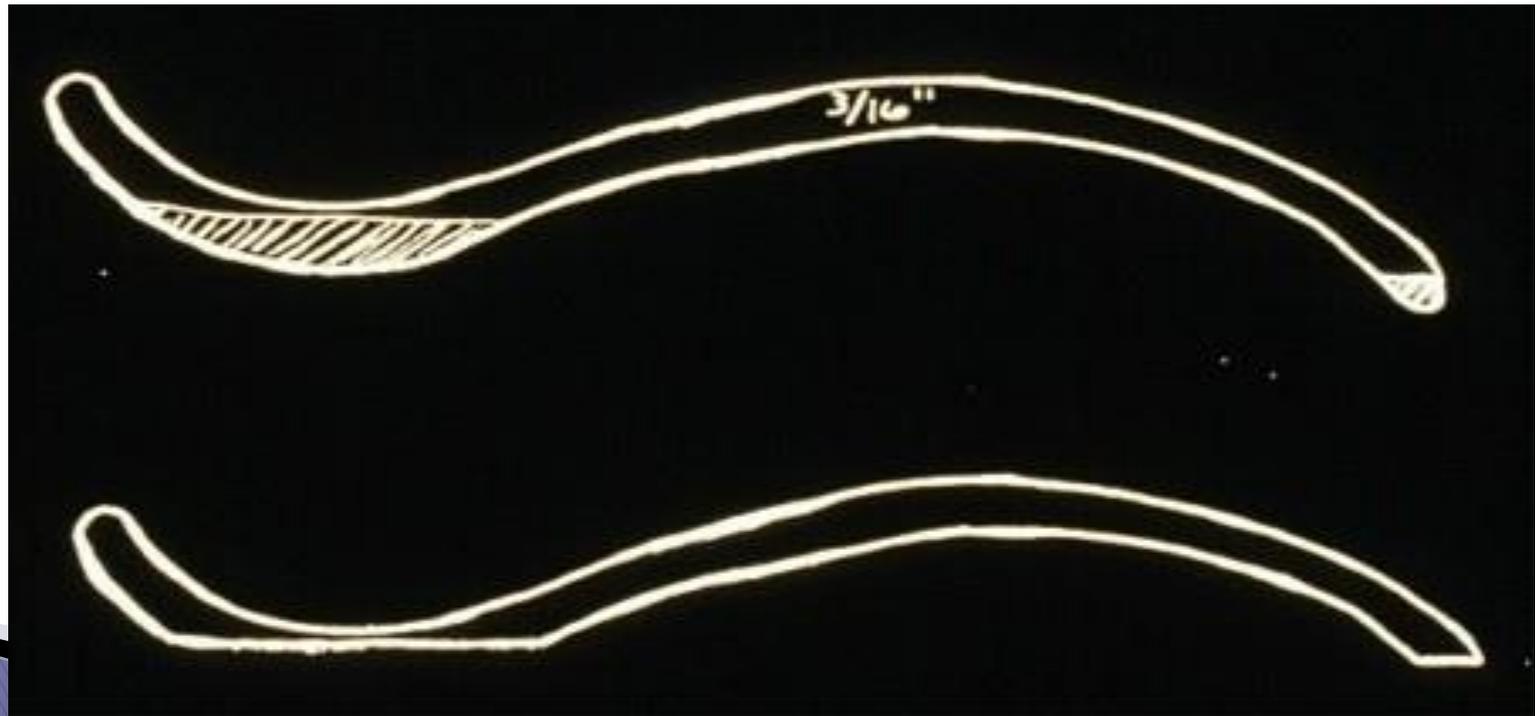
Polypropylene

- ▶ What's Good?
 - Virtually Unbreakable
 - Excellent Memory if Vacuum Formed or Milled
 - No Cover Required
 - Can Grind Thin at Heel and Anterior Edge
- ▶ What's Not So Good
 - Initially a Bit Thicker for Strength



Polypropylene – Shoe Fit

Lack of breakage allows device to be ground thin at heel and anterior edge to improve fit in shoes



Polypropylene Dress Devices

- ▶ Holethotic
- ▶ Cobra



Graphite and Fiberglass

NW Graphite, TL Graphite

- ▶ What's Good?
 - Thin for the strength
 - Great for Dress Shoes
- ▶ What's Not So Good?
 - Require Cover
 - Cannot Thin At Heel
 - Expense



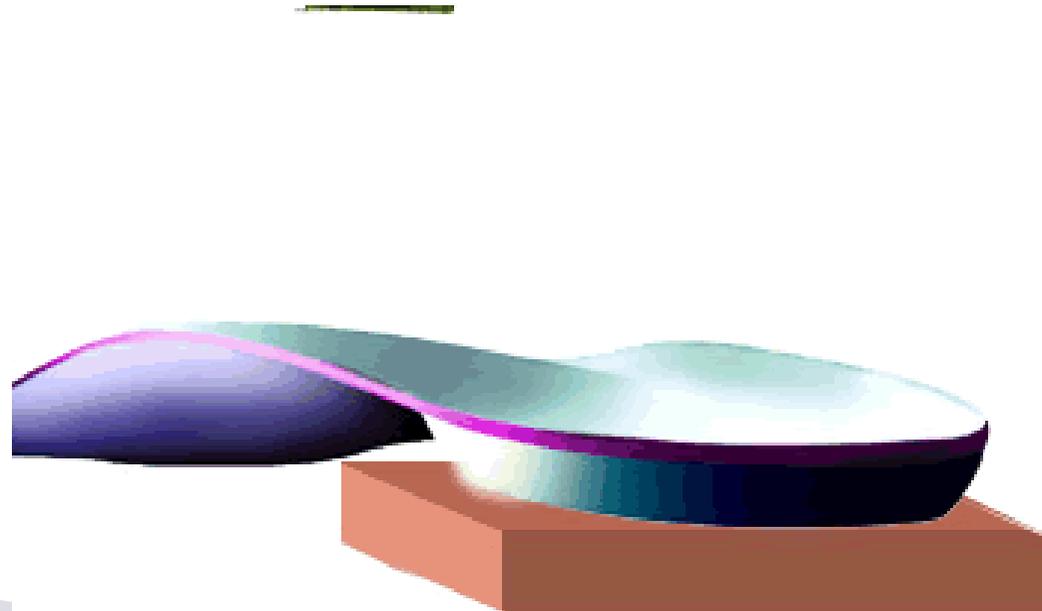
Combination Materials

- ▶ Polypropylene and EVA (ProAerobic)
- ▶ EVA Functional (Featherweight)



The Orthotic Prescription

- ▶ **Shell Material**
- ▶ **Size – Width and Heel Cup Height**
 - Heel Cup Height
 - Width



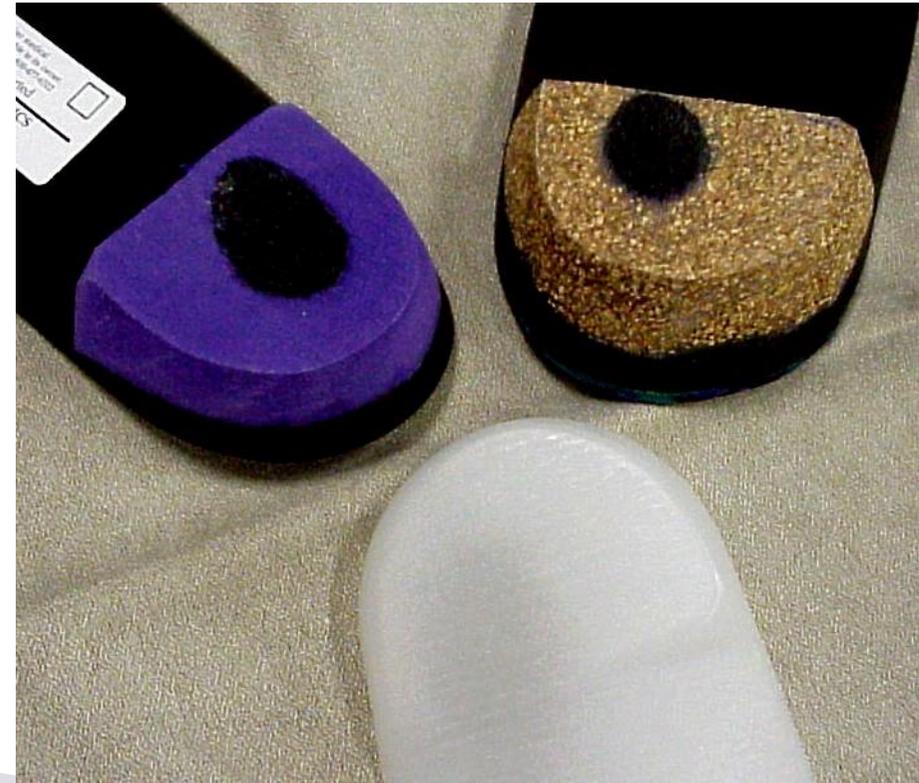
The Orthotic Prescription

- ▶ Positive Cast Arch Fill
- ▶ Cast Correction and Intrinsic Accommodations



The Orthotic Prescription

- ▶ Posts



The Orthotic Prescription

- ▶ Top Covers
 - Necessary?
 - Material
 - Length



The Orthotic Prescription

- ▶ Forefoot Extensions
- ▶ Special Additions
 - Valgus / Varus Wedges
 - Morton's / Reverse Morton's Extensions
 - Accommodations
 - Metatarsal Pads
 - Heelspur / Horseshoe Pads



Learning More

> Books

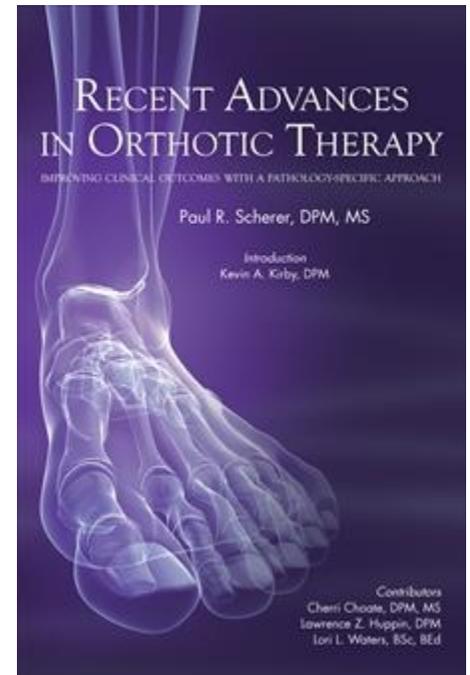
- > Recent Advances in Orthotic Therapy; Paul R. Scherer, DPM
- > Foot and LE Biomechanics: Kevin Kirby, DPM

> Websites

- > Podiatry Arena (www.podiatry-arena.com/)
- > ProlabOrthotics.com
 - > Webinars
 - > eJournal Club
 - > Videos

> Visit offices

> Use medical consultants at labs





Thank You