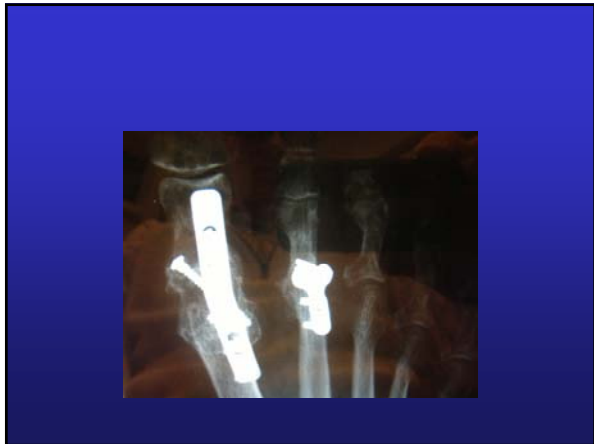


Disclosure

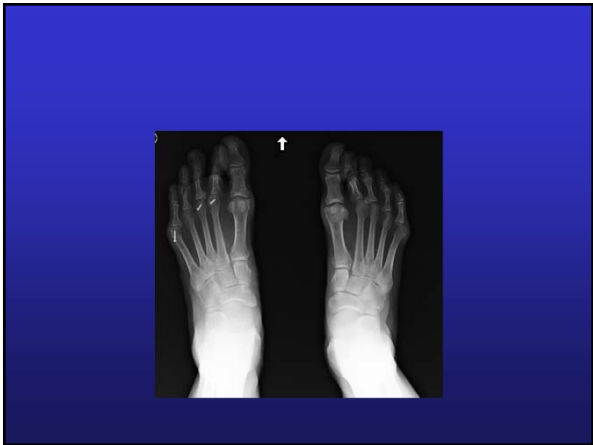
I am a consultant for the following organizations:

- Stryker
- Wright Medical Group
- Zimmer Biomet
- Nextremity Solutions, Inc.
- Paragon 28







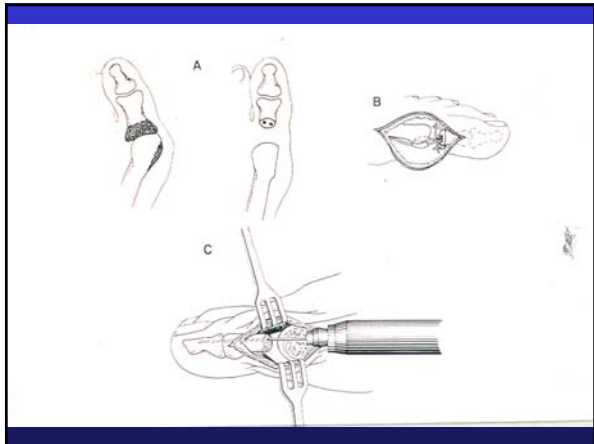


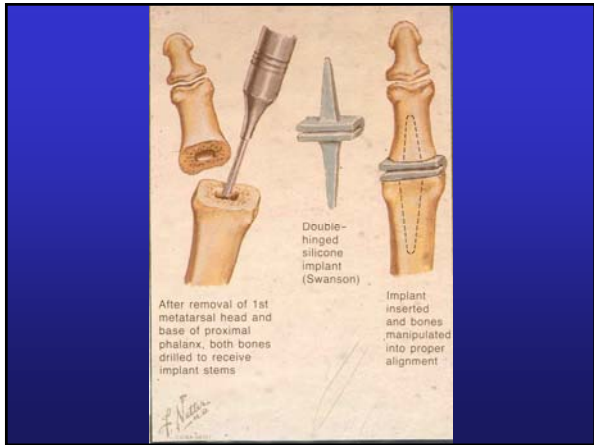




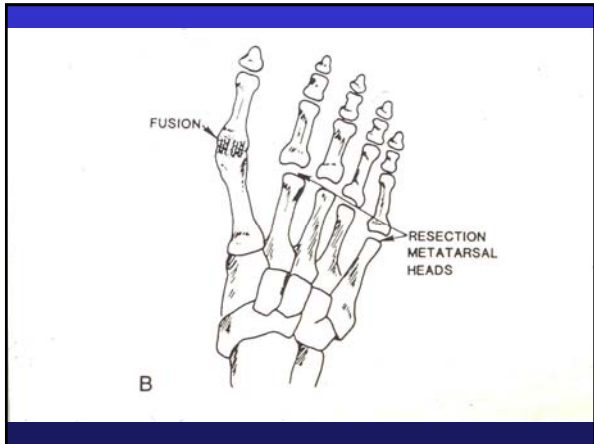




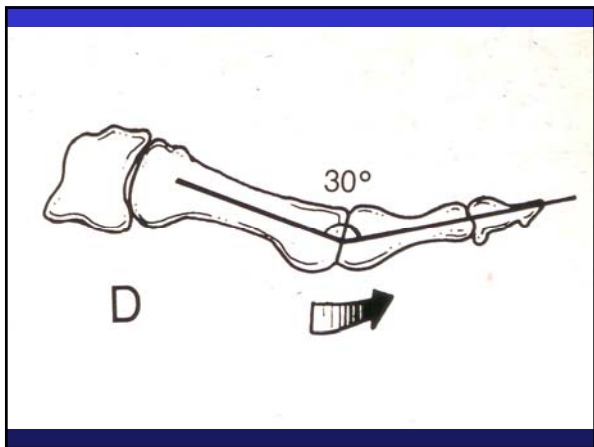


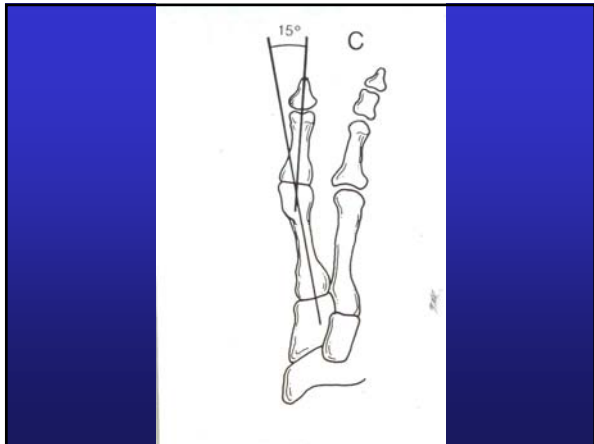


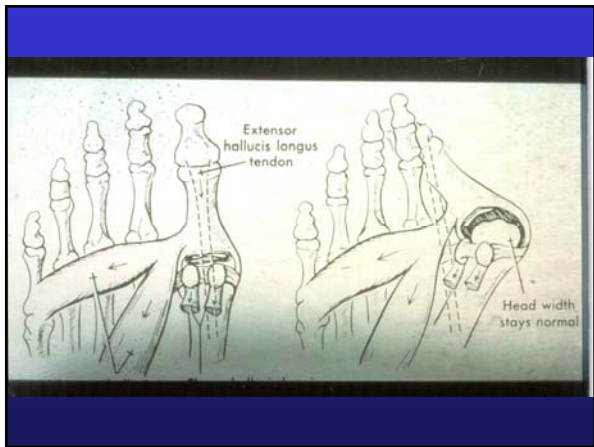




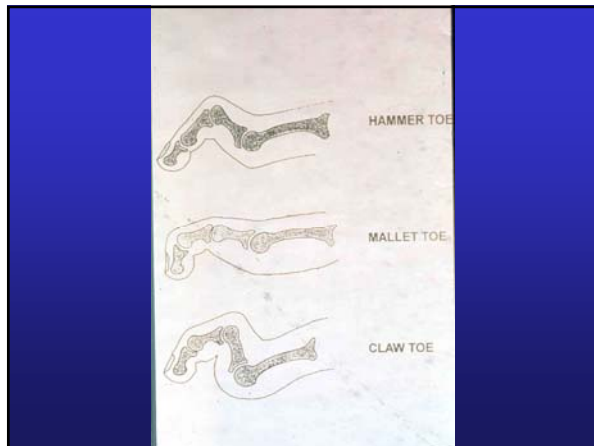


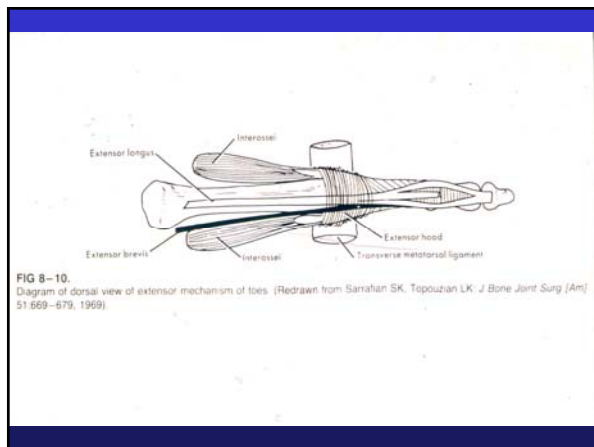


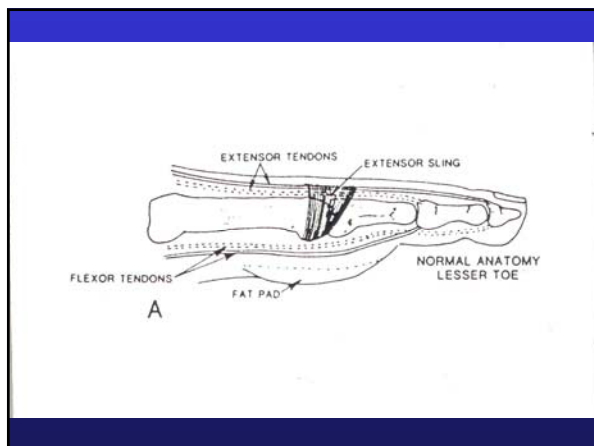


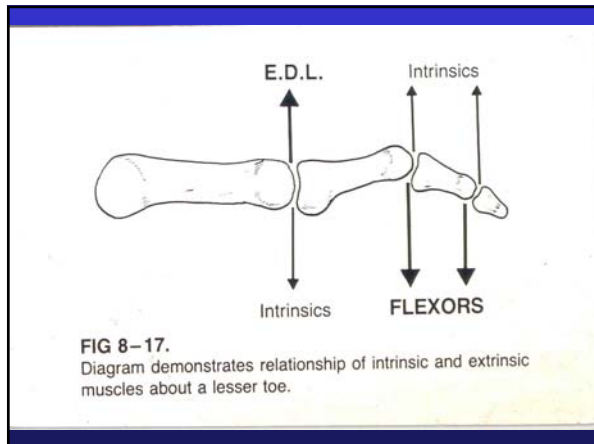


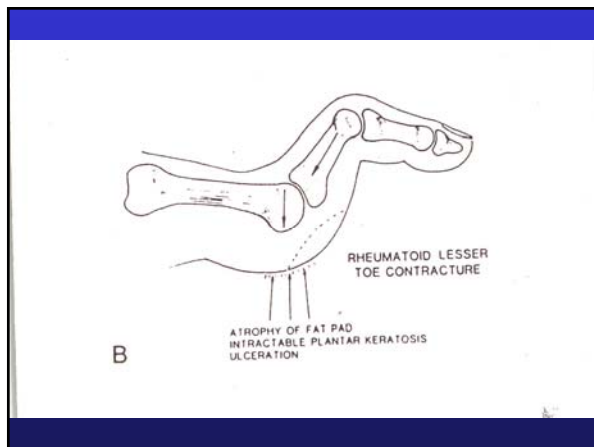


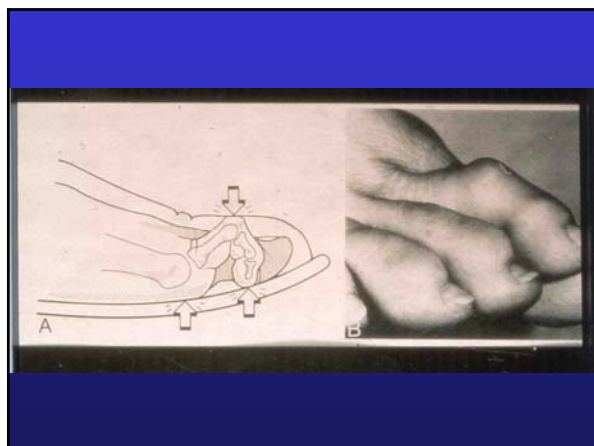


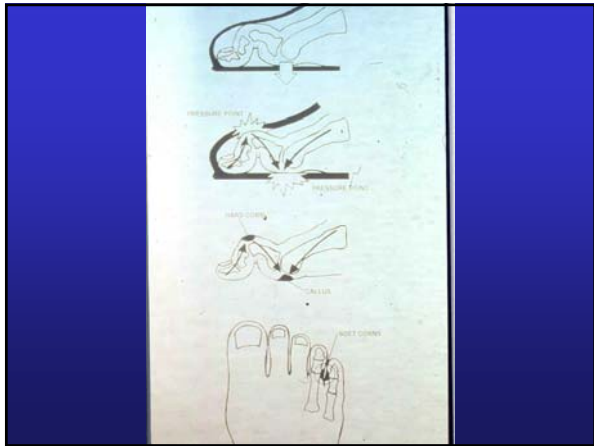




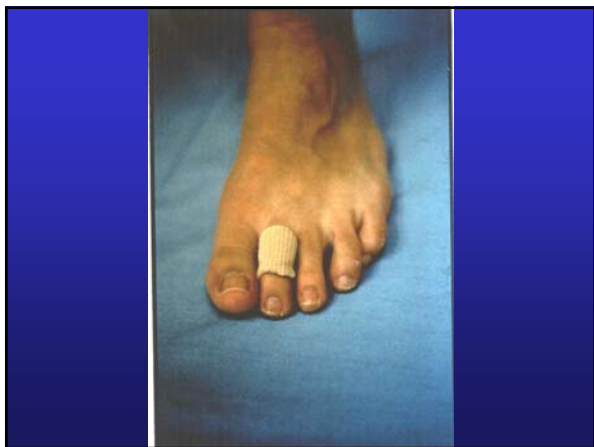


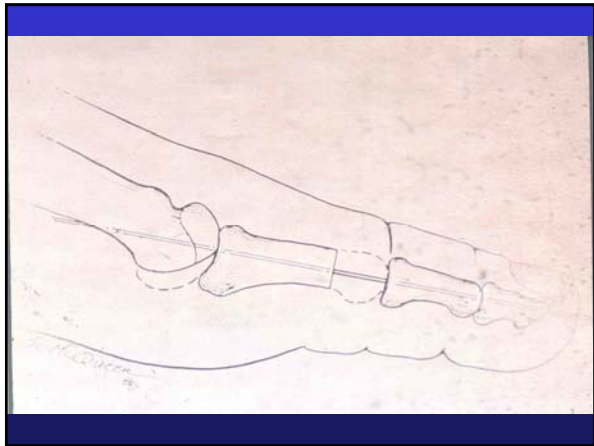


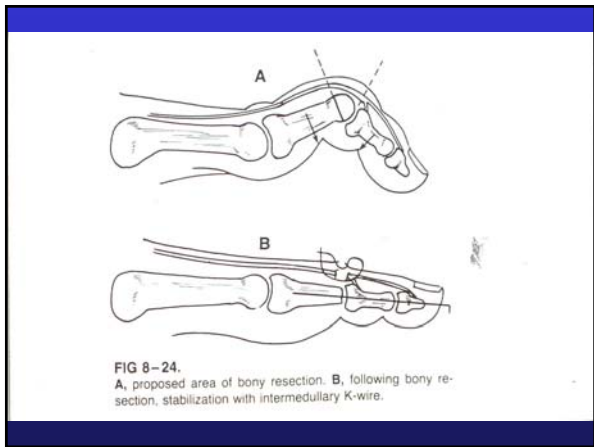


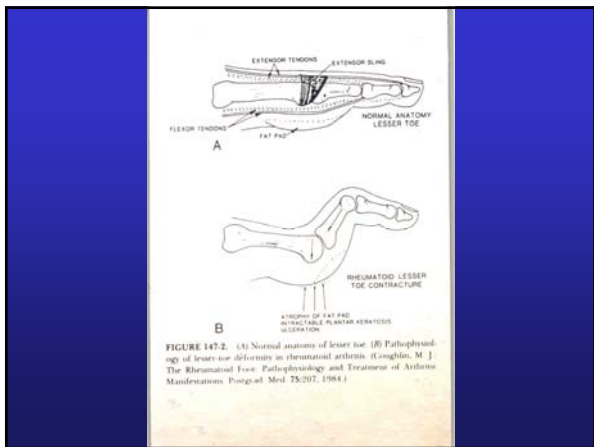


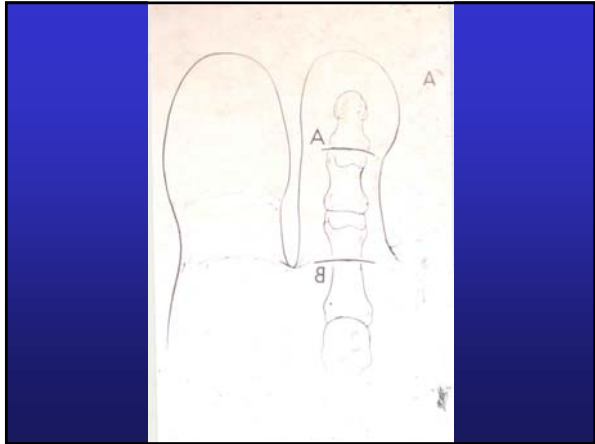






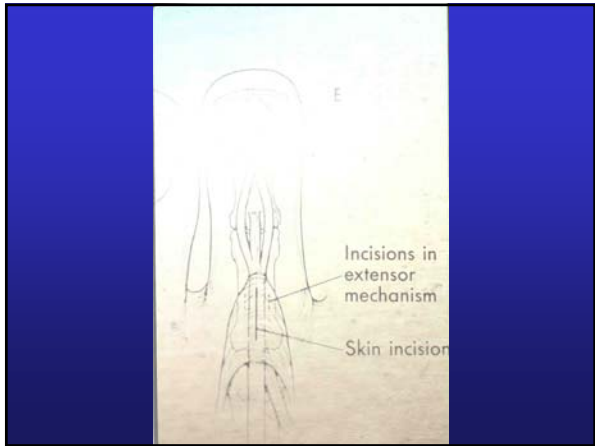




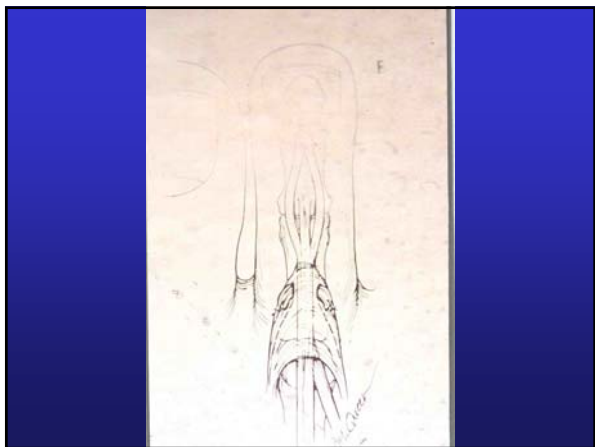


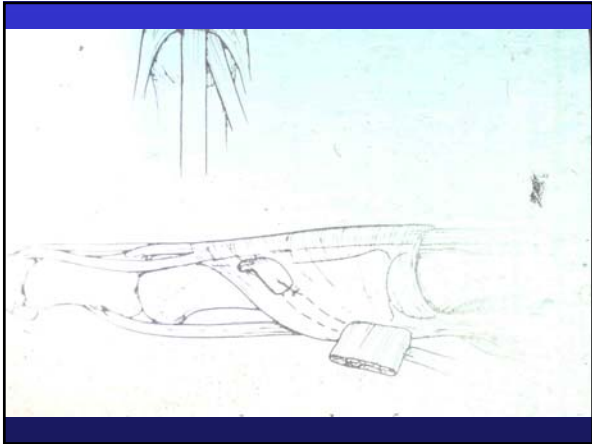


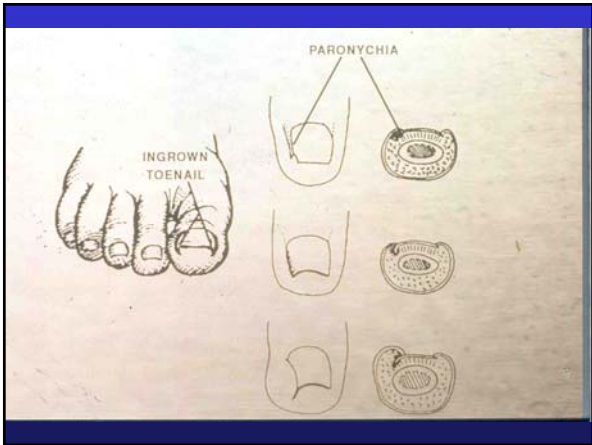






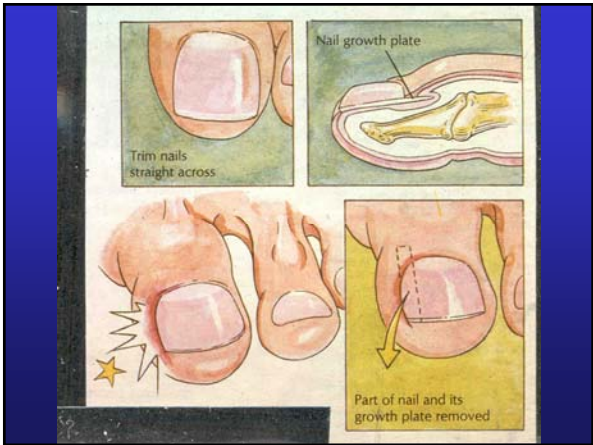


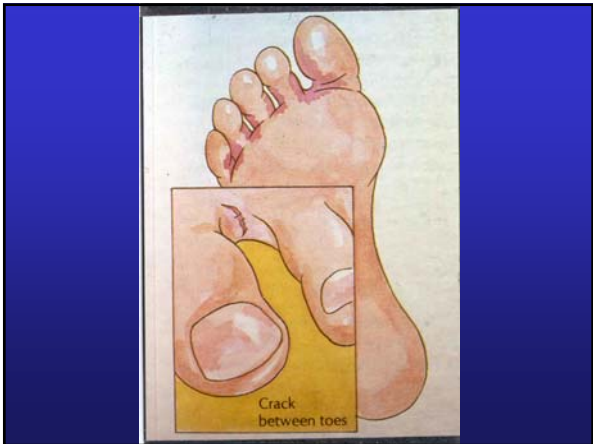




















John G. Anderson, M.D.
Orthopaedic Associates of Grand Rapids, P.C.

HALLUX RIGIDUS

HALLUX RIGIDUS
Arthritis of the Great Toe

- May see large “Bump” on top of MTPJ
- Pain with push-off during gait
- Decreased ROM

Forefoot Problems
Hallux Rigidus

- Limited and painful motion of the big toe MTP joint
- +/- history of injury

Forefoot Problems
Hallux Rigidus

- Treatment includes:
 - Activity modification
 - Orthotic or shoe modification – ie. Steel shank or mt bar
 - Injection

Suggest:

- Roomy toe box
- Soft flexible upper
- Ball and ring
- Stiff sole
- X-depth shoe
- Stiff shank rocker shoe
- Surgery

Forefoot Problems
Hallux Rigidus

- Surgical treatment for refractory cases includes:
 - Cheilectomy
 - Arthrodesis

Surgical Treatment
Great Toe

- Resection arthroplasty
- Implant arthroplasty
- Arthrodesis

Surgical Treatment
Great toe-resection arthroplasty

Disadvantages

- Loss of stable medial buttress
- Shortens toe
- Recurrence of deformity
- Cock-up deformity
- Loss of push off power
- Metatarsalgia

Surgical Treatment
Great toe-implant arthroplasty

- Introduced by Swanson
- Double stemmed implant w/ titanium grommets
- Good early results tempered by:
 - Fracture
 - Foreign body giant cell synovitis
 - Bony resorption
 - Recurrence of deformity
 - Loss of push off power

Surgical Treatment
Great toe – Arthrodesis

Widely advocated

- Leavitt, 1956
- DuVries, 1965
- Watson, 1974
- Morrison, 1974
- Mann & Thompson, 1984

Surgical Treatment
Great toe – Arthrodesis
Technique

- Dorsal incision
- Soft tissue releases
- Bone resection
- Pin, screw, staple or plate fixation all successful

Surgical Treatment
Great toe – Arthrodesis
Position

- 15 degrees valgus
- 30 degrees dorsiflexion off shaft
- 15-20 degrees dorsiflexion off sole

Surgical Treatment
Great toe – Arthrodesis

- Fusion rate 94-100%
- Provides stable aligned joint
- Maintains WB role

Surgical Treatment

Great toe – Arthrodesis

Disadvantages

- Prolonged immobilization
- Not advised if + IP arthritis
- Difficult if bone stock poor

Sesamoids

Anatomy

- Located within tendons of FHB
- Form a portion of planter plate
- FHL runs between, without attachments

Sesamoids

- Fibrous insertions of abd & add hallucis tendons into tibial & fibular
- Deep transverse MT ligament – fibular

Forefoot Problems
Sesamoids

- Pain to touch and on impact
- Pain with stretch of big toe

Forefoot Problems
Sesamoids

- Cavus foot (high arch and plantar flexed ray)
- Hyperpronation
- Hallux rigidus (stiff toe)
- Fracture
- Osteochondritis

Sesamoids
Inflammation - Sesamoiditis

- Radiographic fragmentation possible
- Rx bod: Unloading
- Extended steel shank, rock sole, or cushion insert

Forefoot Problems
Sesamoids

- Treatment includes:
 - Cast immobilization 3-4 weeks
 - Orthotics
 - Reduction of activities

Sesamoids
Fracture

Rest, NSAID, Casts, Orthotics

If still disabling after 6 months, consider complete excision

Forefoot Problems
Sesamoids

- Surgical treatment if refractory symptoms ie. 6 months

Sesamoids
Complications of Sesamoidectomy

- Both – Cock up 2 FHB loss
- Tibial- Hallux valgus
- Fibular – Hallux Varus

Claw Toe
Mallet Toe
Hammer Toe

Claw Toes

Skin Thickens
(Hypertrophies) in Response to Friction or Pressure

- “callus” – sole
- “Hard corn” – top of toes
- “Soft corn” – in between toes

Surgical Treatment

Lesser Toes

Surgical Treatment
Lesser Toes

Amputation (Flint, JBJS-B 1960)

- Historical interest only

Ingrown Toenails

- ### Causes:
- Improper nail care
 - Improper shoe fit
 - Infolding nail

Danger:

Untreated infection (Paronychia) may lead to bone infection (Osteomyelitis) & result in Toe Loss, especially in diabetics!

Suggestion:

- Proper nail care
- Roomy anatomic soft toe box
- Appropriate size shoe
- Referral to specialist
- Especially if diabetic

Thanks

Summary

Orthopaedist is the Musculoskeletal MD for
Treating Diabetic Foot Disorders

