



PrePodiatryStudy Case Studies



PrePodiatryStudy

Hallux Valgus

Case

HPI:

A 41-year-old female presents complaining of right bunion pain for the past 6 years. She has tried many previous conservative methods including physical therapy, shoe gear modification, and custom orthotics. Pain is about 7/10 and is making shoe gear difficult to wear. Pain has progressively been getting worse over the years. She is seeking surgical consult.

What do you want to know next?

Past Medical History

PMH:

- Illnesses: Healthy
- Meds: No Medications
- Allergies: None
- FH: Non-contributory
- SH: Non-smoker

What do you want to know next?

Physical Exam

- Neurologic
 - (-) Tinel/Valleix Sign
- Vascular
 - DP/PT palpable pulses
- Dermatologic
 - Medial pinch callus
- Musculoskeletal
 - 1st MTPJ ROM 25° dorsiflexion
 - (+) Crepitus
 - (+) Tracking
 - (+) Valgus angulation
 - (+) 1st ray hypermobility

What is the difference between Roots vs. Dynamic Hicks test?

What is normal 1st Ray excursion?

Physical Exam

Weight Bearing Exam:

- (+) Functional Hallux Limitus
- RCSP
- NCSP
- (+) Abducted (too many toes)
- (+) Medial column collapse
- (+) Equinus (early heel off)

What do you want to know next?



Read Me
This Image



Imaging

Read the image.

Imaging

- Anterior-Posterior View (AP View)
 - IMA?
 - HAA?
 - HIPA?
 - PASA/DASA?
 - Metatarsus Adductus angle?
 - Sesamoid location?
 - Met protrusion distance?

What are the above Normal Values?



What's your surgical
plan, Doctor?

Plan

- Incision placement?
- Osteotomy?
- Screw size?
- Cannulated or not?
- Cortical or cancellous?
- Partially threaded or Fully threaded?
- Orientation of screw?

Plan

- Pain Meds?
- Post-Op protocol?
- Return to clinic in how many days?
- When to take sutures out?
- When to take X-rays?
- When do you start weightbearing?
- When to return to regular running shoe?



Rapid Fire Questions

Rapid Fire Questions

- What's the true IM angle?
- What procedures correct PASA?
- What procedures correct DASA?
- Soft tissue procedures for HAV?
- Steps of a lateral release?
- Risks of bunionectomies?

Rapid Fire Questions

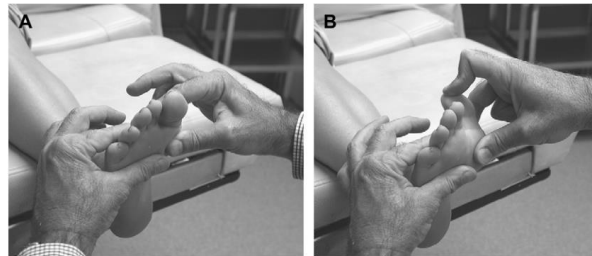
- What causes Hallux Varus?
- Steps of lag technique?
- Overdrill and Underdrill for 2.7 mm screw?
- Overdrill and Underdrill for 3.5 mm screw?
- Why do we countersink?
- Why do we tap?



Answers

In Case Questions

- What is the difference between Roots vs. Dynamic Hicks test?
 - Roots (a): Place one hand in which the index finger is placed over dorsal aspect of 2nd metatarsal. Place other hand on head of the 1st met. By measuring the thickness of one's finger, the examiner can determine the number of millimeters that occurs as the 1st ray is taken through a sagittal plane excursion.
 - Dynamic Hicks (b): Like the root test, only now the hand that put thumb beneath 1st met head uses the index finger to dorsiflex the hallux. The dynamic hicks test instability has been regarded in literature as the true measurement of instability in the first ray.



- What is normal 1st Ray excursion?
 - 10mm total, 5mm dorsally and 5mm plantarly



Imaging

“This is the AP view of a skeletally mature female with an increased IM angle of the 1st and 2nd metatarsals of approximately 12 degrees. The sesamoids are noted to be deviated laterally under the first metatarsal head, with a tibial sesamoid position of 4 or 5. Slight subluxation of the 1st MPJ laterally. A medial prominence of the 1st metatarsal head is also noted. There may be a component of met adductus, but this is difficult to assess with the rearfoot being out of view. No cortical breaks noted. HIA angle appears within normal limits. No other abnormalities noted.”

Plan

- Incision placement? Usually dorsomedial
- Osteotomy? Austin or Kalish
- Screw size? 3.5 usually (4.0 for large patients, 2.7 for smaller patients)
- Cannulated or not? Preference
- Cortical or cancellous? Depends on procedure and placement
- Partially threaded or Fully threaded? Depends on technique
- Orientation of screw? Depends on procedure, but usually dorsoproximal to plantardistal

Plan

- Pain Meds? 5/325mg percs
- Post-Op protocol? NWB in post-op shoe and leave dressings until seen at follow up
- Return to clinic in how many days? Within a week
- When to take sutures out? 10-14 days
- When to take X-rays? Immediate post-op or intra-op and then every 2-4 weeks
- When do you start weightbearing? Why? 3-4 weeks for early ROM and increased bone reaction growth
- When to return to regular running shoe? 6-8 weeks when bone is fully healed

Rapid Fire Questions

- What's the true IM angle? **1st IM angle + (met adductus -15 degrees)**
- What procedures correct PASA? **Reverdin (and variants), Logroscino, scarf and shaft osteotomies (not complete list)**
- What procedures correct DASA? **Akin**
- Soft tissue procedures for HAV? **Medial capsulotomy, lateral release, tendon rerouting/correction**
- Steps of a lateral release? **Superficial segment of the deep intermetatarsal ligament, Adductor hallucis tendon, Fibular sesamoid ligament, Tenotomy of the lateral head of the flexor hallucis brevis, Fibular sesamoid excision**
- Risks of bunionectomies? **Hallux varus, recurrence, nonunion, malunion, infection, DVT, elevation of ray, shortening of ray, etc**

Rapid Fire Questions

- What causes Hallux Varus? **Staking of the head, removing lateral sesamoid, too tight medial capsule correction, dressings**
- Steps of lag technique? **Overdrive, underdrive, countersink, measure, tap, screw**
- Overdrill and Underdrill for 2.7 mm screw? **Over: 2.7, Under: 2.0**
- Overdrill and Underdrill for 3.5 mm screw? **Over: 3.5, Under: 2.5**
- Why do we countersink? **Prevent fracturing of the bone and have screw head less prominent**
- Why do we tap? **To create a channel for insertion**



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Thank You