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MTP Joint Treatment Failures: Nonunions or Bone Loss

Technique to restore alignment and strengthen bone stock

Disclosure

- Consultant for:
  - Extremity Medical
  - Osteomed
  - Crossroad
  - Exactech
  - BESPA Global
- Reviewer for :
  - JBJS American
  - JAAOS
  - Foot Ankle International

Many ways to treat 1st MTP pathology




And almost as many ways to fail

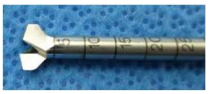
Failures to Initial Treatment Occur

- Technical
  - Inadequate bone preparation
  - Inadequate fixation / protection
  - Failure of motion preserving operation
- Inherent
  - Inadequate bone stock
  - Infection
  - Poor soft tissue integrity

So, When all goes to s…….

- Reconstruction needs to restore stability
  - Available allograft bone stock
  - Long plates for rigid stabilization
  - Set of trephines or reamers

8, 10, 12 mm diameter sizes

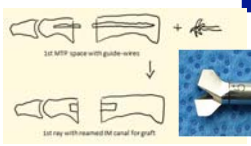


Step1: Debride to viable bone

- Dorsal approach
- Preserve long extensor
- If infection place antibiotic cement spacer for 6 weeks
  - Frozen section to check wbc count

Step 2: Prepare native bone

- Create tunnel for allograft
- Use cannulated Reamer
  - Guidewire to align tunnel



Step 3: Create stable bony bridge

- Use the allograft dowel
  - 8mm diameter dowel to provide internal bridge only

  - 10-12mm diameter dowel to fill missing bone gap and bridge

Step 3: Dowel for bone loss

- Use Core reamer to make 8mm pegs for inserting into native bone
  - The core has central hole for guidewire placement

10 – 12 mm core

Step 4: Implant with secure fit

- Insert into metatarsal first
- Remodel phalangeal end to get snug fit
- Dorsal plate long enough for screws to avoid dowel

End Result

Post OP Course

- 6 weeks non weight bearing
  - Hard cast
  - Cover toes so that patient can't kick anything
- May advance as tolerated in short boot till comfortable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THANK YOU