Incisional Workhorses:  
*when you need to do a lot*

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The Problem: Potential Adjacent Procedures Accompanying Peroneal Reconstruction:
- Lateralizing Calcaneal Osteotomy
- Anterior Ankle Debridement
- Achilles Debridement
- Lateral Ankle Ligament Reconstruction
- Os Trigonom / Stieda Process Excision
- Hindfoot Fusion

Anatomical Considerations:

**Langer’s Lines:**
- Natural cleavage lines of the skin corresponding to collagen fiber orientation in the dermis.
- Run transversely across the ankle
- The most cosmetic incision line runs transversely with Langer’s lines

**Peroneal Artery:**
- Run longitudinally past the ankle
- The safest parallel incisions run longitudinally and are the true extensile approaches
- Also the least cosmetic and most prone to keloid formation

**Sural Nerve:**
- Close to the path of the calcaneal branch of the peroneal artery
- Superficial location, containment in the shoe makes it prone to both injury and symptomatology

To Avoid:

The “J” incision historically taught for the Brostrom procedure is neither cosmetic nor extensile, and is not easily combined with other incisions. Unfortunately it still appears in orthopaedic practice (from Wheelessonline.com)
Guideline

A 4 x 4 incision over the tuberosity is tolerated well in a normal individual if placed parallel to an extensile approach and a 4cm bridge containing the sural nerve is left undisturbed.

Literature Guidance:

- Minimal reported data on wound complications with multiple lateral hindfoot procedures
- Historical recommendations for 7 cm skin bridges between fibular and tibial incisions for plafond fractures were made by the A-O group without supporting data, subsequently challenged

Experiential Guidelines:

- Leave the sural nerve unexposed over the calcaneal tuberosity
  - Minimizes disturbance to the peroneal arterial branches
  - Reduces the risk of sural neuritis dramatically
- Long extensile approach over the fibula down across the sinus tarsi toward the 5th metatarsal base allows access to both the anterior and posterior fibula.
- Take down the superior peroneal retinaculum (and repair it) to reflect the peroneals anteriorly, allowing access to the posterior fibula and talus as required
- Lateral ankle ligament reconstruction with allograft/autograft augmentation combined with calcaneal osteotomy is among the most challenging combinations, careful incision placement is required
- Shorter parallel incision with reasonable spacing allows access to the calcaneal tuberosity.
  - Preferred to attempting tuberosity access through a very long extensile incision anterior to the peroneals and nerve
  - Avoids nerve dissection and tension

Modified Techniques:

- Reduced incision techniques raise the possibility of avoiding skin challenges altogether.
  - Peroneal excision and allograft reconstruction
  - Limited incision calcaneal osteotomy