Plastic Surgery Survival Guide

A guide to help you survive nights and weekends

Outline of Topics

- General overview of service
- Expectations
- Plastic surgery “Emergencies”
- Hand
- Face
- Soft tissue injuries
- Decubitus ulcers
- V.A.C. system

General Overview

- Plastic surgery at the VA and Elmhurst is a relatively small service staffed soley by the plastic surgery chief resident or senior resident
- A general surgery junior resident is responsible for covering the service during off-hours and weekends. This includes the in-patients (which are rare) and the ED consults
- YOU ARE NOT ALONE – the plastic surgery resident is always reachable by pager or phone, and ALWAYS available to come in to assist you with complex questions

- VA is a light service and most ED consults are facial lacerations or hand injuries
- Elmhurst is significantly busier especially during “hand” weeks
  - Plastic surgery and Ortho alternate hand coverage weekly. You should know what service is covering when you are on call
  - Plastic surgery/ENT/OMFS alternates “face” call. You should refer to the call schedule for the coverage details

Expectations

- You are not expected to know everything about plastic surgery
- YOU SHOULD:
  - be competent in the basic physical exam (hand, face)
  - Be able to assess severity of injuries
  - Be able to clearly describe injury to the plastic surgery resident
  - Be able to identify plastic surgery “emergencies”
  - Be comfortable with digital nerve blocks, splinting, and suturing
  - Know when to call for help

Plastic Surgery “Emergencies”

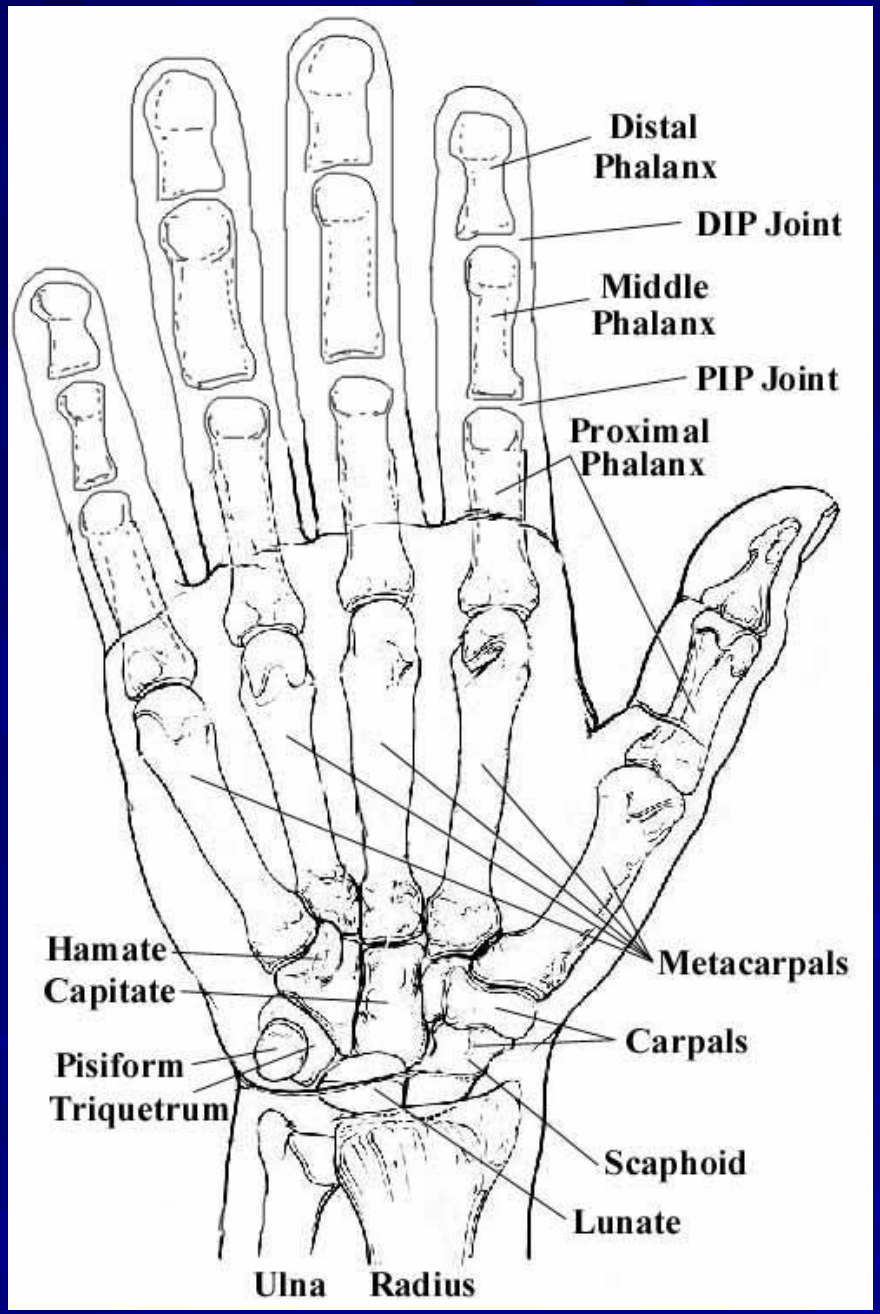
- Hand/Extremity:
  - amputation, near amputation, vascular compromise
  - compartment syndrome
  - Uncontrolled bleeding
- Face:
  - Entrapment of ocular muscles
  - Septal hematoma
  - Complex multifacial trauma

Hand

- Includes soft tissue distal to the elbow and bones on wrist and distal
- Radius/Ulnar fractures are always orthopedics
- Most common injuries include:
  - Fractures
  - Lacerations
  - Tendon injuries
  - Nerve injuries
  - Nailbed injuries
  - Cellulitis
  - IV infiltrate

“Hand History”

- Specifics about “hand history”
  - Mechanism of injury (crush, laceration, fall)
  - Right-handed or left-handed
  - Occupation (piano player, construction)
  - Tobacco use
  - Diabetes
  - Injury at work or at home


Distal Phalanx
DIP Joint
Middle Phalanx
PIP Joint
Proximal Phalanx
Hamate
Capitate
Pisiform
Triquetrum
Metacarpals
Carpals
Scaphoid
Lunate
Ulna
Radius

Amputations

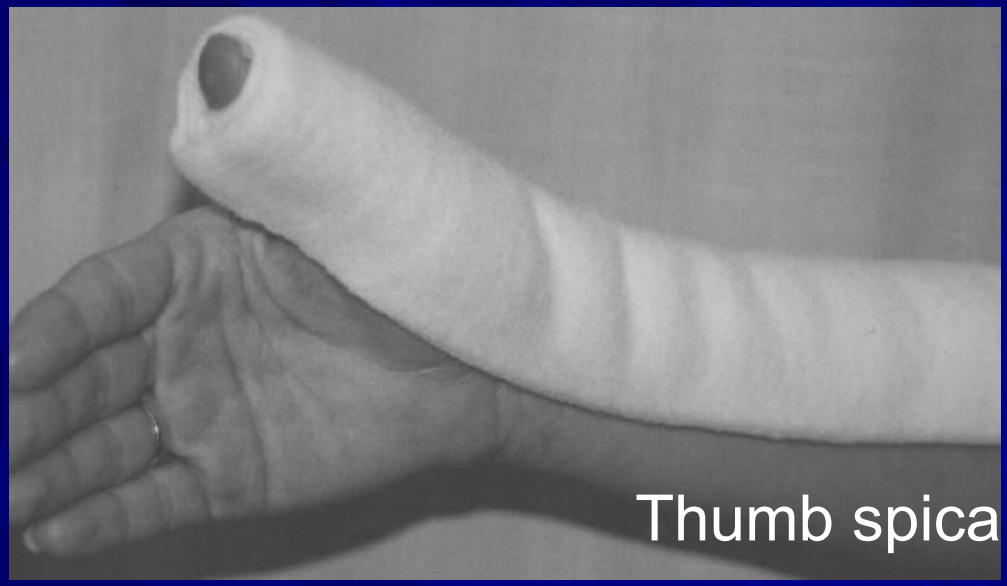
- This is an emergency - *the clock is ticking…*
- Call the plastic surgery resident
- Also, facilitate the following in the ED:
  - Tetanus, IV ABx
  - Xray of hand (yes this is important)
  - Pre-op labs – results should be printed and sent with patient
  - Let the ED attending know that patient shold be transported to Sinai
- Packaging of part – place in plastic bag, then place that on ice. NEVER PUT PART DIRECTLY IN ICE
- If part is “hanging” by small skin bridge, NEVER COMPLETE THE AMPUTATION. Wrap bag of ice around hand and secure with ace bandage.

Fractures

- 95% of time will simply advise to place in splint
- Splint options:
  - Phalanx, metacarpal, carpals- volar splint
  - “boxer” fracture, $4^{th}/5^{th}$ metacarpal - ulnar gutter splint
  - Thumb- thumb spica splint.
- NO CASTS

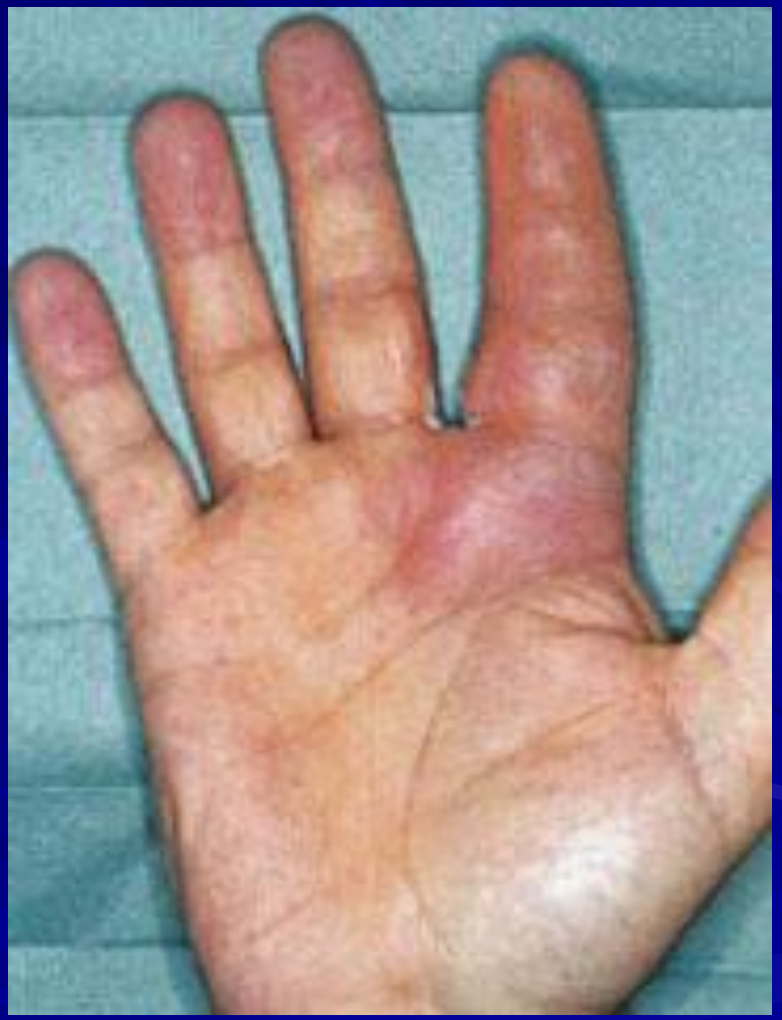
Basic Splinting

Position of “safety”



Flexor Tenosynovitis

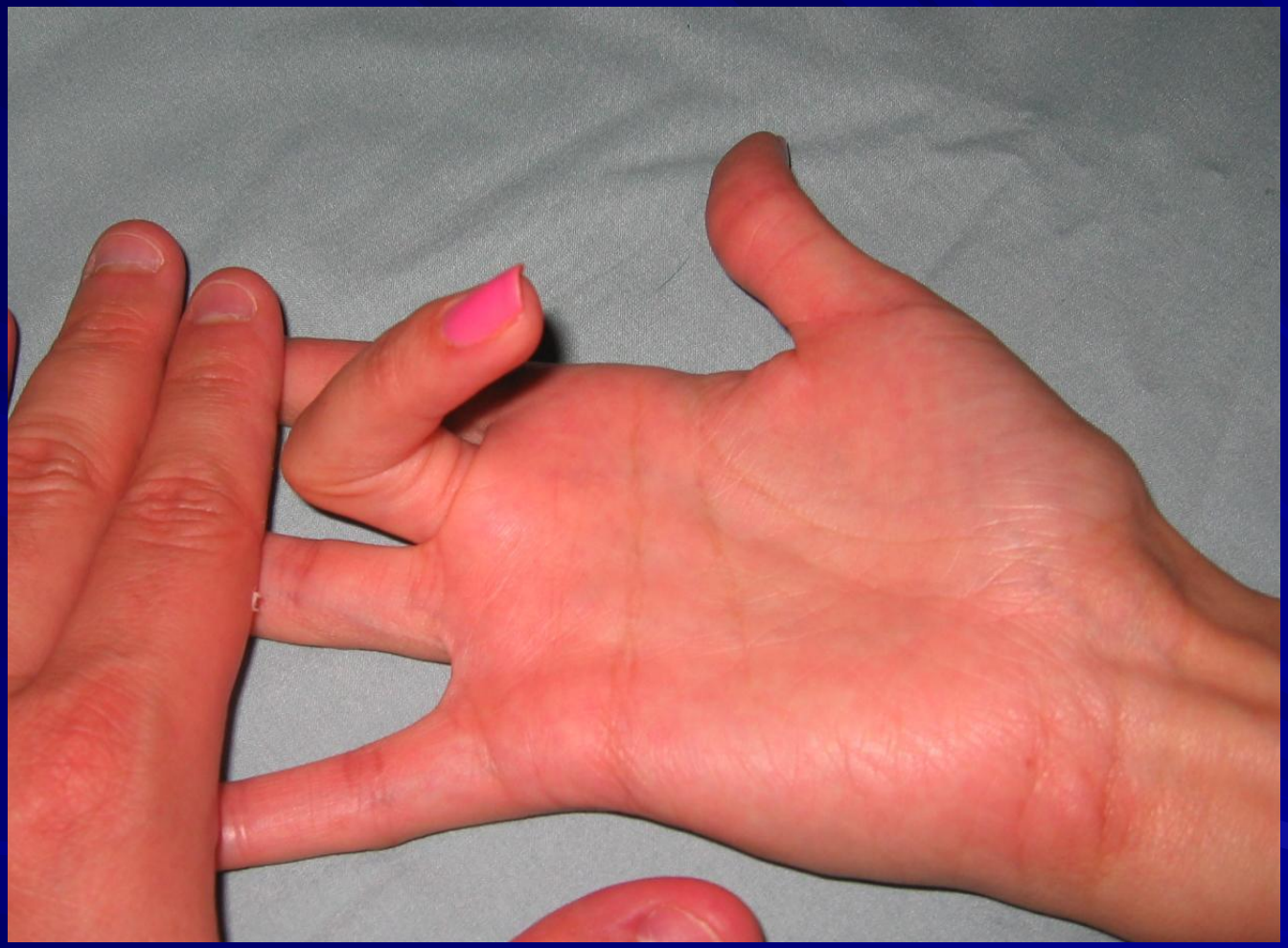
- Infection in flexor sheath
- 4 classic Knavel Signs
  - Pain with passive motion
  - Fusiform swelling
  - Fixed in flexion
  - Pain along tendon sheath
- Treatment is operative drainage



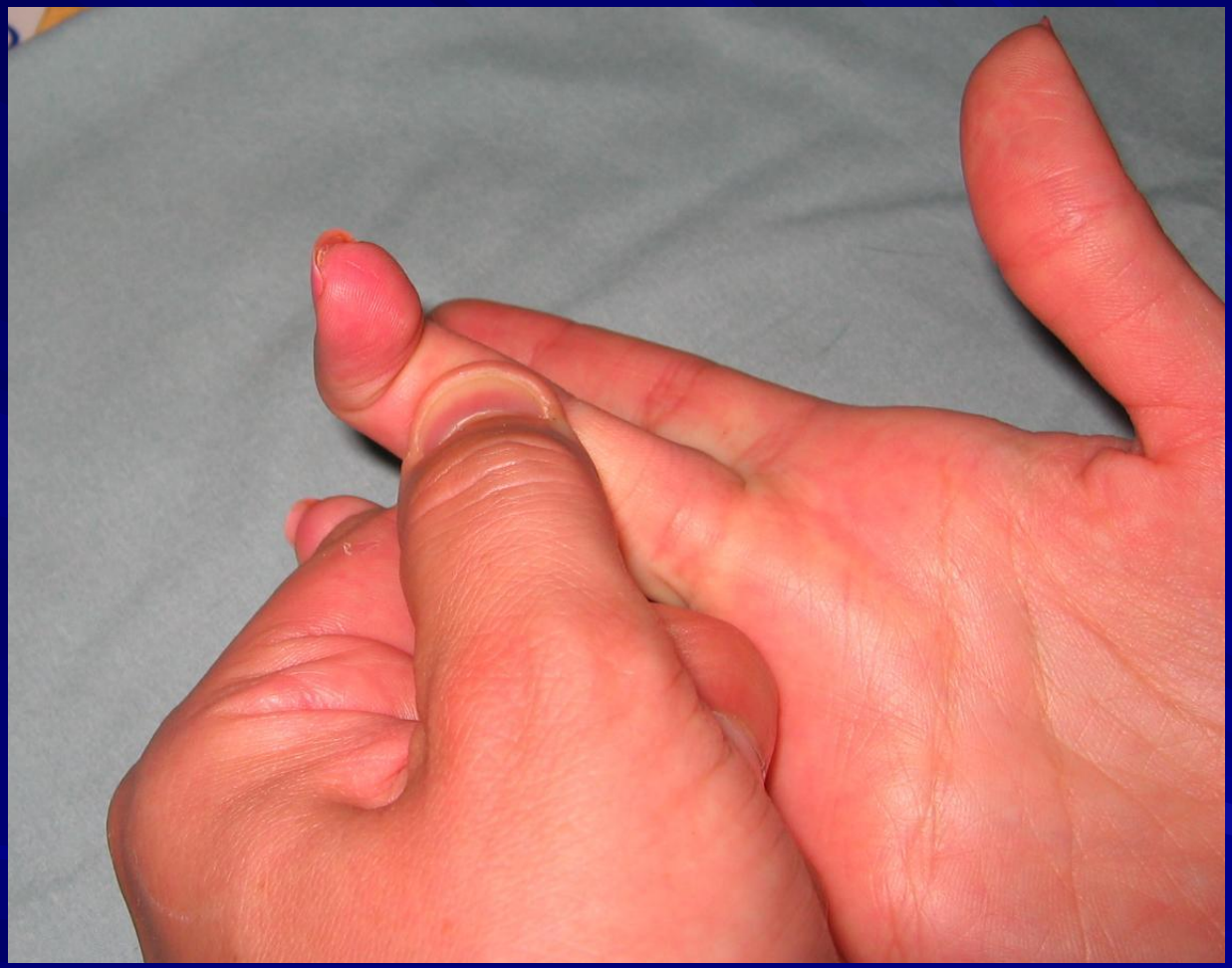
Tendon Injuries

- You are not expected to know how to repair these
- You must be able recognize the injury
- Know anatomy
  - FDP flexes at DIP joint
  - FDS flexes at PIP joint

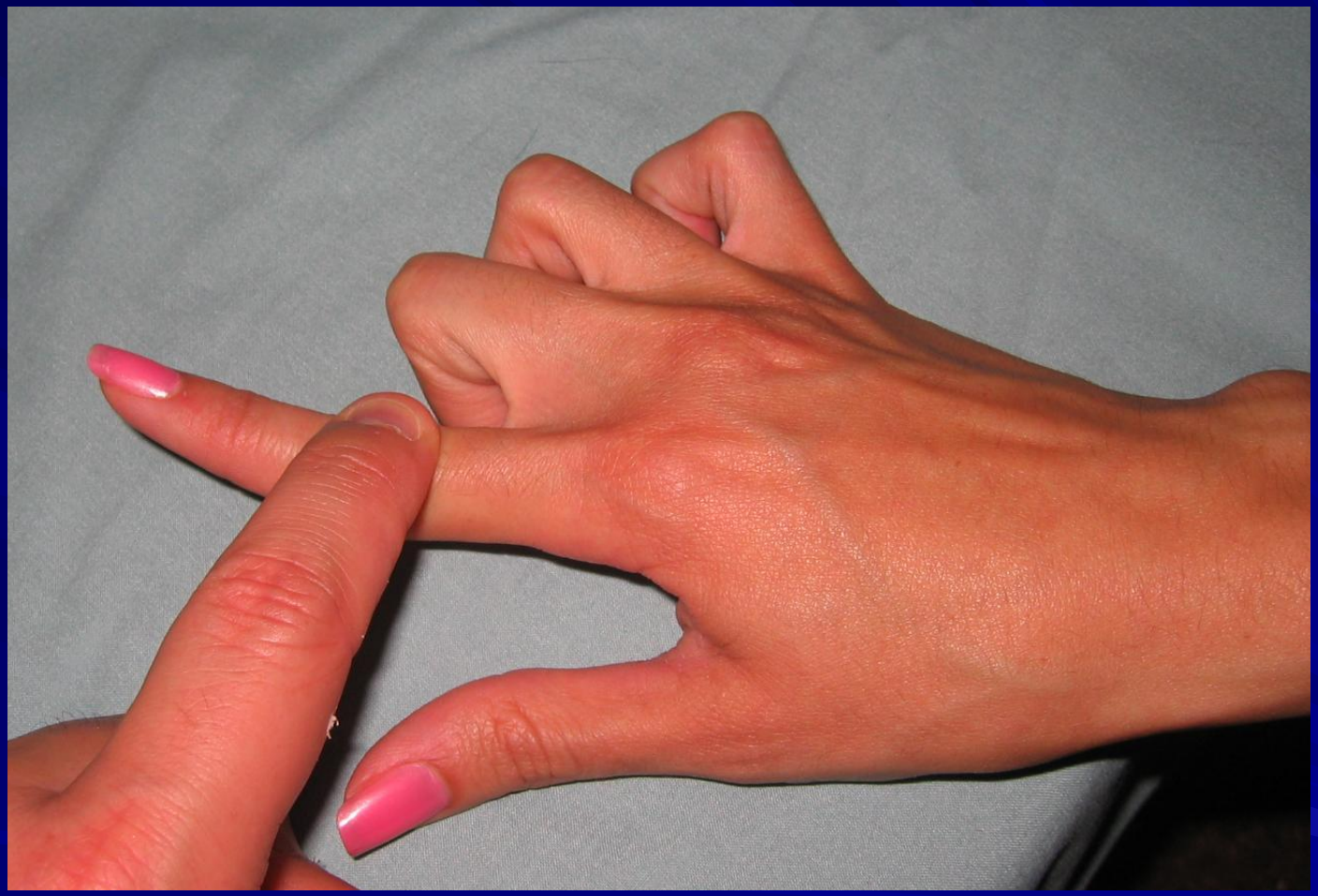
FDS tendon – flexes PIP joint



FDP tendon – flexes DIP joint



Extensor tendon



Nerve Injury

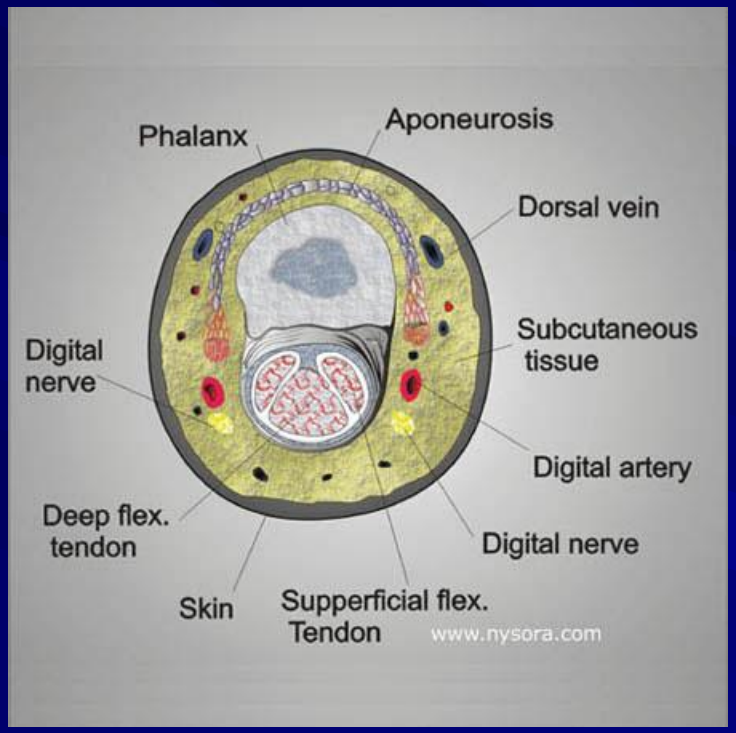
- Must have high degree of suspicion given location of laceration
- Most of the time, patient will say that it feels “a little weird at the tip”. This is more common then complete numbness.
- Repair not emergent. Should be fixed in 7-10 days for optimal results.
- Important to test BEFORE giving anesthesia

Lacerations

- Close in 1 layer with 4.0 nylon sutures
- Not too tight – it will swell
- Bacitracin/xeroform/dry dressing
- May place splint for comfort
- Elevation
- ABx – 1 dose IV in ED and 5-7 days oral
- Tetanus booster
- Sutures remain for 2-3 weeks

Digital Block

- 1% lidocaine – NO EPINEPHERINE
- 2 nerves – must block both for each finger
- 2 techiques:
  - Individually block each nerve (in web space)
  - Trans-thecal – inject into tendon sheath and anesthetic diffuses out sheath into nerves
- You can always inject directly into wound

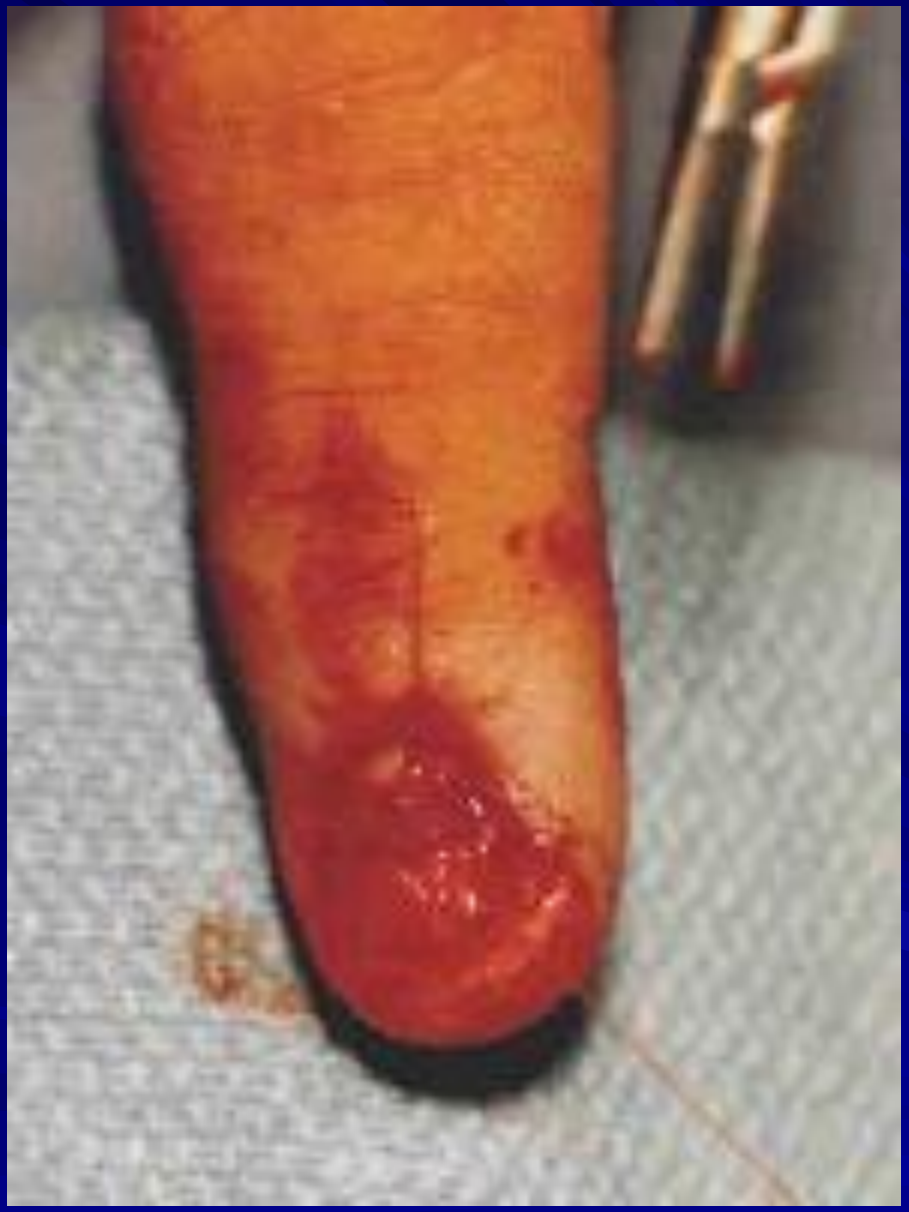


Individual Nerves – inject in each web space

Trans-thecal – inject in tendon sheath at A1 pulley

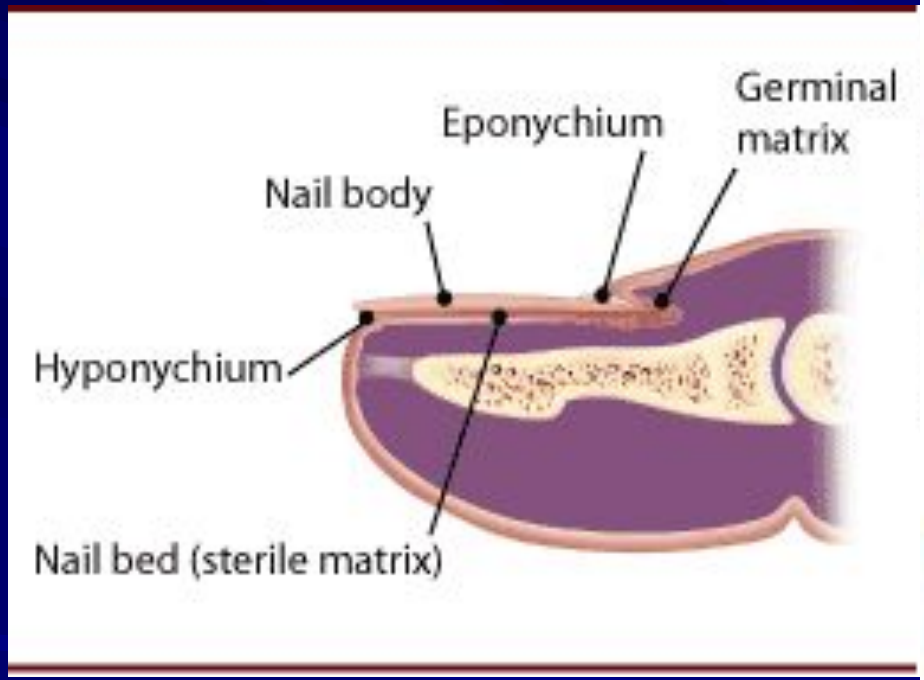
Nailbed injury

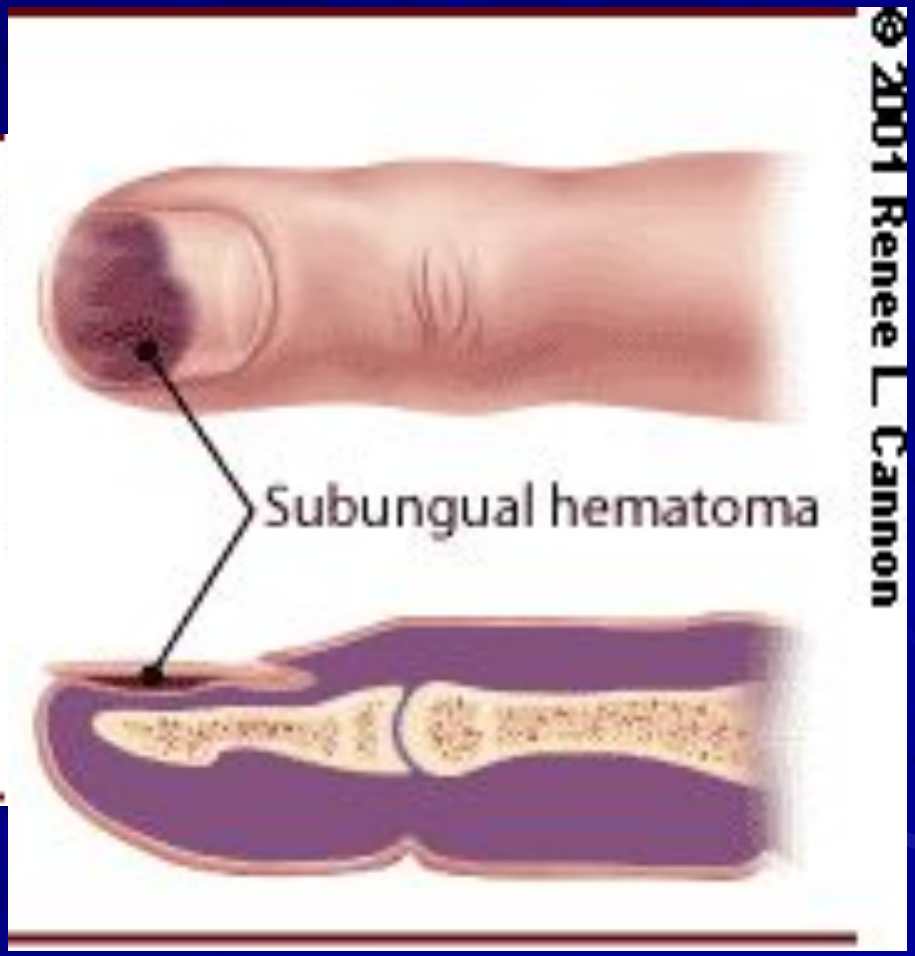
- Typical injury is “crushed finger in door”
- Remove nail-plate
- Assess nail-bed injury (below plate)
- Nail-bed repaired with 6.0 chromic
- Nail-plate replaced under eponychial fold and secured in place with a suture
- If no nail-plate, may use foil from suture wrapper



Sub-Ungal hematoma

- Hematoma under nail plate
- Should be drained if > 50% nail surface
- Drain by boring a hole in nail with 18 gauge needle. This should not be painful to patient.
- If hematoma and nail-plate is partially avulsed, you can simply remove the nail


Germinal matrix
Eponychium
Nail body
Hyponychium
Nail bed (sterile matrix)


Subungual hematoma
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Facial lacerations

- Rule out other injuries based on location
  - Lacrimal duct
  - Parotid duct
  - Facial nerve
  - Vascular injury
- 6.0 nylon or prolene
- Sutures removed in 3-5 days
- Bacitracin ointment, keep dry

Facial Fractures

- CT scan – axial and coronal with fine cuts through orbits (3mm)
- Protect airway if multiple fractures or mandible/maxilla fractures
- 10 % incidence of C-Spine injury in setting of mandible fracture or multiple facial fractures
  - All patients need spine cleared if significant facial injury.

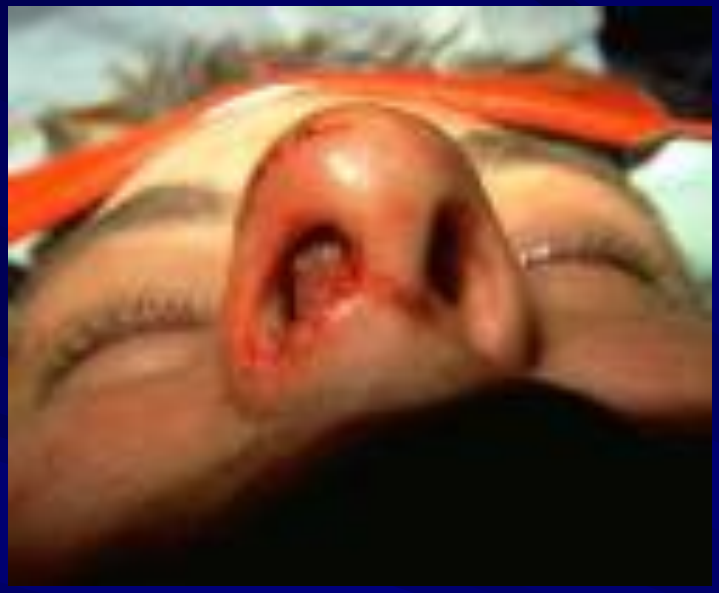
Orbit Fracture

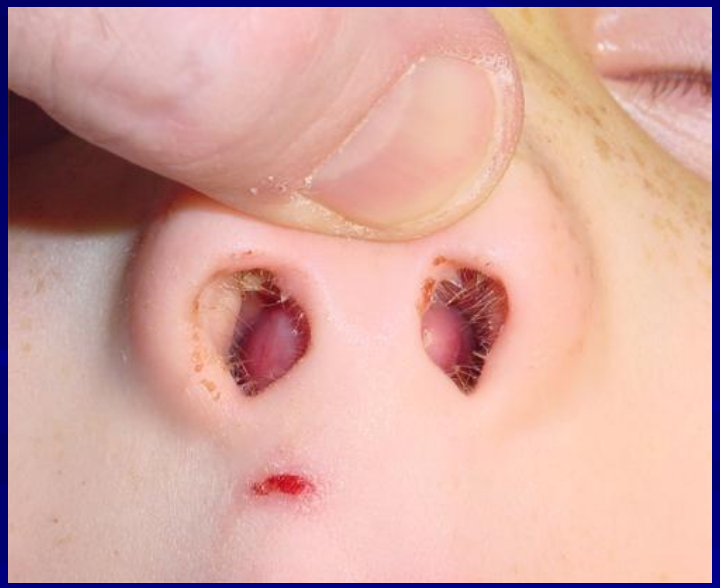
- Opthamology must see the patient
- Assess gross vision
- Assess occular muscles
  - Entrapment is emergency
- Check for forehead parathesia (supra-orbital N.) and cheek parathesia (infra-orbital N.)

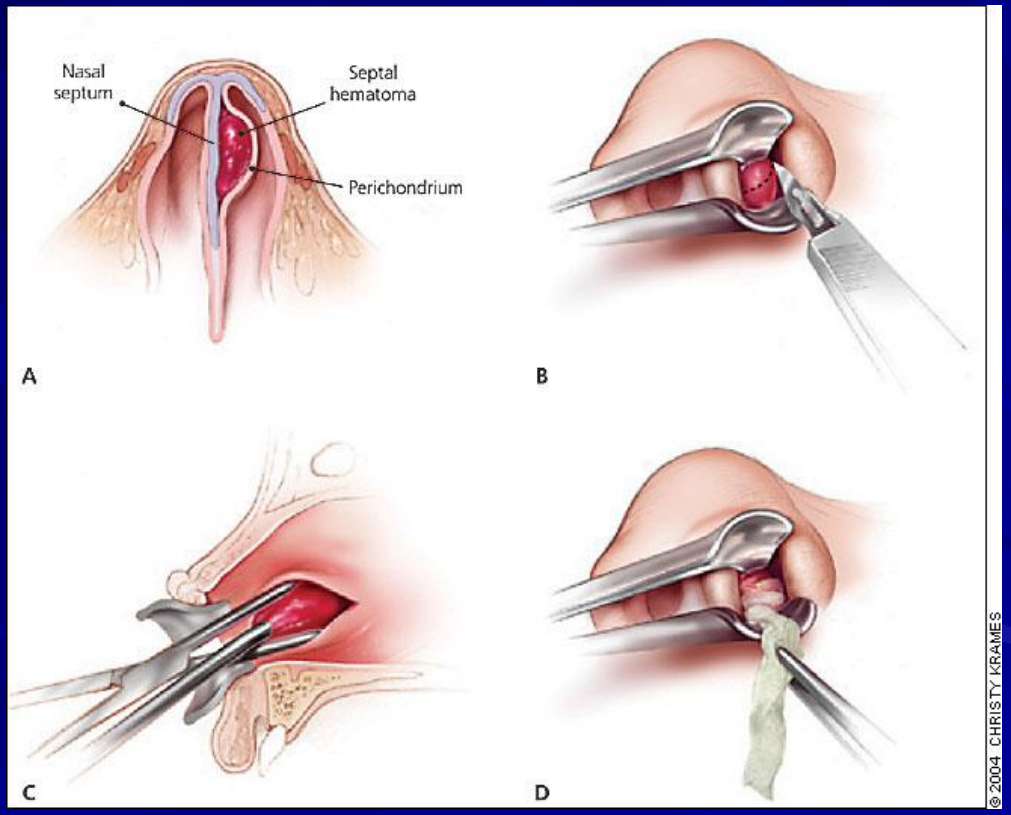
Nasal Fracture

- Look for septal hematoma
  - Must be drained if present to prevent septal necrosis
- Is fracture stable or unstable (“crunches” when palpated)

Septal Hematoma







Complex Soft Tissue Injuries

- Assess wound
- Irrigate copiously
- Xray to rule out fractures or foreign bodies
- Most do not need “coverage” or “repair” in the acute setting
- Priority is bone/vascular/nerve injuries
- Must assess neurologic function *before* injecting local anesthetic

Decubitus Ulcers

- Only “emergent” if source of sepsis
- If wound is open and draining, very unlikely to be septic source
  - Look for other sources (urine, lungs, etc.)
- If “boggy” and fluctuant, need to open wound and allow drainage

V.A.C. system

- Know how to troubleshoot system if called because it is “beeping”
- Usually it is a leak in the dressing. Can patch leaks with Tegaderm
- If machine says cannister is full…but clearly it is not, most likely because clogged tubing
  - Change cannister first
  - If still not working, change tubing on dressing next. Can simply replace “disk”and tube without removing sponge. Cut out disk, replace it, and patch over top of it.


V.A.C. ATS
Utilities
Therapy
ON
0 mmHg
Intermittent
KCI
The Clinical Advantage
V.A.C. ATS

Clinic Schedule

- Elmhurst
  - Plastic surgery – Tues 1 PM, Friday 9 AM
  - Hand – Friday 1 PM
- VA
  - Plastic/Hand – Thursday 1 PM

Plastic Surgery Pager numbers

- Matt Schulman PGY 6 – 917-457-0594
- Elie Levine PGY 6 – 917-457-0593
- Marco Harmaty PGY 5 – 917-457-0597
- Henry Lin PGY 4 – 917-457-0599
- Tommaso Addona PGY 4 – 917-457-0613