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Lacerations Are Common—Let's Master Their Management

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Meet Our Speaker

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Introduction

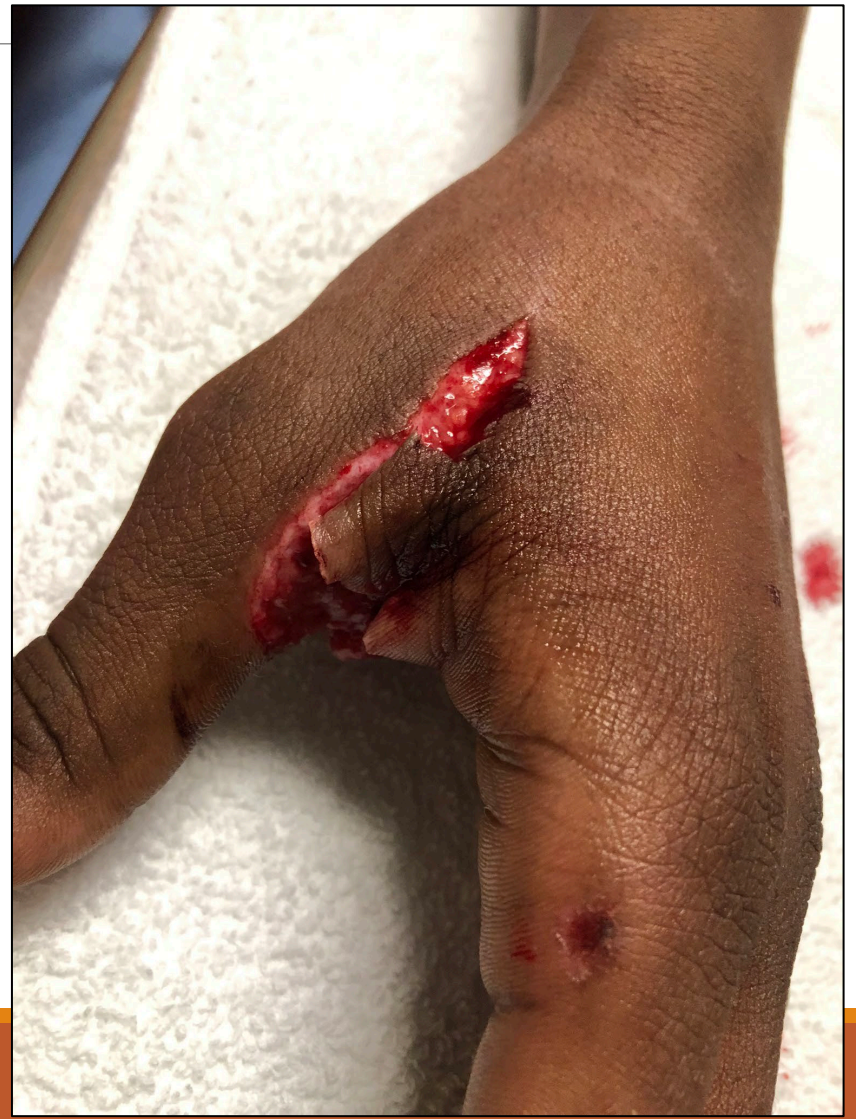
Lacerations are a common reason for urgent care visits. This webinar addresses some of the challenges urgent care clinics face when managing lacerations

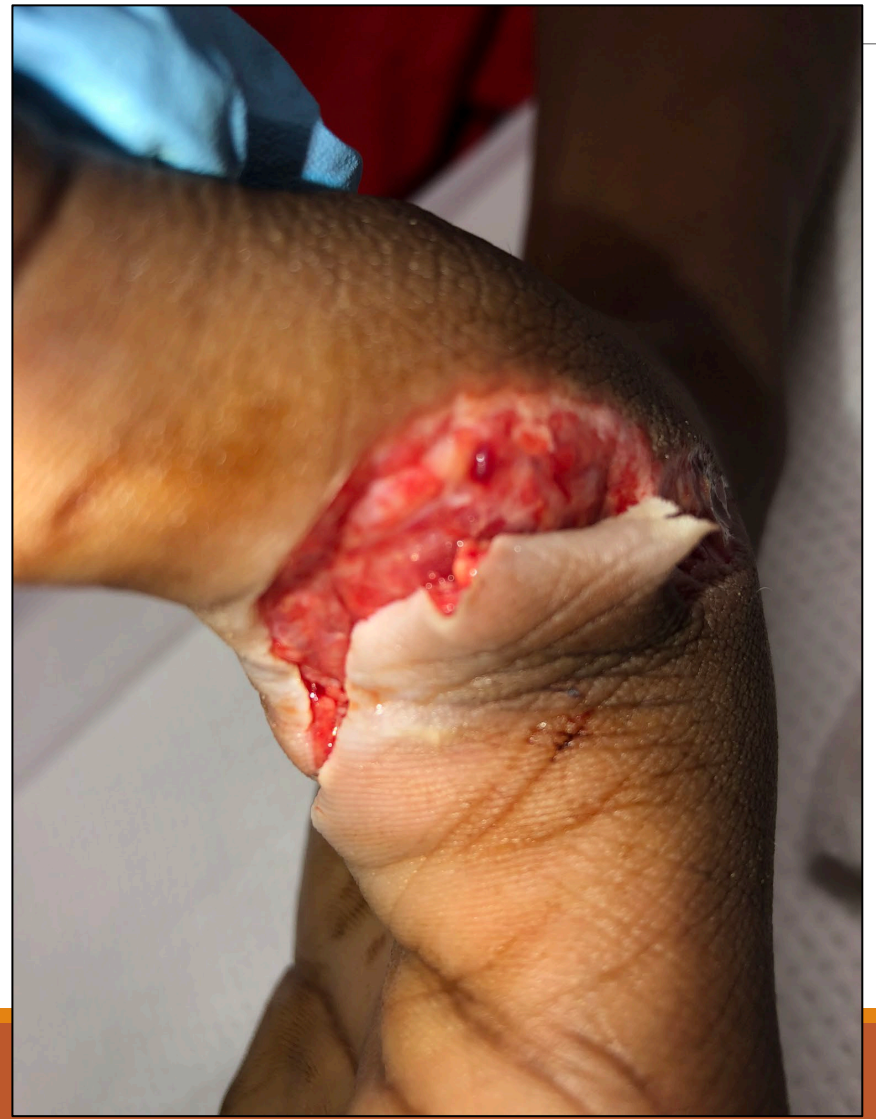
Points directed to both clinicians and administrators

Lacerations

- Common reason for ED and urgent care visits
- Patients sometimes referred to ED for simple lacerations
- Referring patients away—costly for patient and the UC. They will bypass you for simple things in the future
- Goal: Get UC clinicians more comfortable and confident in managing lacerations

Case Presentation





Challenges

- Turning patients away
- Clinicians lacking confidence with suturing
- Acuity degradation

Solutions

- Education
- INCREASE CLINICIAN CONFIDENCE
- Improve office communication

Study

- 100 urgent cares were called—hypothetical patient with lip laceration
- 44% said they will not manage it
- "Must go to the ER to see a plastic surgeon"
- "We don't do cosmetic repairs"
- "Our providers are new and don't have experience suturing"

Turning Patients Away

- Raise of hands
- Why does this happen?
  - Busy
  - Poor staff communication
  - Lack of training/confidence
  - Lack of resources and proper equipment

Acuity Degradation

- Alan Ayers – 2017 article
- https://www.experityhealth.com/blog/just-checking-episode-33-reimbursement-trends-urgent-care/

Acuity Degradation

- What should/can we handle in urgent care?
- Big problem!
- Multifaceted – payor, experience level
- We have to be able to manage more, do more, offer more
- Lacerations are bread and butter

Acuity Degradation - Lacerations

- 2010 – Lacerations comprised 2.96% of UC visits
- 2016 – 1.21%
- 2021 – 0.62%

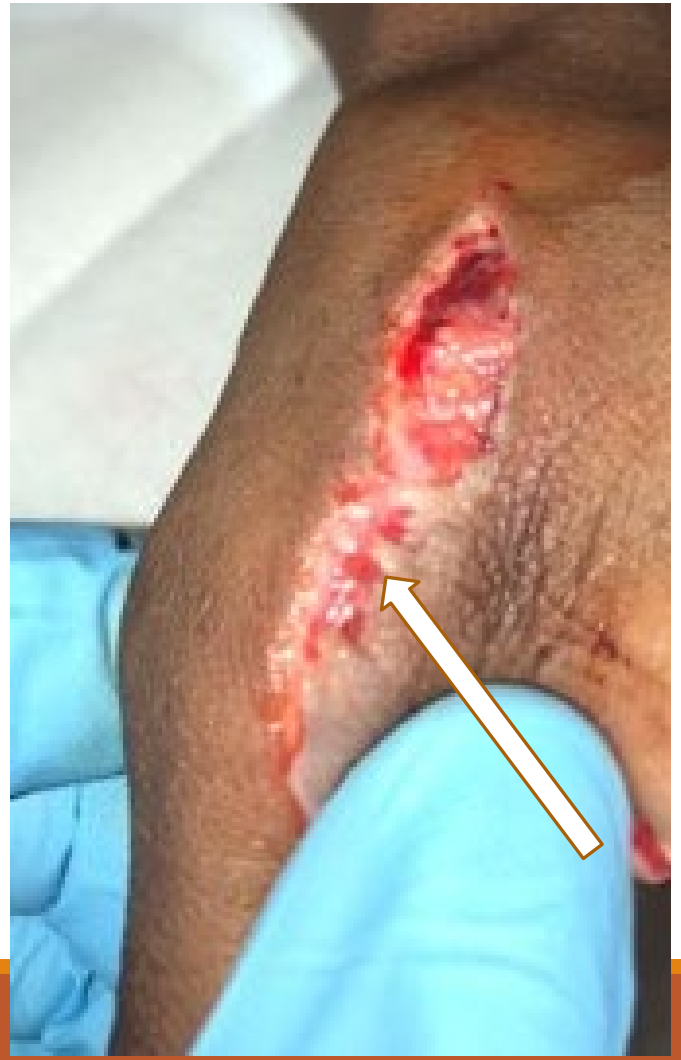
Education/Training

- How do you train people to manage lacerations?
- Is it a requirement for being hired?
- Hit or miss when lacerations come in
- Extra time shadowing with medical director?
- Lots of work for medical directors, those responsible for onboarding
- Better intra-office communication


You can
DO eet!

Case Presentation—Preparation

- How do you approach this?
- Associated injuries?
- Imaging?
- Anesthesia
- Irrigation
- Supplies



Myths and Bad Practice Habits

- Sterile field
- Sterile water
- Sterile gloves
- Epinephrine in digits

Sterile Field

- It’s a dirty wound to start with
- Clean around the wound, use the sterile drapes for instruments, and keep patient’s hands, clothing, hair away from your work

Sterile Water

- Tap water is completely safe
- Cheaper—$1.50 for a bottle of saline
- After anesthetized, consider having patient stand at sink to irrigate for a few minutes
- Can give them gauze and let them clean off dried blood
- Tap water in instrument basin for irrigation

Bansal BC, et al. *Am J Emerg Med*. 2002;20(5):469-472.

Sterile Gloves

- Not needed—it is NOT a sterile procedure
- Sterile gloves are more expensive—$2.30 vs $0.07
- Can SAFELY use the boxed gloves
- Some like the fit better…
- Great journal club on this topic: https://emergencymedicine.wustl.edu/items/nonsterile-gloves-for-ed-would-closure/

Steve E, et al. *Can Fam Physician*. 2017;63(3):217.

Epinephrine in Fingers

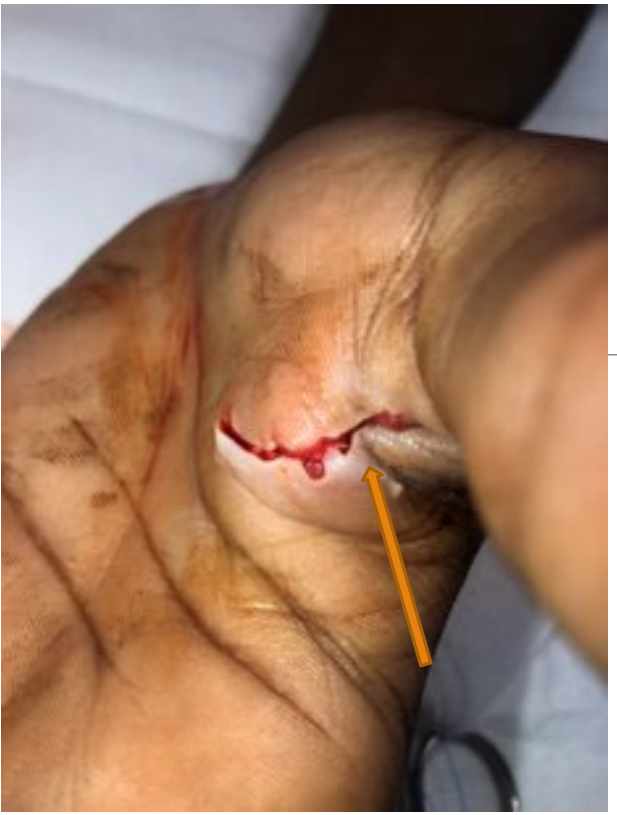
- Fingers, nose, penis, toes…
- WRONG!
- Orthopedists and plastics routinely use
- Longer action of anesthetic
- Helps control bleeding
- Consider avoiding in those with Reynaud's, PAD

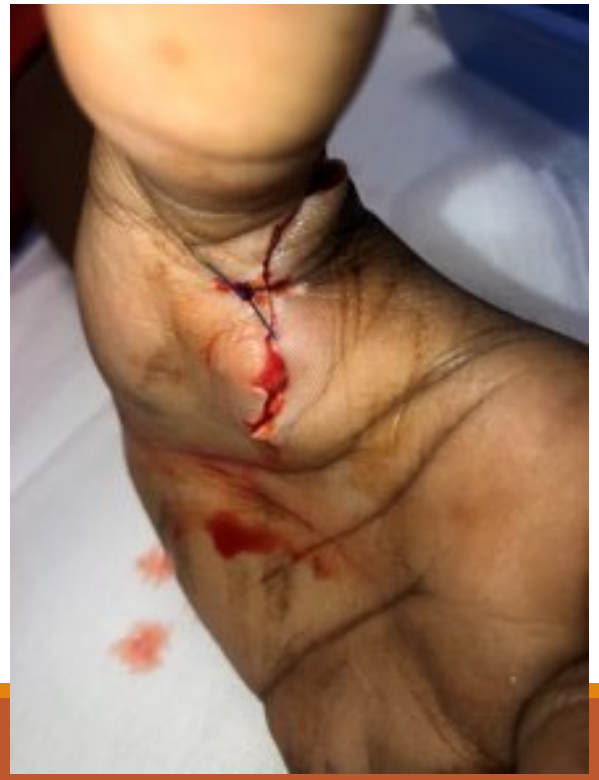
Moleno RB. Emdocs.net.
Shridharani SM, et al. *Euro J Plastic Surgery*. 2014;37:183-188.
Neto PJP, et al. *Rev Bras Ortop*. 2017;52(4):383-389.

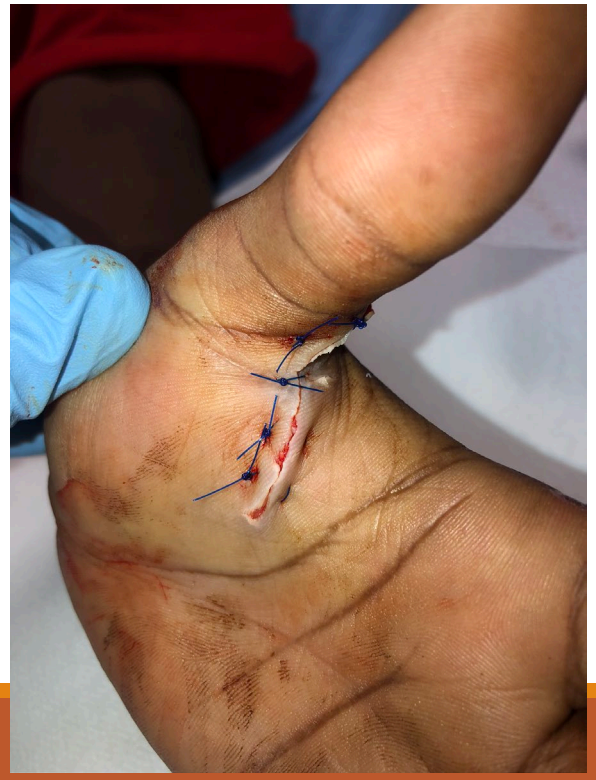
Cost Savings

- Implementing the previous slides will save you $$
- Per 100 lacerations
- Gloves = $200
- Tap water = $150-$300

Case Presentation—Closure







Must-Have Products—Concepts

- Different options may exist
- Cost is a big issue for urgent care

Must-Have Products—Concepts (cont)

- Trauma shears
- Lighting
- Ruler
- Finger tourniquet
- Cyanoacrylate
- Stapler
- Steri-Strips

Trauma Shears

- Cutting clothes, tape, splint material
- $5–$200+
- Cheap is fine

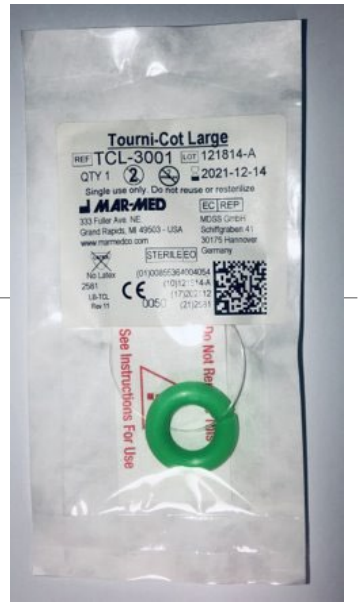
Lighting

- Have to be able to see
- Overhead lighting not universally available
- Rechargeable headlamp

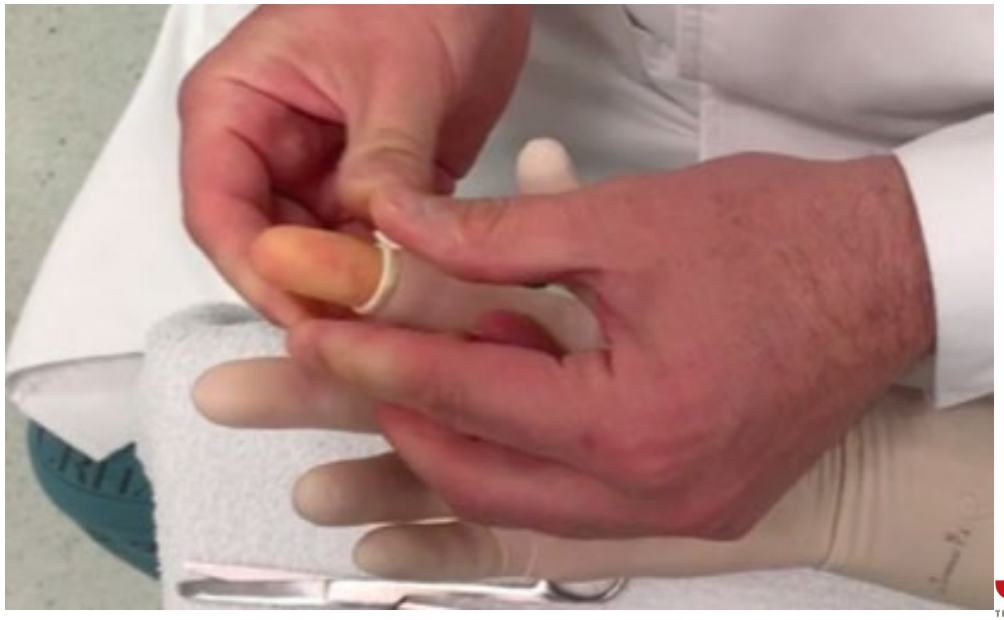
Measuring Tape/Ruler

Documentation of lacerations, abscess/cellulitis

Finger Tourniquet



- Life saver
- Must have bloodless field when repairing finger lacs
- Elastic band from glove, gauze and hemostat, Penrose drain
- Glove technique
- Several commercial options
- Don’t forget to remove!!



Steve AK, et al. *Plast Reconstr Surg Glob Open*. 2020;8(5):e2811.

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Stapler

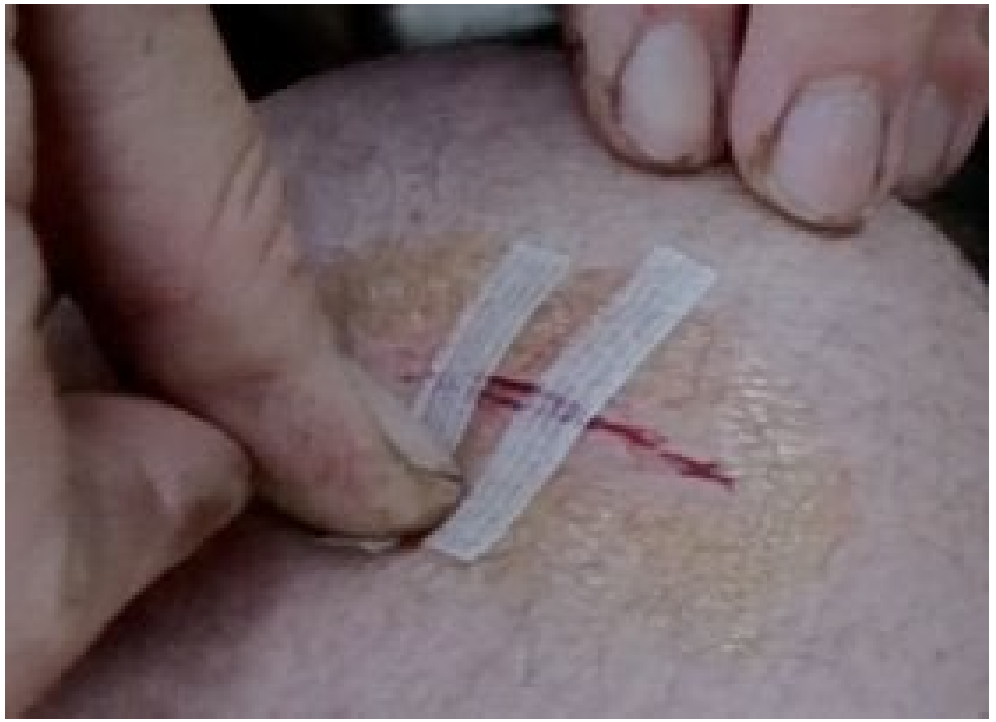
- Scalp, extremities
- Fast
- Similar cosmetic outcome
- Varying quality

Cyanoacrylate

- Face-careful around eyes (remove with petroleum-based product)
- Fingertip avulsions (finger tourniquet helpful!)
- Skin tears
  - Can combine with Steri-Strips
  - Comes off on its own—no repeat ED visit for suture removal

Steri-Strips

- Good for skin tears
- Must have benzoin
- Wounds with minimal tension
- Can combine with sutures or glue
- Being advocated for more and more



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Emerg Med J. 2002 Sep; 19(5): 405–407.
doi: 10.1136/emj.19.5.405
PMCID: PMC1725943
PMID: 12204985

A randomised, controlled trial comparing a tissue adhesive (2-octylcyanoacrylate) with adhesive strips (Steristrips) for paediatric laceration repair

A Mattick, G Clegg, T Beattie, and T Ahmad

Author information Copyright and License information Disclaimer

Abstract

Objective: To compare the tissue adhesive 2-octylcyanoacrylate (Dermabond) with adhesive strips, Steristrips in paediatric laceration repair.

Method: Children with suitable lacerations were randomly allocated for wound closure with either a tissue adhesive or adhesive strips. Thirty children were treated in each group. Linear Visual Analogue Scores were used to judge parents' and nurses' opinions of the application of each treatment. A similar scoring system was used to judge the cosmetic outcome as viewed by parents and a plastic surgeon. Complications and trial failures were noted.

Results: Complete data were available for 44 of the children. Parents viewed the treatments as equally acceptable. In contrast those performing the procedure judged the tissue adhesive more difficult to apply. Scores of cosmetic outcome by both parents and the plastic surgeon showed no significant difference in the treatment method used. There were four children in the tissue adhesive group and one from the adhesive strip group in whom the wounds were unable to be closed.

Conclusion: Both tissue adhesives and adhesive strips are excellent "no needle" alternatives for the closure of suitable paediatric lacerations. This study suggests that the techniques are similar in efficacy, parental acceptability, and cosmetic outcome. The choice as to which is used may come down to economics and operator preference.

Case Presentation—Documentation

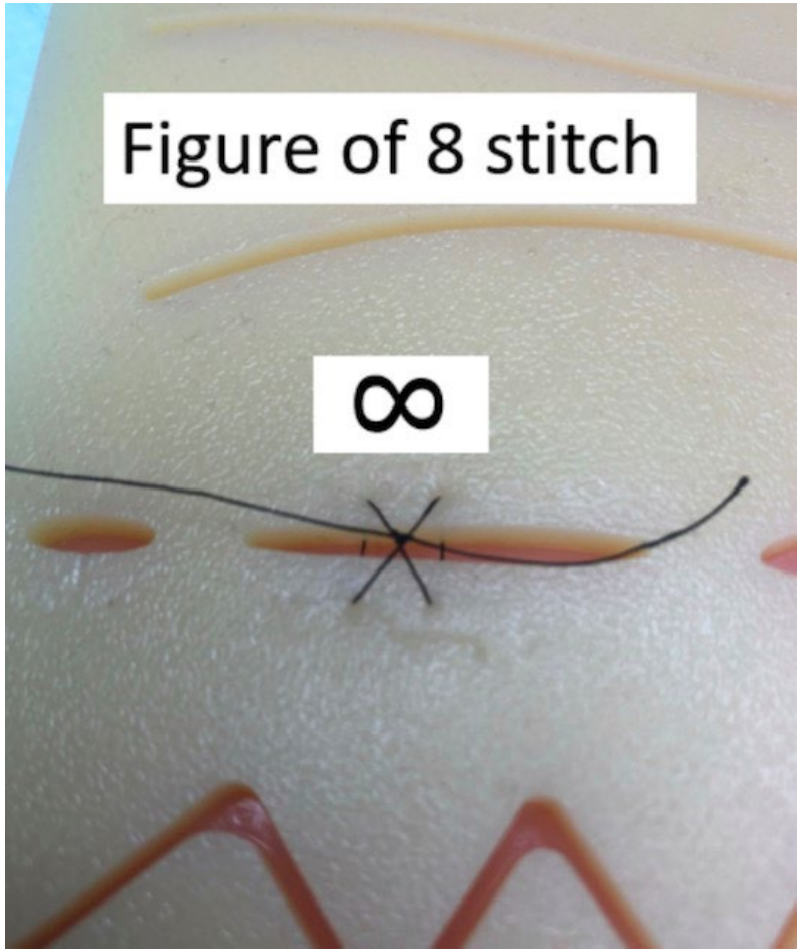
This is a 5cm wound of the left hand involving the webspace between the thumb and index finger. Verbal consent was obtained. The wound margins were injected with 1% lidocaine and epinephrine. 1 L of sterile water was used for irrigation followed by 1 minute of tap water at the sink. Close inspection of the wound does not reveal any violation of the joint capsules or tendons. There were multiple jagged edges with devitalized tissue, this was debrided with scissors. 3.0 Prolene was used for the repair. A single interrupted suture was used to approximate the skin on the palmar surface at one of the skin creases. Then multiple horizontal mattress and several simple interrupted sutures were placed to reapproximate the wound with good wound eversion. Normal neurologic function before and after. Bacitracin was applied to the wound and the hand was bandaged. Recommend returning in 7 days for suture removal.

Pearls, Tricks, Advanced Techniques

- Bleeding varicose veins
- Digital block, fingertip injuries
- Combining Steri-Strips and suture
- Lip lacerations
- Irregularly shaped wounds

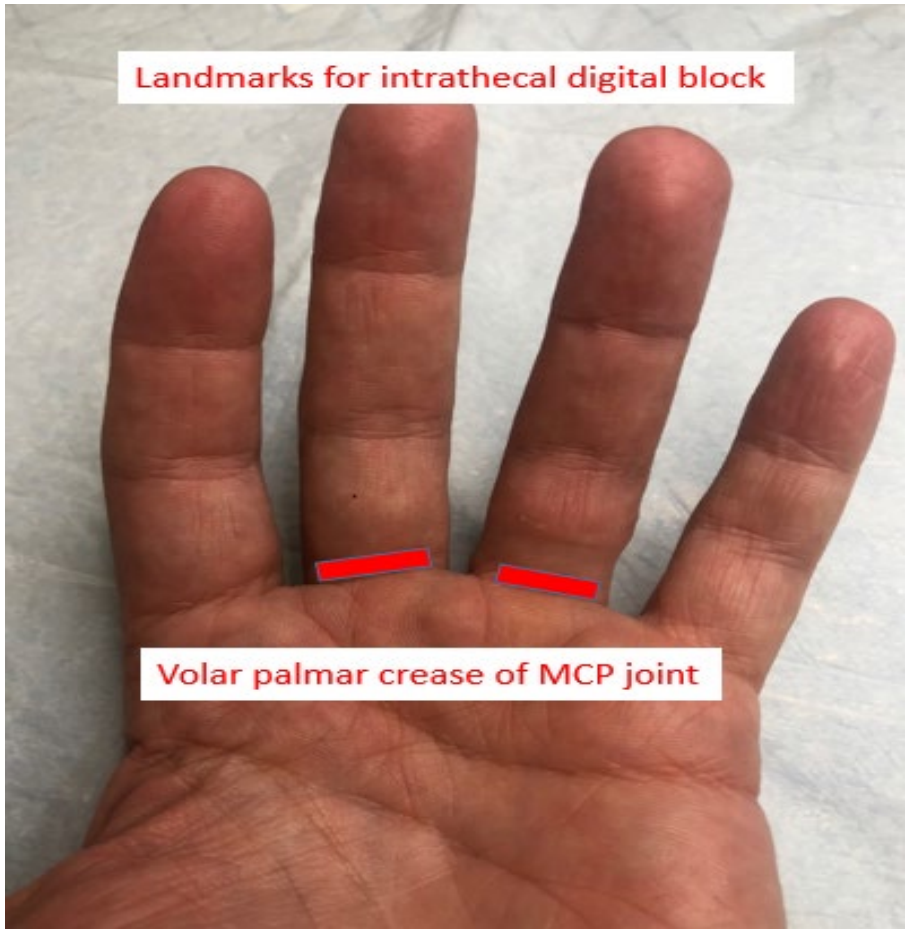
Bleeding Varicose Vein

- TXA or lido/epi on a gauze-secure with bottle cap and Coban-pressure
- Figure of 8 suture
  - Can be done with suture removal kit and suture
  - Absorbable suture an option
- Also for postarterial catheter, dialysis puncture-site bleeding



Intrathecal Nerve Block

- Single injection
- Midline palmar/MCP crease
- Aim distal, go to bone, aspirate, withdraw and inject
- YouTube video



Fingertip Avulsions

- Imaging—exclude fracture
- Digital block
- Finger tourniquet
- Soak in lido/epi, TXA
- Intact tissue for covering— tack down with single suture or Dermabond
- Petroleum gauze, Surgicel
- Pressure, elevation

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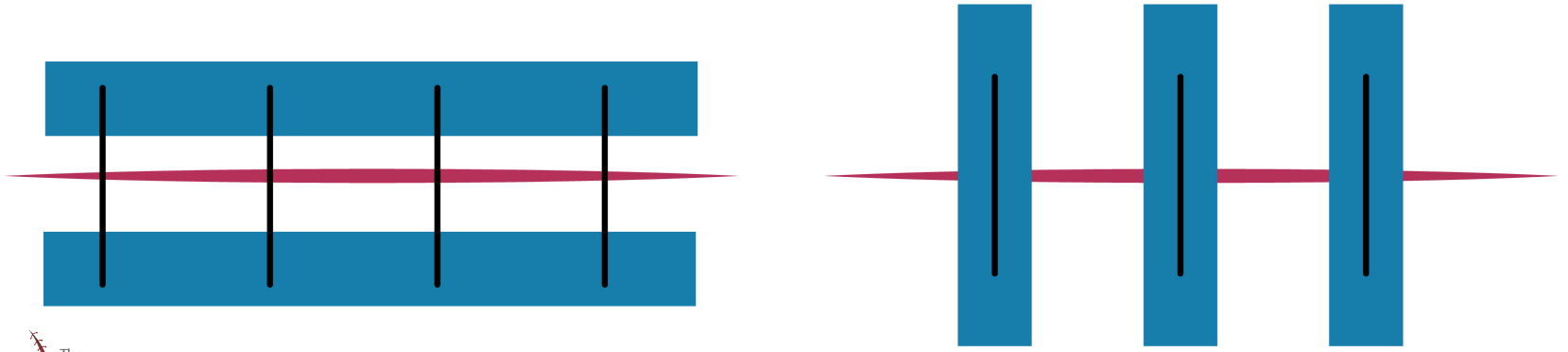
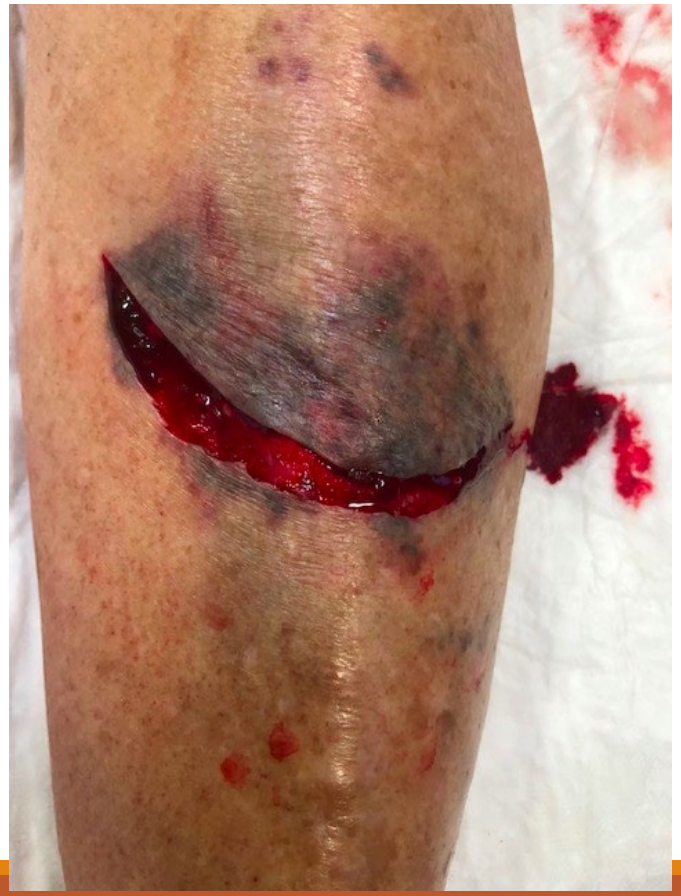
Combining Steri-Strips and Suture

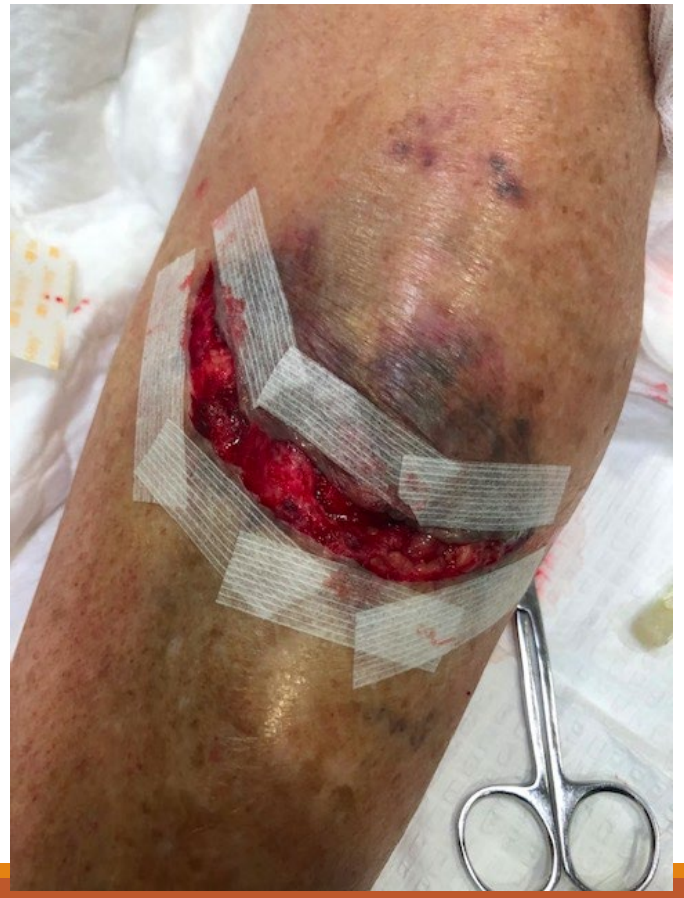
Steri-Strips and Sutures = Extra Strength

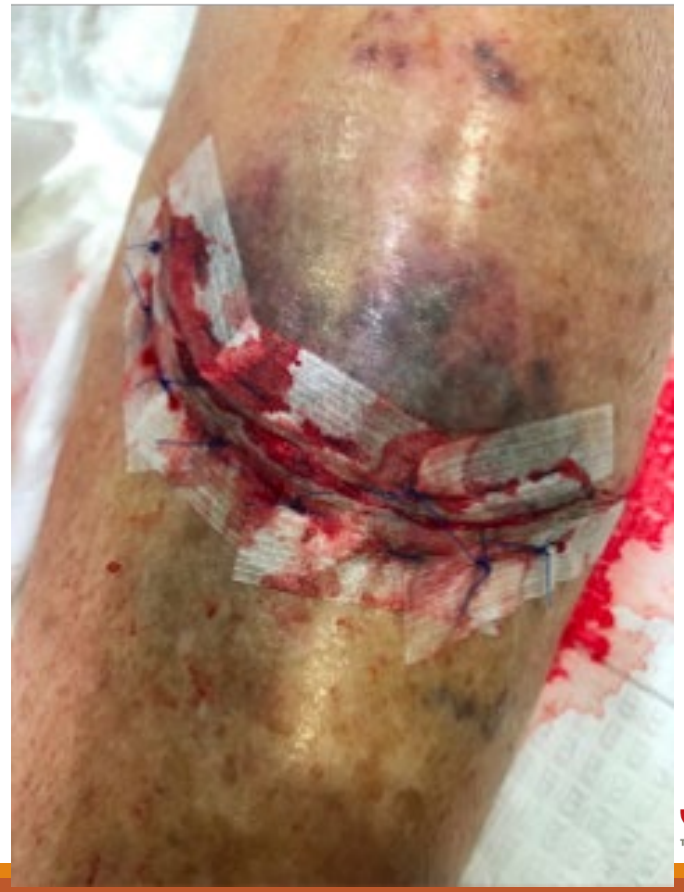


Large Skin Tear/Laceration

Steri-Strips, benzoin, horizontal mattress sutures

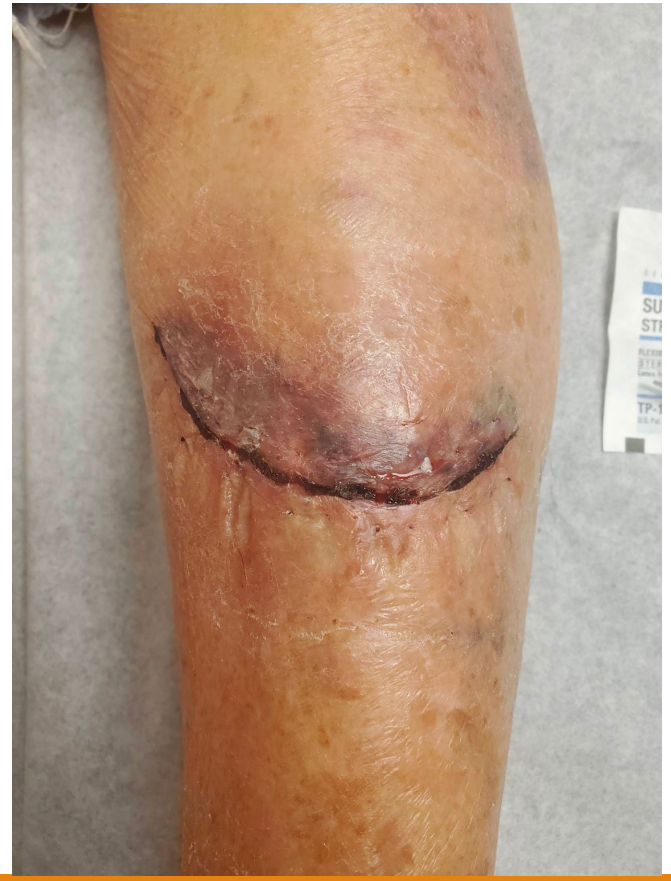




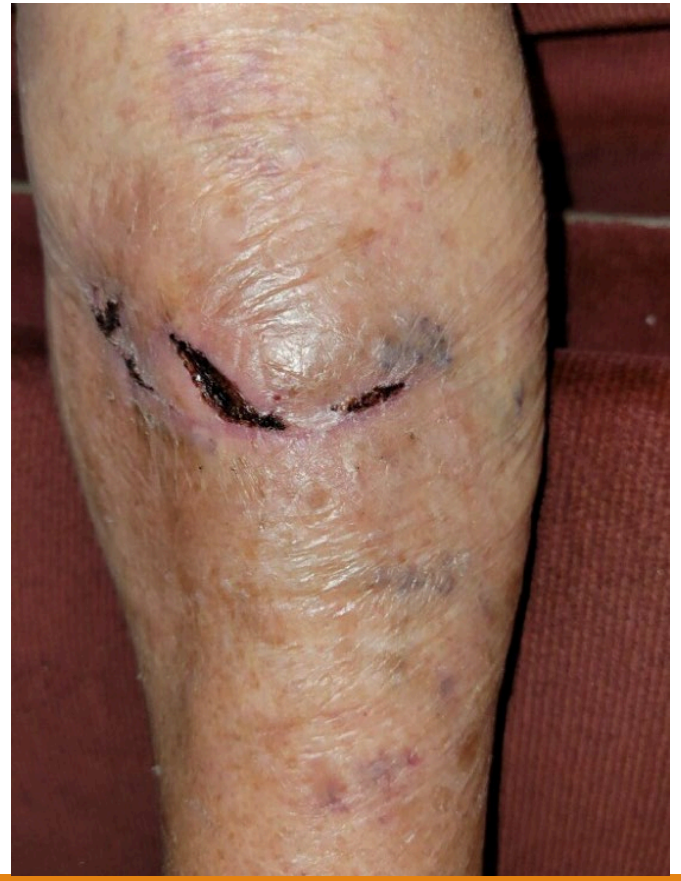


Follow-Up

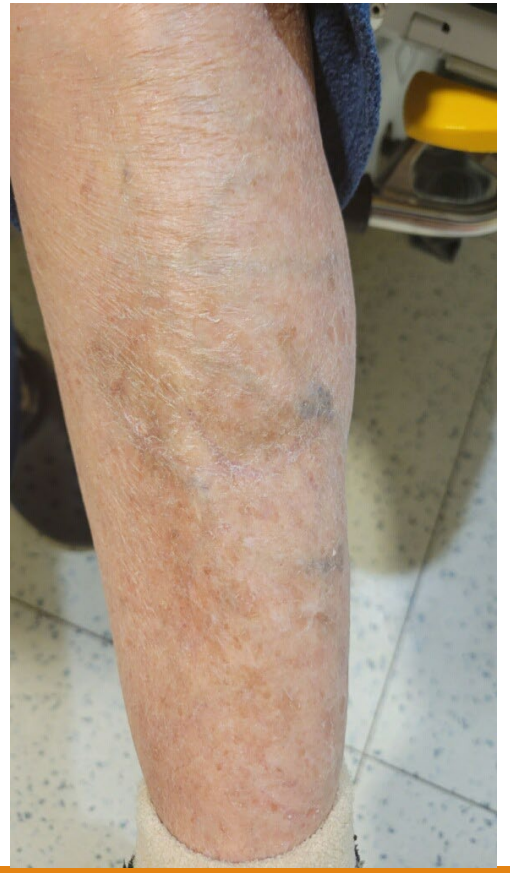
2-week



4-week



4-month



Case Presentation—Follow-Up

- No images
- Several follow-up calls—still hasn't come in for suture removal as of 4 weeks post-injury

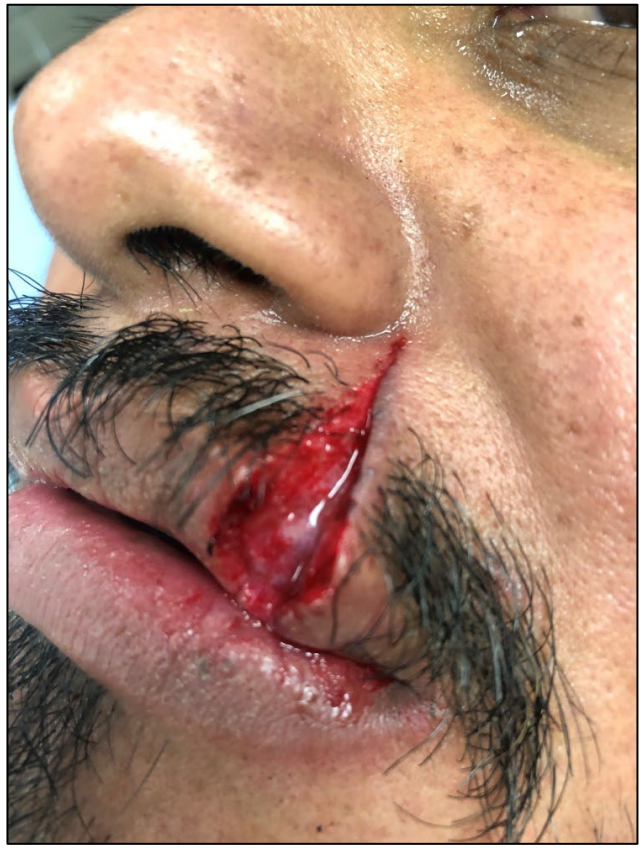
Lip Laceration

- Nerve blocks, limit local infiltration, distorts anatomy
- Topical lidocaine/epinephrine
- Broken tooth? Get x-ray
- Irrigate
- Muscle and wet (mucosal)-absorbable 4.0 or 5.0
- Dry(dermal) nonabsorbable 5.0 or 6.0

Step-Wise Approach

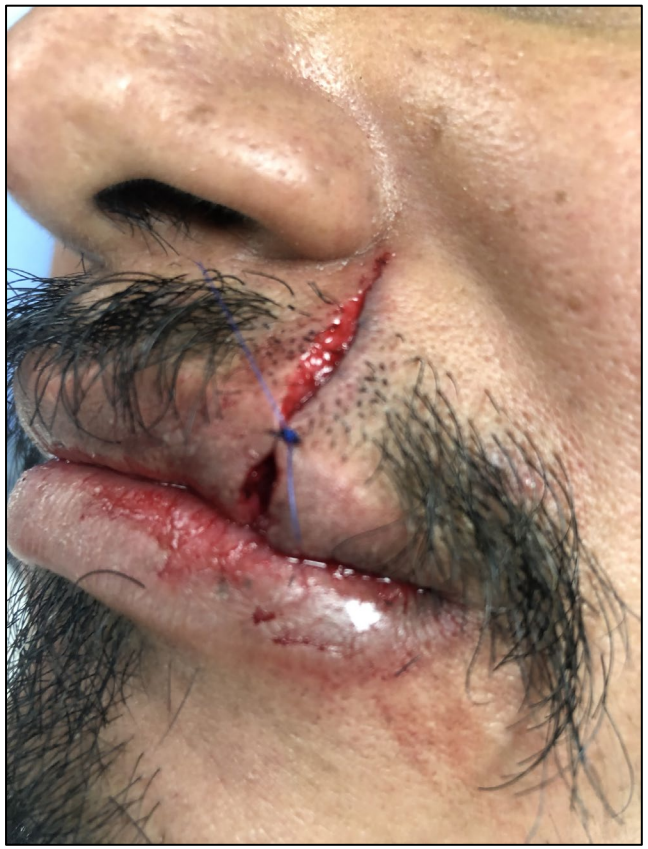
1. Align the vermillion border
2. Muscular layer
3. Inner "WET" layer
4. Outer "DRY" layer

After Irrigation



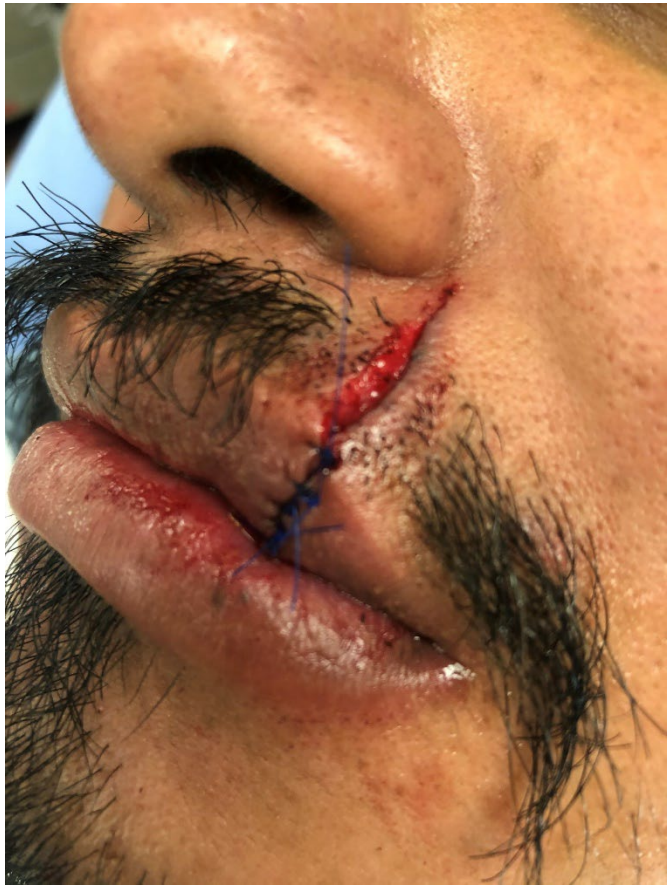
Trimmed Hairs

Align Vermillion

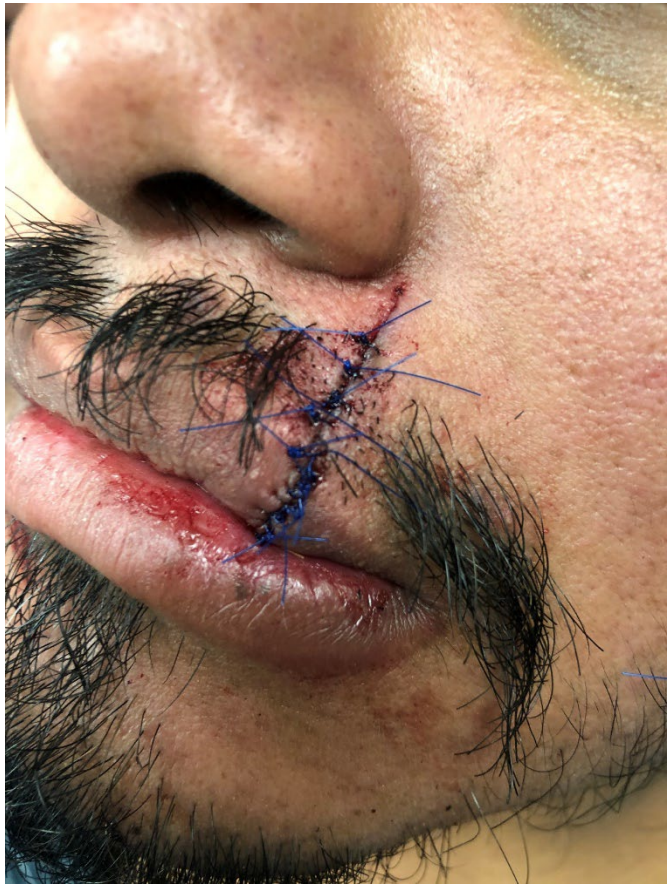


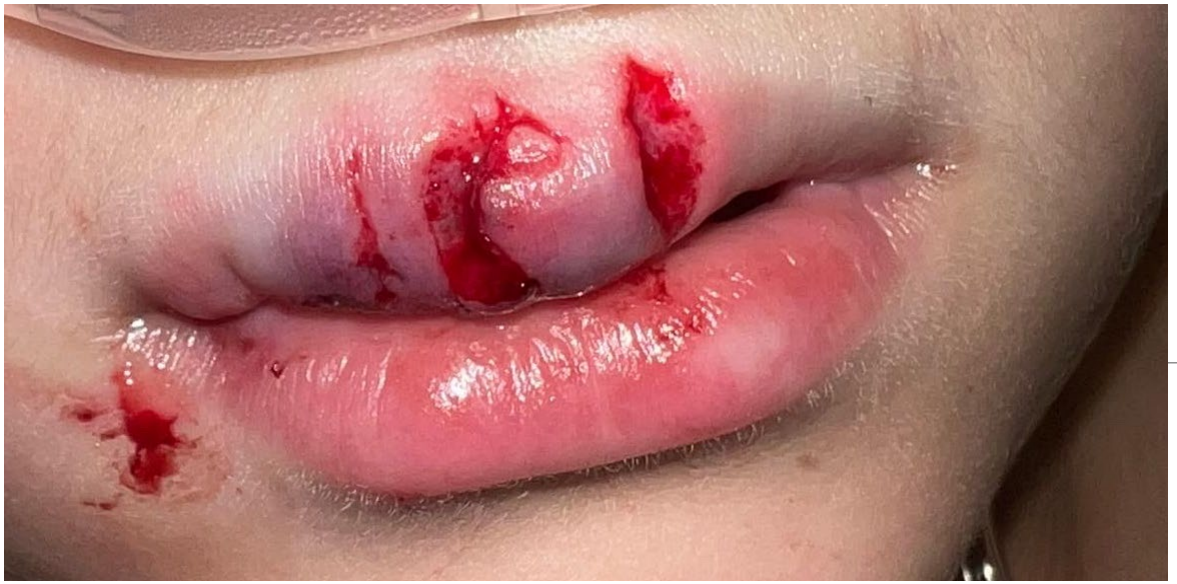
Orbicularis

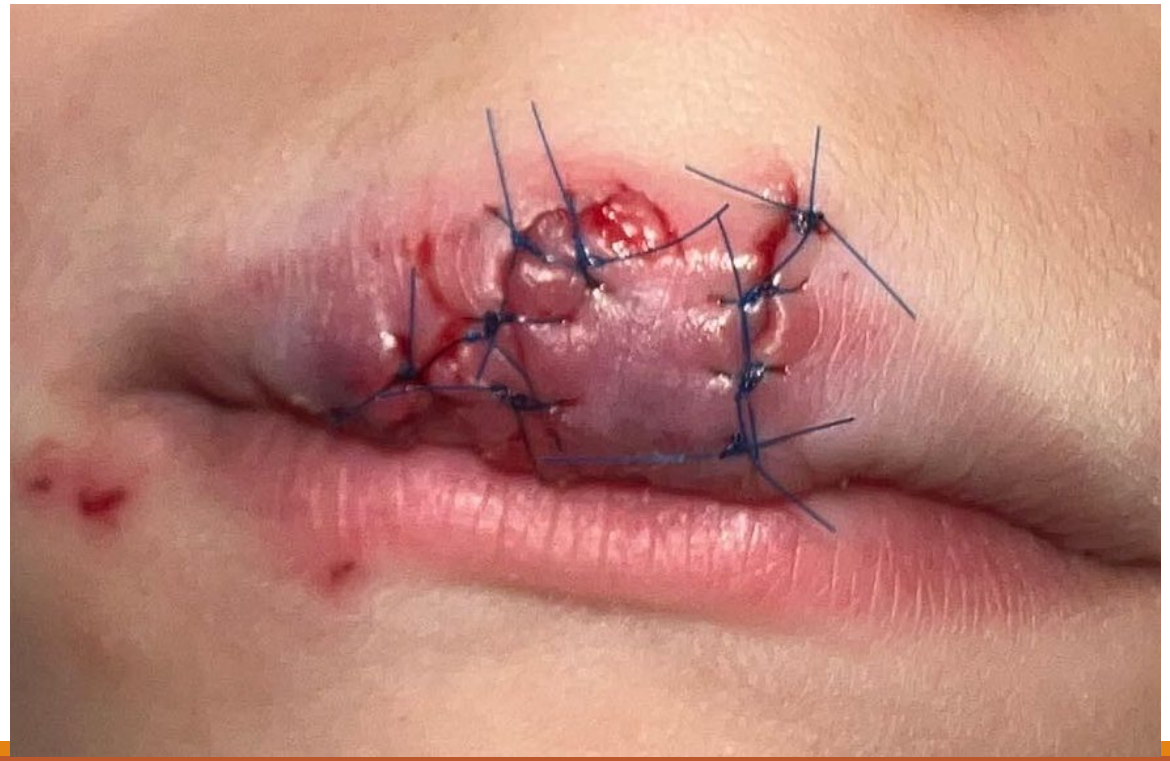
Dry Lip

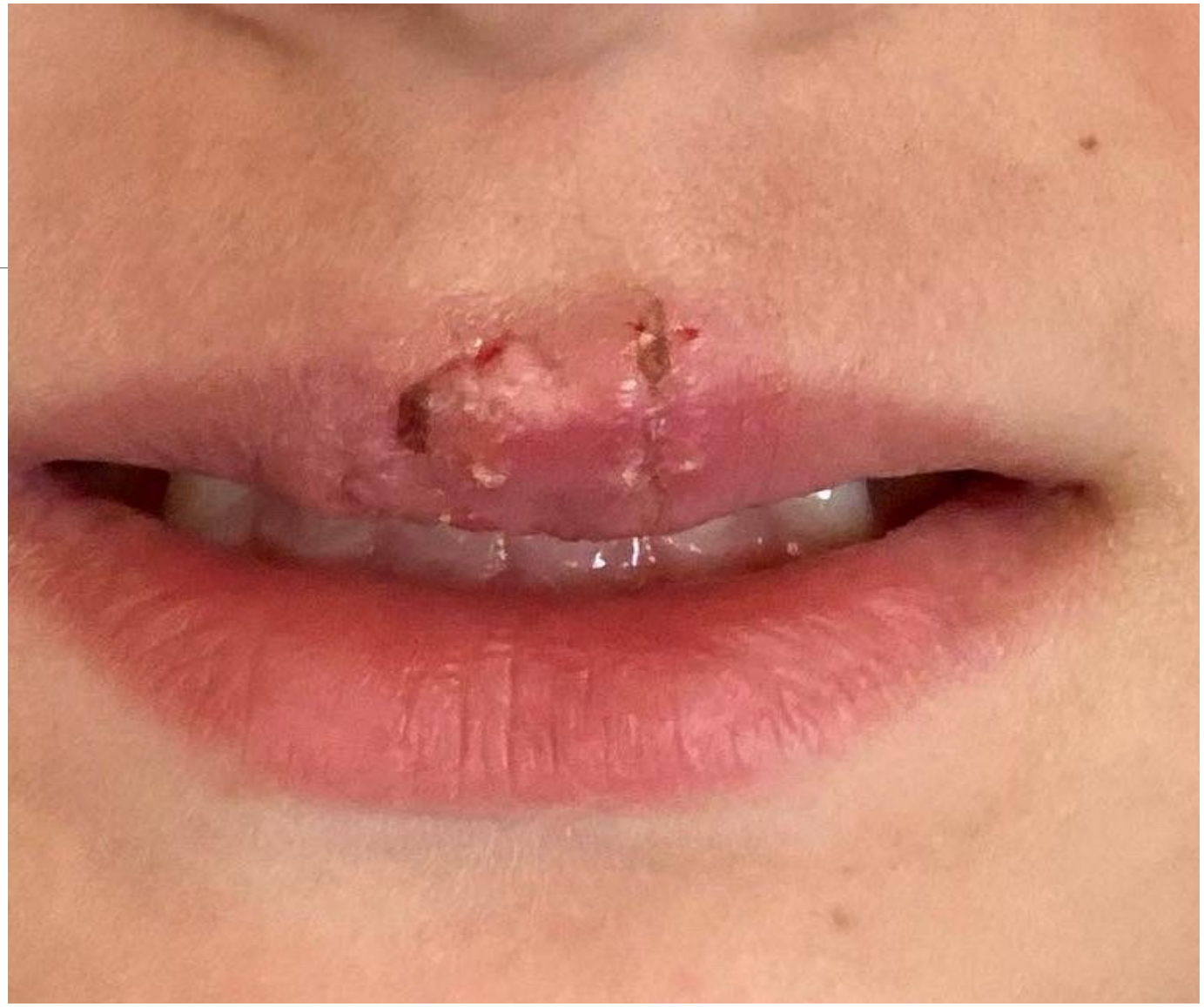


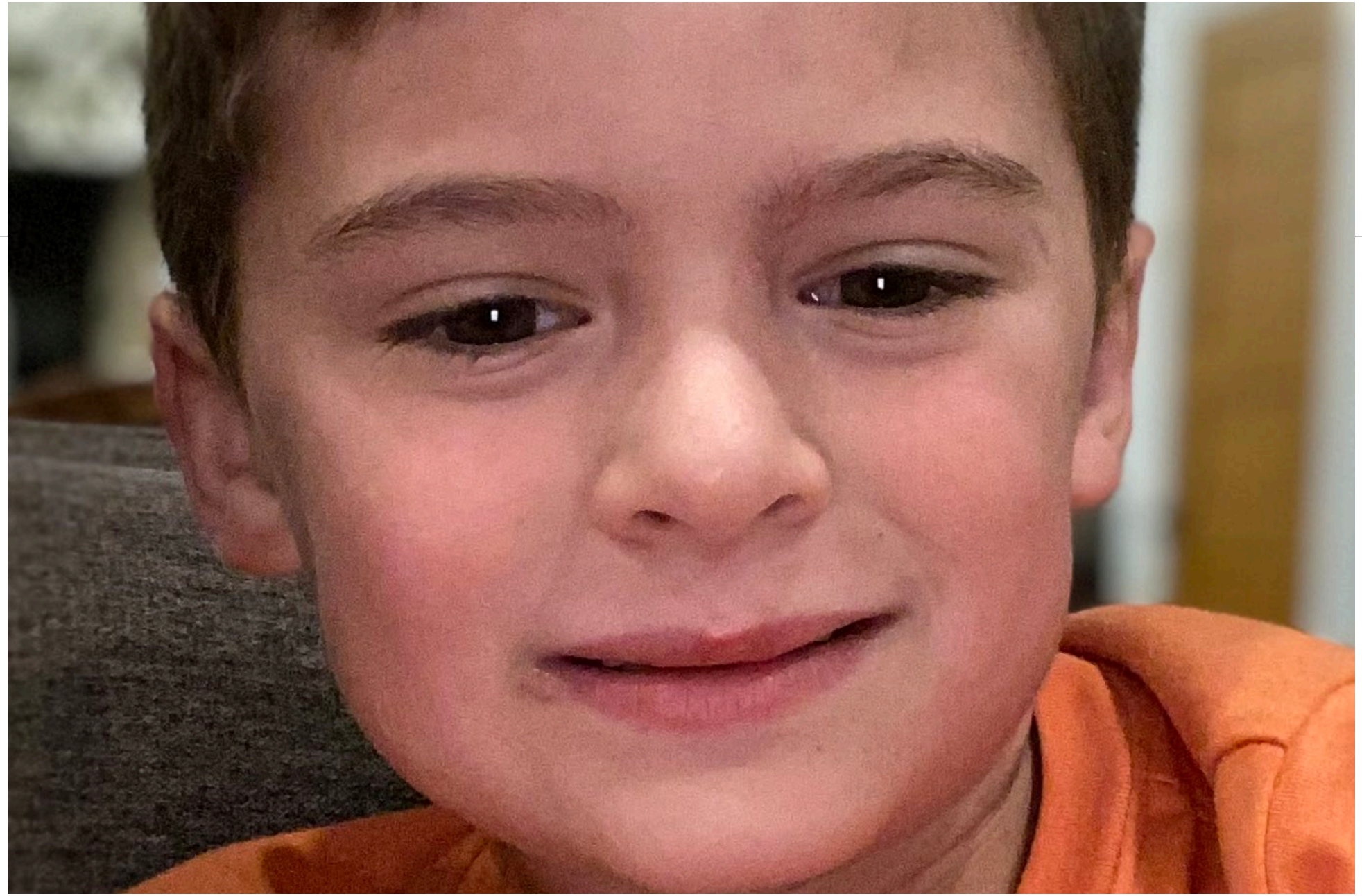
Face









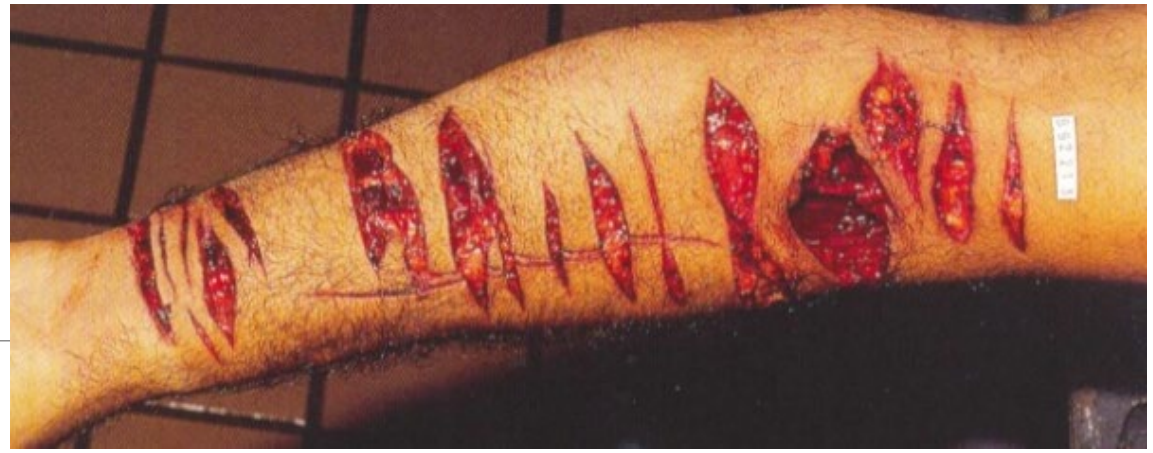


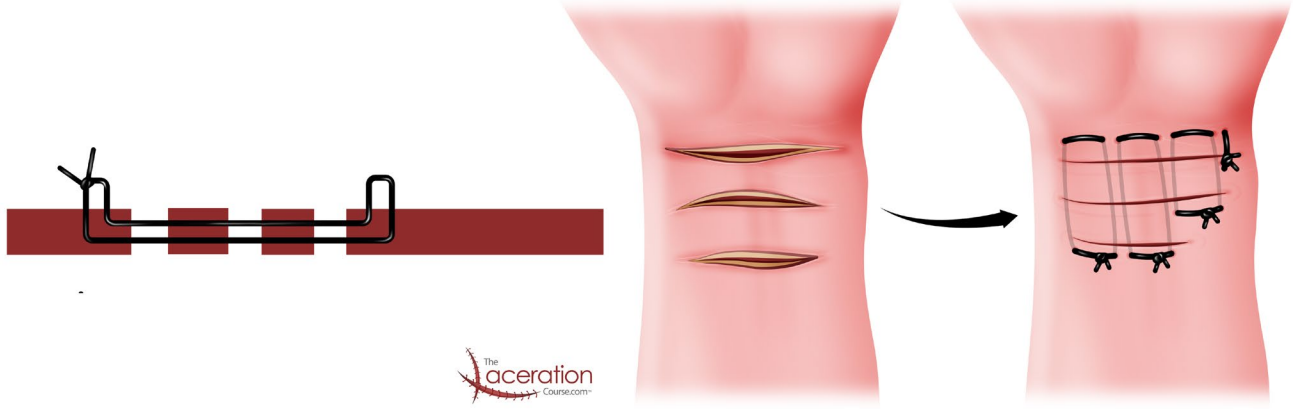
Tissue Bridges/Flaps, Parallel Lacerations

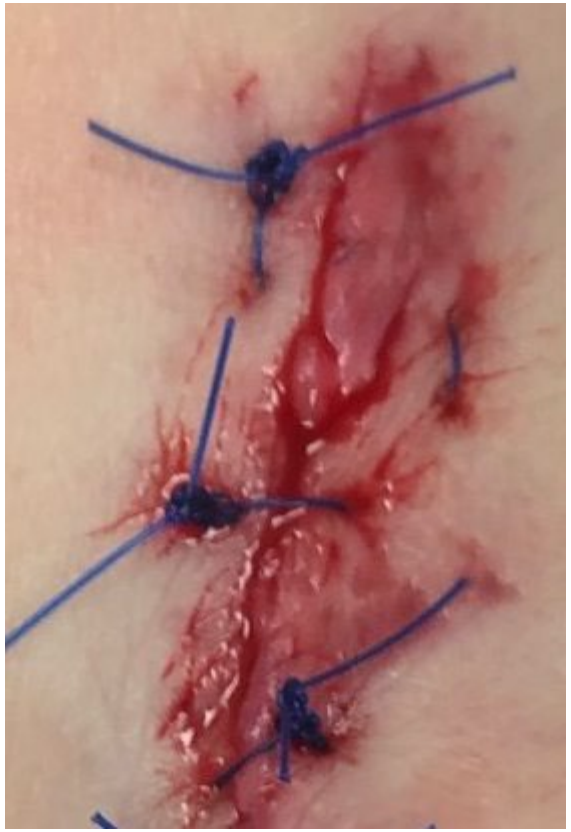
- Envision how the wound should come together
- Develop a plan or strategy before starting—may have to adapt as the wound comes together
- May require undermining or debridement
- Combination of interrupted, subcuticular, mattress techniques

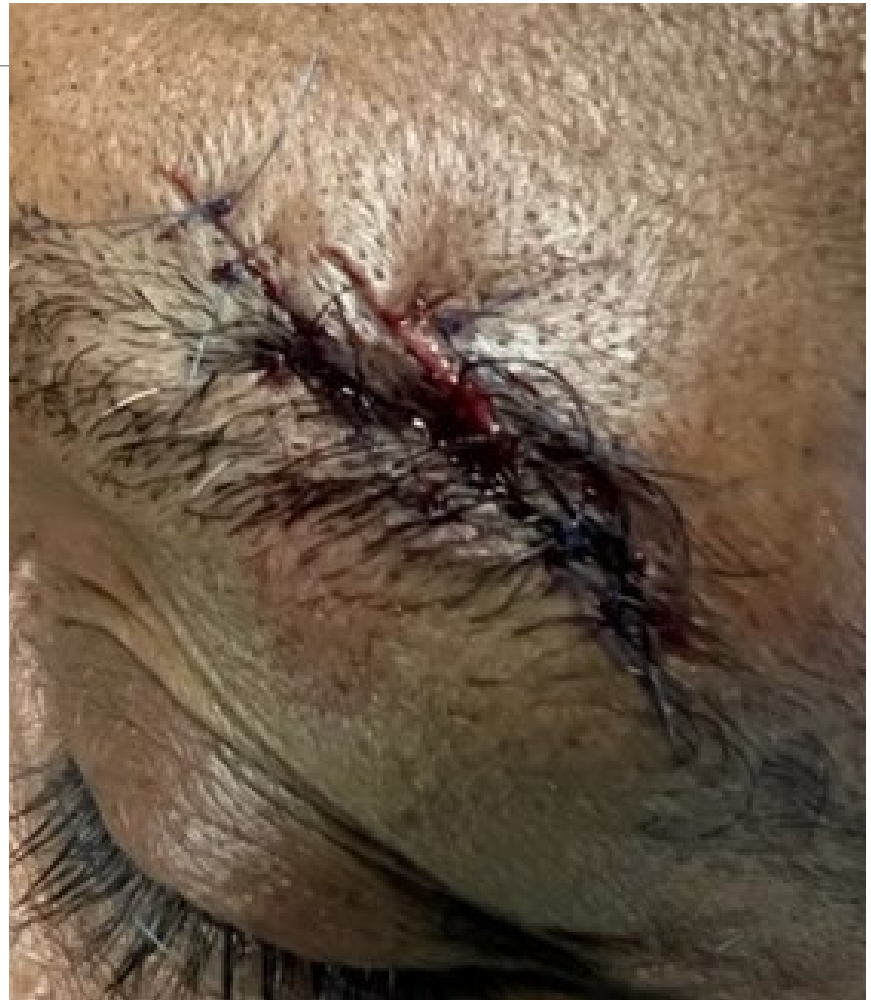
Parallel Lacerations

Modified mattress suture



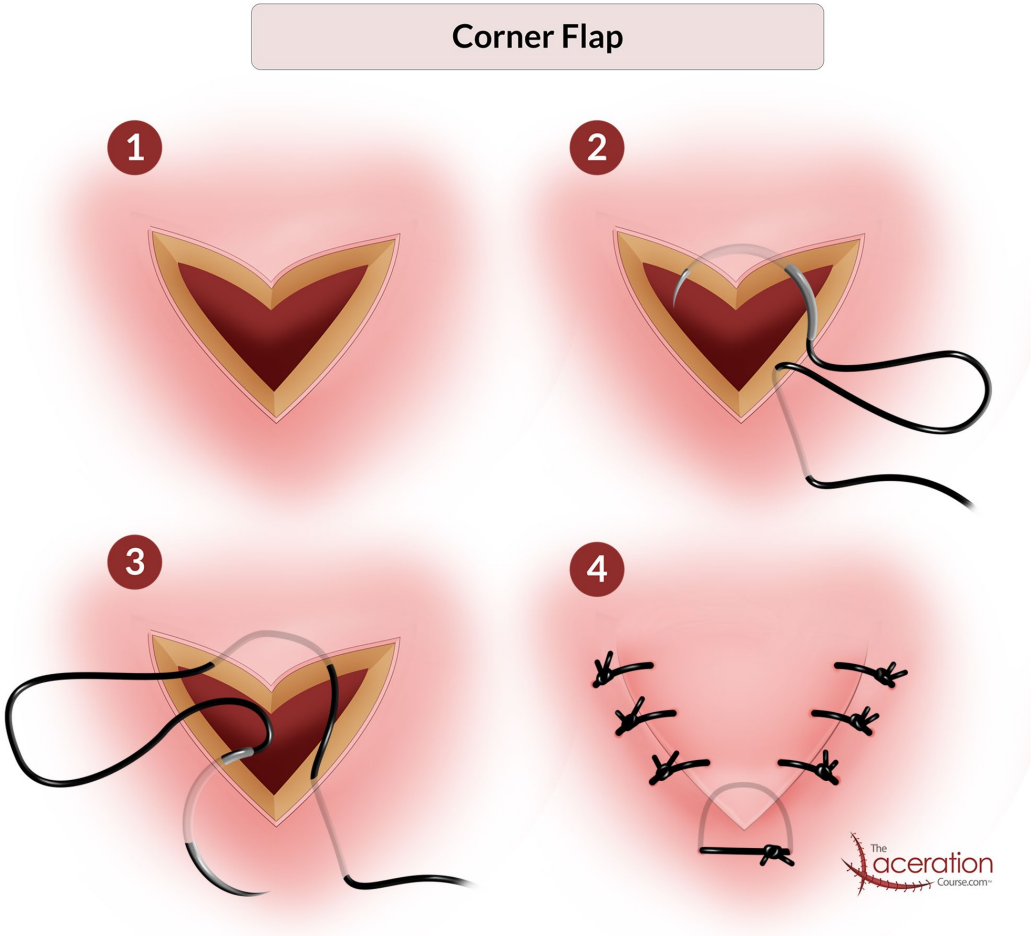






“Y” Shaped Wound

- Anchor in 1
- Dermal in 2
- Back up through 3
- Tie across
- Flap should get pulled into position
- "Modified mattress suture"



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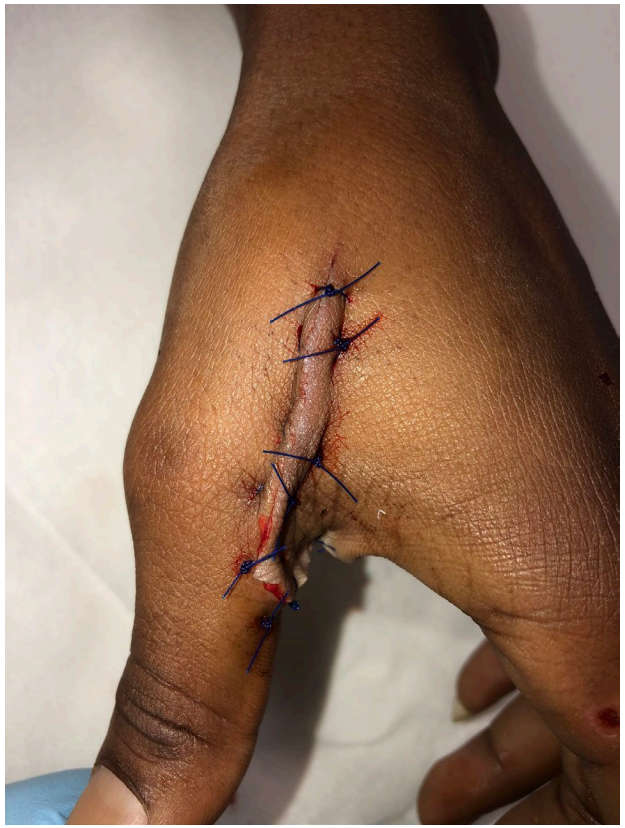
Case Presentation—Discussion

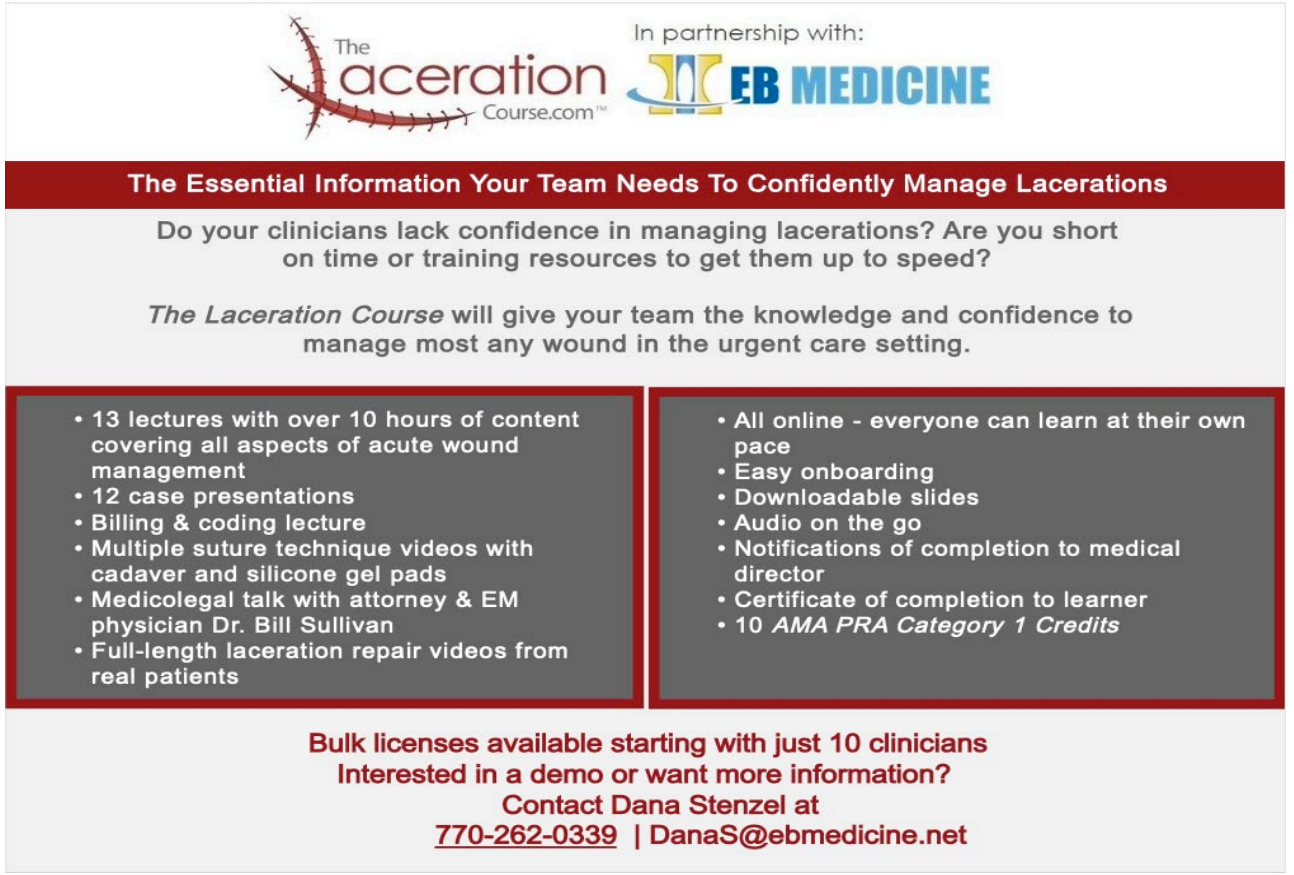
- Need for imaging?
- What type of suture?
- Biggest concerns?
- Concern for infection—antibiotics?
- Close follow-up with orthopedics
- What could I have done differently, where could this have gone wrong?



The Laceration Course

- Comprehensive CME course, 10 credits
- Free practice suture kit
- Use coupon code EXPERITY25 for 25% off – expires 10/15
- In-person workshops
- Group discounts
- Contact me or Dana Stenzel

Omalleymd@ebmedicine.net



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Let's Keep in Touch

Contact information

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- 803-260-9705
- Find me on LinkedIn
- Follow **The Laceration Course** on Facebook, Instagram, and YouTube

Questions

Thank you!