2019 NPO EDUCATION CONFERENCE

ADVANCED SUTURE WORKSHOP

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SIMPLE VS COMPLEX WOUNDS

Complex (deep) wounds require secondary closure:

- Closes ‘dead’ space
- Decreases skin tension
- Bury knot in bottom of wound to not interfere with epidermal healing

COMPLEX WOUNDS

Require use of absorbable suture

ABSORBABLE SUTURE APPLICATIONS

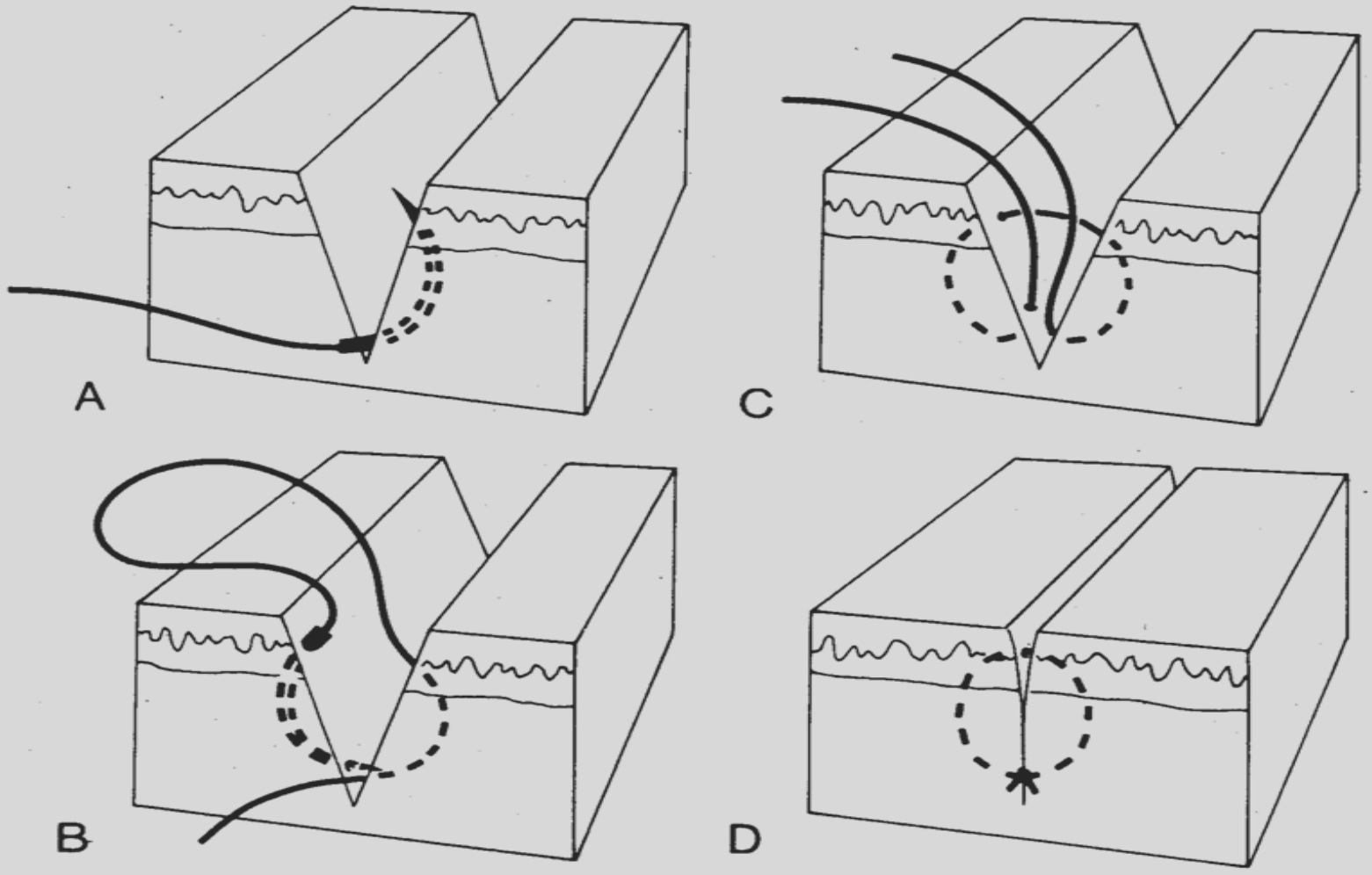
- Inside Mouth
- Vulva (Biopsies)
- Layer Closure

LAYERED CLOSURE

Deep wounds

- Subcutaneous involvement
- Closes dead space
- Reduces tension
- Close with simple interrupted sutures of dermis
- 3 Knots
- Place about 1 cm apart

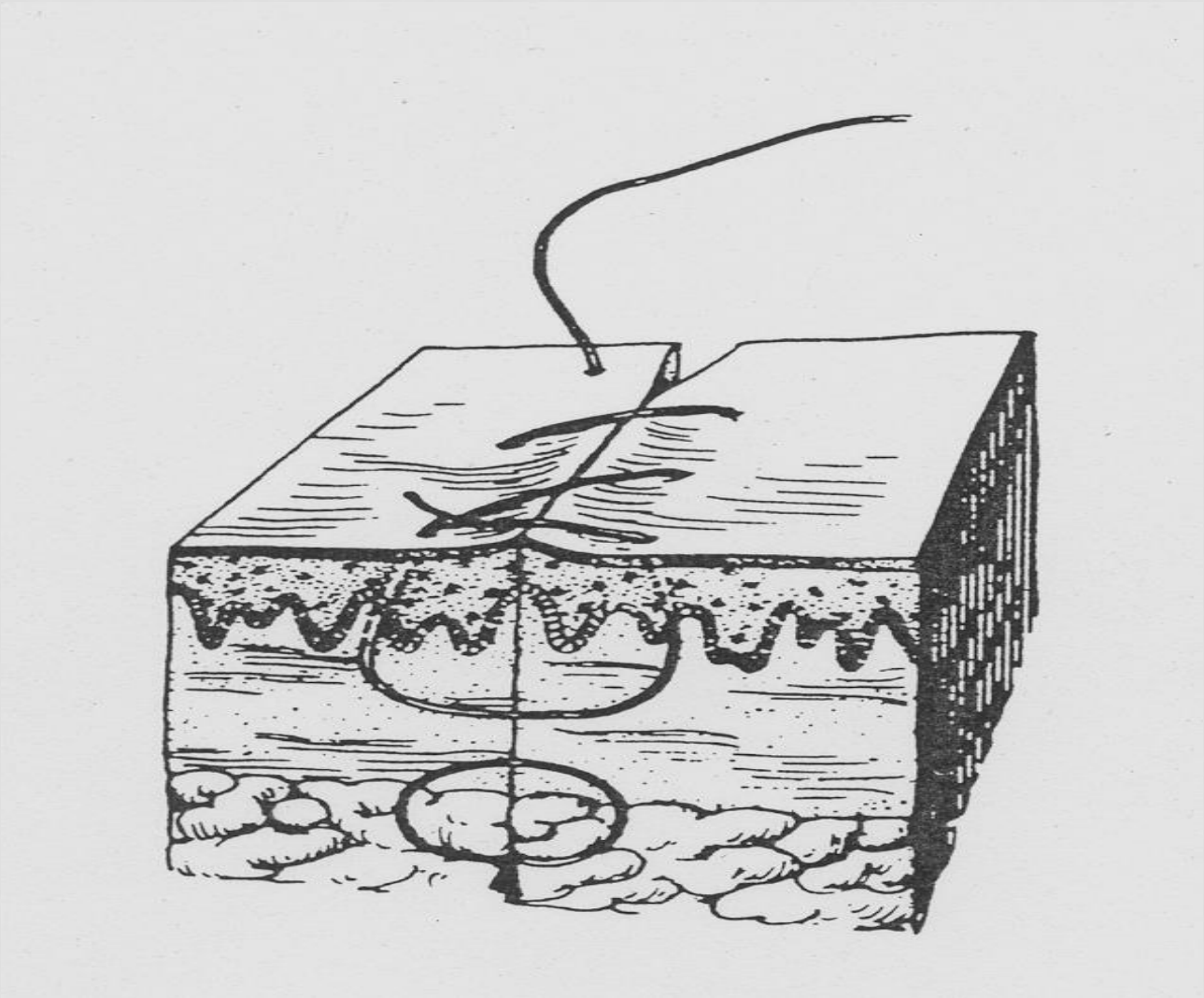
BURIED SUTURE



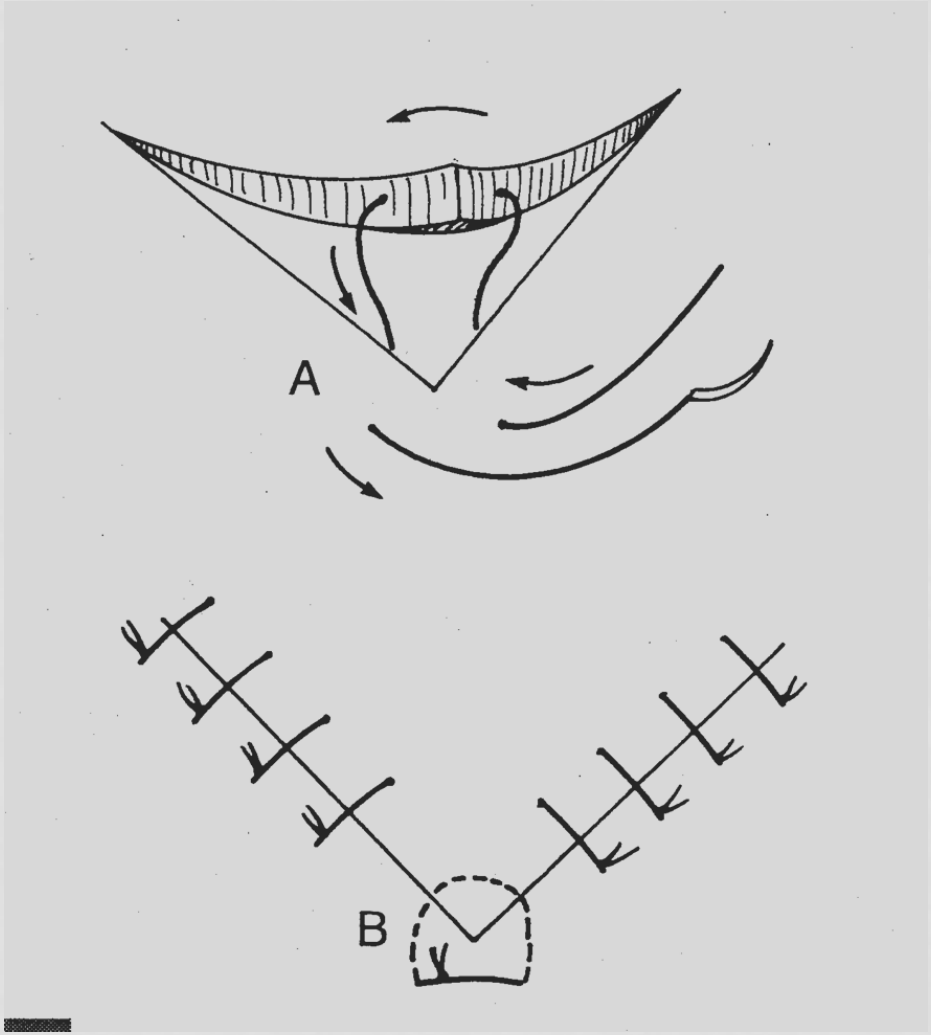
DERMAL (BURIED) SUTURE

- Insert needle in dermis (deep) and direct TOWARD skin surface, exit at dermal-epidermal junction
- Then insert needle on opposite side near dermal-epidermal junction, directly across from point of exit
- Complete suture loop in dermis (deep), directly opposite the origin of the loop
- Tie the knot (no more than 3 knots)
- Cut suture close to knot (no long tails)
- Place as few sutures as possible

Buried Stitch Below Running Suture Above



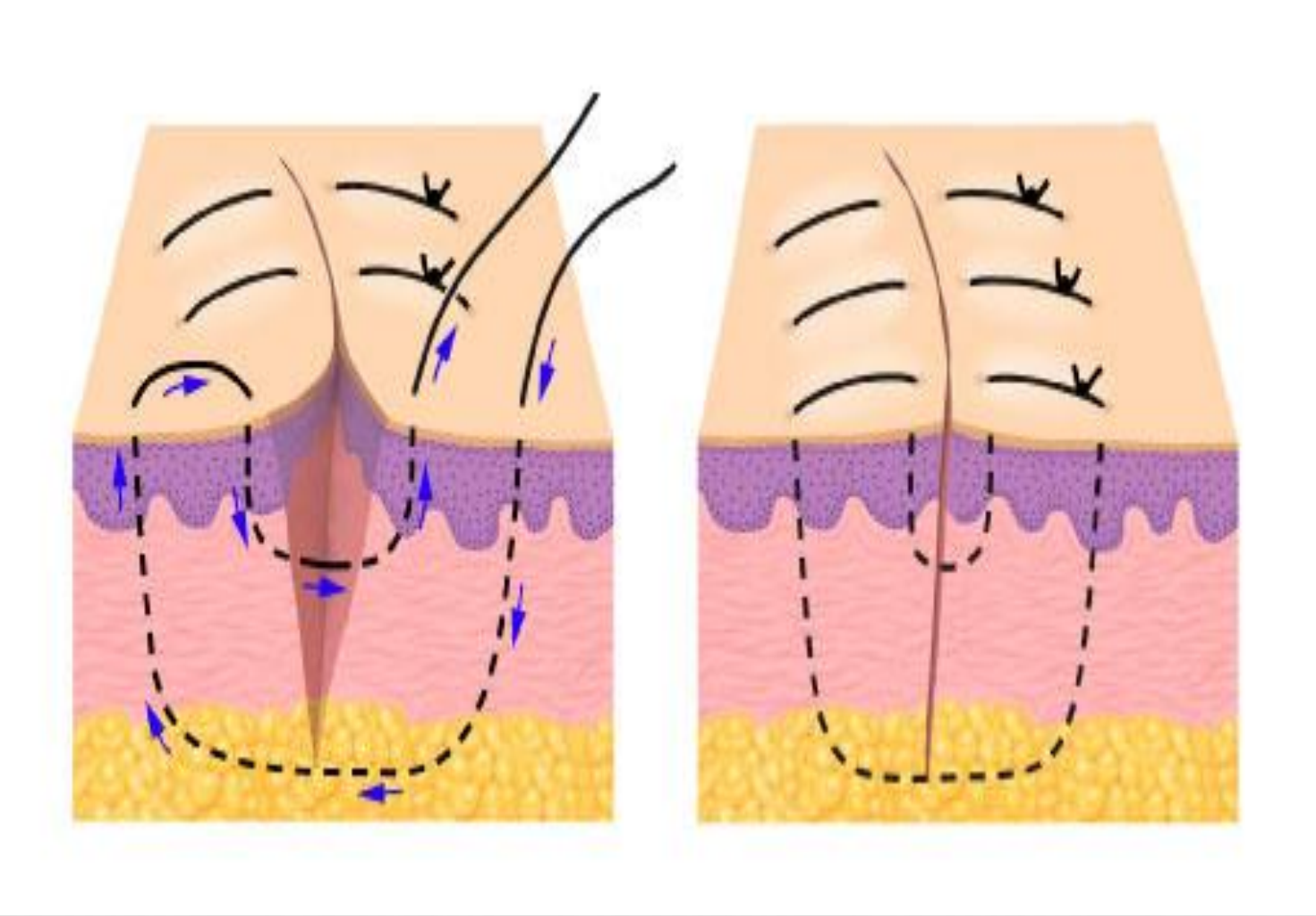
CORNER STITCH
"BOAT IN THE DOCK"



Corner Stitch Half-buried horizontal mattress

- Start suture in epidermis across from flap
- Insert needle into dermis only and come out in dermis
- Assure you have a ‘good bite’
- Exit through dermis very near insertion point
- Apply sufficient tension to pull flap into corner
- Tie knot across from corner of flap

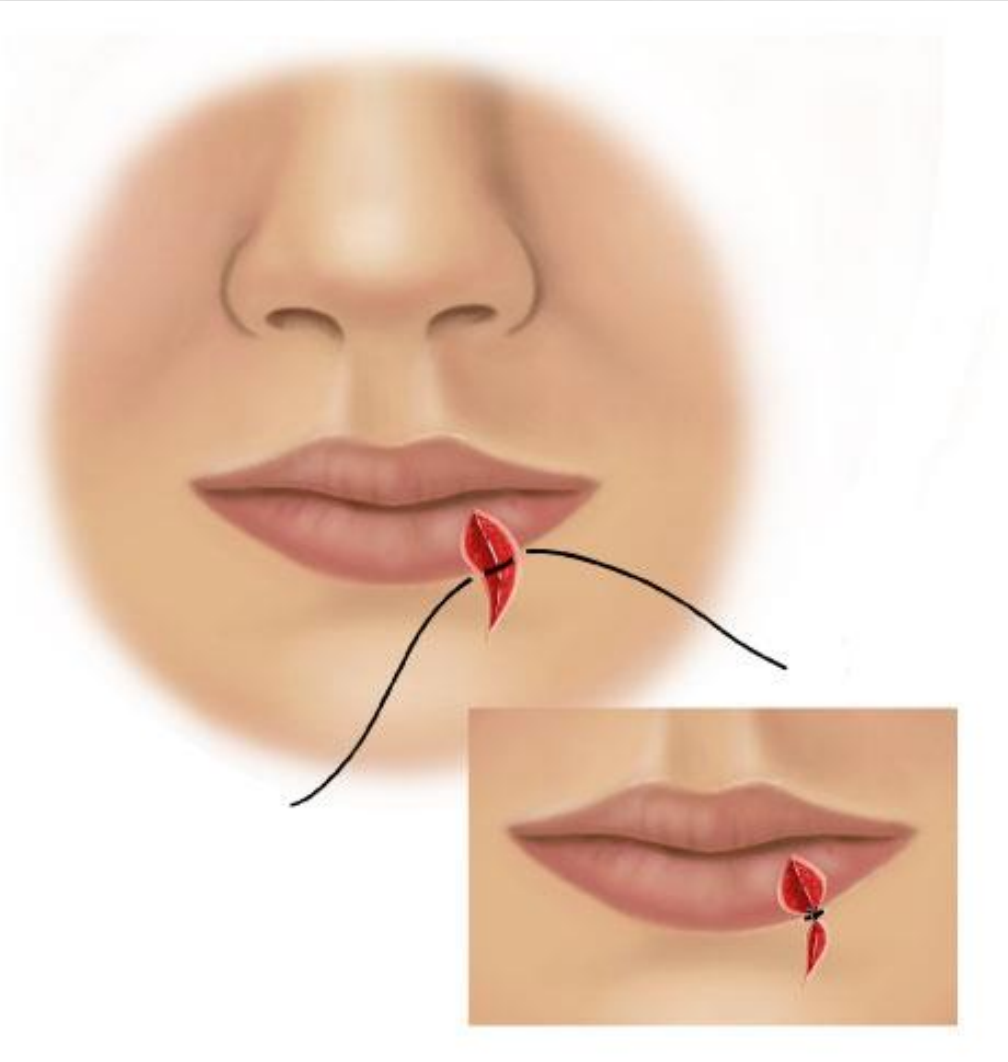
VERTICAL MATTRESS



VERTICAL MATTRESS

- Useful for wounds under tension
- Can use in center of wound

VERMILLION BORDER



LIP LACERATION

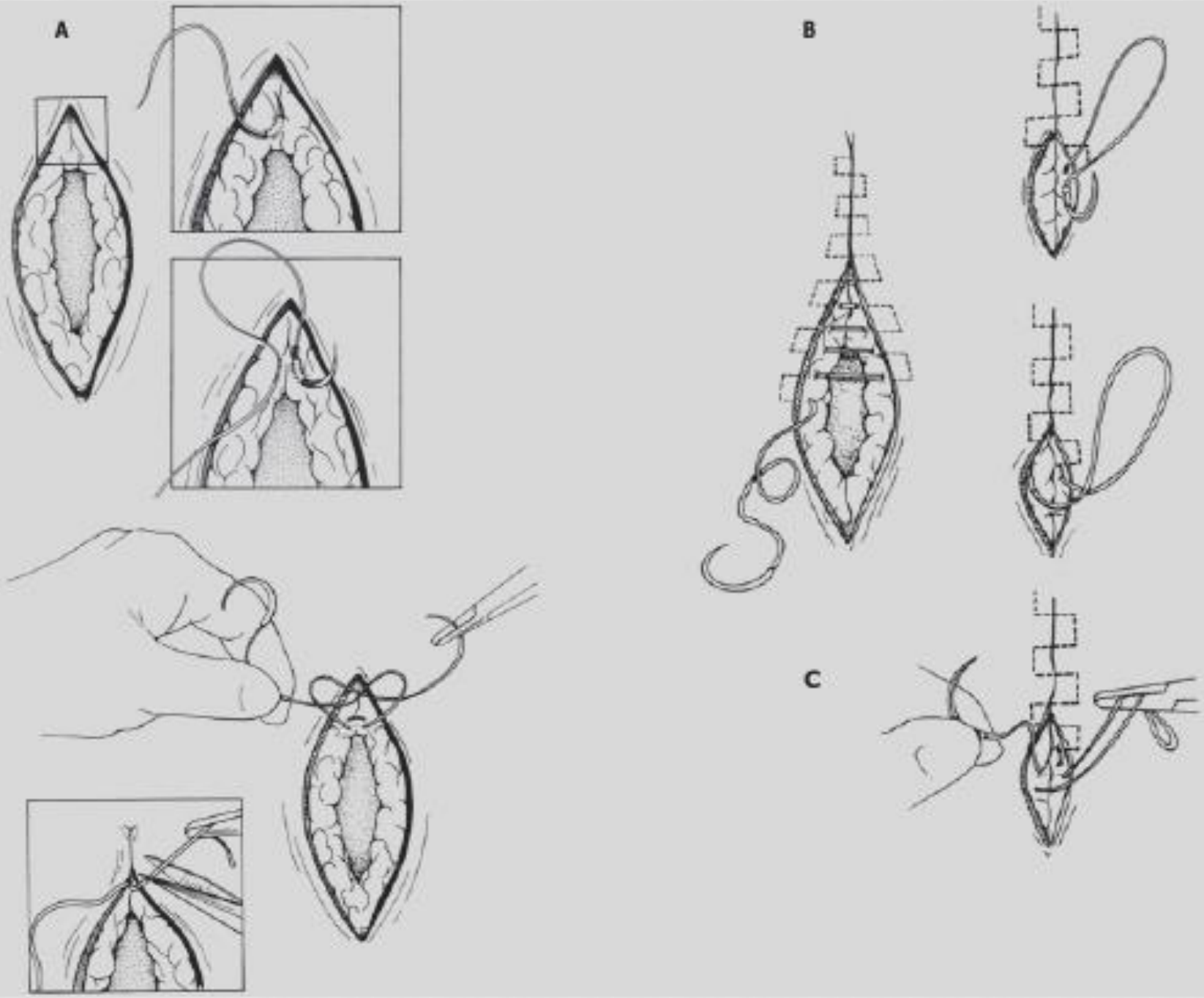
Proper Technique

- First suture placed at edge of vermillion border
- Can use absorbable suture through lip

SUBCUTICULAR RUNNING SUTURE

Possible with straight simple facial wound

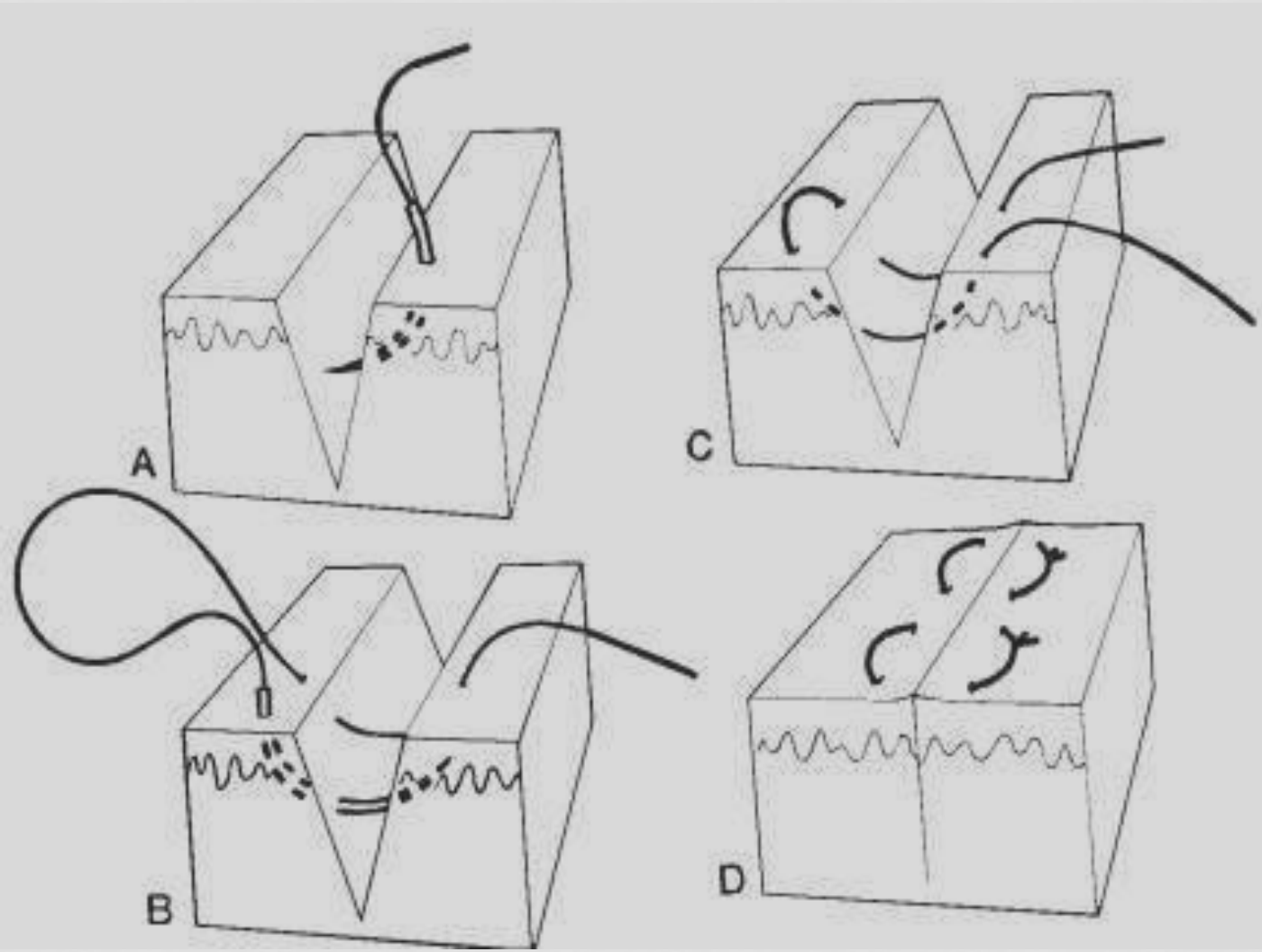
- Useful for facial wounds for cosmetic reasons
- Sutures not visible
- Anchor suture at one end with one tied loop or can use a bead to hold suture
- Reinforce with steri-strips


A
B
C

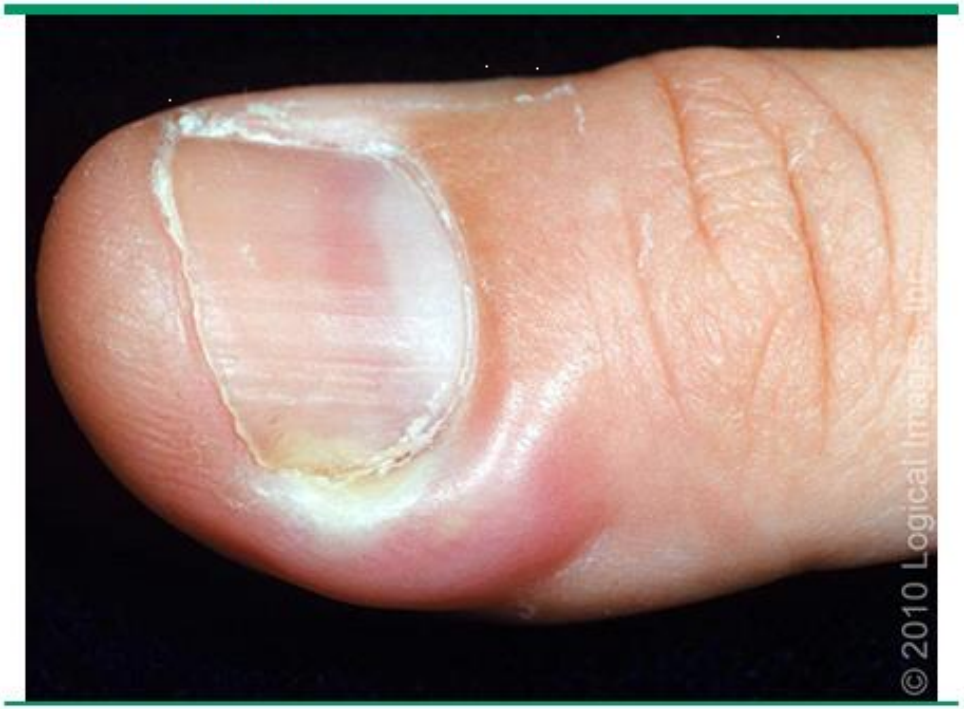
HORIZONTAL MATTRESS

- Good for large wounds with tension
- Leaves more scarring
- Don't use this stitch often

HORIZONTAL MATTRESS



Acute paronychia



Swelling, erythema, and a purulent collection are present in this patient with acute paronychia.

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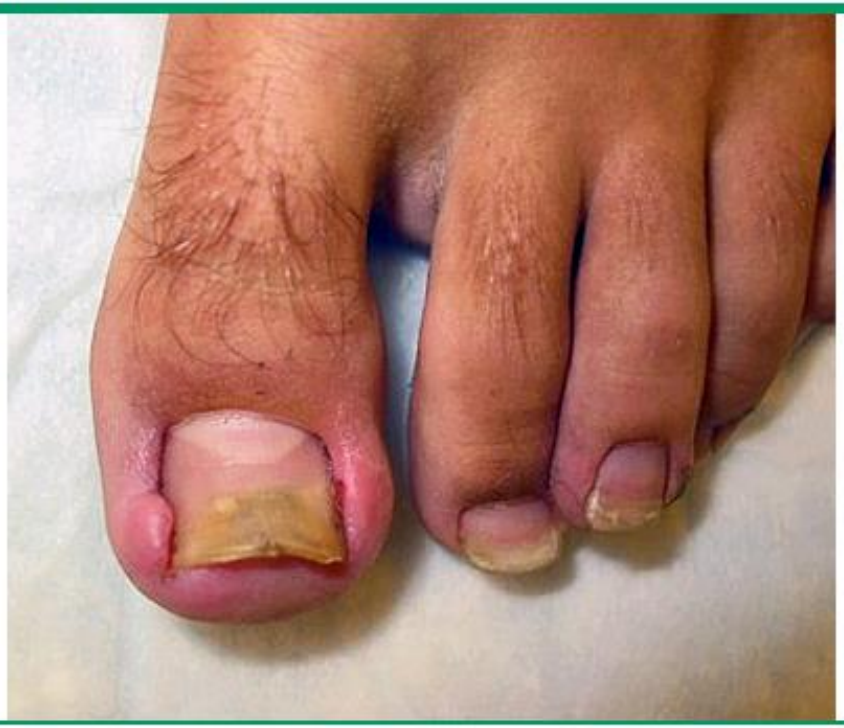
Ingrown toenail



The nail plate is entering the lateral nail groove, causing erythema, granulation tissue, and discomfort.

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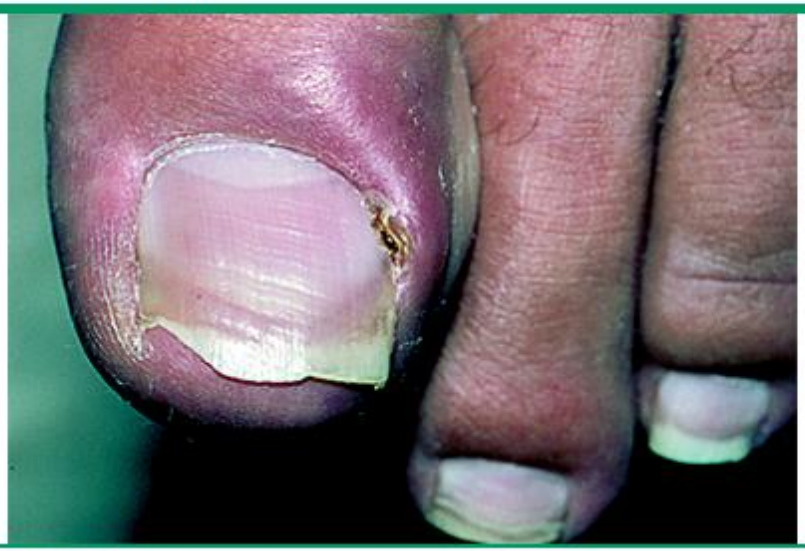
Acute paronychia



Acute paronychia. Note erythema and edema of the proximal nail fold. The absence of nail dystrophy is indicative of the acute nature of the disorder.

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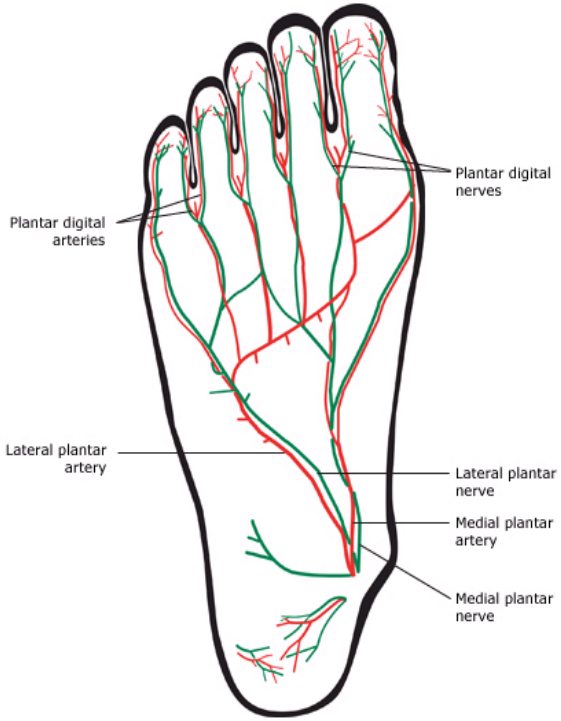
Plantar foot anatomy



The path of plantar arteries (red) and nerves (green) to the toes is shown. Each digit is innervated by four digital nerves; the dorsal arteries and nerves are not shown in this figure. In order to achieve a complete anesthetic effect, it is necessary to block all four nerves. For a complete block of the great toe, there are additional branches that come up the dorsal aspect of the great toe that can be missed if anesthetic is only injected laterally and medially.

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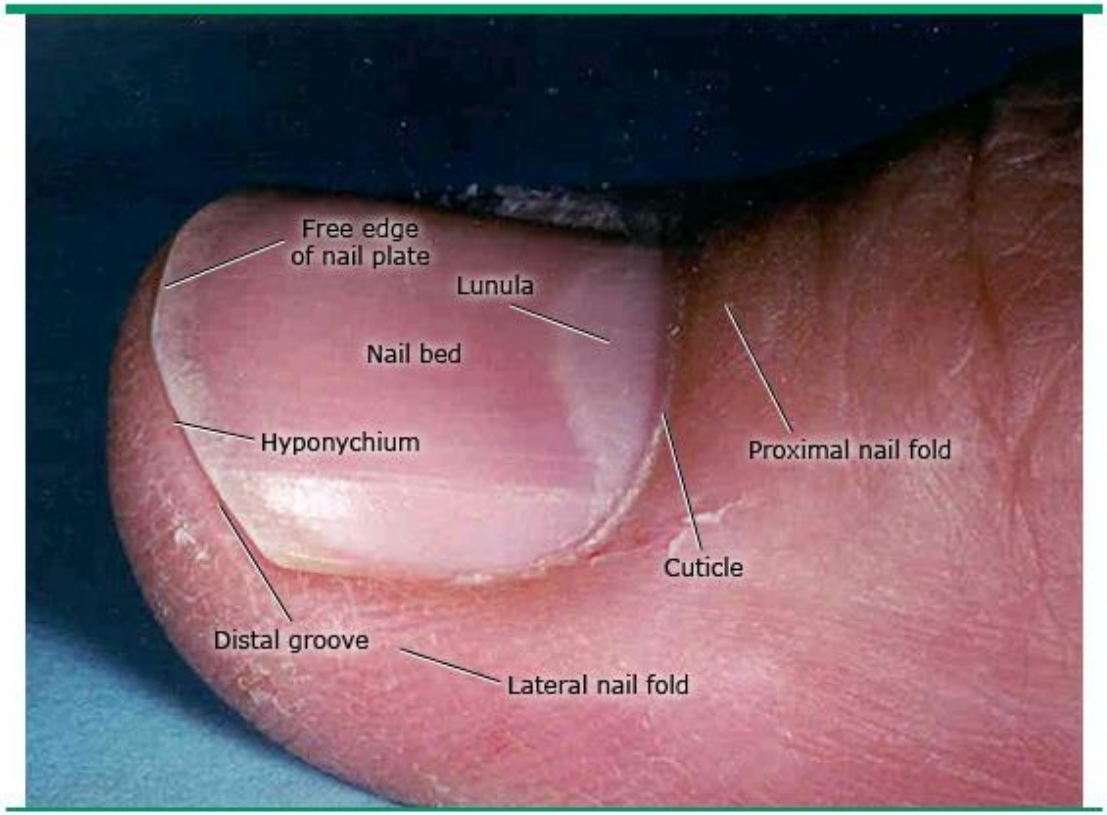
Nail anatomy



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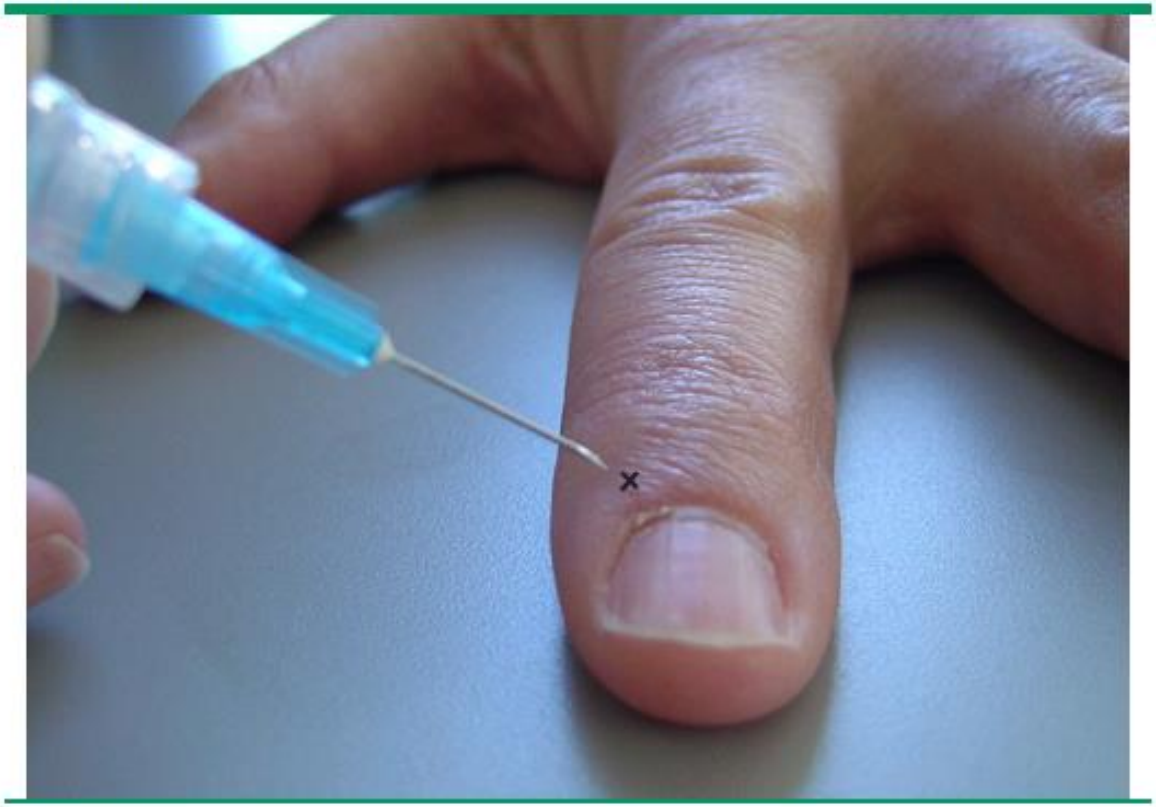
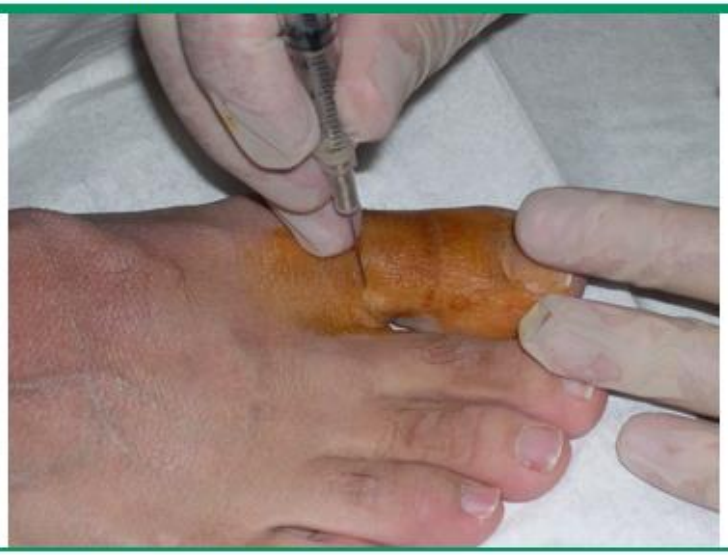
Wing block



Holding the syringe at a 45 degree angle to the plane of the table and perpendicular to the long axis of the digit, insert the needle a short distance to enter the deep intradermal tissue of the dorsum of the digit at a point approximately 3 mm proximal to an imaginary point where a linear extension of the lateral and proximal nail folds would intersect. Inject the anesthetic into the intradermal tissue, first infiltrating the proximal nail fold; the needle can be advanced to allow infiltration along the proximal nail fold. The needle is then partially withdrawn and redirected to allow infiltration of the intradermal tissue along the lateral nail fold. As the anesthetic is injected, the folds blanch and distend creating a wing-like appearance.

Great toe digital block



To perform a three-sided toe block or four-sided ring block, insert the needle just distal to the MTP (metatarsal/phalangeal) joint at the lateral edge of the toe. Slowly advance the needle straight from the dorsal to the plantar surface, injecting as the needle is advanced. This picture shows the position of the needle just after it has been inserted.

Courtesy of Robert Baldor, MD.

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Nail splitter

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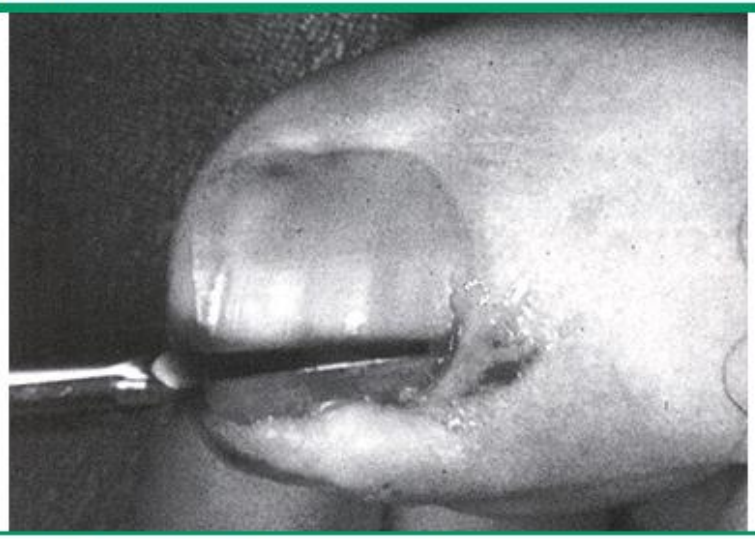
Removal of a lateral wedge of toenail in a partial avulsion



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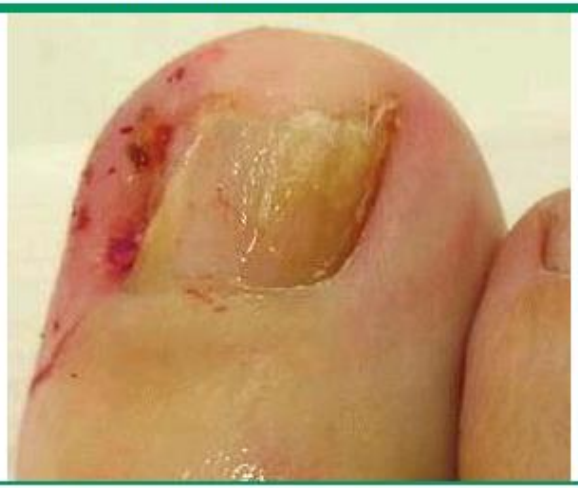
Ingrown toenail postoperatively



Significant erythema is evident; the involved nail wedge was removed.

Courtesy of Beth G Goldstein, MD and Adam O Goldstein, MD.

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