RECONSTRUCTIVE SURGERY IN MSF PROJECTS

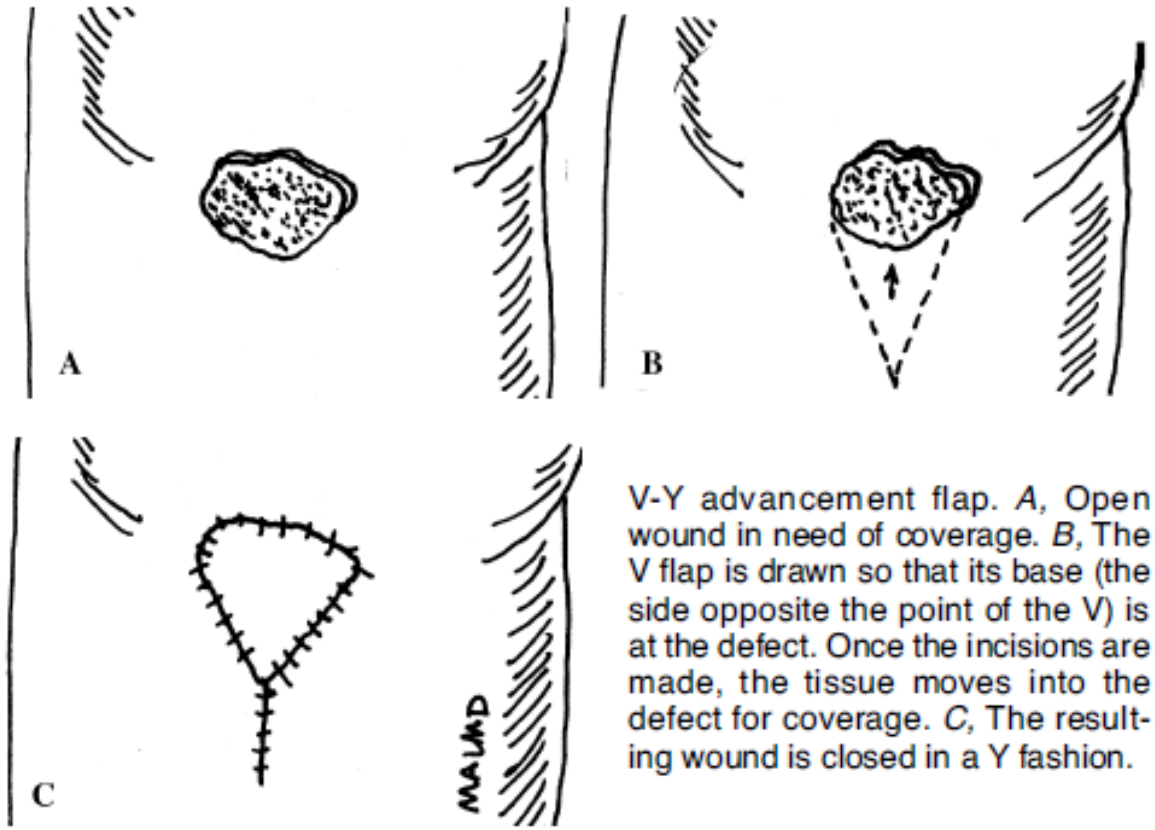
PART 2



Dr Ryan Ko Chi Cheong

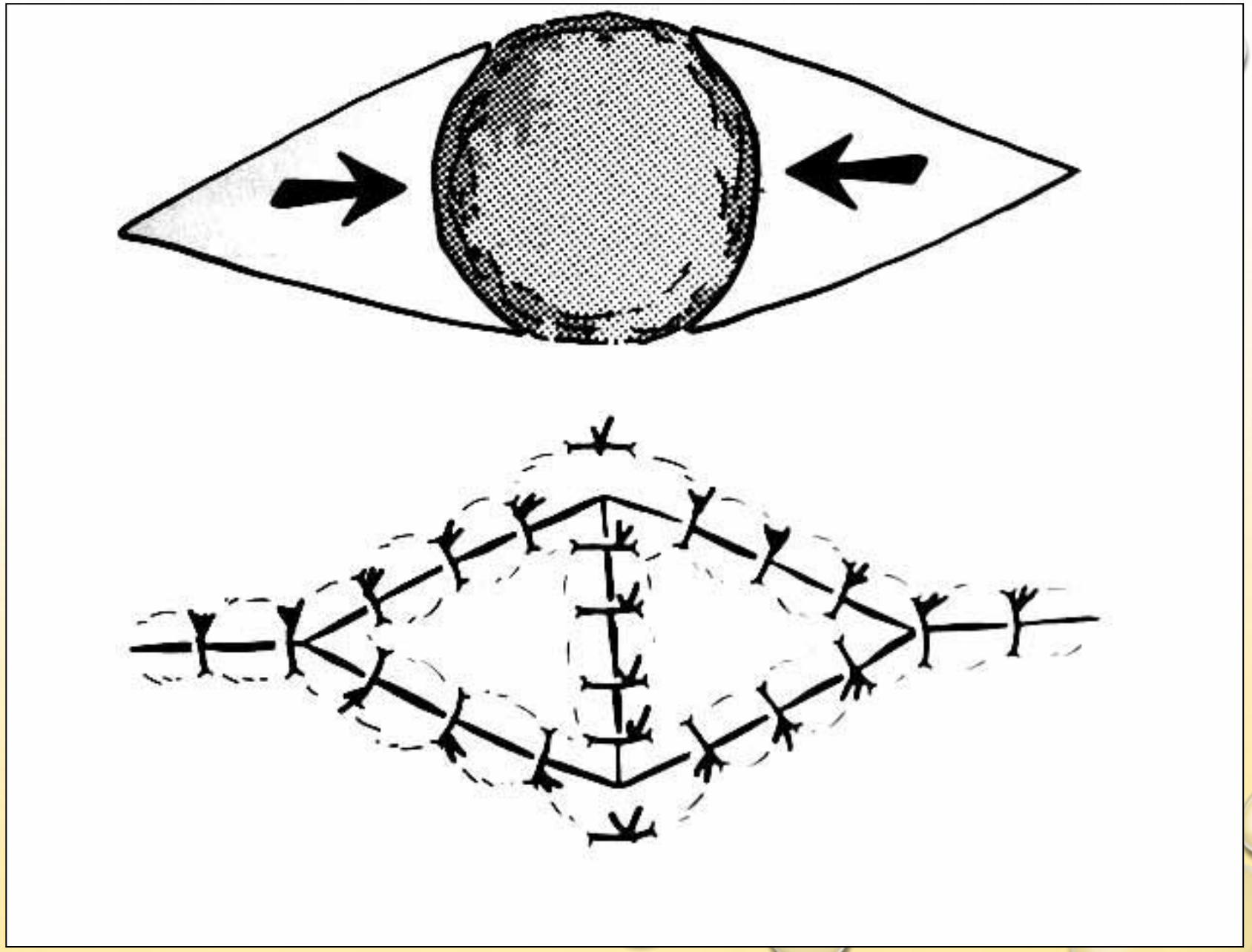
V-Y ADVANCEMENT FLAPS

- V-Y ADVANCEMENT FLAPS ARE USEFUL FOR COVERING ISCHIAL PRESSURE SORES AND OTHER WOUNDS WITH VERY LAX SURROUNDING TISSUES. THEY MAY BE USED FOR BOTH LARGE (> 7–8 CM) AND SMALL WOUNDS. V-Y ADVANCEMENT FLAPS ARE SLIGHTLY DIFFERENT FROM THOSE DESCRIBED ABOVE. **THE PEDICLE IS NOT A BRIDGE OF SURROUNDING SKIN AND SUBCUTANEOUS TISSUE; IT IS THE DEEP TISSUE UNDERLYING THE FLAP**.

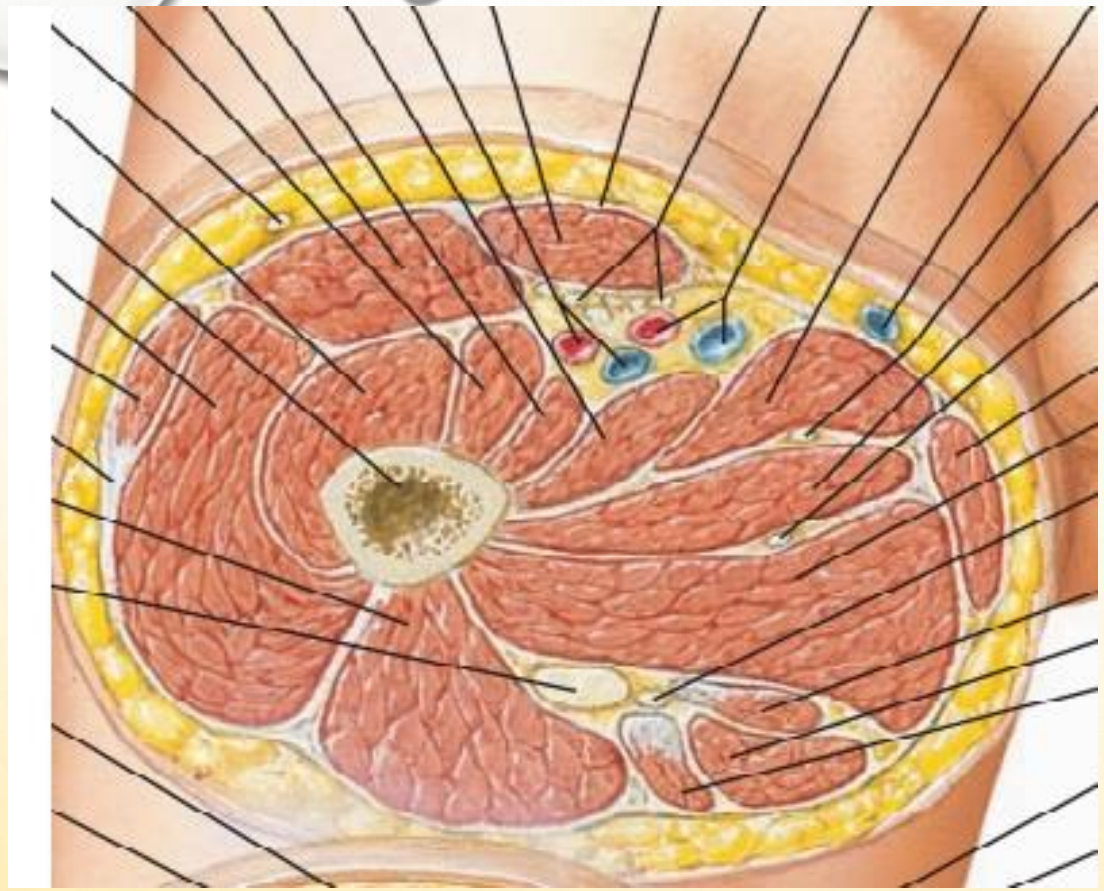


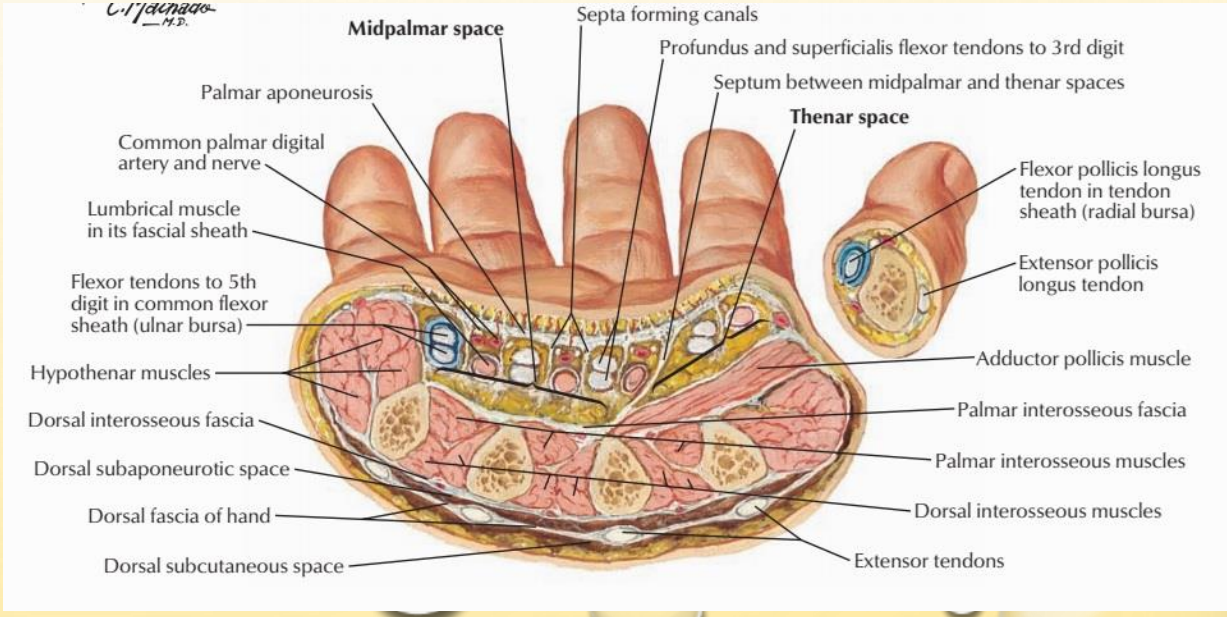
V-Y advancement flap. *A*, Open wound in need of coverage. *B*, The V flap is drawn so that its base (the side opposite the point of the V) is at the defect. Once the incisions are made, the tissue moves into the defect for coverage. *C*, The resulting wound is closed in a Y fashion.

Y-V-flap



- 1. **DETERMINE THE SITE & DIRECTION WHERE *THE LAXITY OF THE SURROUNDING SKIN* IS GREATEST**.
- 2. *DRAW THE FLAP* BEFORE MAKING ANY INCISIONS SO THAT YOU CAN MAKE CORRECTIONS.
- 3. **MARK THE V WITH THE WIDEST AREA AT THE EDGE OF THE WOUND,** TAPERING GRADUALLY TO A POINT WHERE SKIN HAS THE GREATEST LAXITY.
- 4. ***INCISE THE SKIN EDGES THROUGH THE SUBCUTANEOUS TISSUE DOWN TO, BUT NOT INTO, THE UNDERLYING MUSCLE***. THE FLAP REMAINS ATTACHED TO THE DEEP TISSUES.
- 5. THE FLAP THEN SHOULD BE *ADVANCED INTO THE WOUND DEFECT*.
- 6. ***CLOSE THE DEFECT PRIMARILY AT THE NARROW POINT OF THE V*. THIS STEP CREATES THE Y LIMB**.
- 7. *SUTURE THE FLAP LOOSELY,* ***UNDER NO TENSION***. PLACE A FEW DERMAL SUTURES, AND THEN CLOSE THE SKIN WITH INTERRUPTED SUTURES. DO NOT MAKE THE SKIN CLOSURE TOO TIGHT. IT IS **BETTER TO HAVE SMALL GAPS IN THE SKIN CLOSURE (WHICH WILL HEAL) THAN DO A TIGHT CLOSURE AND LOSE PART OF THE FLAP**.




Midpalmar space
Septa forming canals
Profundus and superficialis flexor tendons to 3rd digit
Septum between midpalmar and thenar spaces
Palmar aponeurosis
Thenar space
Common palmar digital artery and nerve
Lumbrical muscle in its fascial sheath
Flexor tendons to 5th digit in common flexor sheath (ulnar bursa)
Hypothenar muscles
Dorsal interosseous fascia
Dorsal subaponeurotic space
Dorsal fascia of hand
Dorsal subcutaneous space
Flexor pollicis longus tendon in tendon sheath (radial bursa)
Extensor pollicis longus tendon
Adductor pollicis muscle
Palmar interosseous fascia
Palmar interosseous muscles
Dorsal interosseous muscles
Extensor tendons

Mosul, Iraq 2018





Lashkar Gah, Afghanistan 2017





Kilo, Yemen 2024







GSW buttock, V-Y advancement flap was performed to close the wound, medial part of the flap was de-epithelized and the fascia was buried to fill up the dead spaces

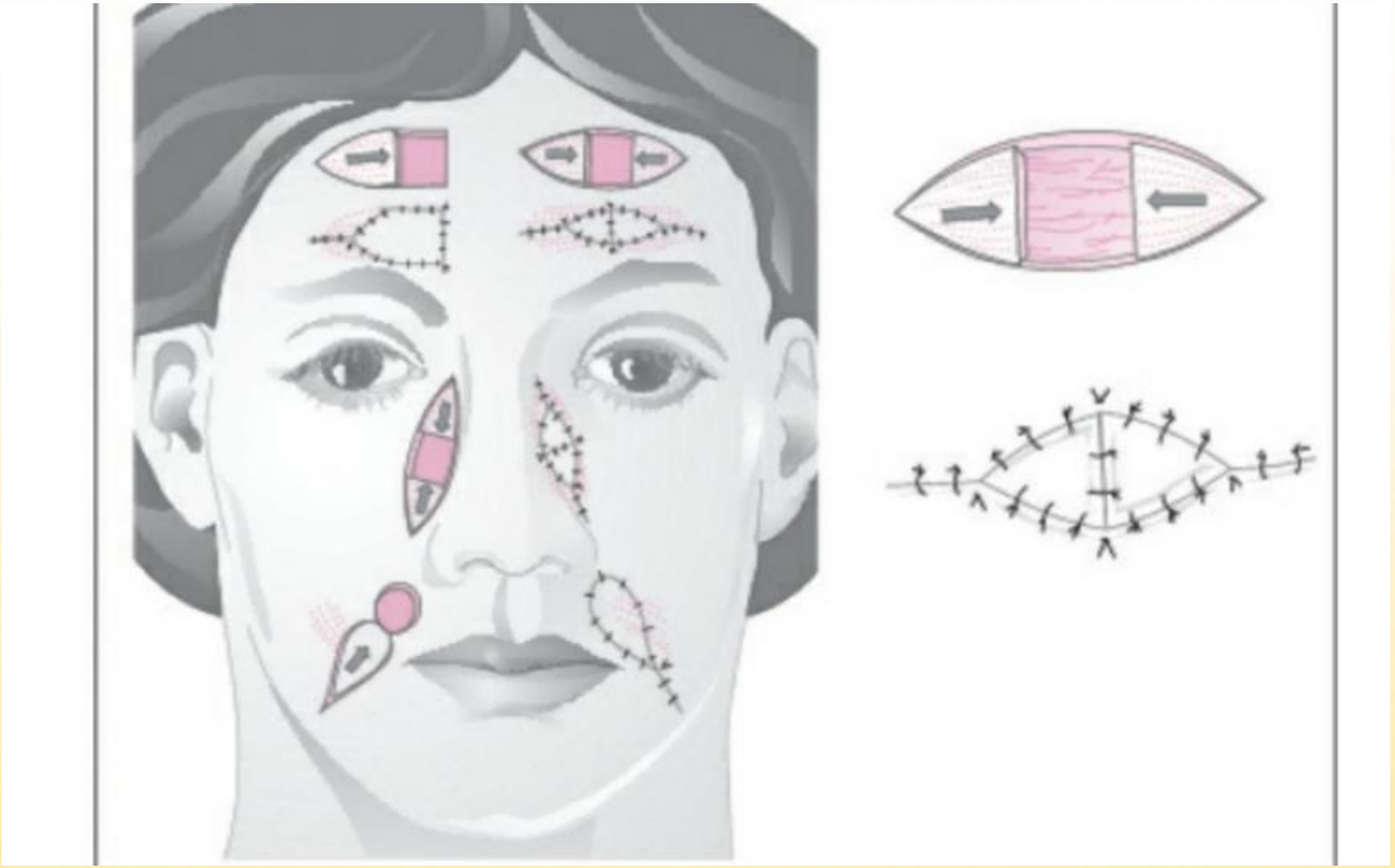
Kilo, Yemen 2024







Necrotizing fasciitis (L) buttock & thigh. Thigh wound could be closed with suturing but the buttock wound needed a V-Y advancement flap with omega modification to close the whole wound



Volar V-Y Advancement Flap

Exception to standard V-Y flap

One can undermine just above the periosteum & tendons whereas just cut the dermal layer in the V, followed by gentle blunt dissection

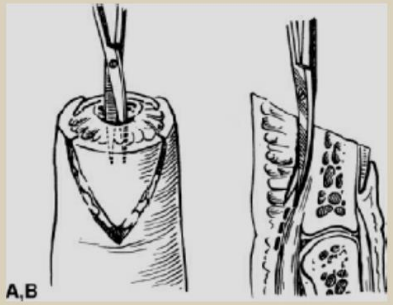


FIGURE 230.2 A,B: The skin is incised, leaving the subcutaneous tissue and vascular supply intact. The fibrous septa are then cut, releasing the flap from the periosteum and the flexor tendon sheath.

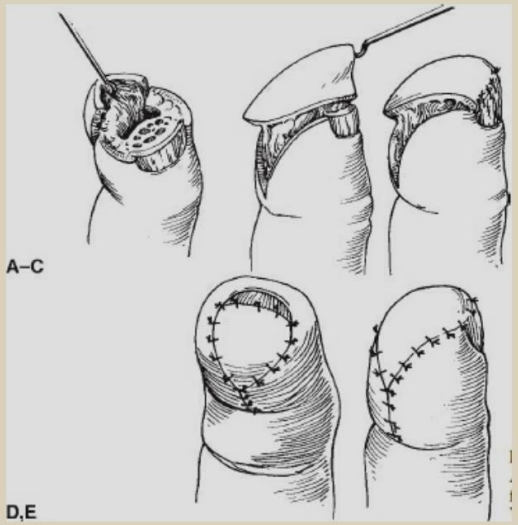


FIGURE 230.3 A–E: The flap is advanced distally and sutured to the nailbed. Any excess subcutaneous tissue along the base of the flap may be removed to facilitate closure. Starting proximally, the remainder of the incision is closed in a V-Y fashion. It is essential to avoid tension.



FIGURE 230.4 A–C: Amputation of the dorsal oblique left long fingertip, reconstructed with a triangular volar skin flap. **D–F:** Appearance 4 months postoperatively. (From Atasoy et al., ref. 2, with permission.)

One functionally and aesthetically disturbing late complication is the hook-nail deformity, seen several weeks after the procedure. This deformity results from excessive tension on the flap, which causes the nailbed to curve





Mocha, Yemen 2021

Traumatic amputation of (L) R/F, Volar V-Y advancement flap was done to avoid revision amputation with further shortening of the digit. Wound healed well in follow up





Kilo, Yemen 2024



Traumatic amputation (L) M/F, volar V-Y advancement flap was done to avoid revision amputation with further shortening of the digit