BASIC SURGERY SKILLS-- A FEW TIPS

Skin Incision Key Points (Scalpel)

- Plan your incision!
  - Clip fur at least 15cm wide of incision
  - Permanent marker prior to prep or sterile marker after draping (if needed)
  - If possible, follow lines of tension (final closed incision will be on/parallel to a line of tension)
  - Do not create a "biological tourniquet" with closure; it is better to leave it open a centimeter or so…it is not a "failure" it is a "rational plan".

- Hold blade perpendicular to, not oblique to, the skin surface

- Exert enough, but not too much, pressure
  - Use fingers to stabilize/retract the skin perpendicular to incision line, i.e. create tension that the blade "splits".
  - Advance fingers in stages with blade stopped/in contact with skin
  - Using tension, create and watch the gapping of the incision **as you cut**—adjust pressure every millimeter as you go

- Pencil grip—incisions < 3 cm
- Finger tip grip—long incisions

- Do not "saw" with a scalpel; do not repeatedly pickup blade.

💣 Always brace hand when making a stab incision ("too deep" may be "too bad")

Tissue handling

- Do not touch tissue unless necessary.

- Do not pickup tissue unless necessary.

- Use thumb forceps on acellular tissue preferentially (fascia vs. skin).

- Sharp dissection is less traumatic than blunt (blade < scissors < blunt dissection < gauze/finger dissection).

- Hemorrhage higher with sharp dissection (blade > scissors > blunt dissection > gauze/finger dissection).

- Blot with gauze—DO NOT wipe.

- Use damp gauze (saline…ring out)

Subcutaneous dissection

- Blade—one layer at a time; use fingers to spread perpendicular to incision, create tension.

- Scissors
  - *Scissor cut*: typical cutting motion; short incisions; do not close completely with each cut; use tips only.

  - *Push cut*: i.e. running cut, like in material/paper; only have small opening in scissor blades; long incisions; less traumatic

  - *Blunt dissection*: increases caution in highly vascular/nervous/vital areas; insert closed→ open, small gap→ remove open → close and repeat, many little spreads vs. one huge spread.

Subcutaneous closure

- Goal to reduce dead space with minimum of foreign material (suture).

- Bury knots routinely.

- Simple interrupted pattern if tension relieving.
- Simple continuous / "Lembert" if minimal tension.
- Tack to underlying layer to avoid pocket formation.

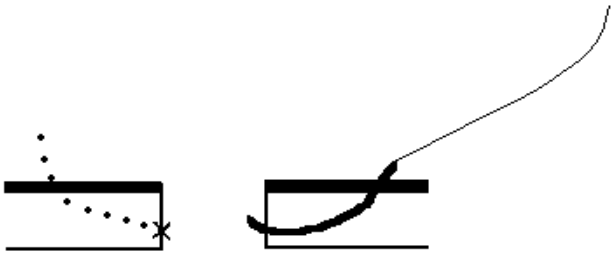
Skin closure

☠ Avoid crushing skin; do not "oppose" needle resistance with thumb forceps pinching skin.

- Needle passes easier when skin under tension
    - Immobilize with forceps on SQ pulling away from cut surface
    - Immobilize with fingers parallel to incision
- Intradermal/subcuticular layer
    - Bury knot 5-10 mm from end of incision
    - Start pattern at the beginning of incision (one technique—dive under knot and come out at very beginning in dermis)
    - Pop needle in dermis, rotate through arc of needle, watch for needle bulge, "whittle" it around until bulge is within dermis, pop out of dermis
    - ▷◁ Dove tail to avoid gapping
    - Smaller bites (less needle arc) in thinner skin to avoid bunching appearance

☺ *Benefits:*
No suture tract through skin (less bacterial access to incision; more cosmetic)
Better incision seal (less bacterial access to incision; more cosmetic)
Potentially no suture removal

- Skin sutures
    - 2/3 thickness of dermis → exact apposition (better seal, more cosmetic)



    - Use smallest size suture appropriate (3-0 or 4-0 most dogs/cat wounds)
    - Use monofilament (nylon, prolene, surgilene, steel) or coated multifilament suture (Vetafil, Braunamid, Supramid) for skin (*exception*—silk on eyelids +/- ok; remove 5-7d)