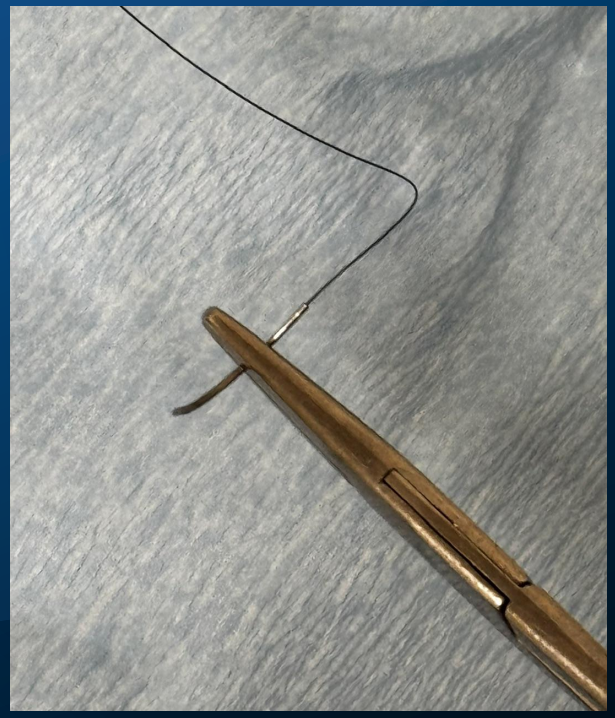
Suturing Session

UBC-CPD Practice Ready Assessment



Thursday, September 24, 2026, 1-4 pm

Dr. Winnie Su

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Vancouver Division of Family Practice, PCN 4 Steering Committee Member
Clinical Assistant Professor, UBC Faculty of Medicine


No disclosures

We are hoping that after today’s session, you will be able to repair with confidence!

Objectives?

1. Identify equipment needed

2. Prep/sterile technique

3. Anaesthesia

4. Review suturing skills
   - Correct eversion of wound
   - Correct suture tension
   - Correct suture placement

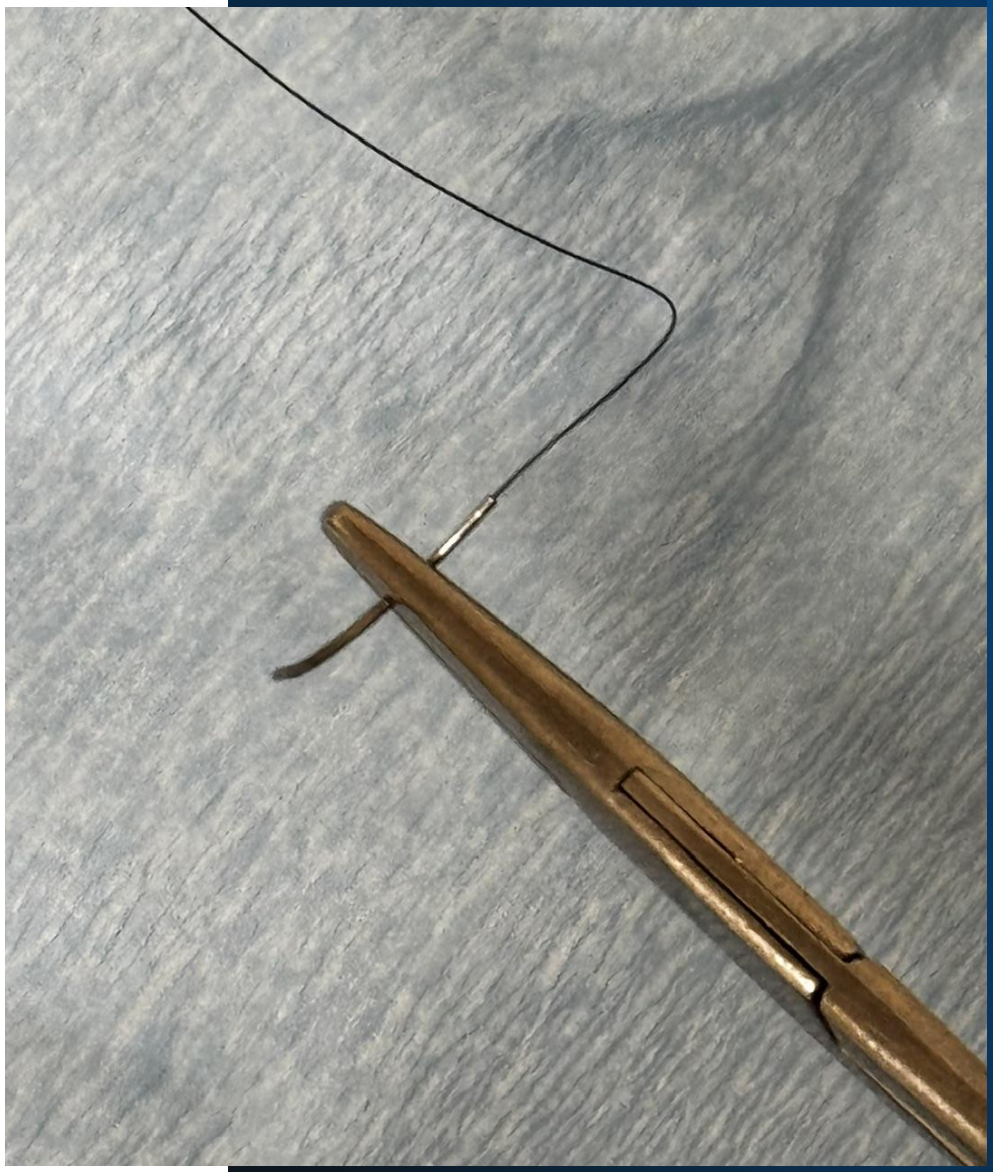
5. Review types of sutures
   - Interrupted simple
   - Vertical mattress
   - Horizontal mattress
   - Subcuticular
   - Continuous running

6. Review suture removal

7. Skin Biopsy Techniques

When and where?

- **Clinic/Office**
- **Urgent Care Centre**
- **Emergency Department**
- Surgical assist
- Elective/cosmetic



Goals of Suturing

Promote	Healing by primary intention
Close	Dead space
Minimize	Bleeding
Minimize	Infection risk
Minimize	Pain
Restore	Anatomy

Decision-making

ASSESS

identify anatomy, location, contamination, referral triggers?

PREPARE

obtain consent, plan analgesic, irrigation, positioning, equipment

CLOSE

select suture(s), suture technique

DISCHARGE

followup, Td status, antibiotics?, chart!

What supplies do you need?

Preparation:

- Gauze sponges (2x2)
- Antiseptic swabs/solution
- Fenestrated drape
- Sterile gloves
- Syringe (1,3, 5, 10 cc?)
- 1% lidocaine (+/- epinephrine, +/- NaHCO3)
- 22G or 18 G needle for drawing local anesthetic
- 25G, 27G, 30G for anesthetic infiltration

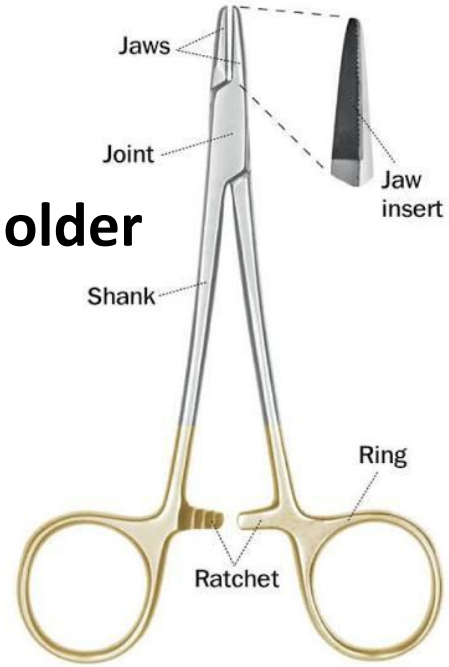
Primary instruments:

- Needle driver (Needle holder)
- Forceps (Thumb/Adson) with and without teeth
- Suture scissors (Iris)

Suture materials:

- Suture - **absorbable** (Vicryl, Monocryl) vs. **non-absorbable** (Ethilon (nylon), Prolene)

Needle driver/holder



Iris
straight / droits

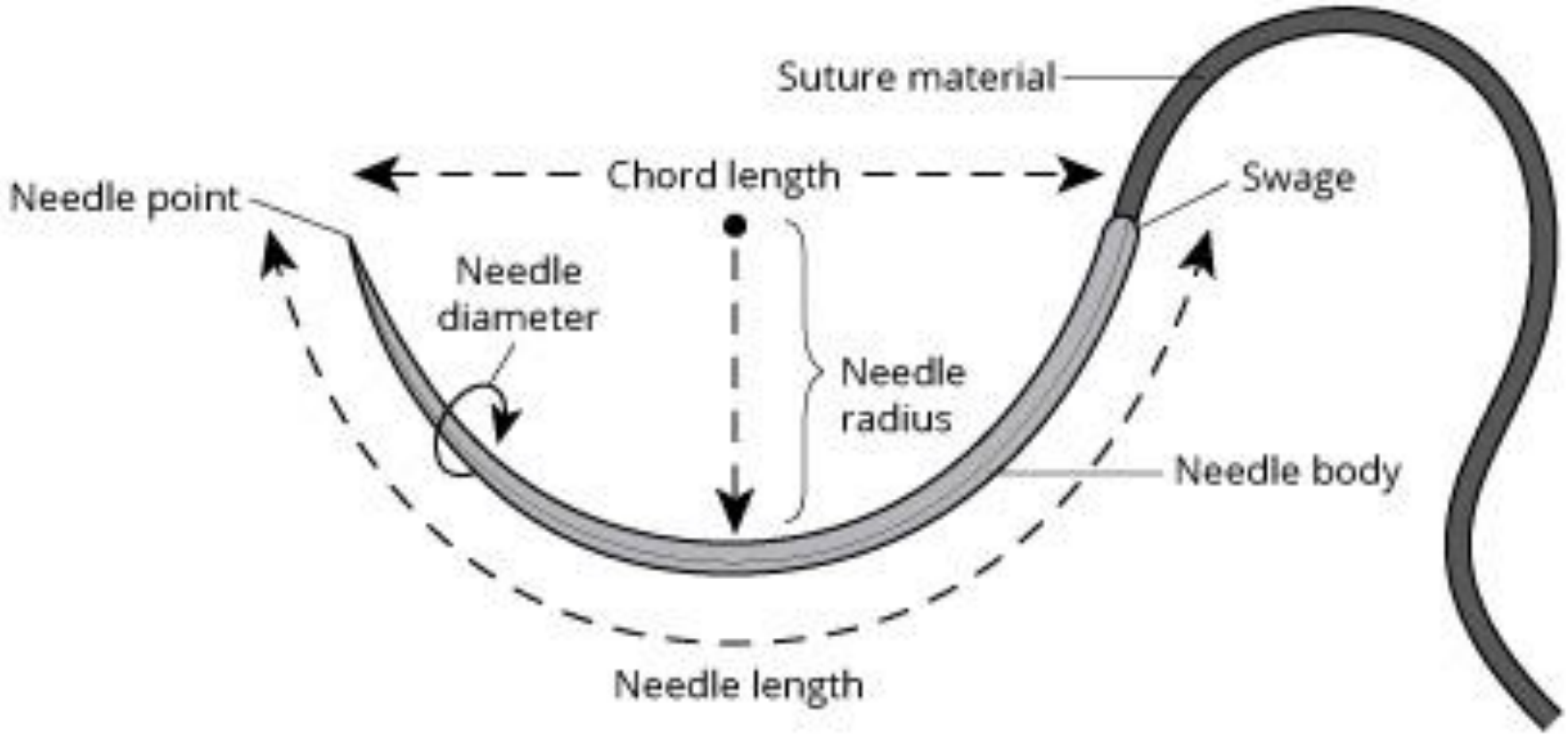
Suture (Iris) scissors

(1x2 Rat Teeth) Adson Forceps

Adson Forceps (Serrated)

Suture needle

N. Brilliant. Suture Needle. 3/13/2024.
https://www.aorn.org/article/suture-needle-basics



Suture Material

1. Natural vs. Synthetic
2. Absorbable vs. Non-absorbable
3. Monofilament vs. Braided/Twisted

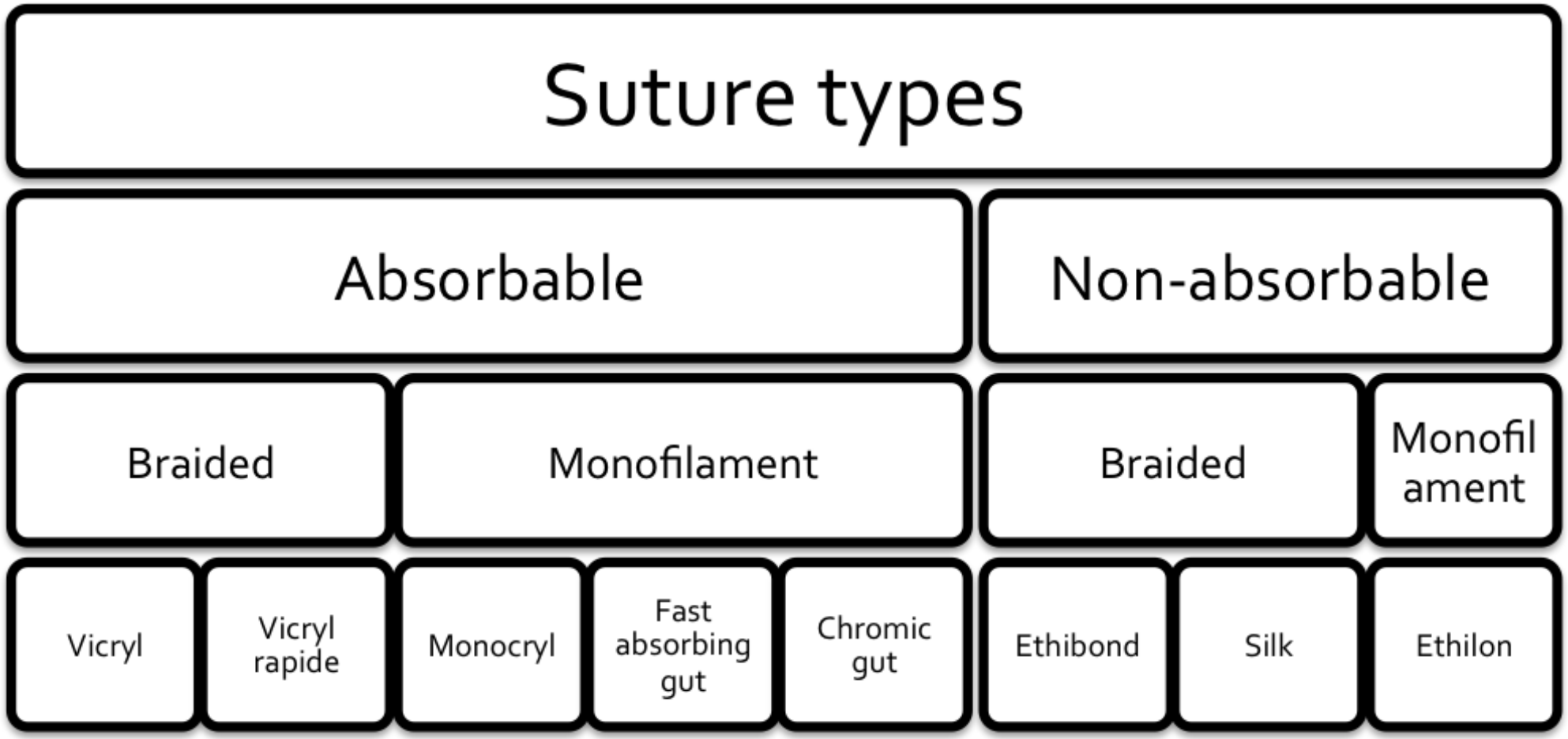
Eg. Vicryl is a suture which is:

- Synthetic (polyglactin)
- Absorbable
- Braided

Eg. Ethilon is a suture which is:

- Synthetic (nylon)
- Non-absorbable
- Monofilament

Photos by Winnie Su



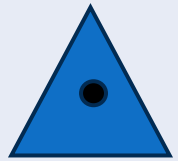
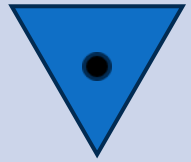
Suture Types

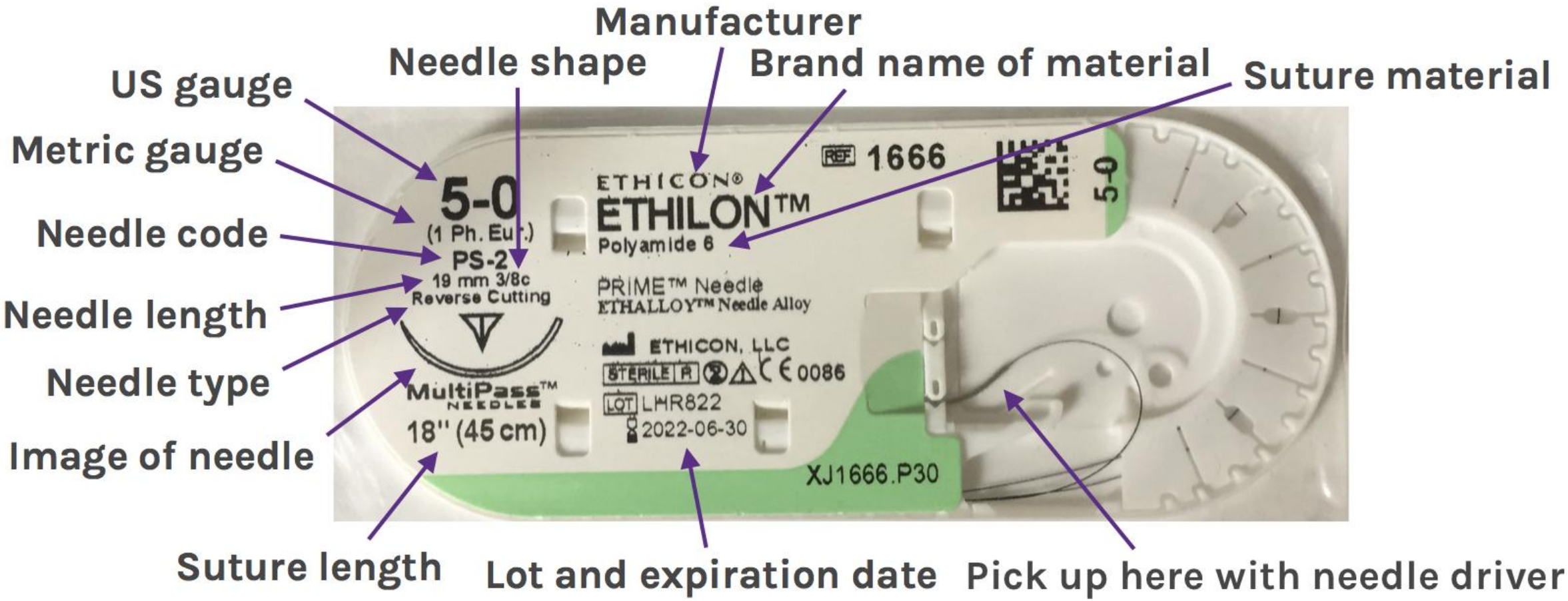
Daniel Ting. Medical Concepts.February 5, 2015. https://canadiem.org/nice-threads-guide-suture-choice-ed/

Suture Sizes

USP Size	Diameter (mm)	Typical Use
#0	0.35–0.399	Fascia, abdominal wall
3-0	0.20–0.249	Muscle, subcutaneous closure
4-0	0.15–0.199	Scalp, trunk, extremities
5-0	0.10–0.149	General skin closure (limbs)
6-0	0.07–0.099	Facial and hand skin, eyelid
7-0	0.05–0.069	Microvascular, nerve repair
9-0	0.03	Ophthalmic and microsurgery

Suture needle types

Blade Type	Point Shape	Uses
Taperpoint		Soft tissue, delicate tissue, fascia, muscle, nerve, fat, vessels
Conventional cutting		Skin, fascia, muscle→ risk of cutting through tissue
Reverse cutting		Fascia, ligament, nasal cavity, oral mucosa, skin, tendon sheath



How to read the suture package

C. Preiksaitis. Suture Description. Nov 8, 2017. https://coreem.net/core/suture-materials/#understanding-suture-packaging

Other Requirements

Can you see?	Retractors? Sponge? Lighting?
Are you comfortable?	Bed height Stool height
Is the patient comfortable?	Local anesthetic – which ones? How much?
Do you need protection?	Eye protection, mask, gown, gloves

Sterile technique

Sterile Instruments: Forceps, needle drivers, needles, and suture material must be completely sterile.

Clean vs. Sterile Gloves: Clean, non-sterile single-use gloves are acceptable for simple laceration repairs in immunocompetent patients

Wound Cleansing: Irrigate the wound thoroughly with clean or sterile water/saline before closure.

Sterile Draping: Place a sterile fenestrated drape around the wound site to establish a clean working field

Anaesthesia

1. DISINFECT: Cleanse skin surrounding the wound edges outward using an appropriate antiseptic solution.

2. WHERE: Inject into exposed subdermal layer of the wound edge or percutaneously through intact skin around contaminated areas. **If using epinephrine, AVOID nose, ears, fingers*, toes, and genitals.**

3. **HOW MUCH?** Maximum safe dose: 7 mg/kg for lidocaine with epinephrine, and 4.5 mg/kg for plain lidocaine.

4. BE CAREFUL: Aspirate prior to injection to confirm that the needle tip is not located within a blood vessel, preventing systemic toxicity.

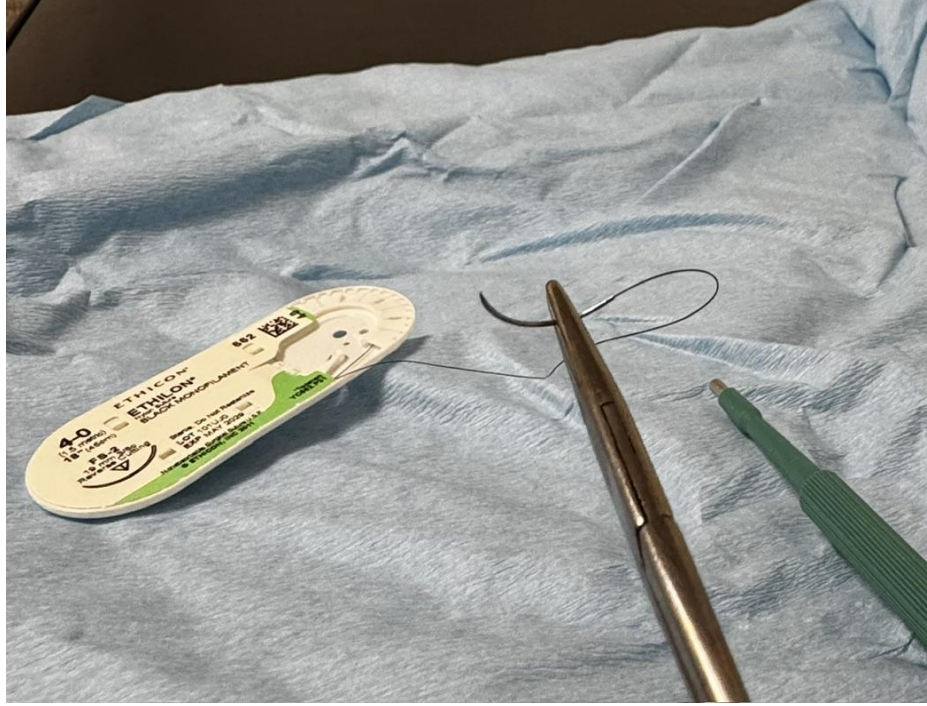
5. **HOW?** The anesthetic should be administered slowly into the tissue, while withdrawing the needle, to optimize distribution and reduce discomfort.

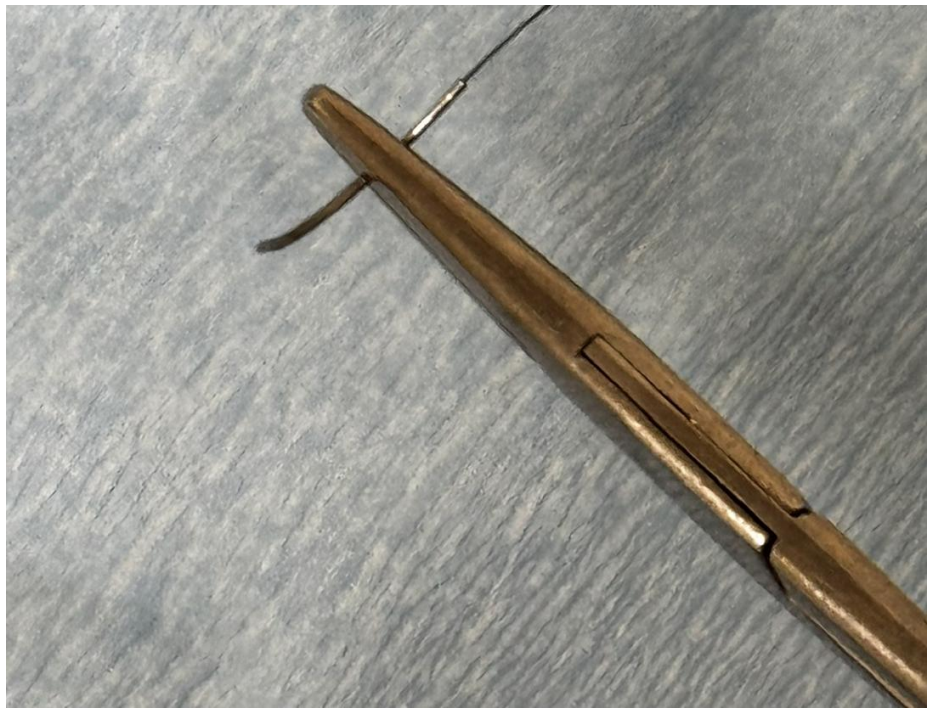
How to minimize pain of injection?

Use a small gauge needle (e.g. 25G to 30 G)

Buffer - adding Sodium Bicarbonate to acidic local anesthetic solutions (like lidocaine) to raise the pH, which reduces the burning or stinging sensation.

Warm up your anaesthetic to body temperature.





LOAD the needle

- 2/3 from the tip
- 1/3 from the swage (where the suture meets the needle)
- Needle always perpendicular to the instrument

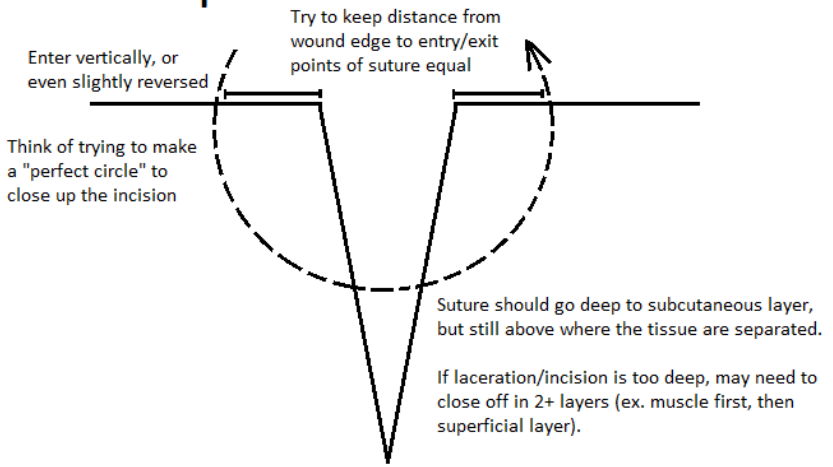
DRIVE the needle

1. Enter skin at **right angles** and exit at **right angles** on the other side of the laceration.
2. Follow the curve of your needle by keeping your forearm still and **rotating your wrist; DO NOT PUSH**
3. Use the needle holder or forceps to pick up needle when it exits the skin; **NEVER pick up with fingers**
4. **AIM for symmetry;** both sides should be equal and symmetrical in depth and width, and evenly placed
5. Aim for **slight skin edge eversion without undue tension** which will cause tissue constriction
6. Instrument tie: 2-1-1 throw technique; make sure sutures lie flat

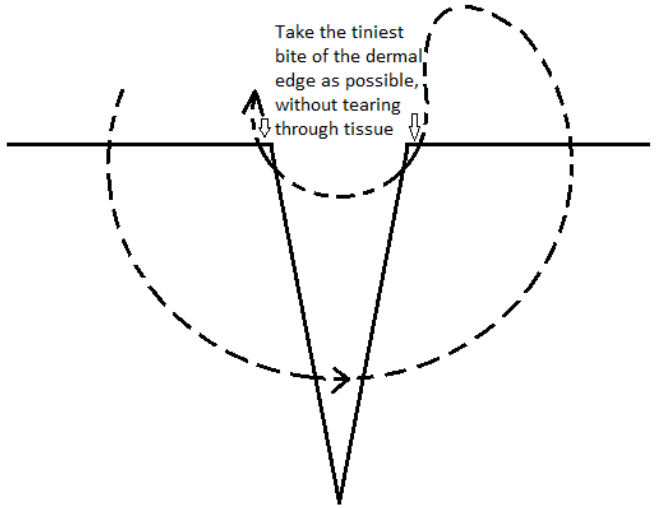
Suturing Techniques

1. Simple Interrupted
2. Vertical Mattress
3. Horizontal Mattress (not used as often)
4. Subcuticular continuous
5. Continuous running

Simple interrupted

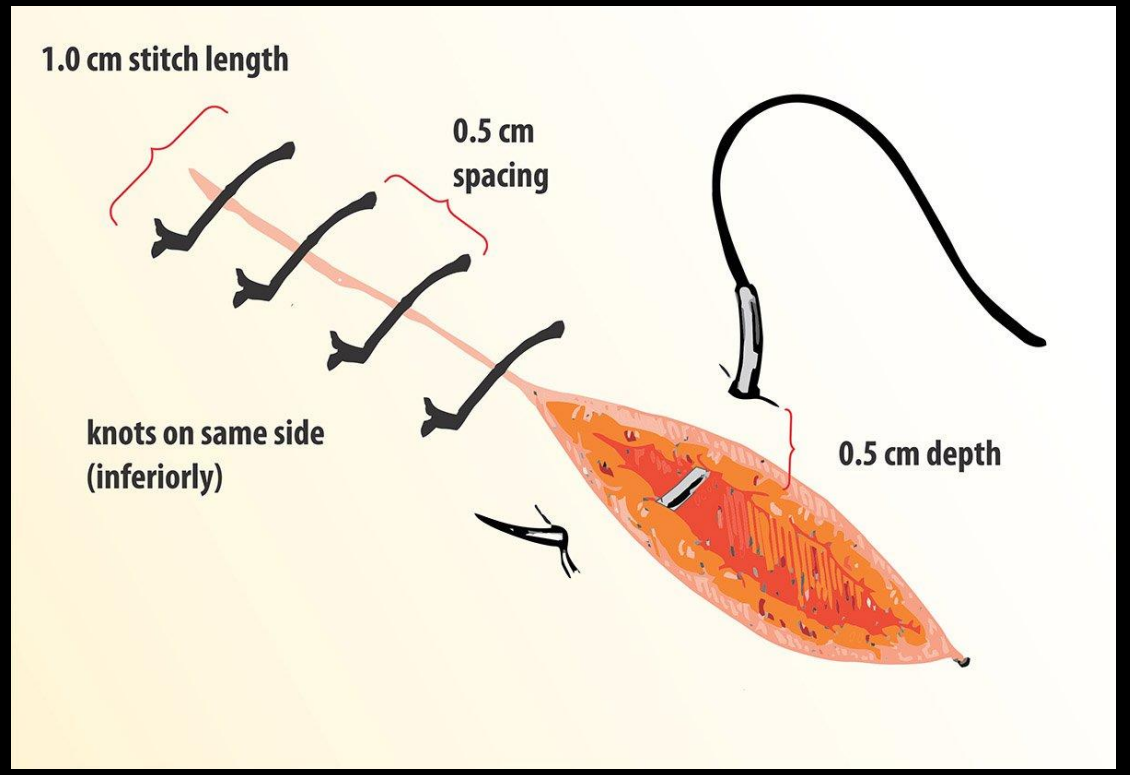


Vertical mattress



Interrupted simple sutures

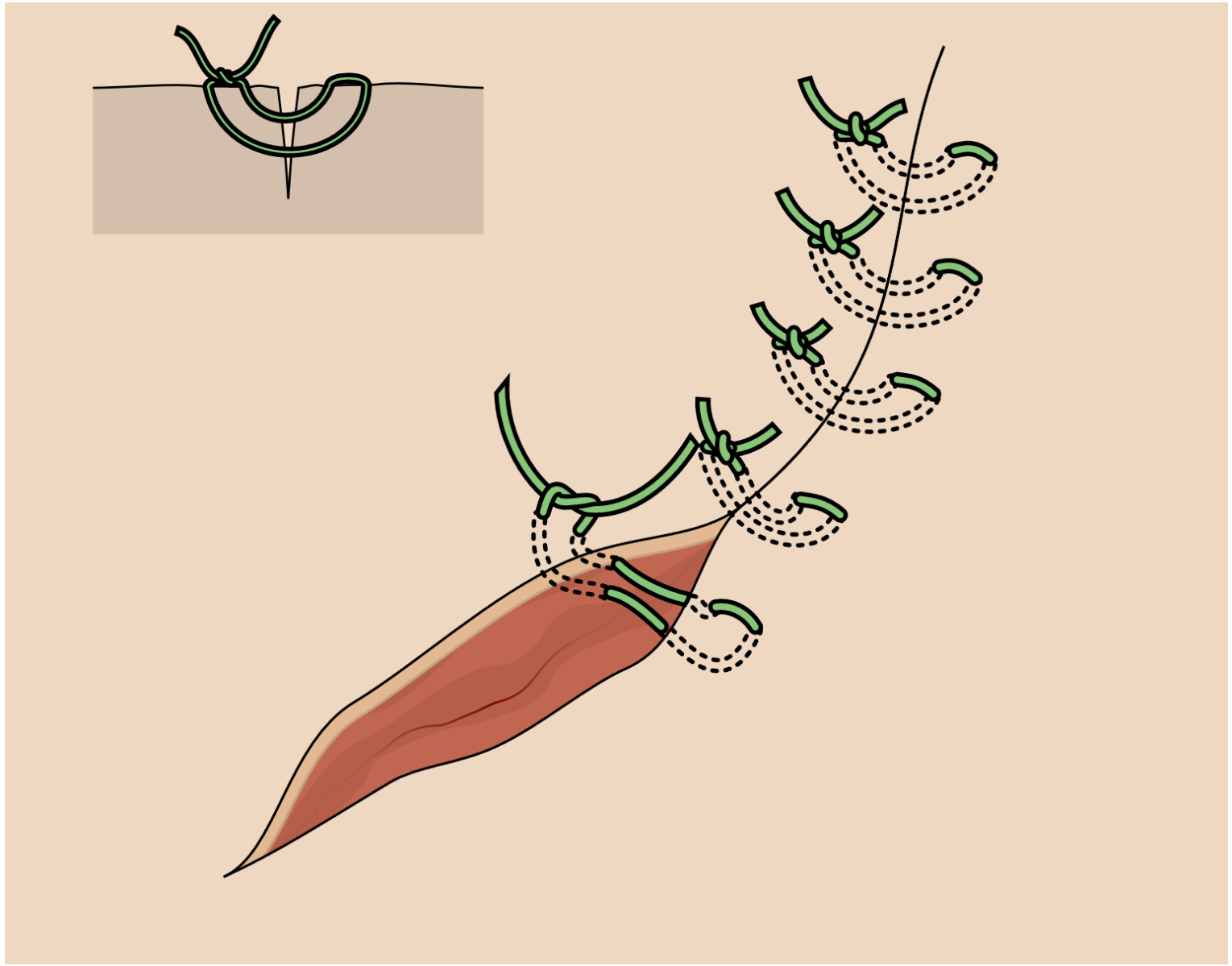
AIM for even distribution; both sides should be equal and symmetrical in depth and width, and evenly placed.



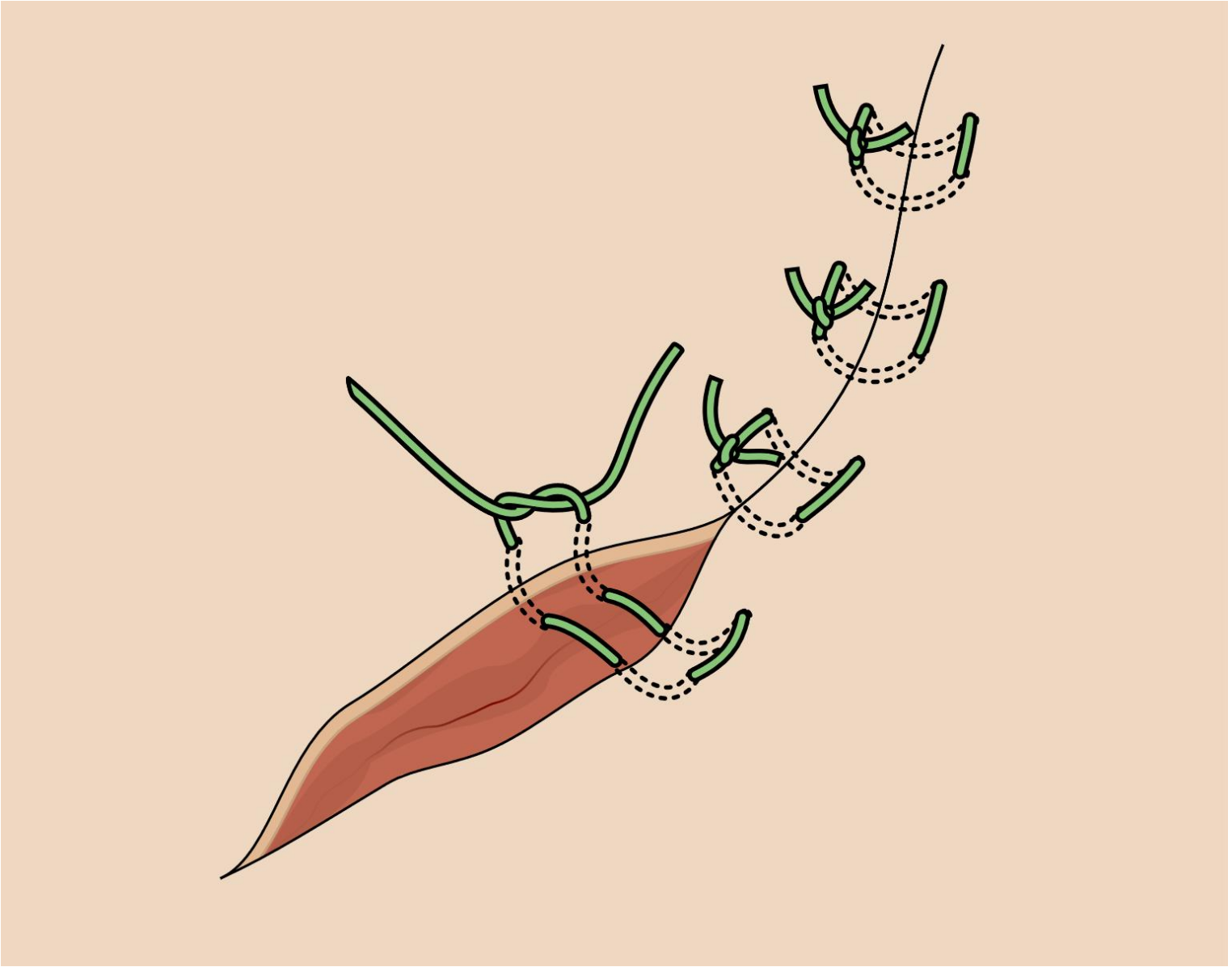
https://www.howtopace.com/wp-content/uploads/2016/11/interrupted-suture.jpg

Radeep.arujuna@gmail.com

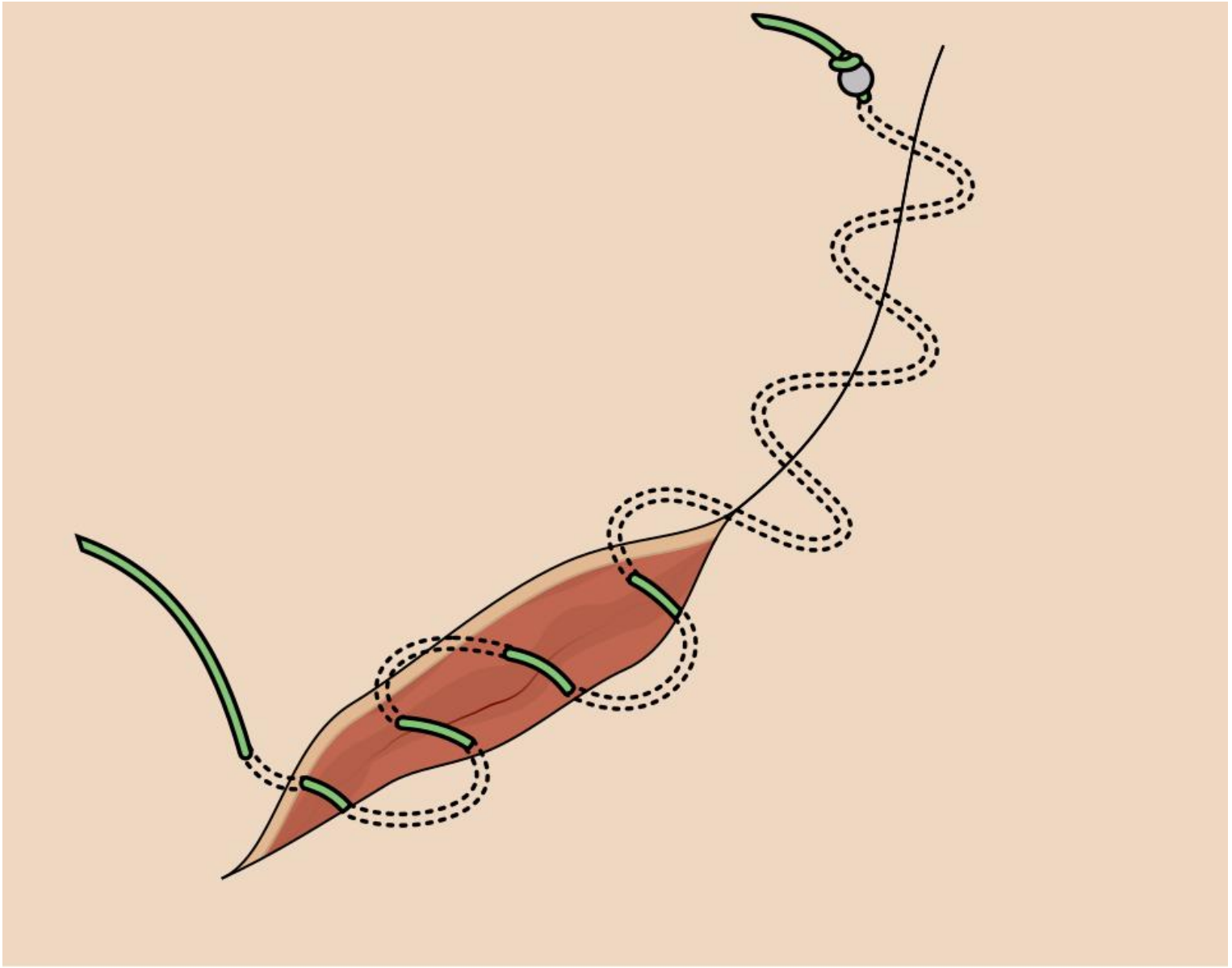
Vertical Mattress Suture



Horizontal Mattress Suture



Subcuticular suture



Review technique !

Simple interrupted stitch (00:57)

https://www.youtube.com/shorts/PYYcGGm0mpk

Vertical mattress Suture (2:40)

https://www.youtube.com/watch?v=aKwrhjVd-fg

Horizontal mattress suture (2:55)

https://youtube.com/watch?v=EZ4L9PC7mj0&xstg=CAMSEBUJ_b-oH-PhF0yjBgaukzY%3D

Subcuticular suture (3:37)

https://www.youtube.com/watch?v=Gebipizw6ZU

https://www.youtube.com/watch?v=RN991nUXhC4

Simple running (continuous) suture (2:10)

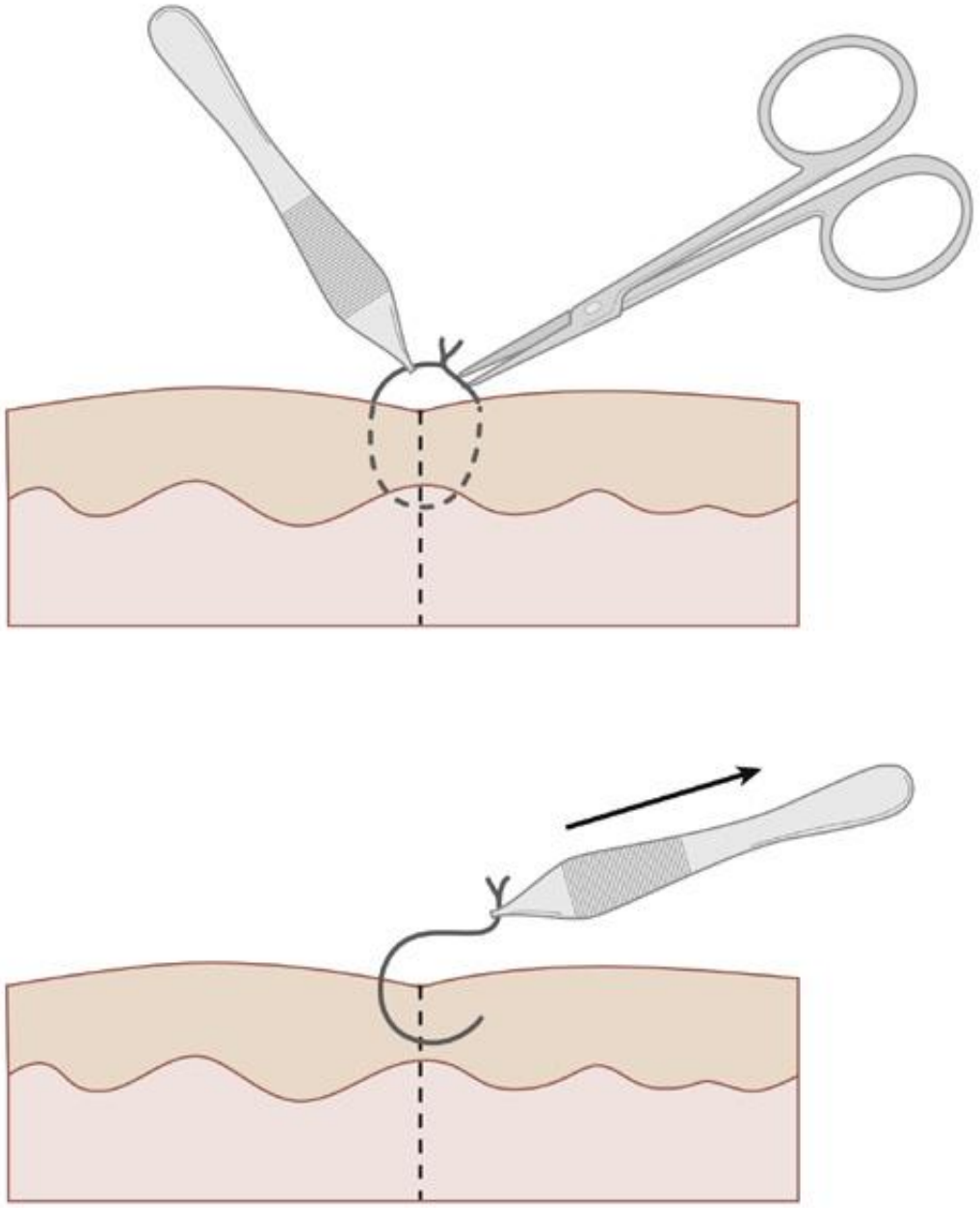
https://www.youtube.com/watch?v=o5EKmHAJiuw

6 Clinical tips to prevent needle stick injuries (00:52)

https://www.youtube.com/watch?v=4C_yXxlVCgg

When to remove sutures?

Face	3-5 days
Scalp	7-10 days
Neck	3-7 days
Chest, abdomen, arms, legs	7-14 days (depending on area)
Joint areas	10-14 days
Back	10-14 days



Simple suture removal. (Adapted from Singer AJ, Hollander JE: Lacerations and acute wounds. Philadelphia, 2002, FA Davis.)
https://aneskey.com/wp-content/uploads/2016/08/B9780323079099001434_f143-11-9780323079099.jpg

How to remove sutures?

- **Equipment:** Tweezers/forceps + scissors
- **Clean the area**
- **Lift the knot:** Use the tweezers to gently grasp the knot of the suture and pull it slightly up.
- **Cut the thread:** Slip sterile scissors under the knot and snip just one side of the thread close to the skin surface.
- **Pull it out:** Pull the knot with the tweezers so the clean thread slides out of the tissue. Do not pull the dirty outer part of the thread back through the skin.

Skin Biopsies

Incisional & excisional skin biopsies

https://www.youtube.com/watch?v=oABksdNktnk

- **Incisional bx**: uses a scalpel to slice out only a portion of a larger or harder-to-reach lesion.
- Best when a full removal is impractical due to size or location.
- **Excisional bx**: uses a small scalpel to remove the entire abnormal growth or lesion along with a border of normal skin.
- Best for complete removal of deeper lesions or when melanoma is suspected.
- Requires stitches to close the sampled site.

Shave biopsies

https://www.youtube.com/watch?v=mCNoxGGmyJw

- Shaving a thin layer
- Uses a small razor or scalpel blade to remove cells from the top layers of the skin (epidermis and upper dermis).
  Best for raised lesions, superficial growths, or non-melanoma skin cancers.
- Best for rashes, inflammatory skin diseases, and deeper lesions.
- Often requires one or two small stitches

Skin Biopsies

Punch biopsy

https://www.youtube.com/watch?v=mAuI0XgwBkk

- Uses a circular, cookie-cutter-like tool to take a deep, full-thickness core sample through the epidermis, dermis, and into the fat layer.
- Best for rashes, inflammatory skin diseases, and deeper lesions.
- Often requires one or two small stitches

Scissor Biopsy

- Uses small surgical scissors to snip off surface growths
- Best for small, raised, or hanging lesions like skin – e.g. skin tag, verruca

Practice!


Questions?
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