



# Wound Repair

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# Assessment



- ✦ Nerve damage
  - ✦ Sensation testing before inserting local anaesthetic
- ✦ Tendon function
  - ✦ Movement of joints beyond wound
- ✦ Vascular damage
  - ✦ Pulsatile bleeding suggests arterial bleeding. Deeper suturing required to stop bleeding
  - ✦ Check capillary return
- ✦ Where there is vascular damage there may be nerve damage

# Safety



- ✦ Infection risk
  - ✦ Assume everyone is infected - universal precautions
- ✦ Blood born
  - ✦ Gloves, gown, apron, mask, goggles / glasses
- ✦ Sharps
  - ✦ Containers, kidney dishes, cleanup is your responsibility
  - ✦ An uncooperative patient is a needlestick risk. Ensure adequate restraint of a child.

# Cleaning



- ✦ Wash out wound with saline
- ✦ Scrub with gauze and saline if debris
- ✦ Chlorhexadine for very contaminated wounds but it is not a substitute for cleaning and debridement.

# Anaesthetic




- ✦ EMLA - Lignocaine and Prilocaine
- ✦ TAC
- ✦ Lignocaine 1% or 2%
  - ✦ Max dose in a child is 0.3ml of 1% per Kg
  - ✦ Max dose for an adult is 20ml of 1%
- ✦ Lignocaine / Adrenaline
  - ✦ Adrenaline to be avoided in end vascular beds eg penis, tip of nose, earlobe, finger. (but commonly used on nose and ears)

# Injecting Anaesthetic



- ✦ Needle entry through side of wound is less painful
- ✦ Use a needle of adequate length
- ✦ Advance to end of run and then inject while withdrawing
- ✦ If you get a blood flash in the syringe, reposition the needle before injecting.
- ✦ Layer anaesthetic just under skin. Deeper takes longer to work. Intradermal is more painful to give.

# Methods of Closure



- ✦ Glue
  - ✦ Histacryl
  - ✦ Dermabond
- ✦ Clips - not part of this discussion
- ✦ Sutures
  - ✦ External - nylon or silk
  - ✦ Internal - maxon, vicryl, chromic gut, plain gut

# Glue



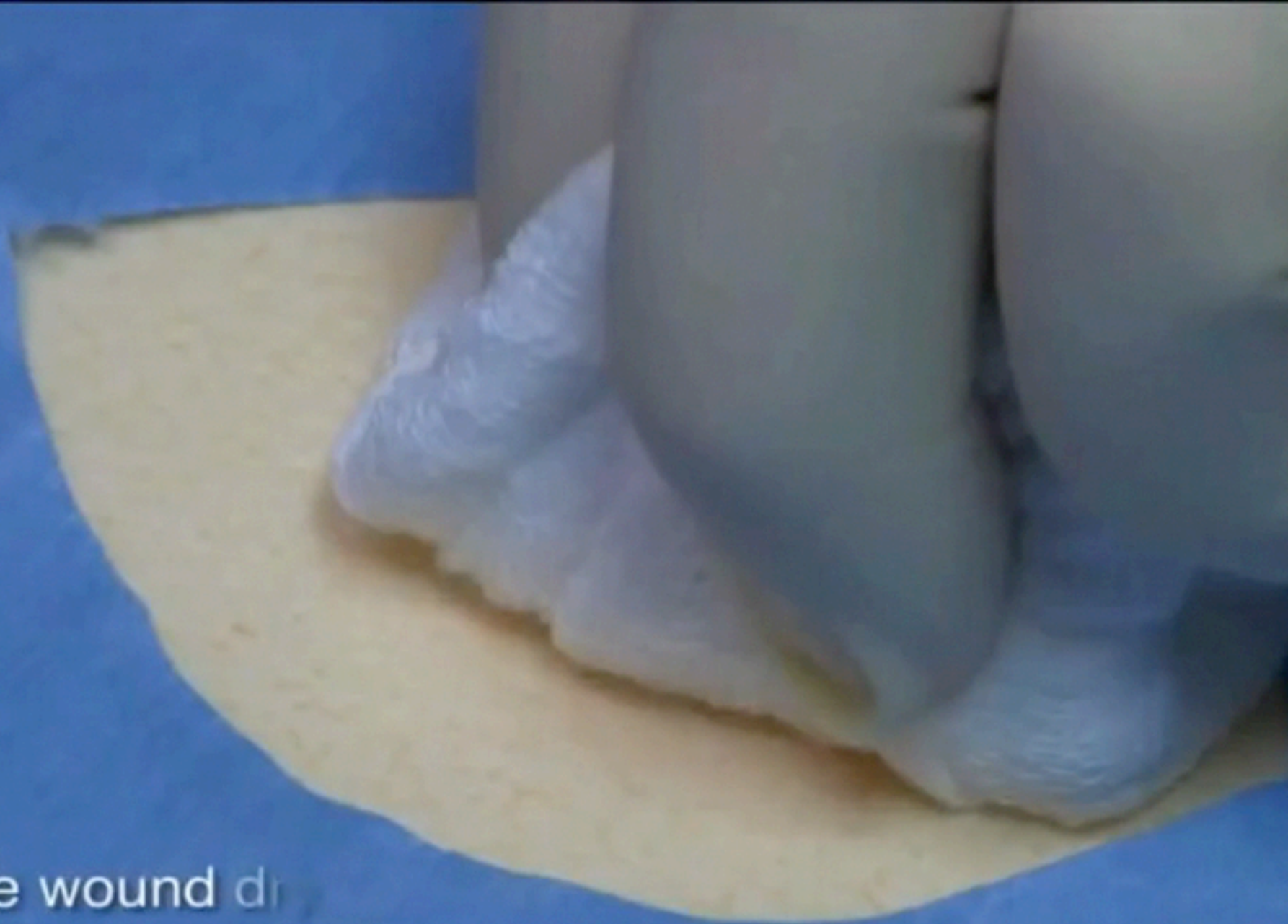
- ✦ Histacryl
  - ✦ Cheaper but less control
  - ✦ Stronger bond
- ✦ Dermabond
  - ✦ More control of application
  - ✦ Safer around eyes





AESCULAP.

t the wound dr



# Dermabond Instructions



## Caring for a wound that has been closed with DERMABOND™1:

- Keep the wound dry
- Do not scratch, rub, or pick at the wound or DERMABOND™; doing so may loosen the film before the wound is fully healed
- You may take brief showers or baths at the direction of your physician. After showering or bathing, gently blot the wound dry with a soft towel
- Do not soak or scrub your wound; do not swim until the adhesive film has fallen off naturally
- Stay out of direct sunlight and do not use tanning lamps
- Do not apply liquid or ointment medications or any other product to the wound while DERMABOND™ is in place. It could loosen the film before the wound is fully healed

# Suture

## ✦ Superficial

✦ Nylon

✦ Silk

## ✦ Deep tissue


✦ Vicryl rapide - 50% 5 days, 0% 10 days

✦ Monocryl or Monosyn- 60% 7 days, 30% 14 days

✦ Vicryl - 75% at 14 days, 25% 4wks,

✦ Maxon - 75% 14 days 50% 4 weeks

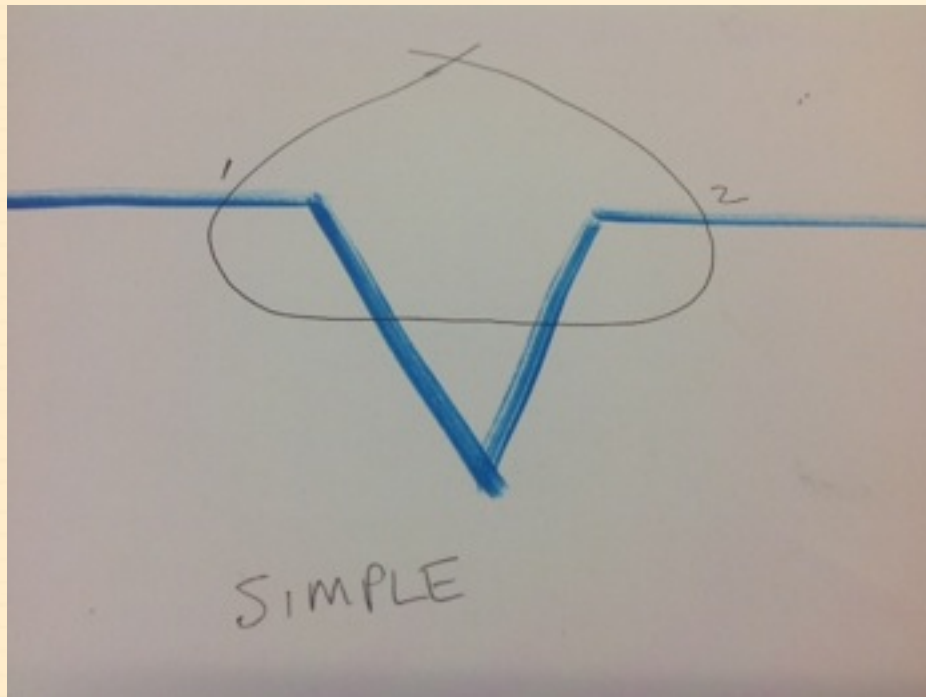
# Type of suture



- ✦ Simple
- ✦ Vertical mattress
- ✦ Deep suture with buried knot

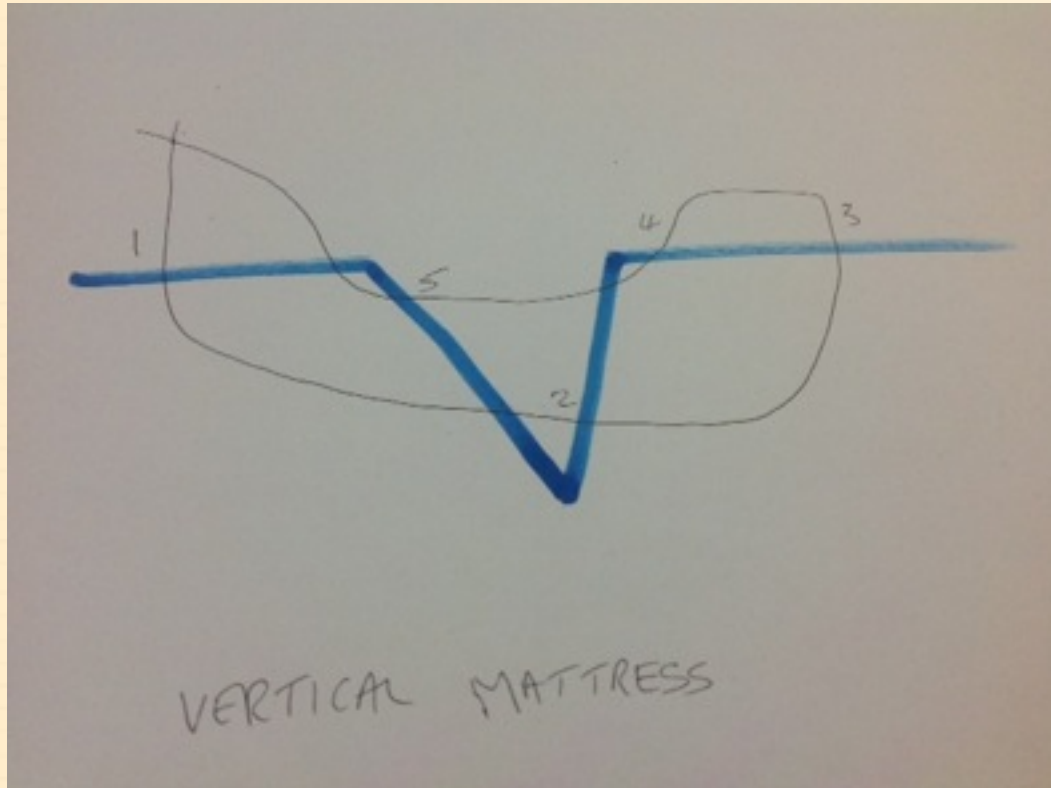
# Simple

- ✦ OK for small superficial wounds or between vertical mattress
- ✦ Need to avoid edge inversion



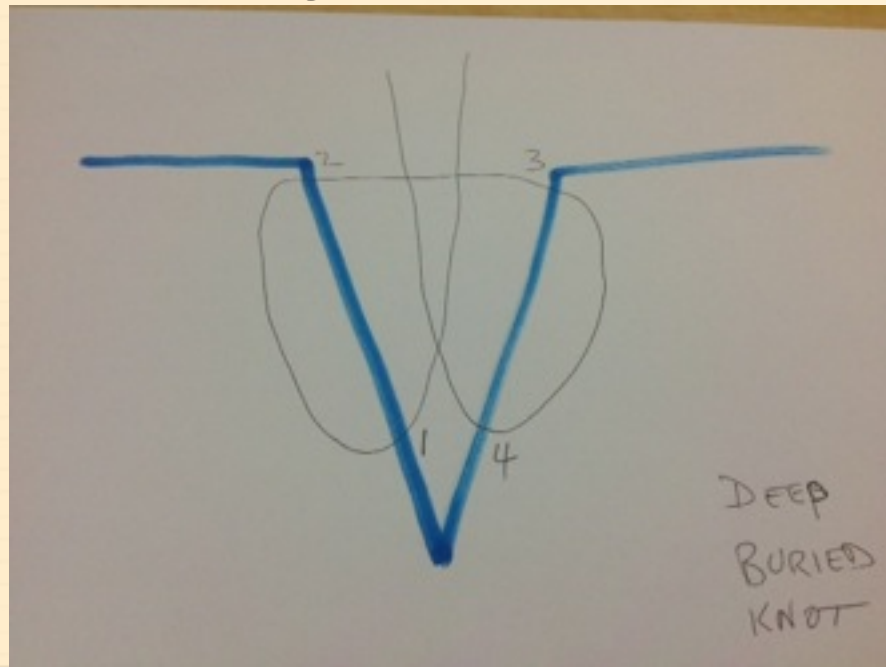
# Vertical Mattress

- ✦ Best for wound edge apposition
- ✦ Closes deep and superficial layers



# Deep with buried knot

- ✦ Closes deep wound removing tension from skin surface
- ✦ Good for haemostasis
- ✦ Close surface with glue or sutures





# Dehiscence



- ✦ Tension is the enemy
- ✦ Ideally the surface closure should be with no tension
- ✦ Consider deep sutures to remove tension
- ✦ The more sutures inserted the less tension per suture
- ✦ Consider using a tension reducing dressing like hypafix to pull the sides together reducing tension at the wound edge
- ✦ Use hypafix after suture removal if under tension
- ✦ Leave sutures insitu for an adequate time

# Knots



- ✦ Over 2 times grab end and pull through
- ✦ Backwards over once grab end and pull through
- ✦ Over 1 time grab end and pull through

# Dressings



- ✦ Island dressing after procedure for moisture proofing and collecting ooze
- ✦ No difference with infection rate if gets wet after 48 hours
- ✦ If using glue consider adding steristrip, or hypafix
  - ✦ Wait till glue completely dry
- ✦ If oozing consider applying pressure for a few minutes to allow clot formation. Bandage if still a problem

# After Care



- ✦ Apply hypafix after suture insertion if wound under tension. Leave it till it peels off itself.
- ✦ Remove island dressing by 48 hours

# Billing



- ✦ Depends on:
  - ✦ Length of wound
  - ✦ Area of body
  - ✦ Depth of wound
- ✦ Requires either sutures or glue for wound closure item numbers

# Removal of Sutures



- ✦ Glues wear off in about 7 to 10 days
- ✦ Removal of sutures depending on area and wound tension
  - ✦ 5 days for face
  - ✦ 7 days for non tension areas
  - ✦ 10-14 days for tension eg back
    - ✦ Consider adding hypafix after removal of sutures