



# Ophthalmology Surgical principles and Eyelids

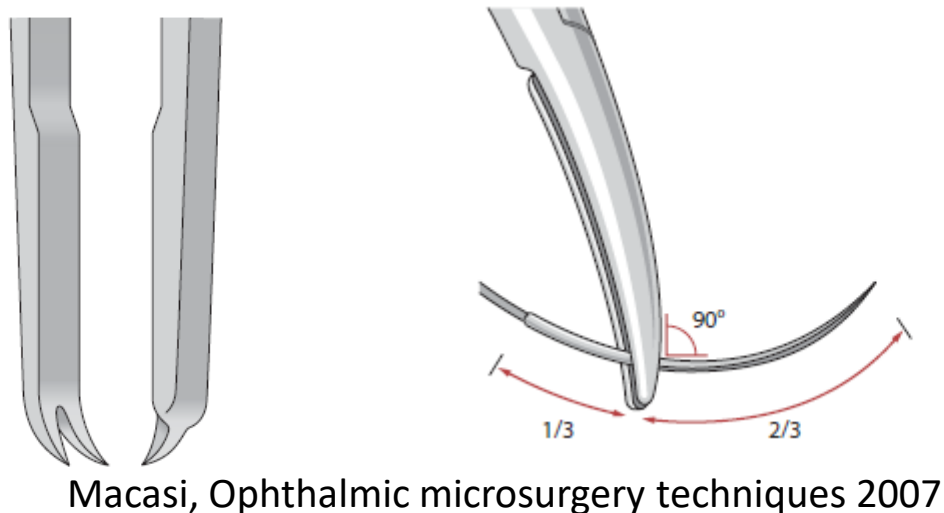
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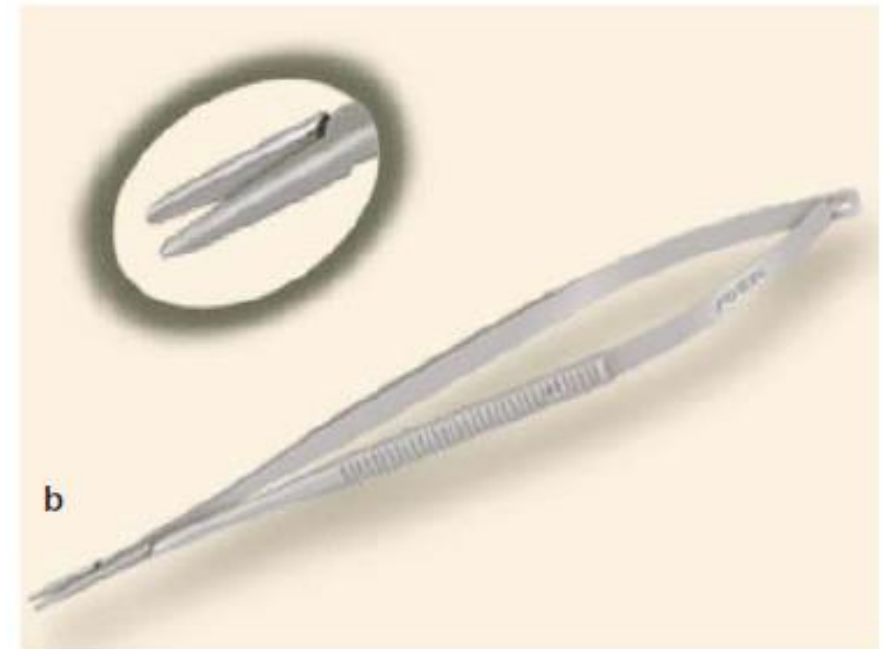


## Procedure check list - instruments

- Identify & understand instruments
- How to use ophthalmic instruments – handling ophthalmic sutures



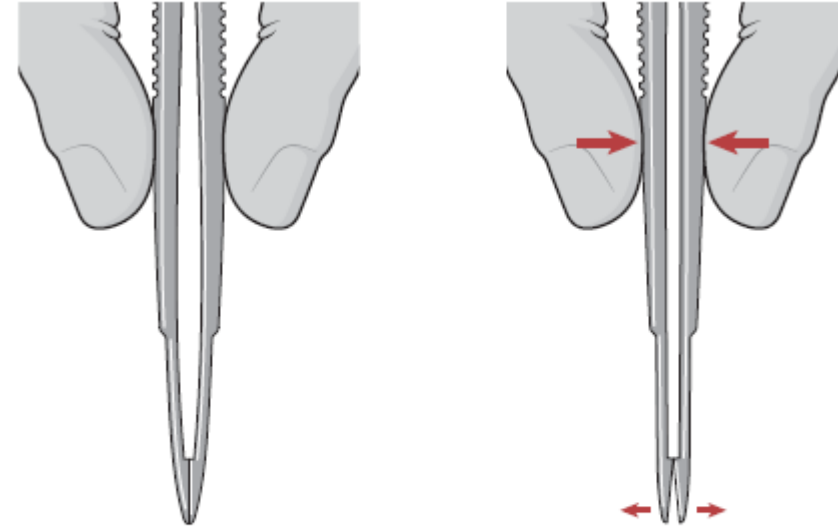
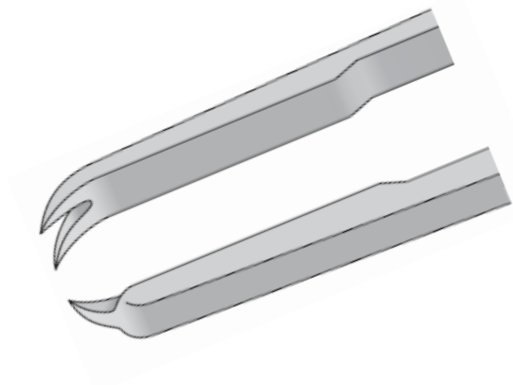
**Fig. 2.8** Needle holder is shown grasping a surgical needle approximately two thirds of the way from the head of the needle to the suture. The needle is seated properly in the needle holder at a 90° angle



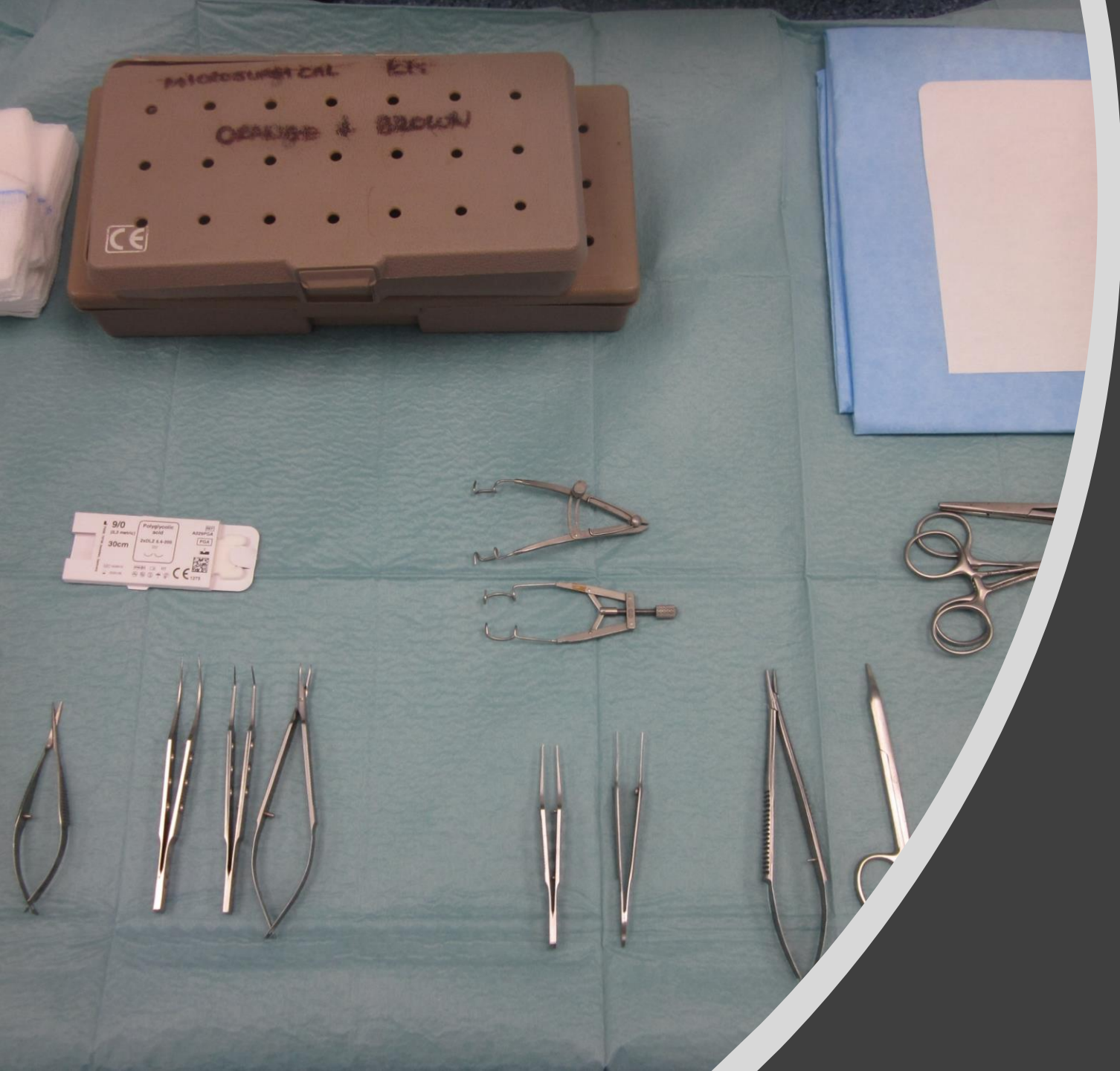
**Fig. 2.7** Nonlocking needle holders. a Curved (Rhein). b Straight (Rhein)

## Procedure check list - instruments

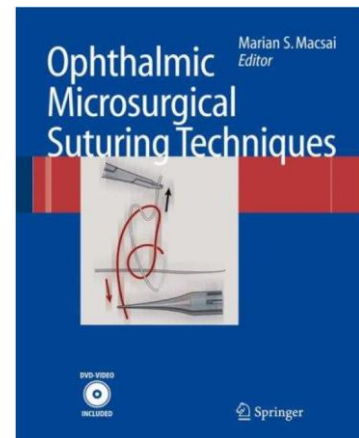
- Identify & understand instruments
- How to use ophthalmic instruments – handling ophthalmic sutures



**Fig. 2.14** When a proper degree of force is applied to the instrument, the tips will align properly. However, if greater forces are applied, the instrument bends and the jaws do not appose correctly



Hold and  
move them  
correctly



## Procedure check list - knotting

- Suture the foam accurately using 6/0 sutures (figure of 8)
- Practice locking knots at the tensions you want
- Practice using capsized knots to adjust tension
- Double check your knotting technique

# The Surgeon's knot (aka "square knot")



Fig. 3.3



Fig. 3.5

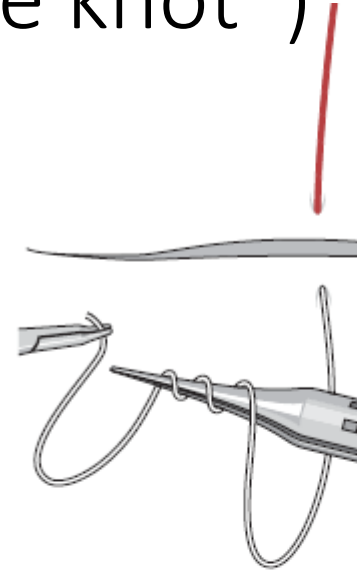


Fig. 3.7

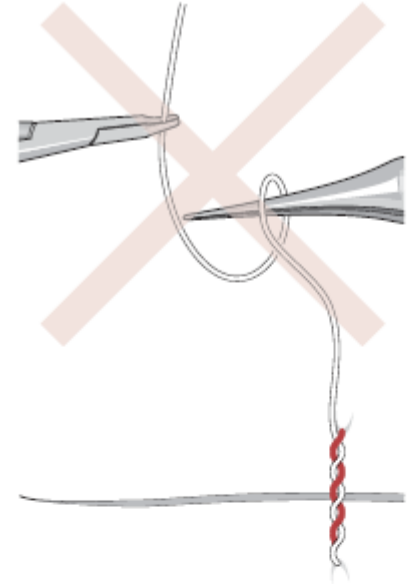


Fig. 3.9

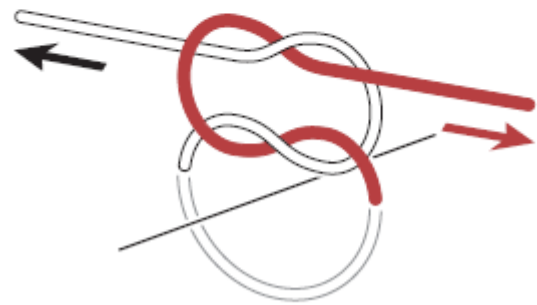


Fig. 3.4

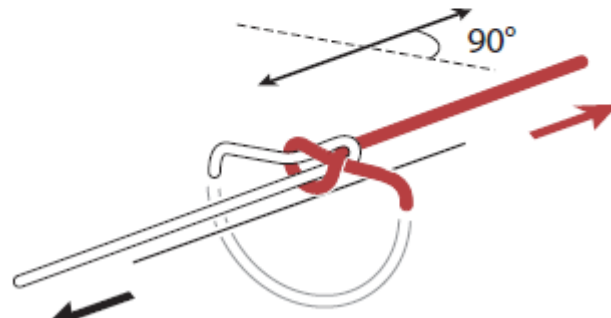


Fig. 3.6

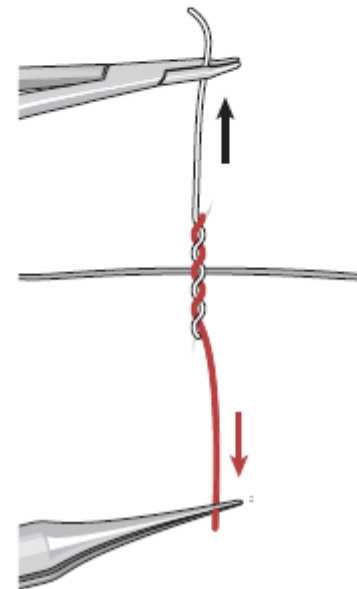


Fig. 3.8

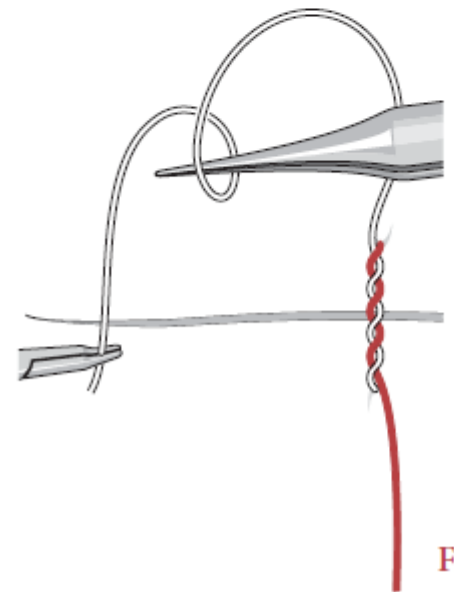


Fig. 3.10

# The Surgeon's knot (aka "square knot")

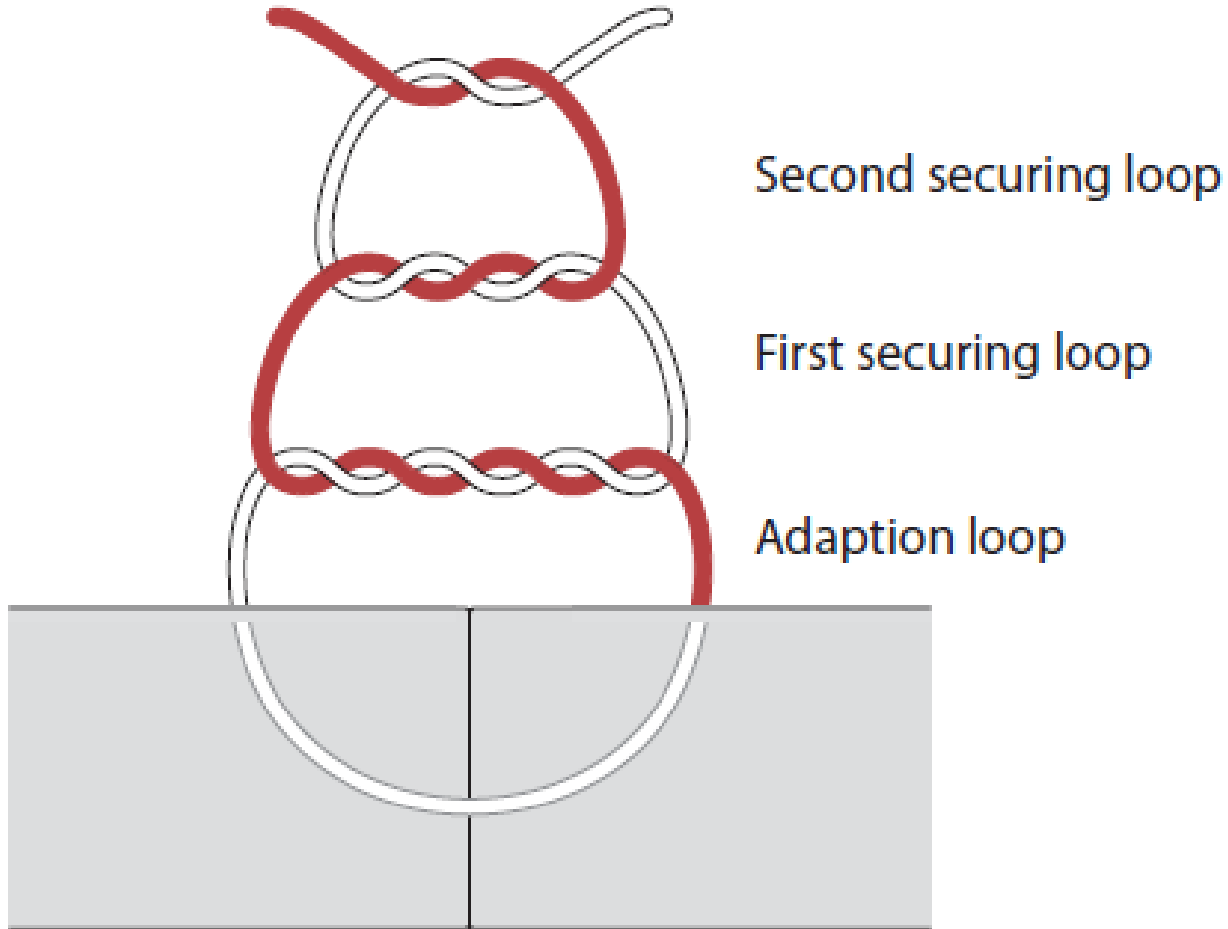


Fig. 3.11

Macasi, Ophthalmic microsurgery techniques 2007v

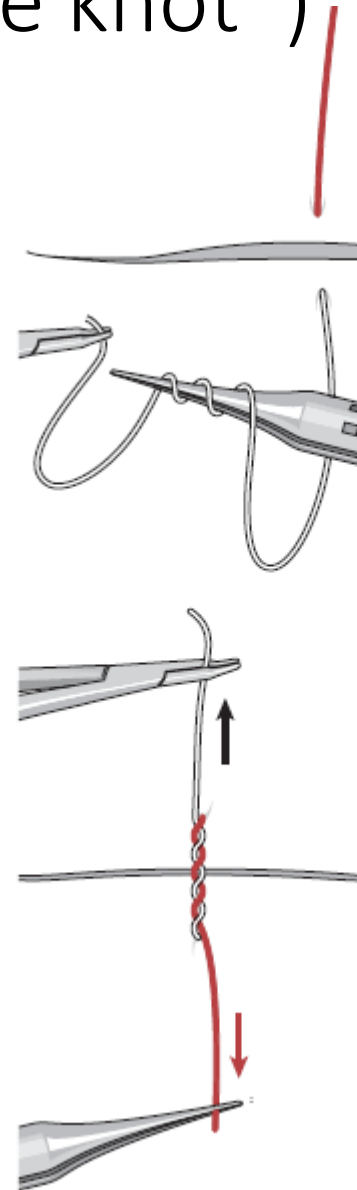


Fig. 3.7

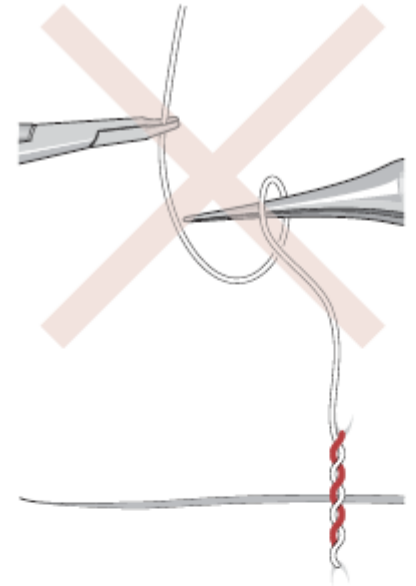


Fig. 3.9

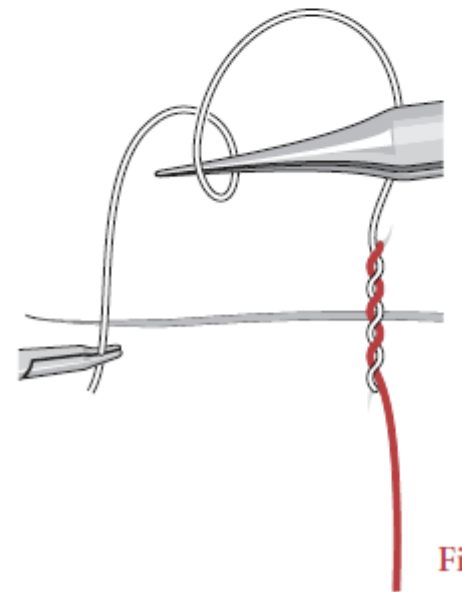
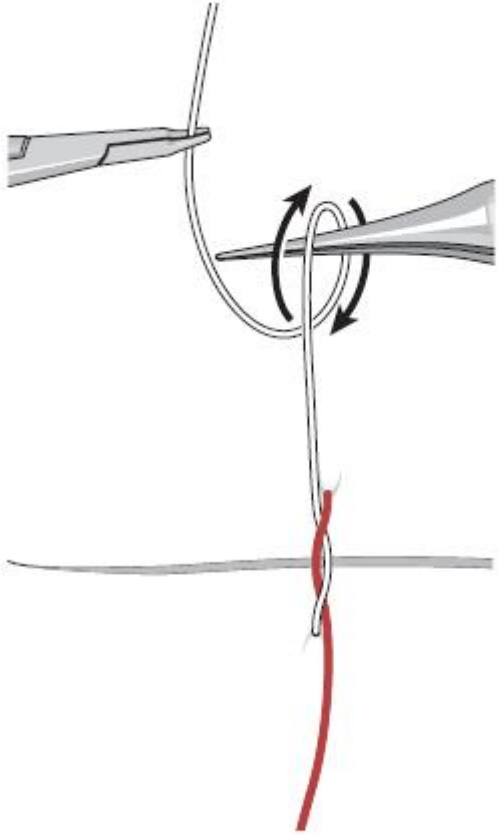


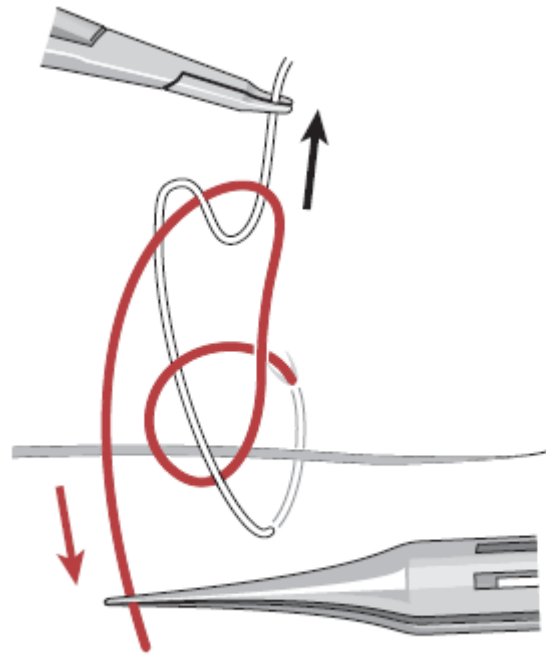
Fig. 3.10

Fig. 3.8

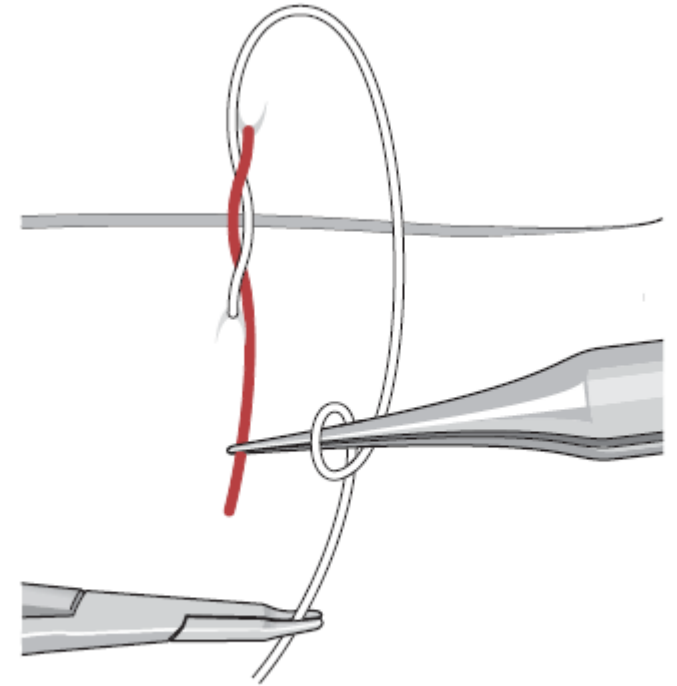
# The Slip knot



**Fig. 3.12** A granny knot is created by placing forceps external to proximal suture

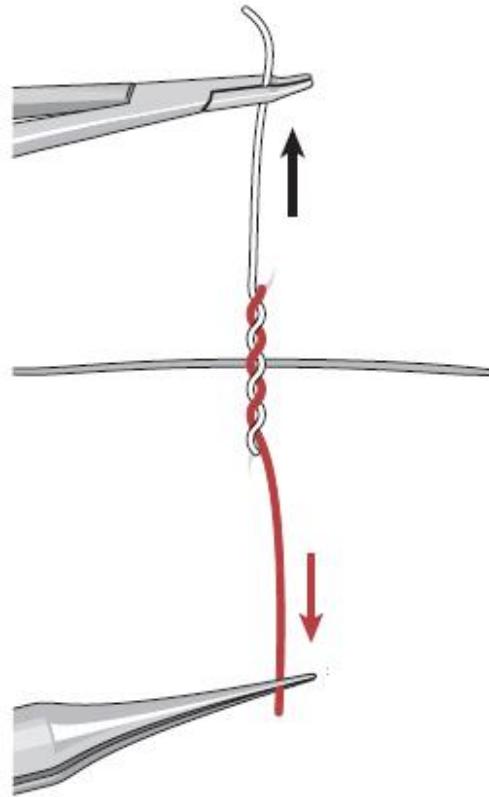


**Fig. 3.14** The slipknot is created by not alternating hands

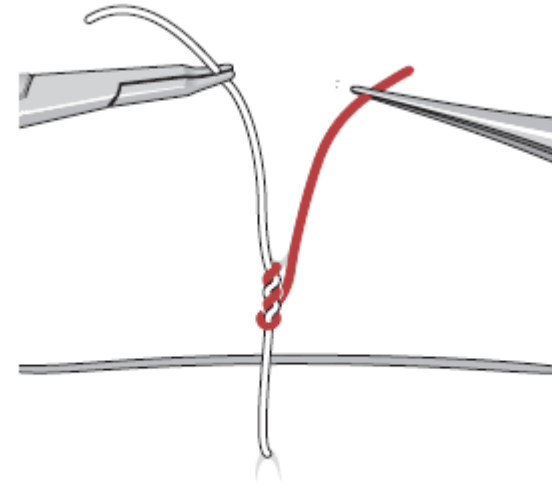


**Fig. 3.13** The free suture end is grabbed and pulled through the loop

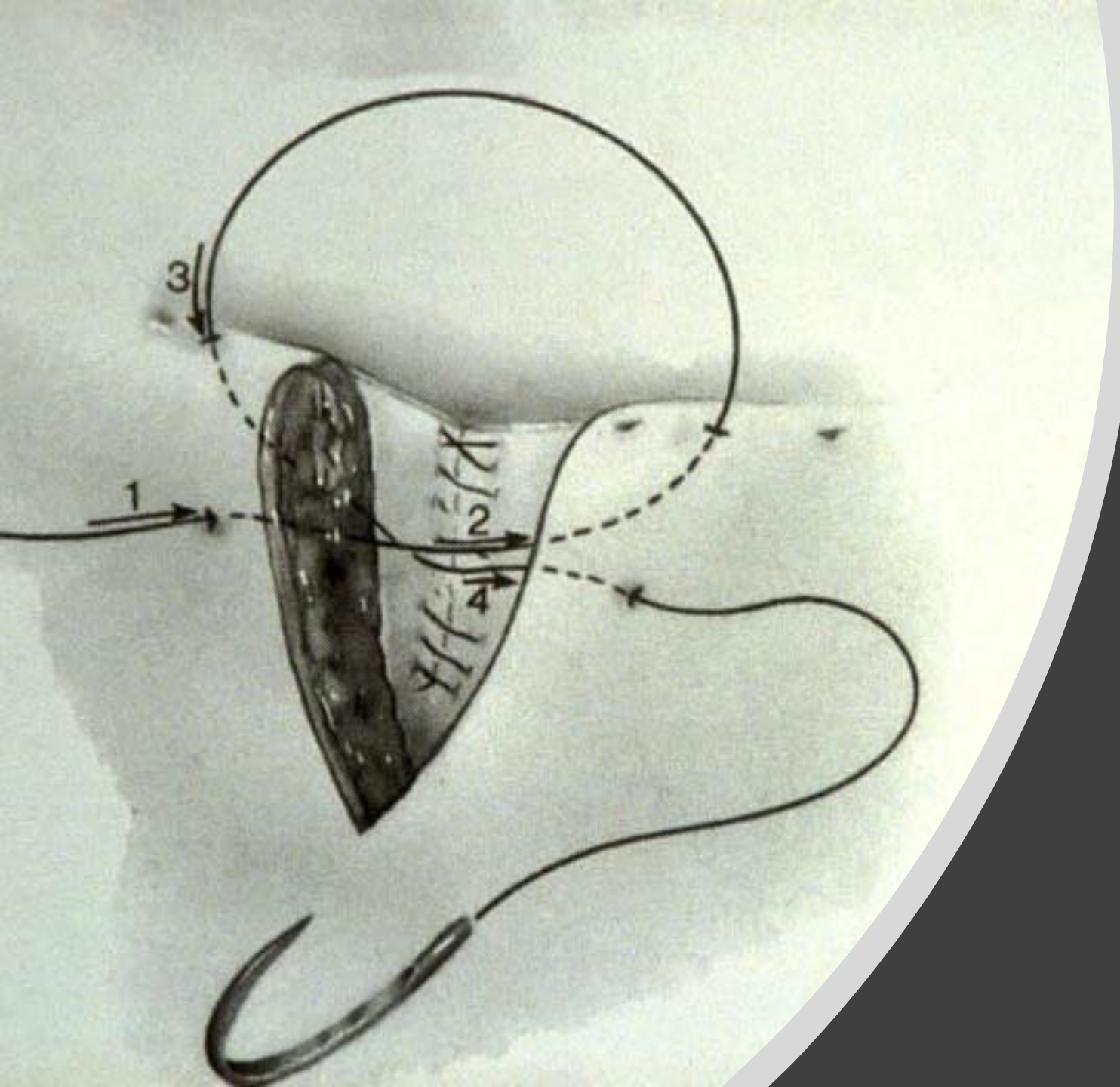
# The Locking suture bite



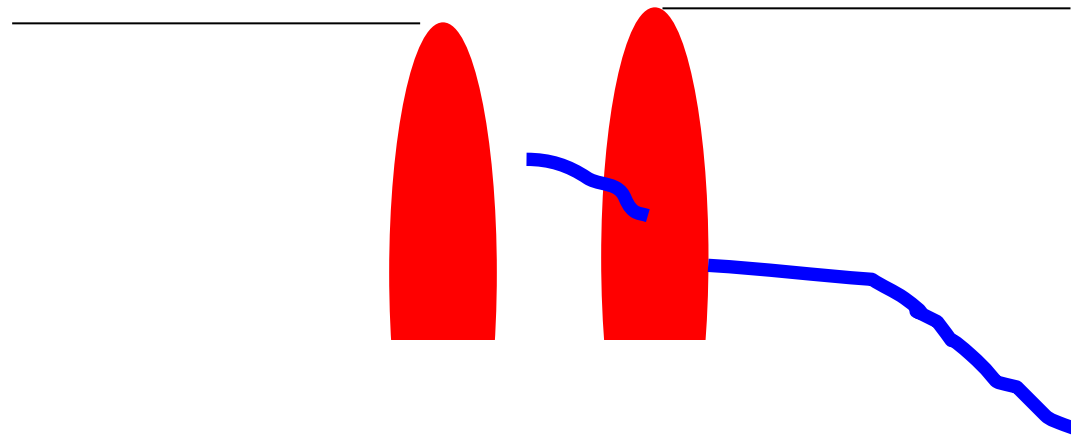
**Fig. 3.15** Three-throw approximating loop (as in a surgeon's knot)

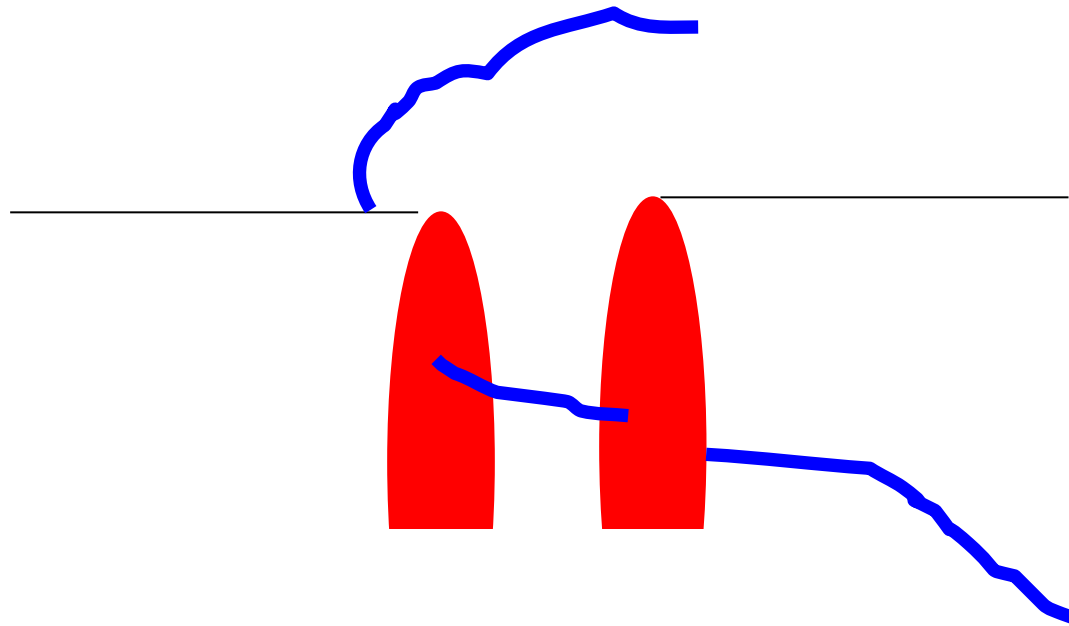


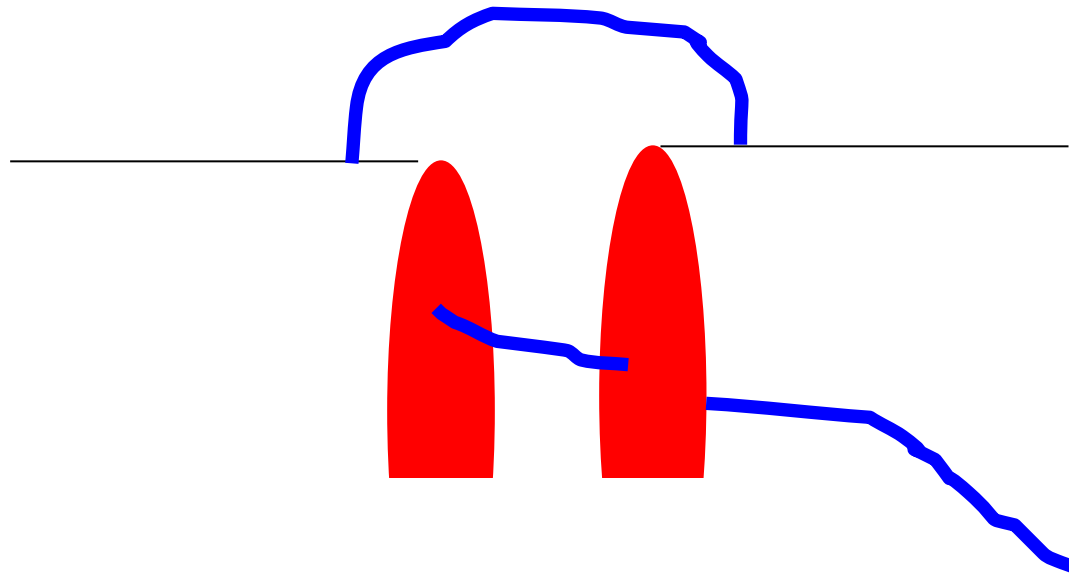
**Fig. 3.16** Suture ends are brought to same side of wound compressing approximating loop and locking it in place

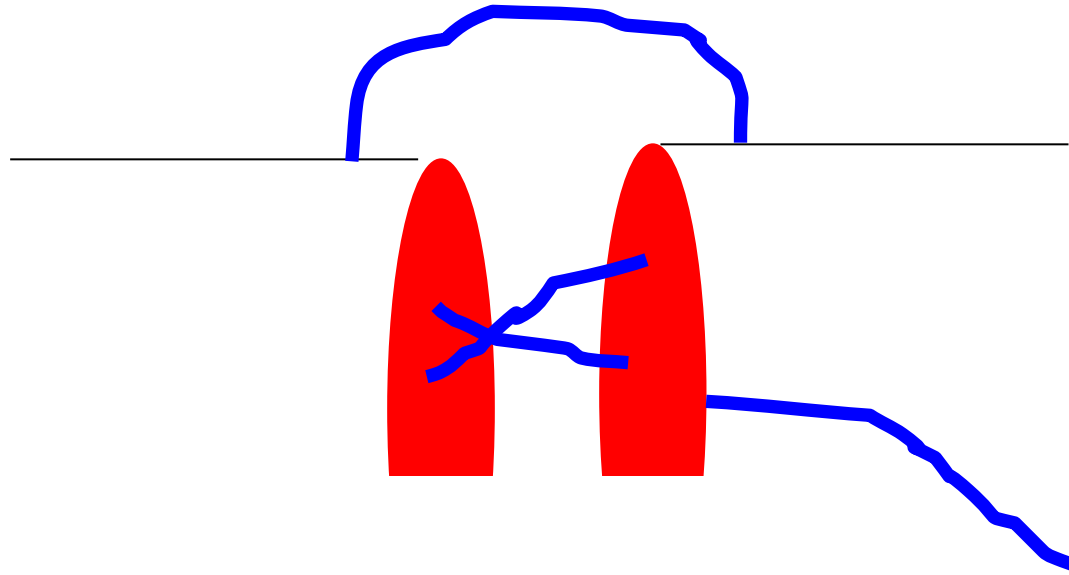


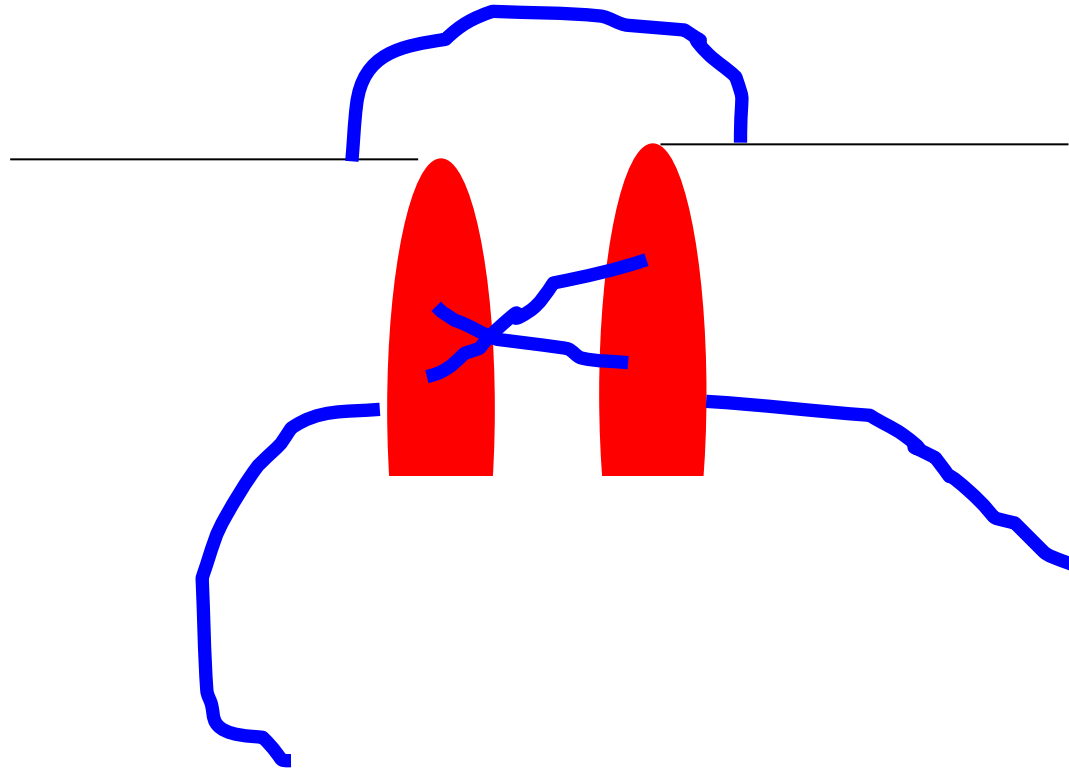
“figure of 8”  
suture

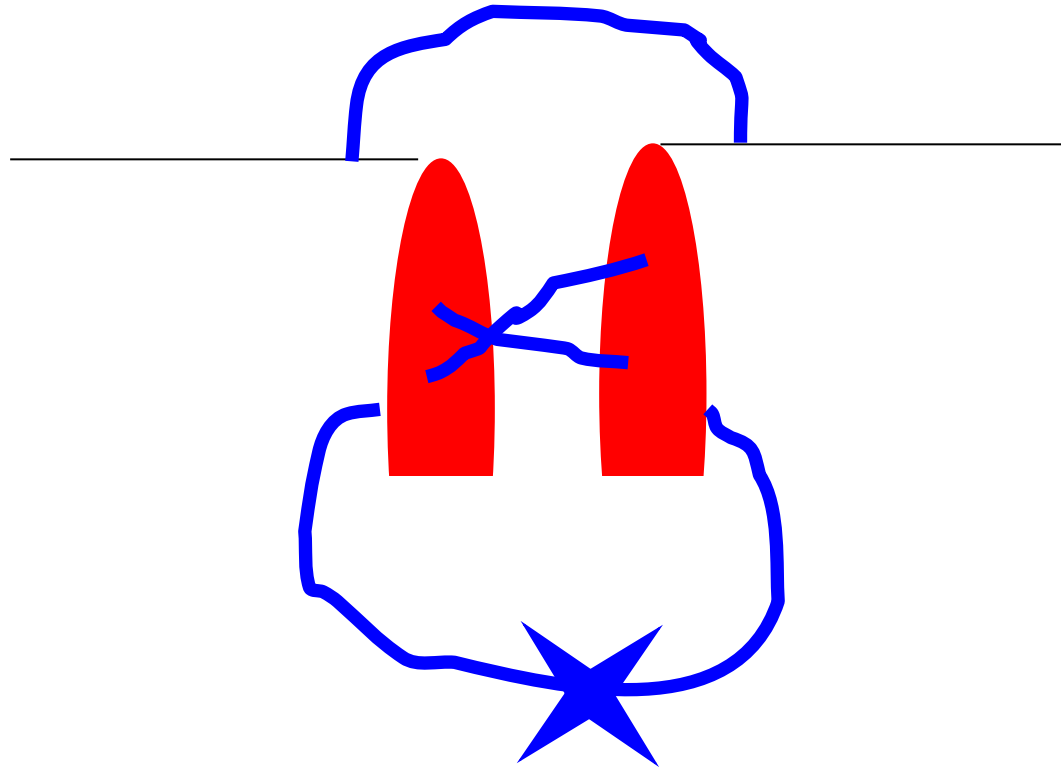


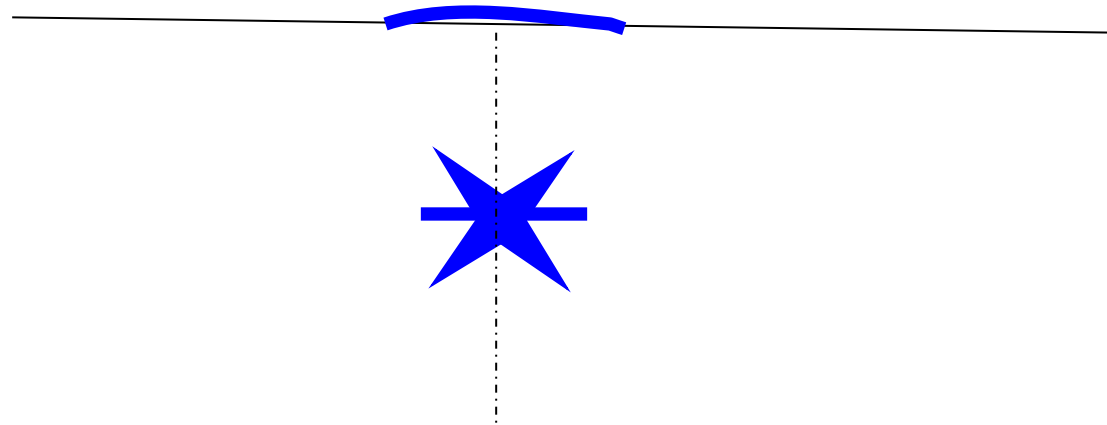


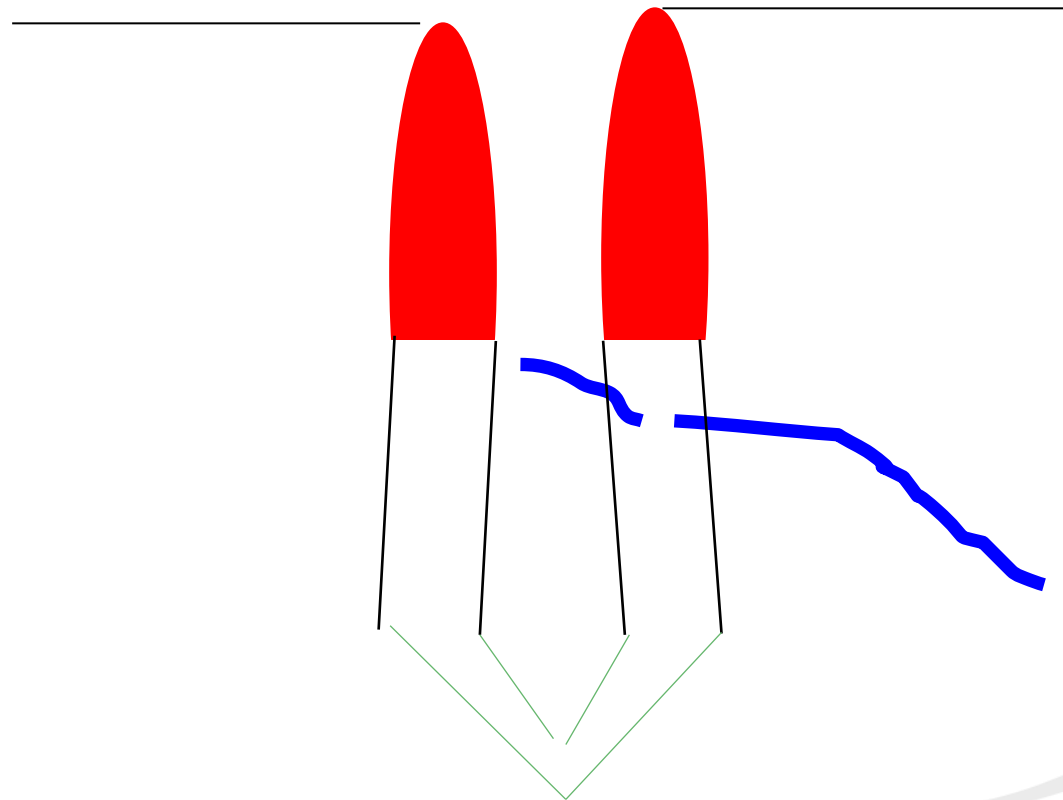


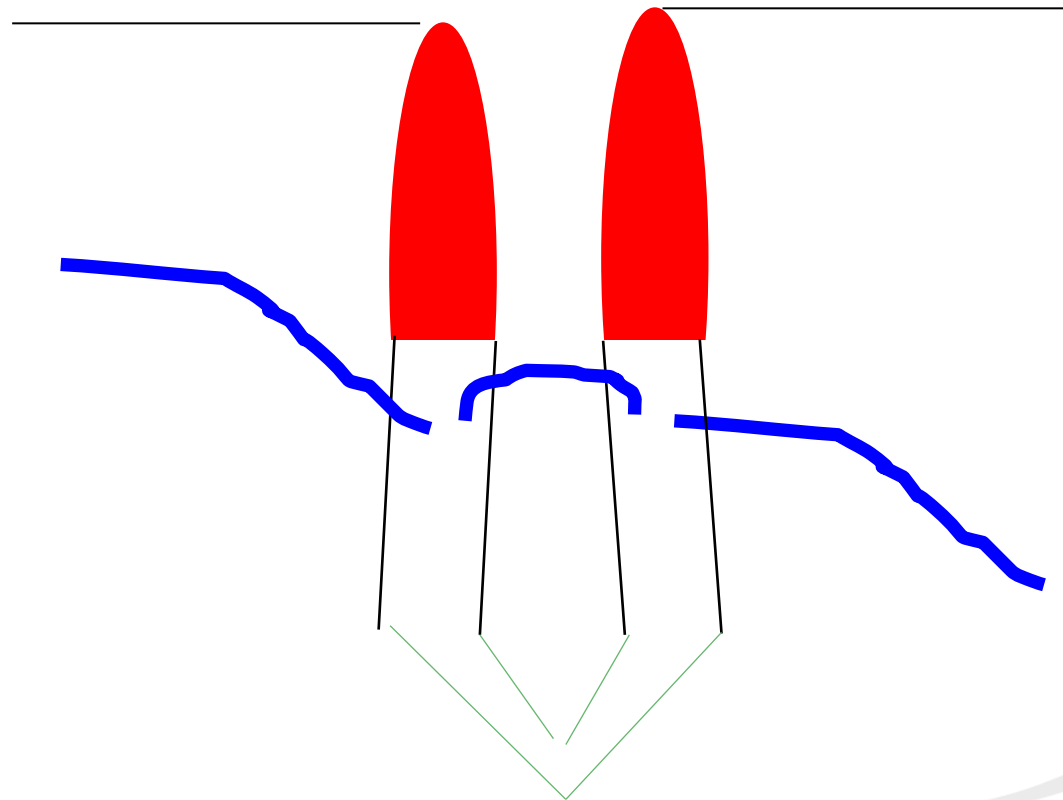


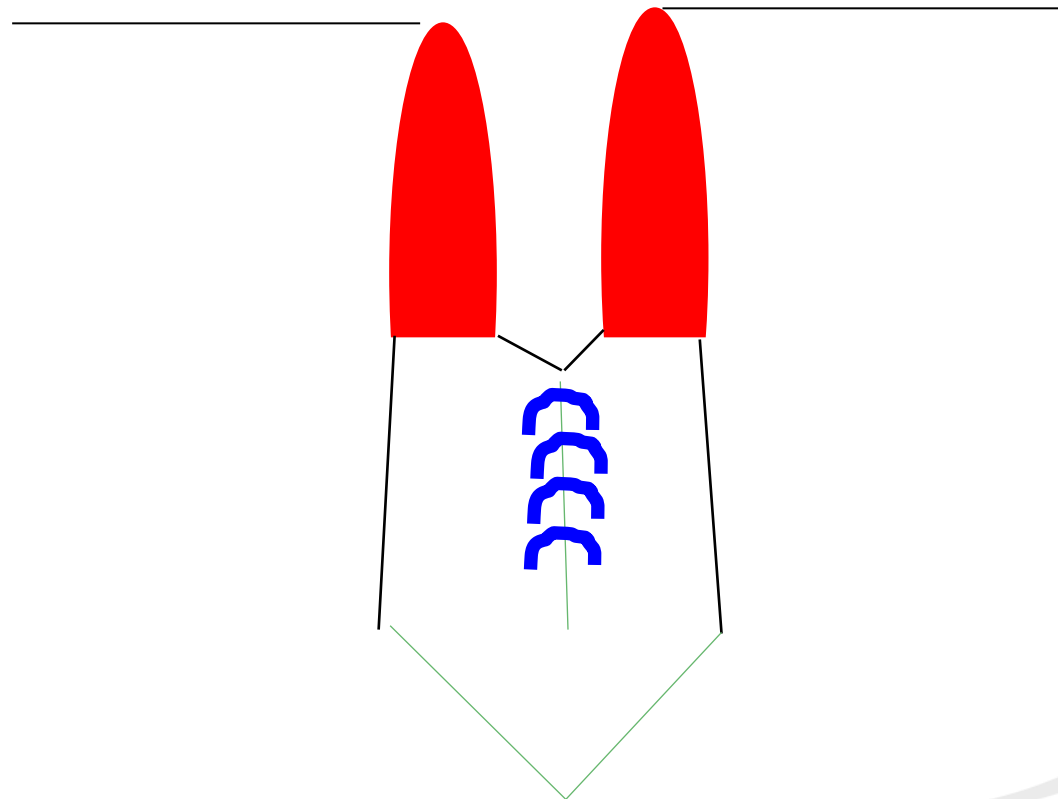


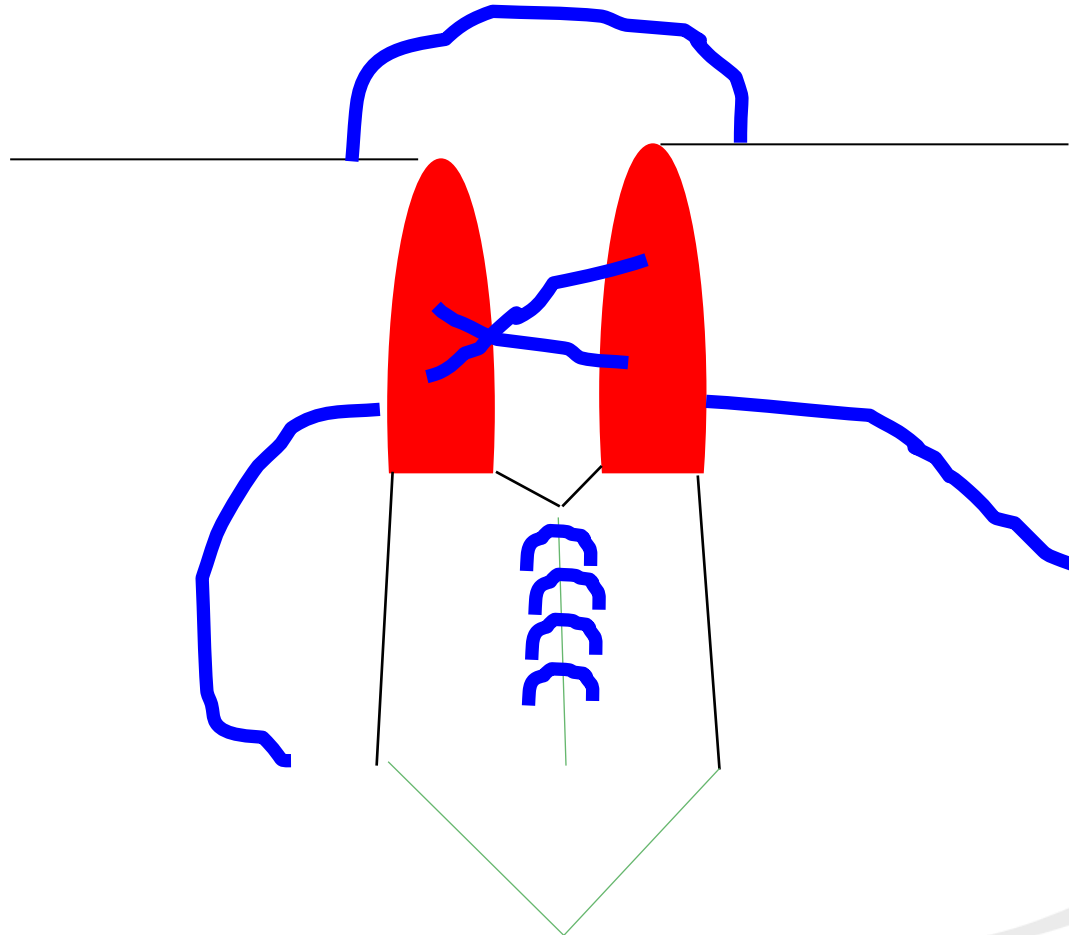


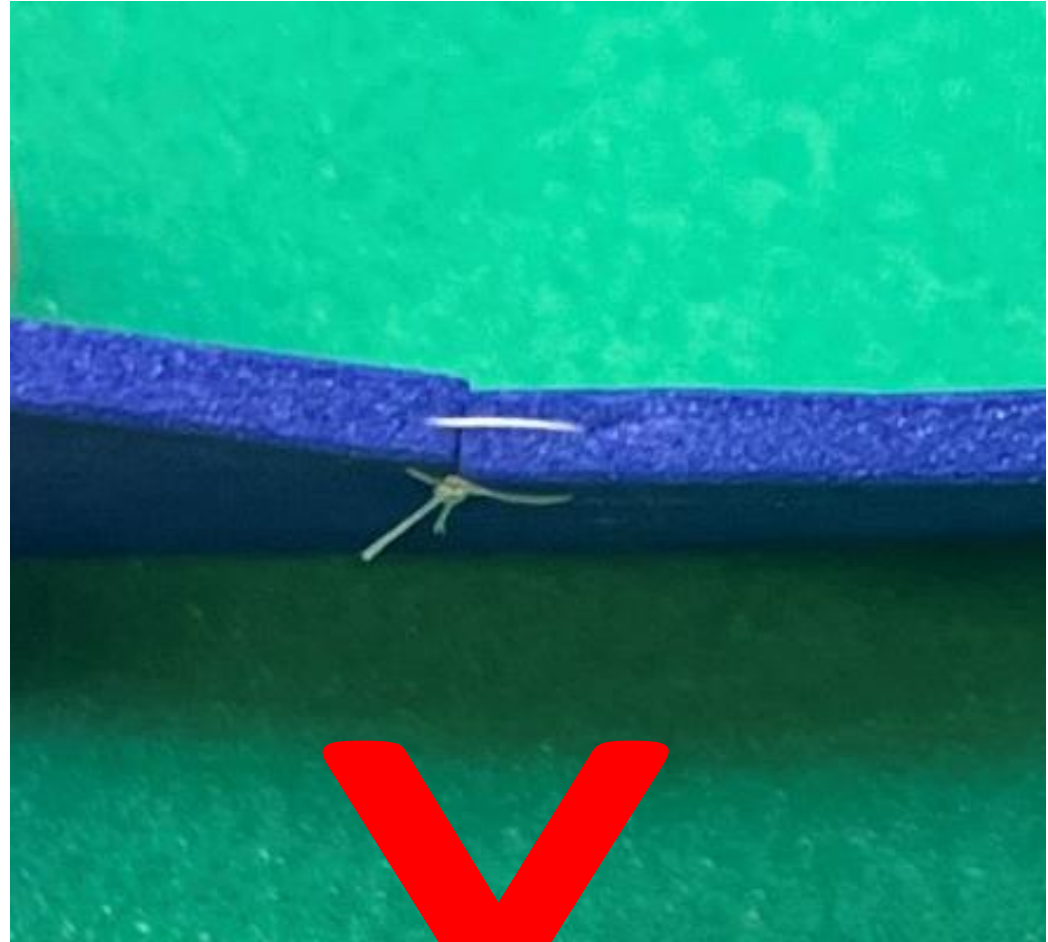


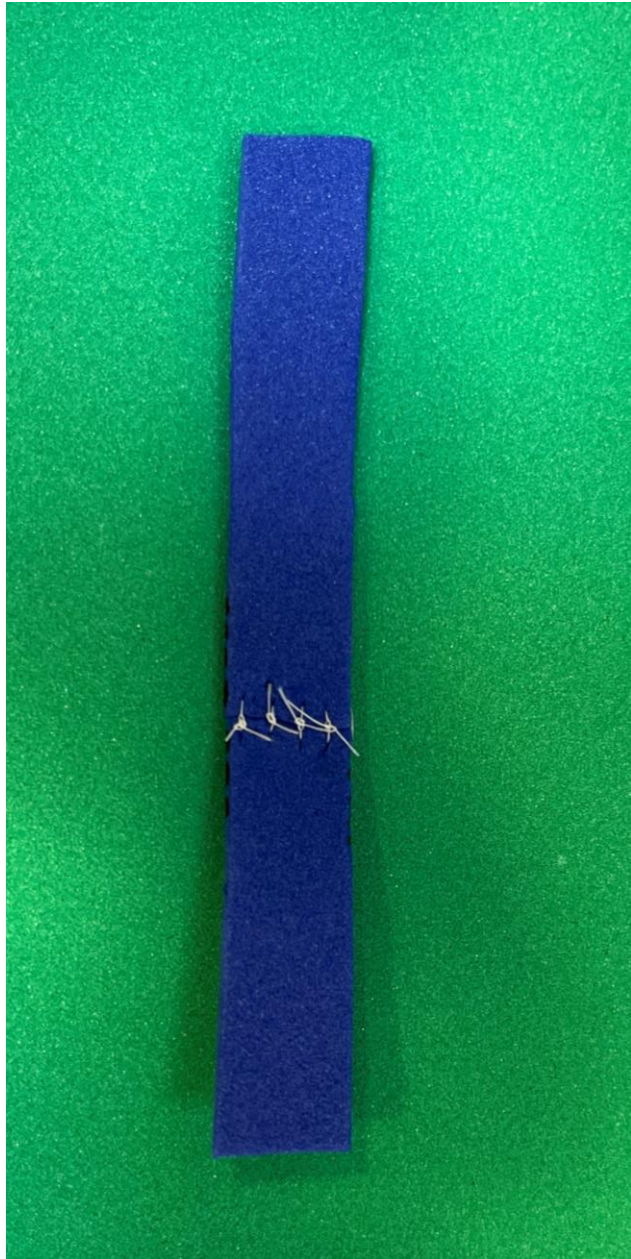












## Ophthalmic anatomy check list - anatomy

- Orbital rim
- Orbital ligament
- Zygomatic arch
- Explore limits of ventral & dorsal fornix
- Pterygopalatine fossa – palpate whilst retro-pulse globe
- Medial canthal tendon
- Lateral canthal tendon
- Evert eye lid margins
- Identify the tarsal plate
- Identify Meibomian glands and their openings

## Procedure check list – getting started

- Assess eye lid anatomy of your patients
- Place an eye lid clamp to facilitate examination of eye lid margins
- Practice placing eyelid speculums

# Stabilisation techniques

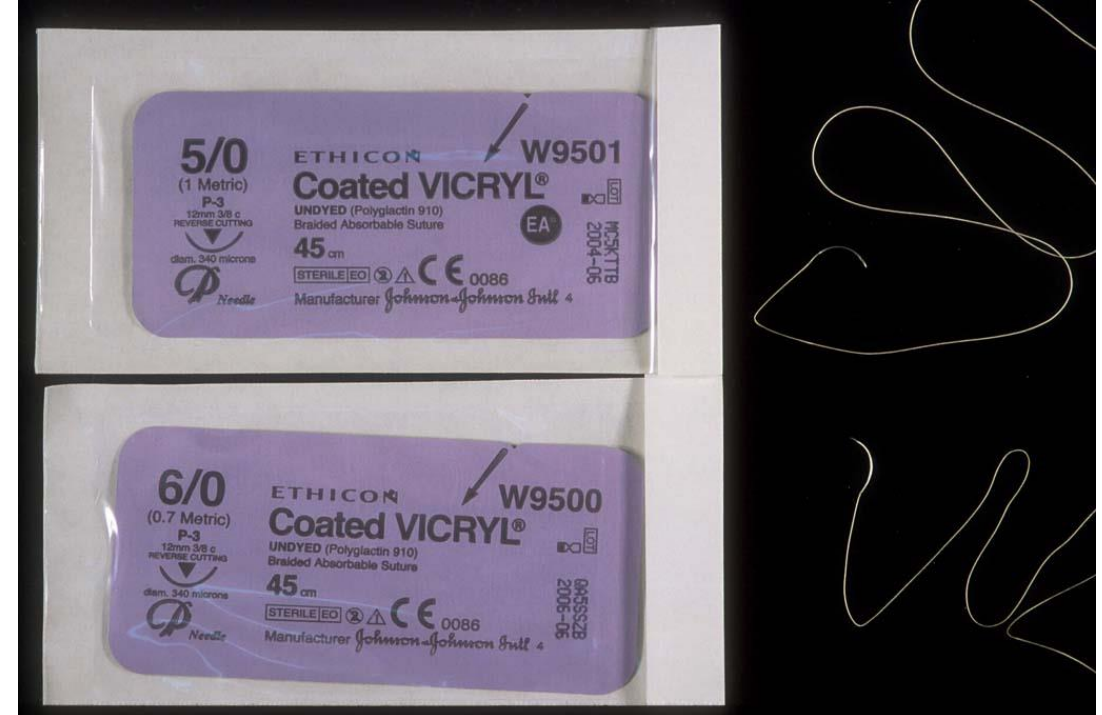
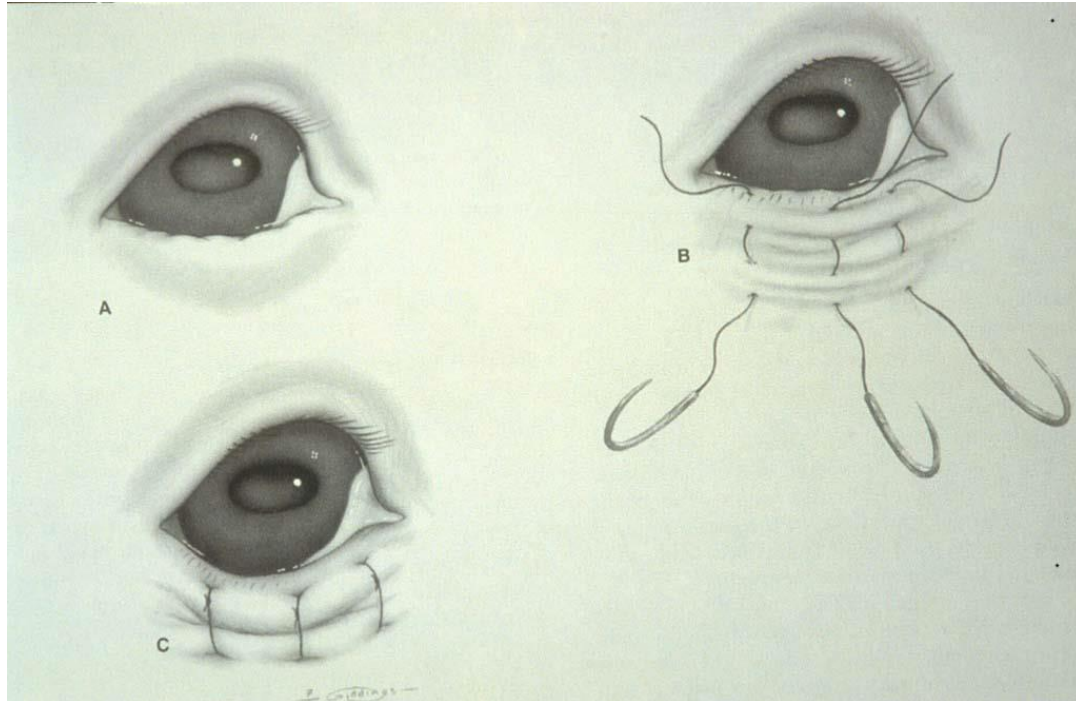
- Clamp
- Finger
- Lid plate or tongue depressor



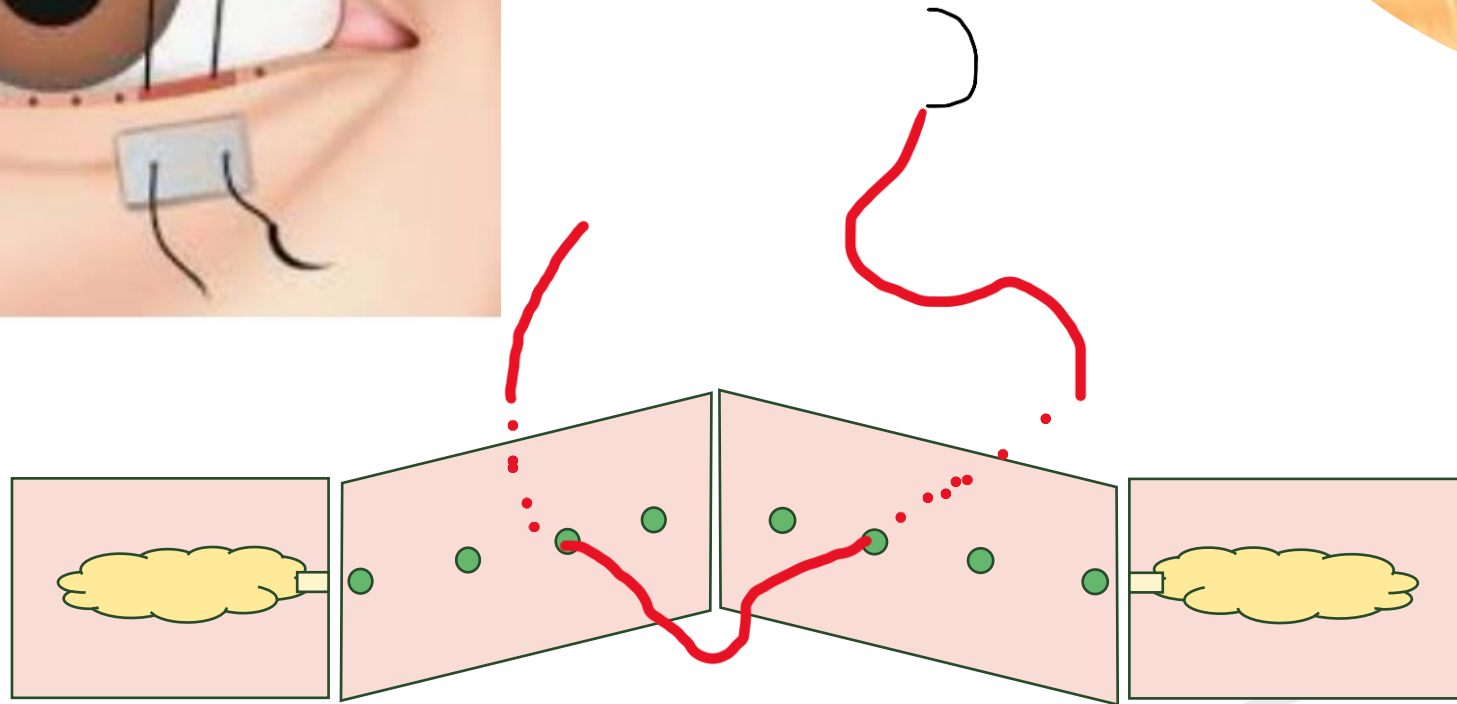
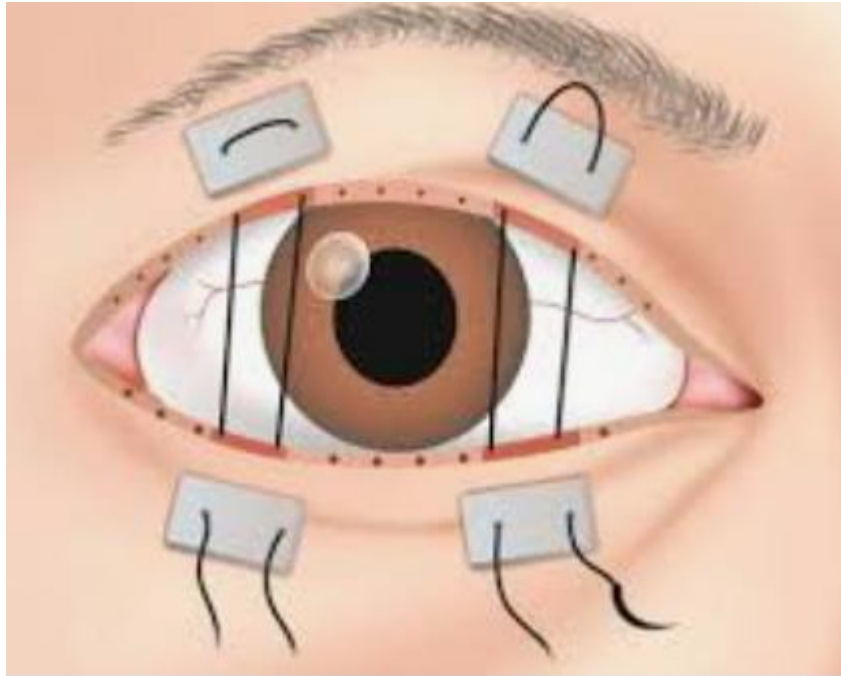
## Procedure check list – tacking and tarsorrhaphy

- Place temporary eversion sutures (“tacking sutures”) upper and lower lid to practice ophthalmic suturing.
- Place a temporary tarsorrhaphy – using 3 mattress sutures and ensuring the sutures exit via Meibomian gland openings to close the eye lids.

# Tacking sutures for temporary eye lid margin eversion



# Temporary tarsorrhaphy

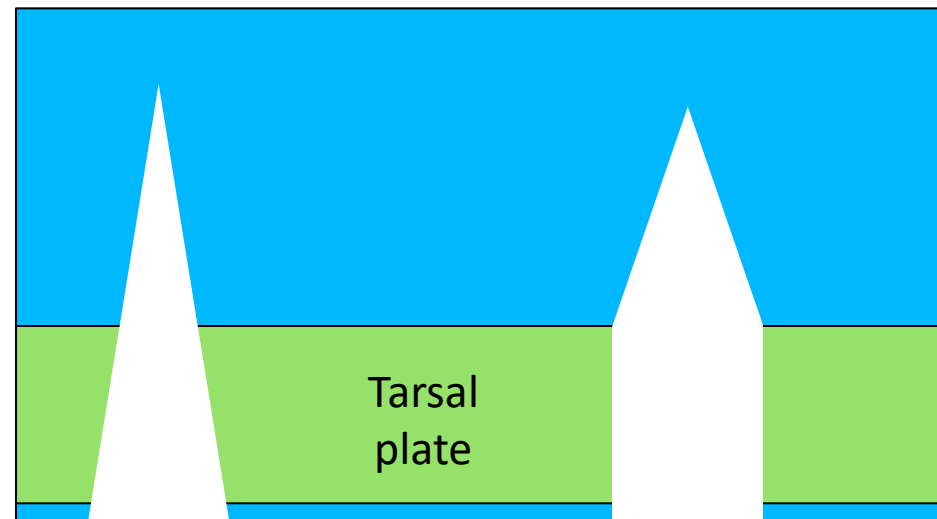


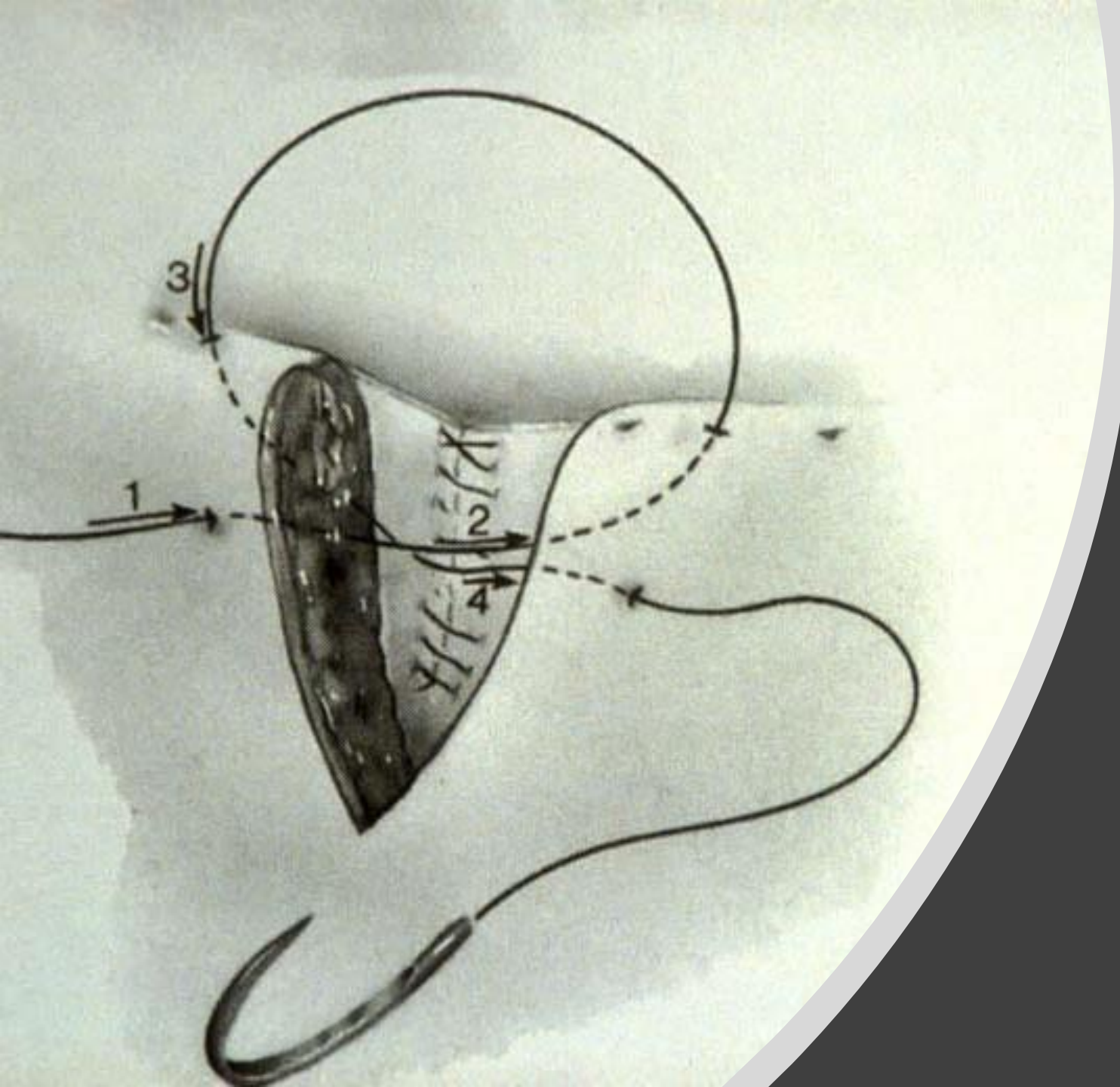
## Procedure check list – lid surgery

- Use an eye lid clamp to perform a lid shortening procedure (use a “house shaped incision to remove 5mm of lateral lower lid margin ensuring you retain tarsal plate on both sides of wound).
- Try a V-incision for comparison

# full-thickness eyelid suturing

- Perfect eyelid margin apposition
- Sutures engaged in the tarsal plate
- Tarsal plate sectioned perpendicularly
- house vs wedge incision
- figure 8 closure
- 6/0 (5/0) vicryl
- care re knots



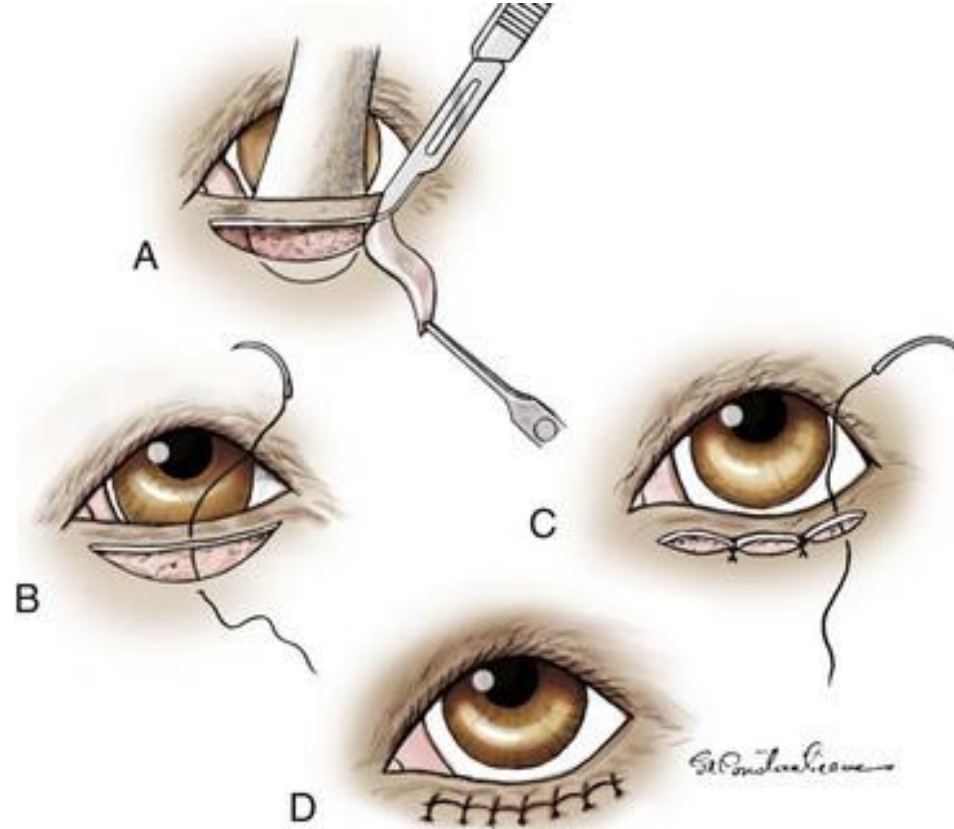


“figure of 8”  
suture

## Procedure check list:

- Use an eye lid clamp to perform a lower lid medial Hotz-Celsus procedure.
- Eye lid laceration repair – create and repair a full thickness upper eye lid laceration which involves the eye lid margin.

# Hotz-Celsus technique



From Maggs DJ: Eyelids. In Maggs DJ, Miller PE, Ofri R (eds): Slatter's fundamentals of veterinary ophthalmology, ed 4, St Louis, 2008, Saunders/Elsevier.

# Hotz-Celsus technique





## eyelid surgery

Always, always warn that a second, or third, or fourth surgery maybe required.



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Rowe  
Referrals

