A simplified nasal canthoplasty technique

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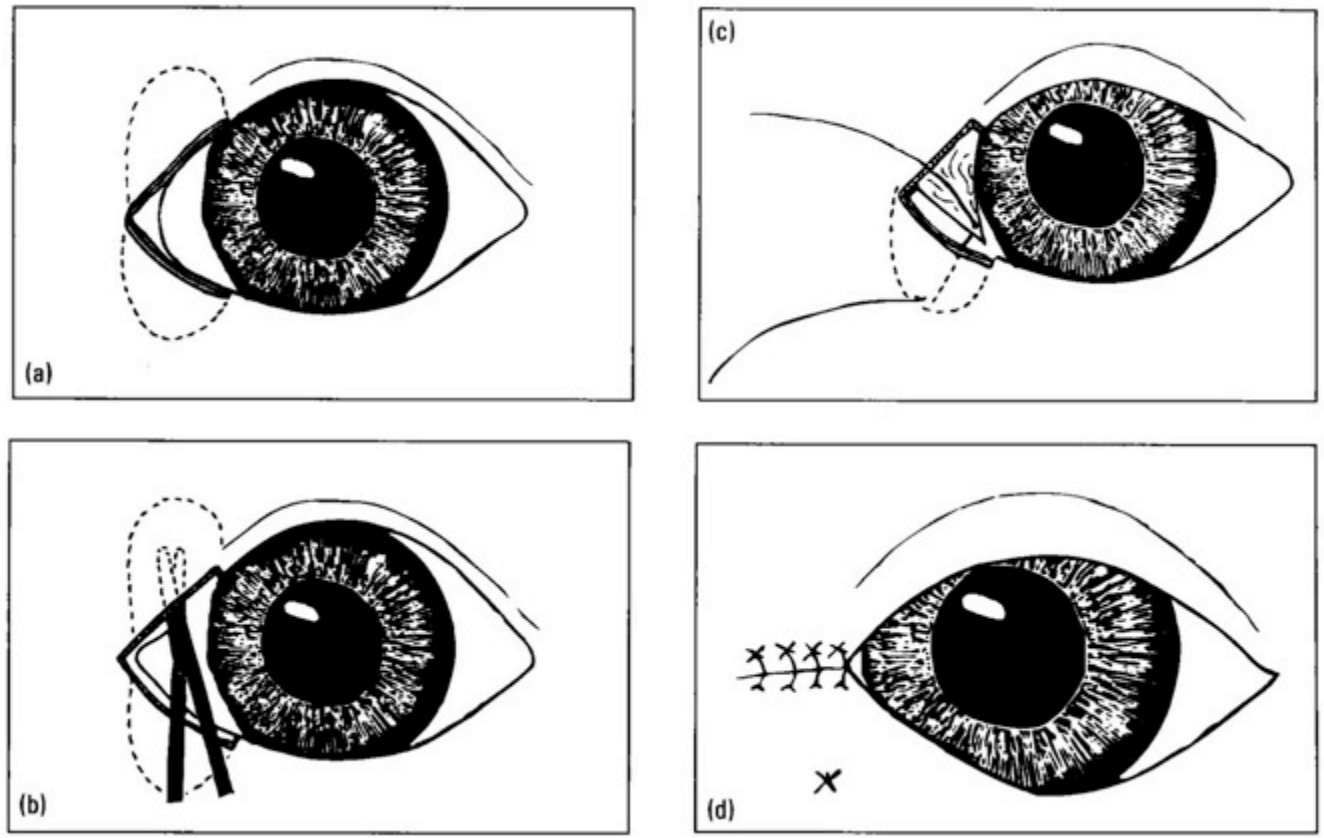
indications for nasal canthoplasty

- brachycephalics
  - shallow orbit – risk of proptoses/prolaps
  - macroblepharon +/- lagophthalmos
  - exposure keratitis, KCS
  - nasal entropion
  - nasal fold trichiasis
  - medial trichiasis
  - epiphora

Literature

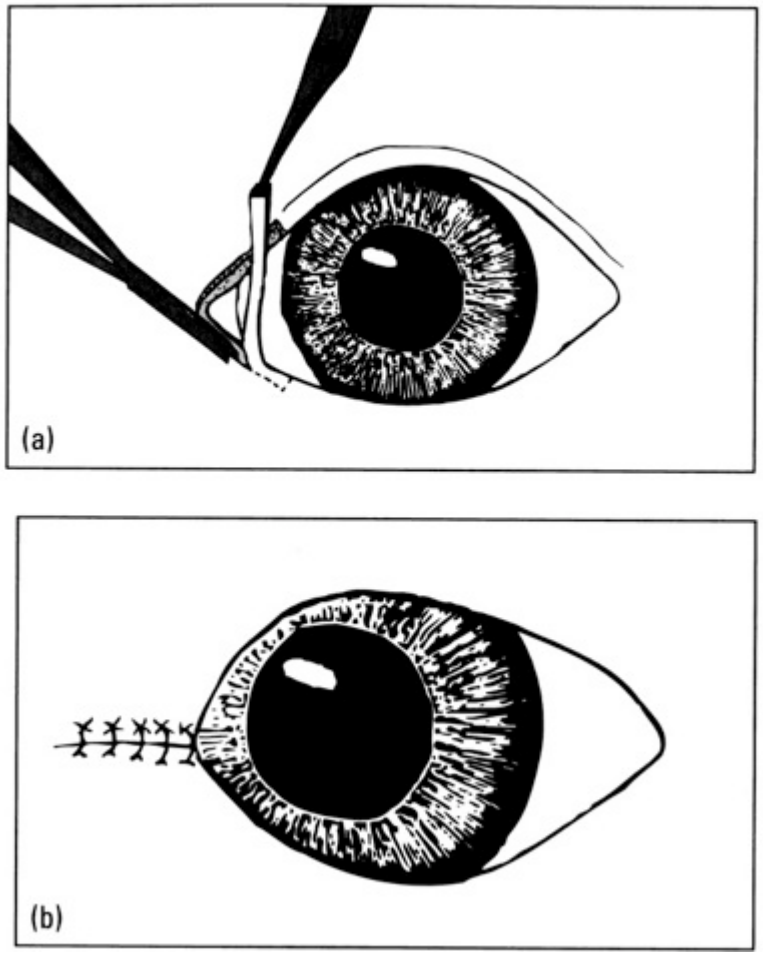
Roberts-Jensen pocket canthoplasty



Gelatt KN, Gelatt JP. Handbook of Small Animal Ophthalmic Surgery volume 1: Extraocular procedures. New York: Elsevier Science, Inc., 1994.

Literature

Gelatt: medial canthoplasty



Gelatt KN, Gelatt JP. Handbook of Small Animal Ophthalmic Surgery volume 1: Extraocular procedures. New York: Elsevier Science, Inc., 1994.

nasal canthoplasty

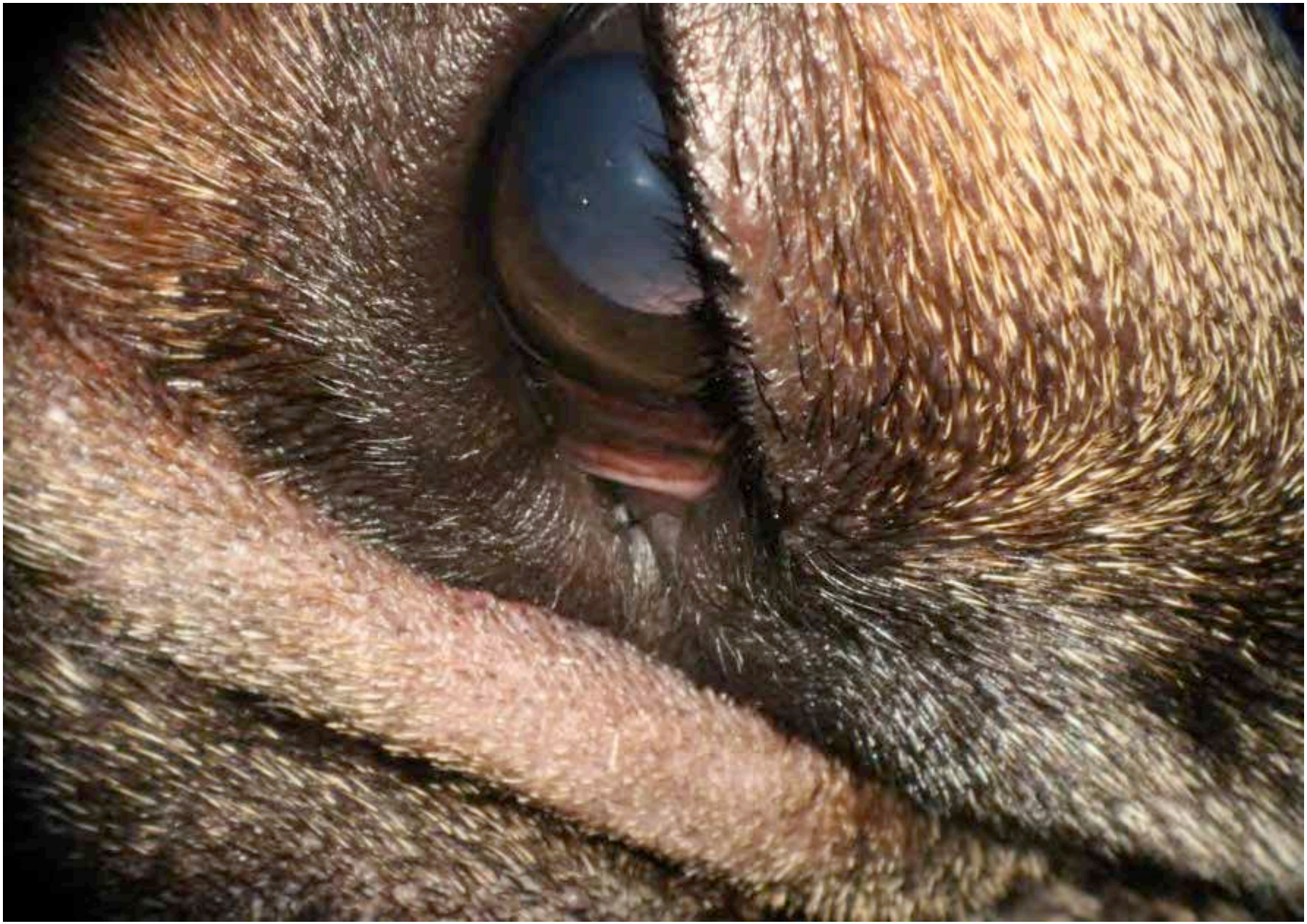
- aggressive shortening of the lid fissure may be necessary to be effective
- extend needs to be determined individually

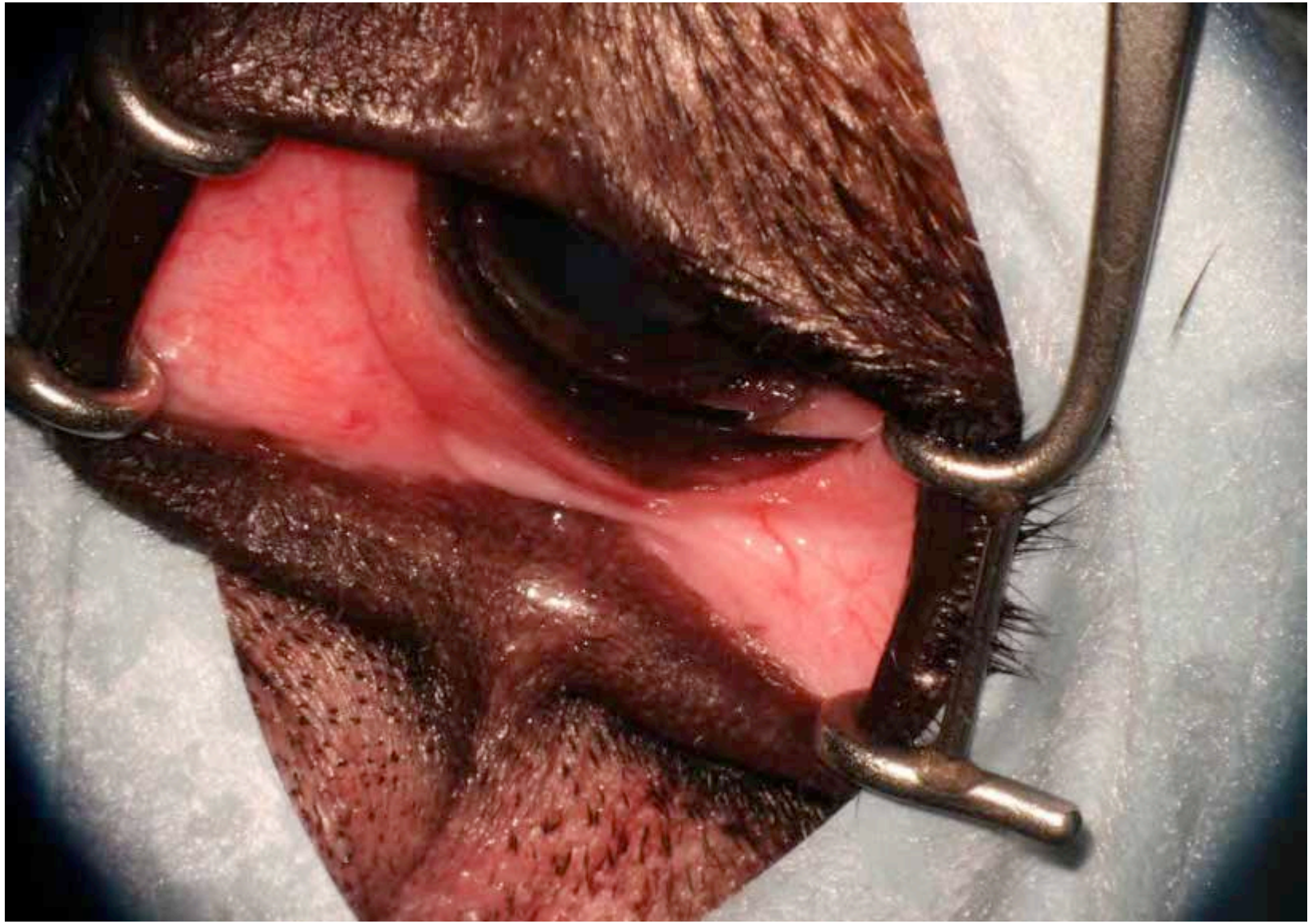
..keep it simple but effective...

nasal canthoplasty - preparation

- inhalation anesthesia
- lateral recumbency
- vacuum cushion
- magnification – microscope 5-7x
- instruments
  - fine forceps with tying plates
  - Steven´s tenotomy scissors

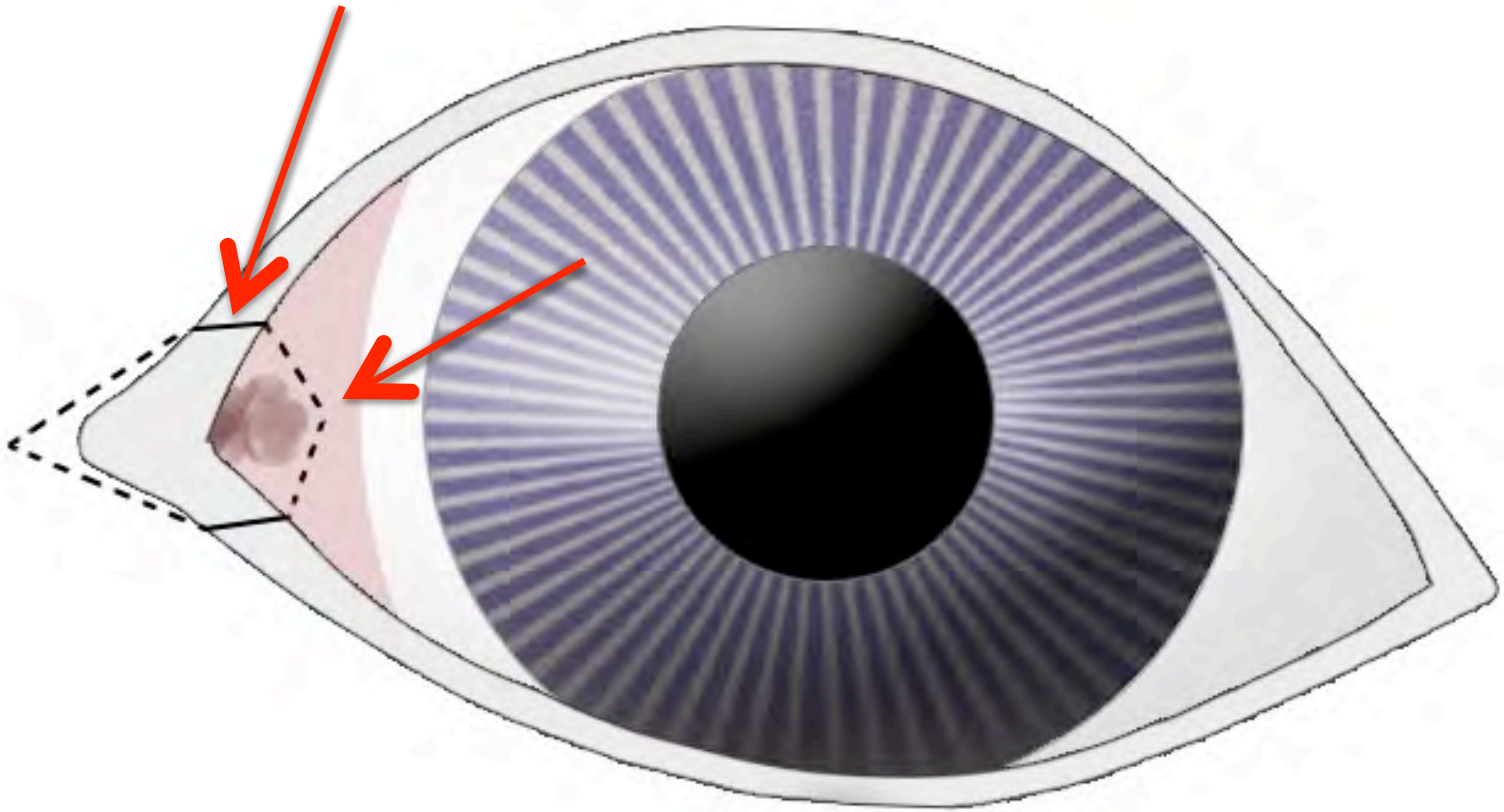
positioning

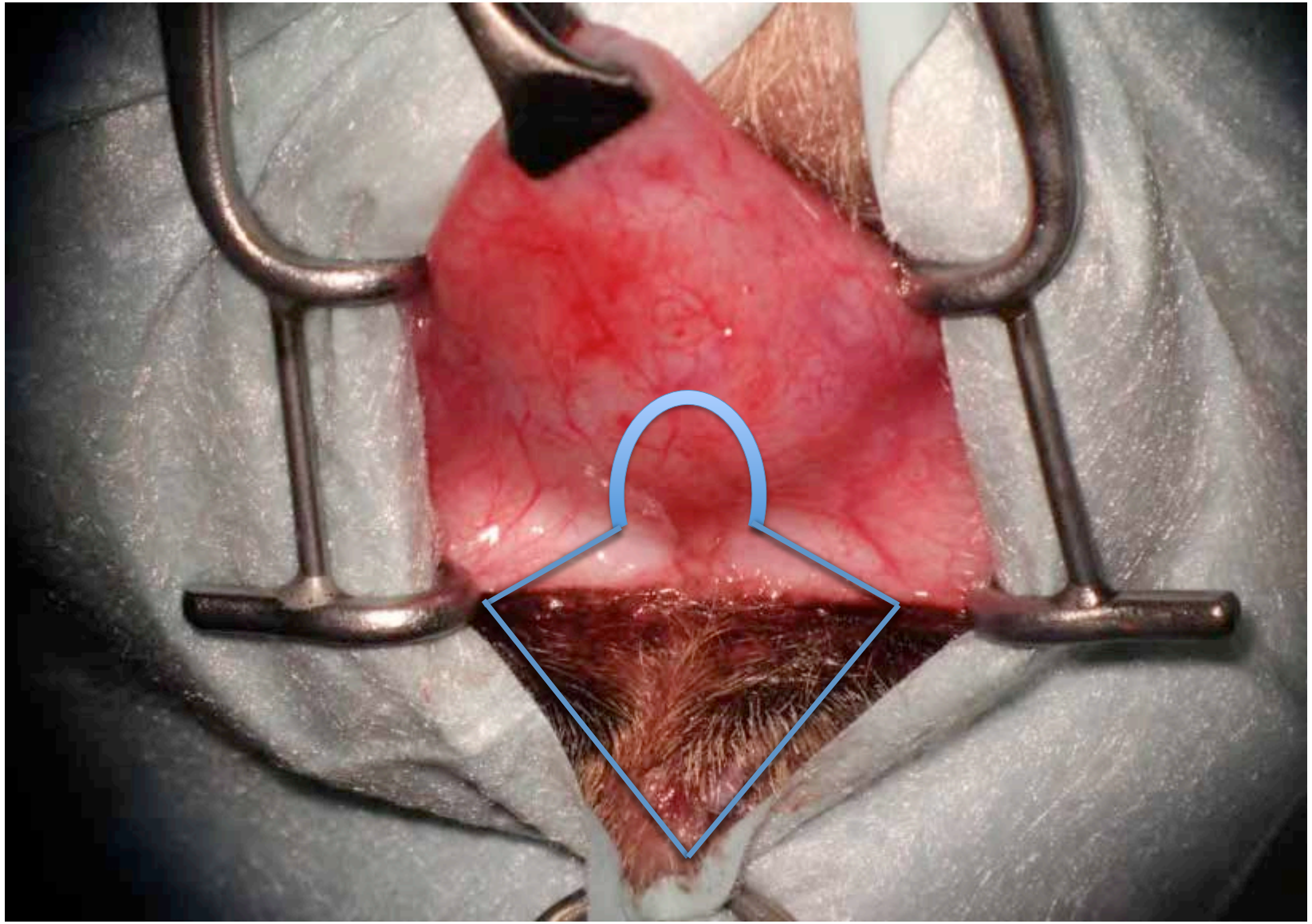


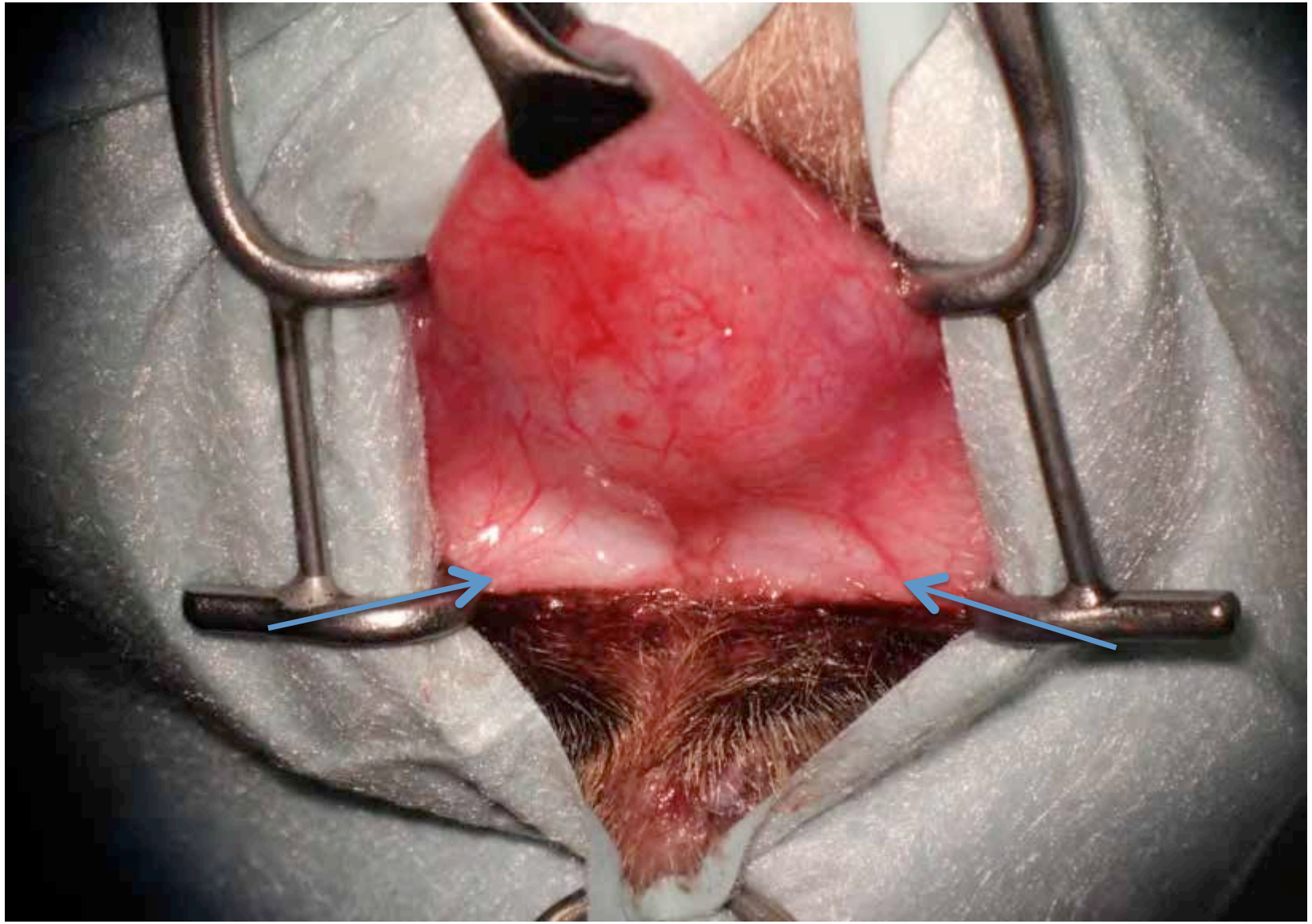


magnification 5-7x necessary

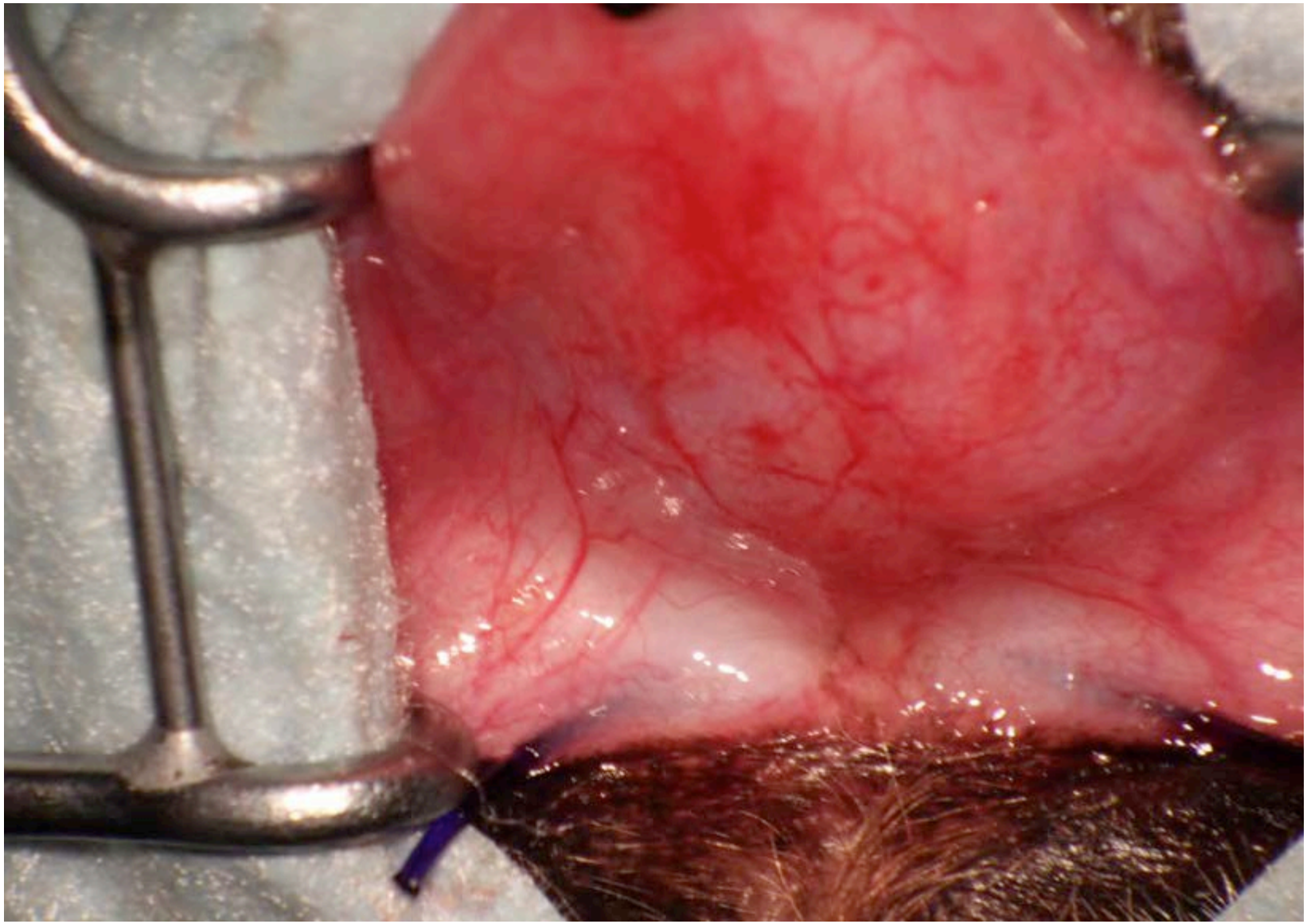
nasal canthoplasty I

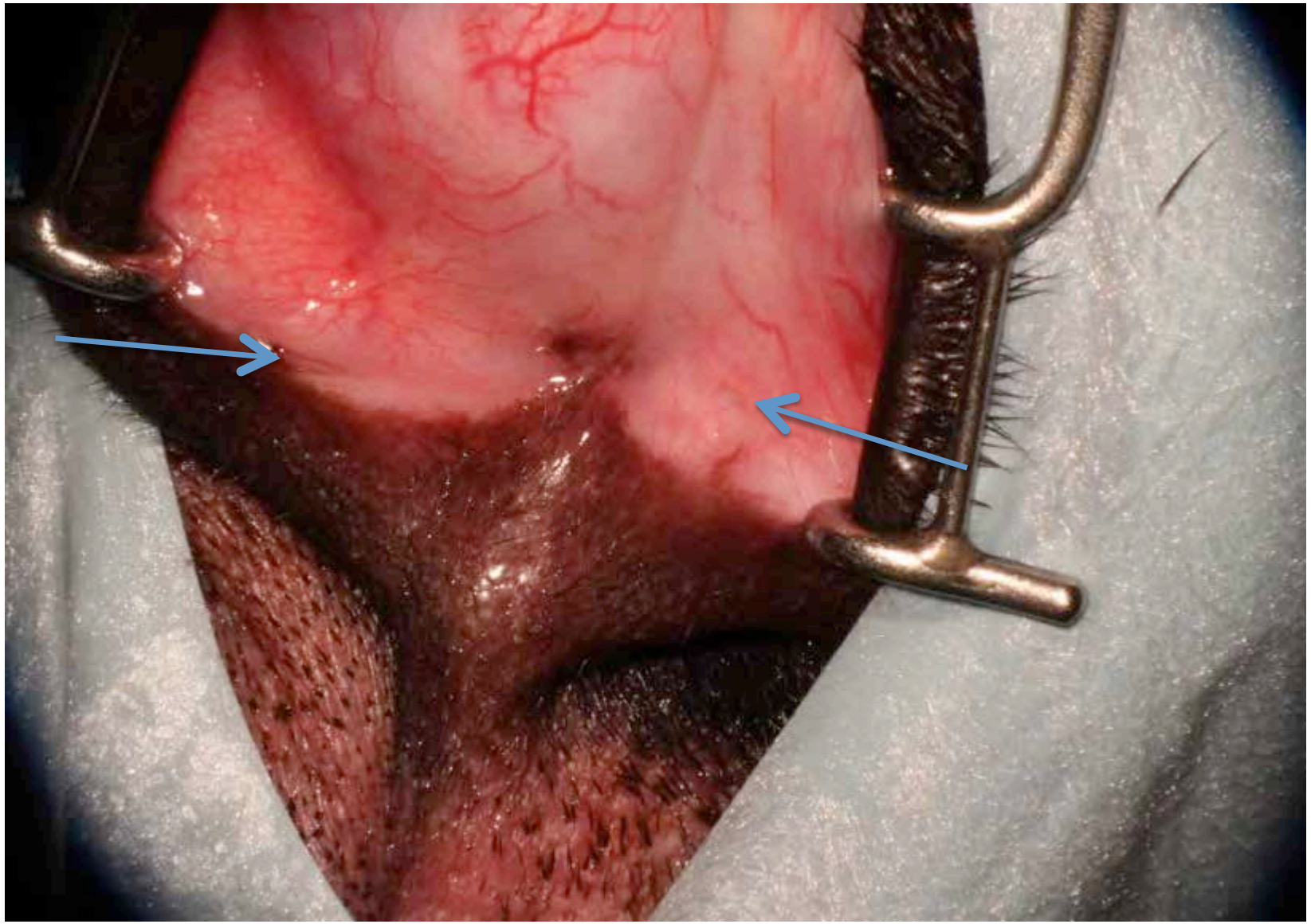


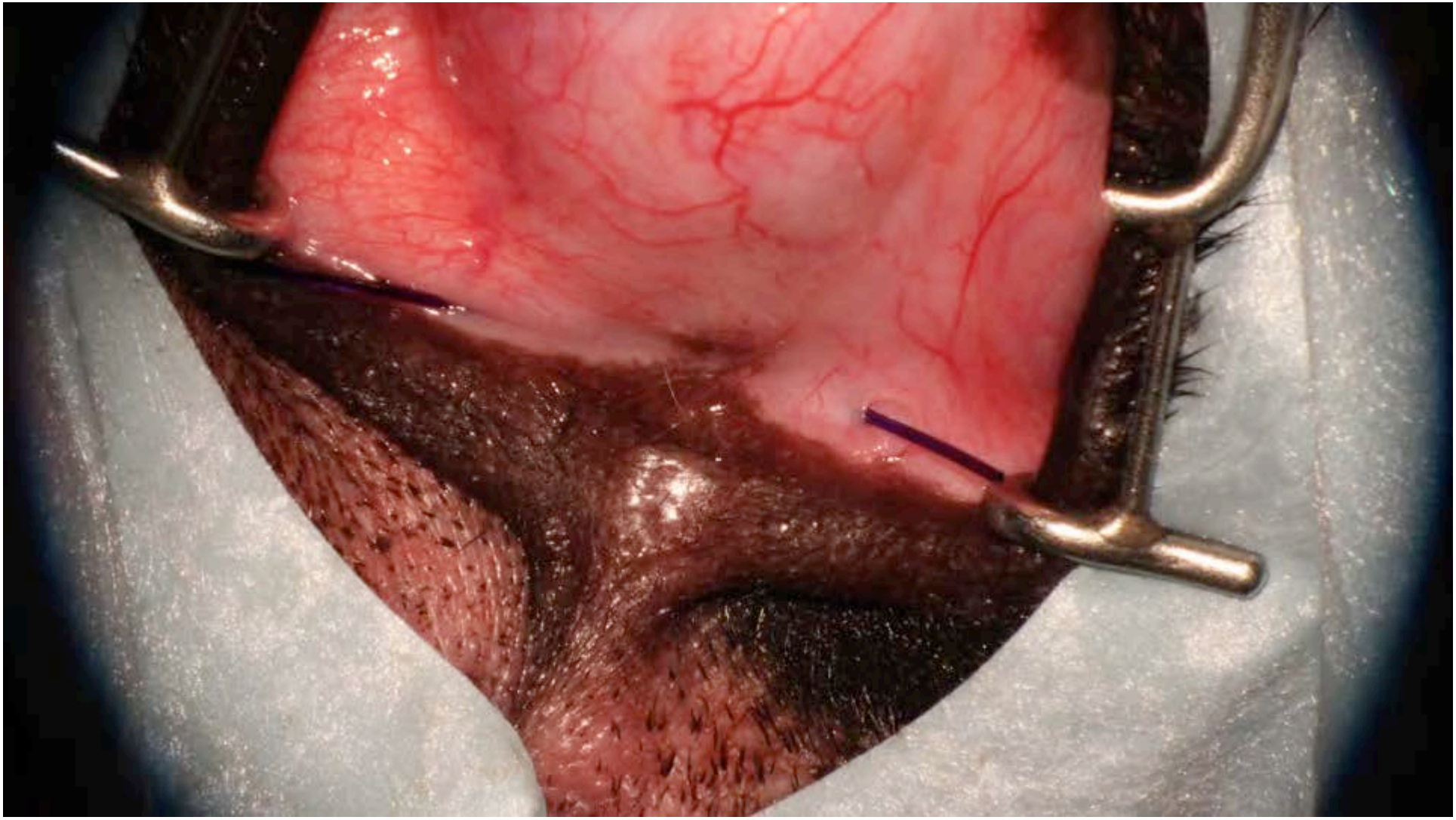




place PDS in canalicula for orientation

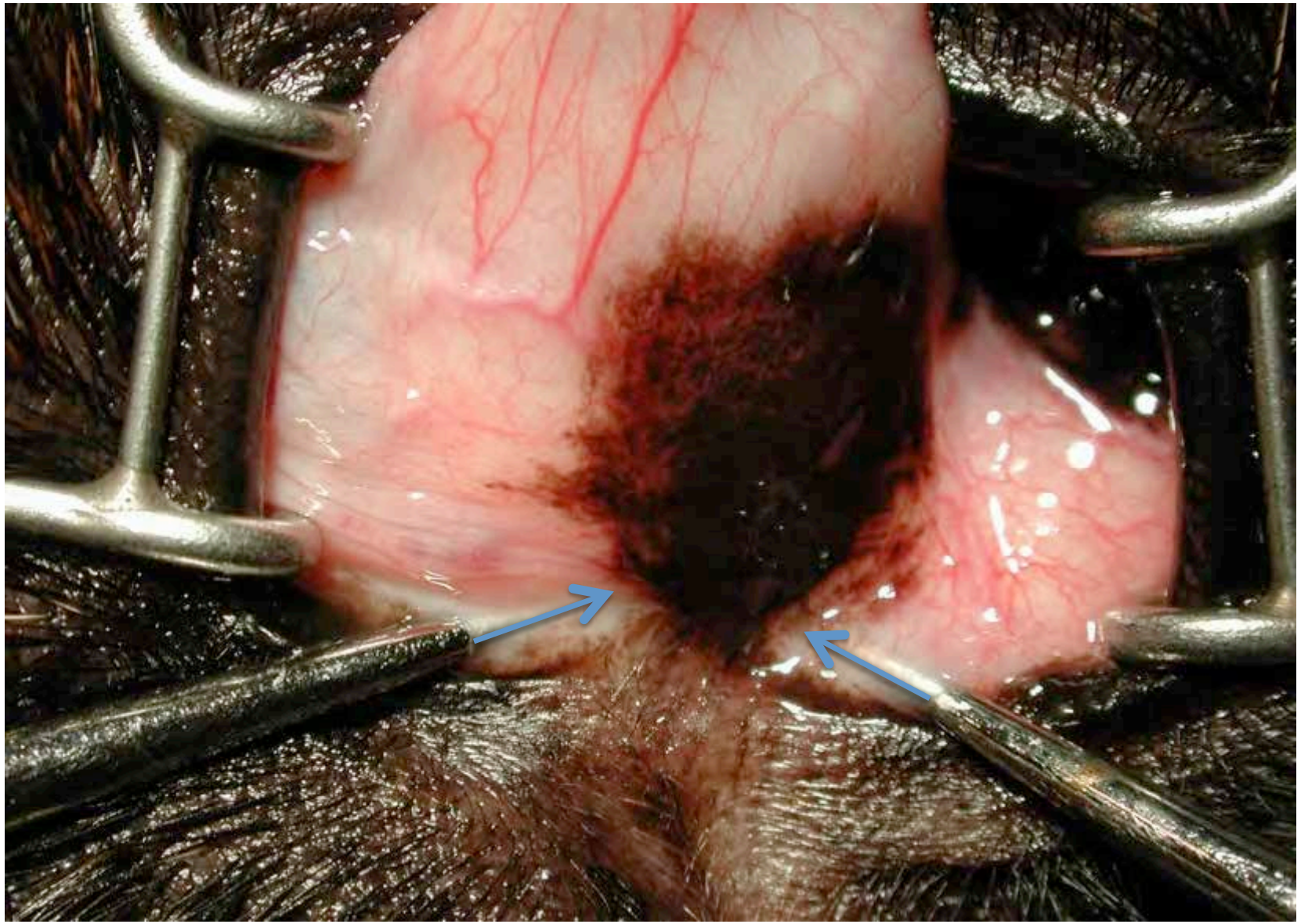




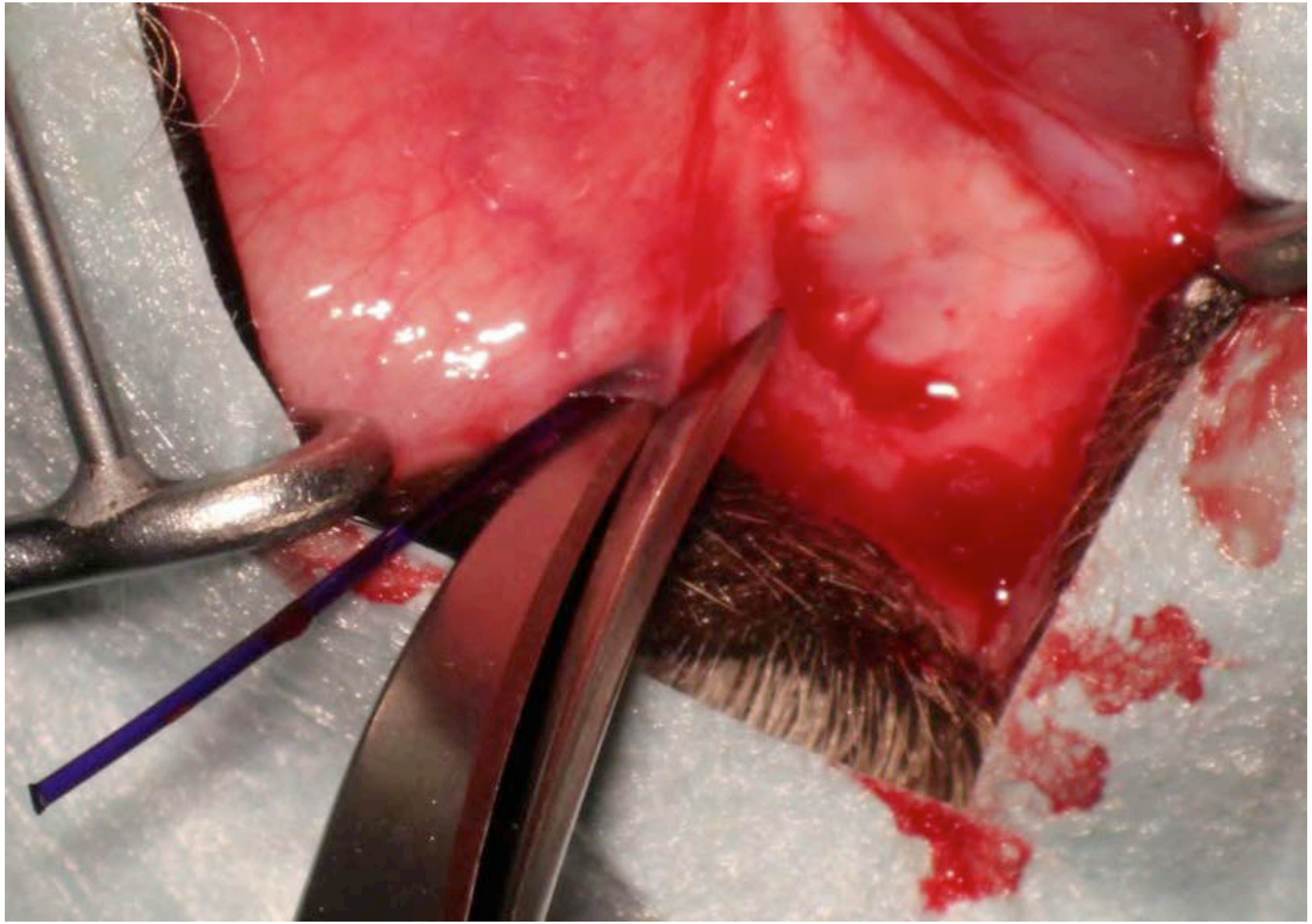


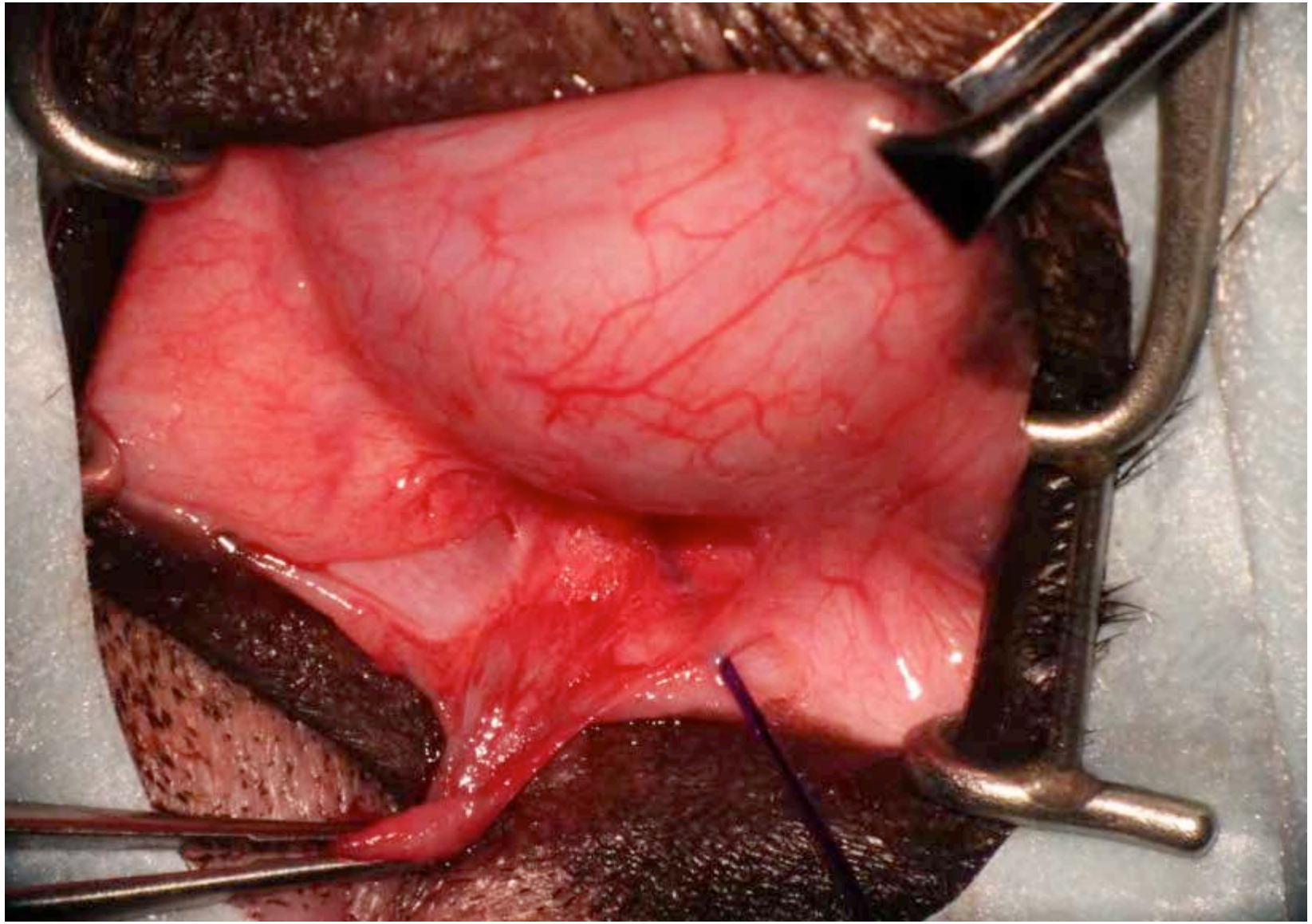
puncta lacrimalia

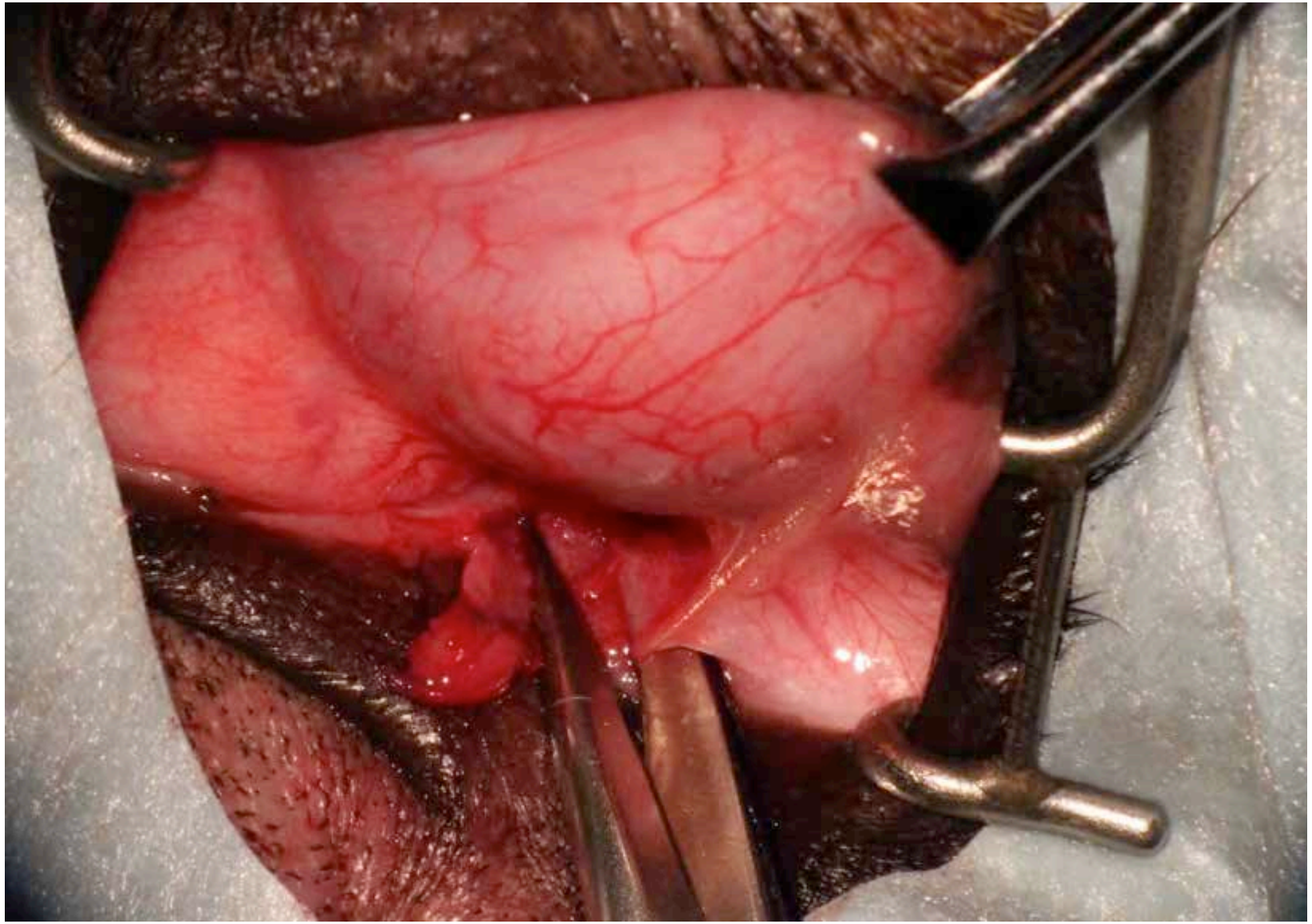
- canaliculi are split
- puncta are “relocated“ deeply into the fornix
- indwelling catheter is not necessary
- puncta will remain patent



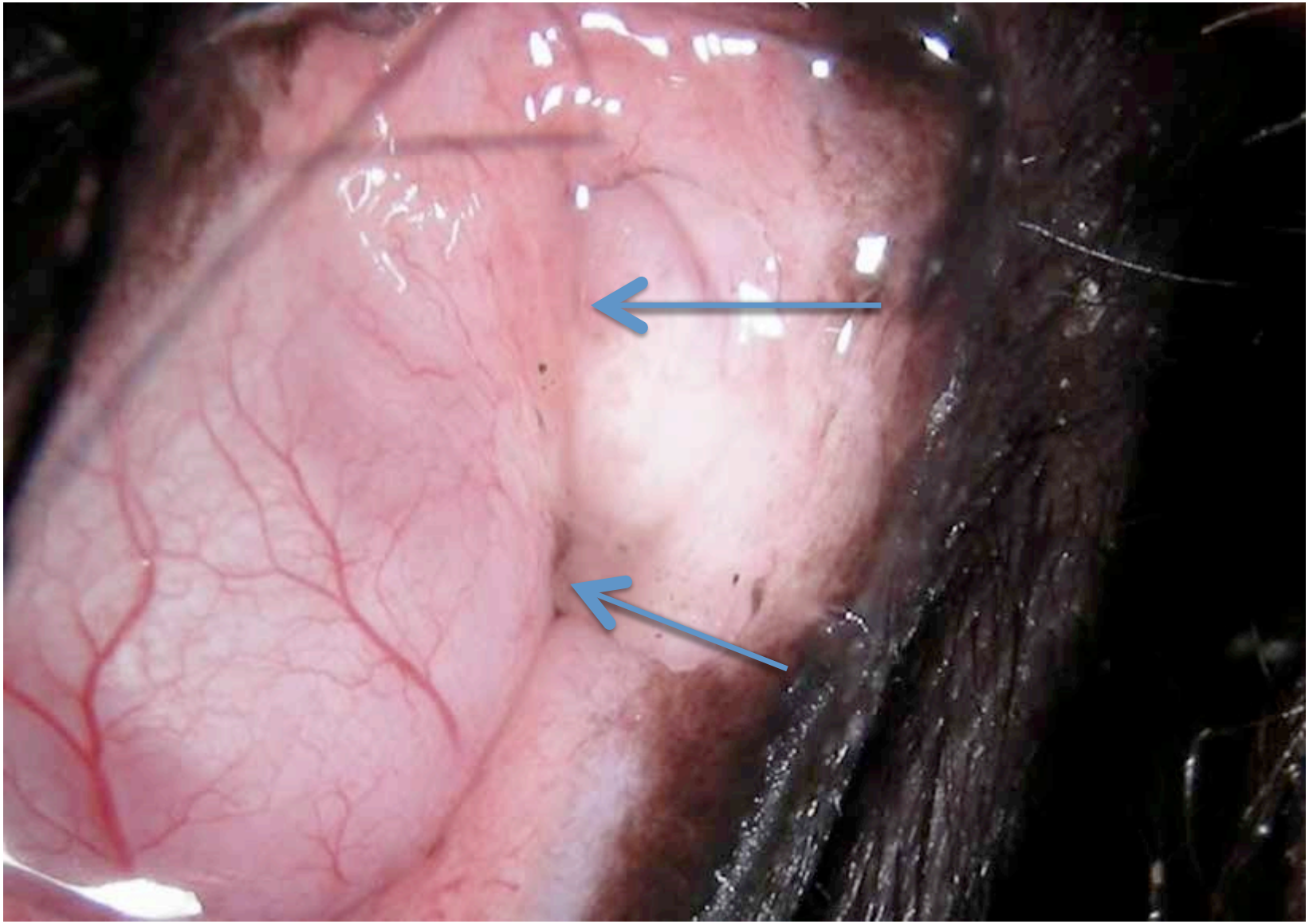
spatulation of the canaliculi – relocation of puncta

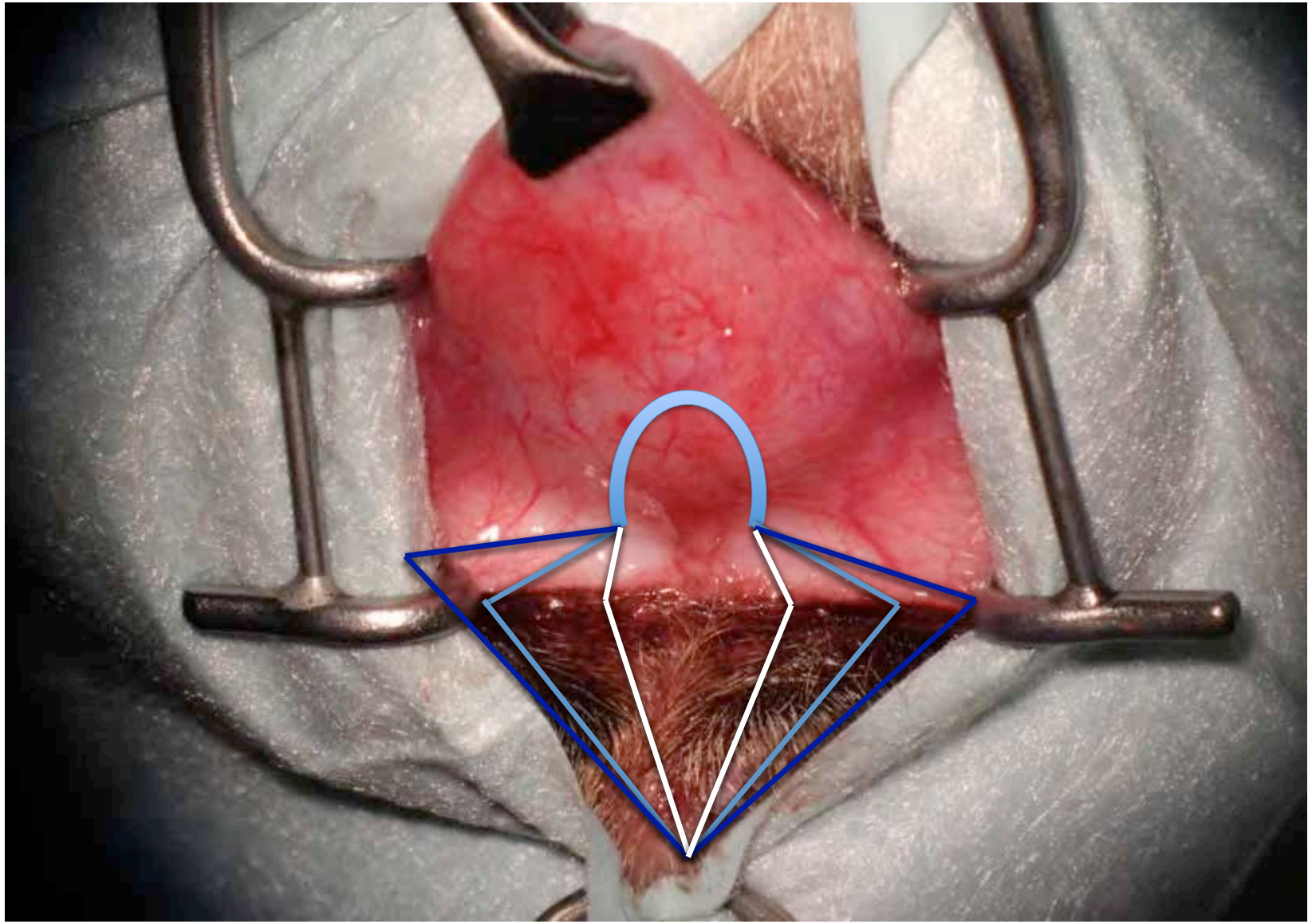




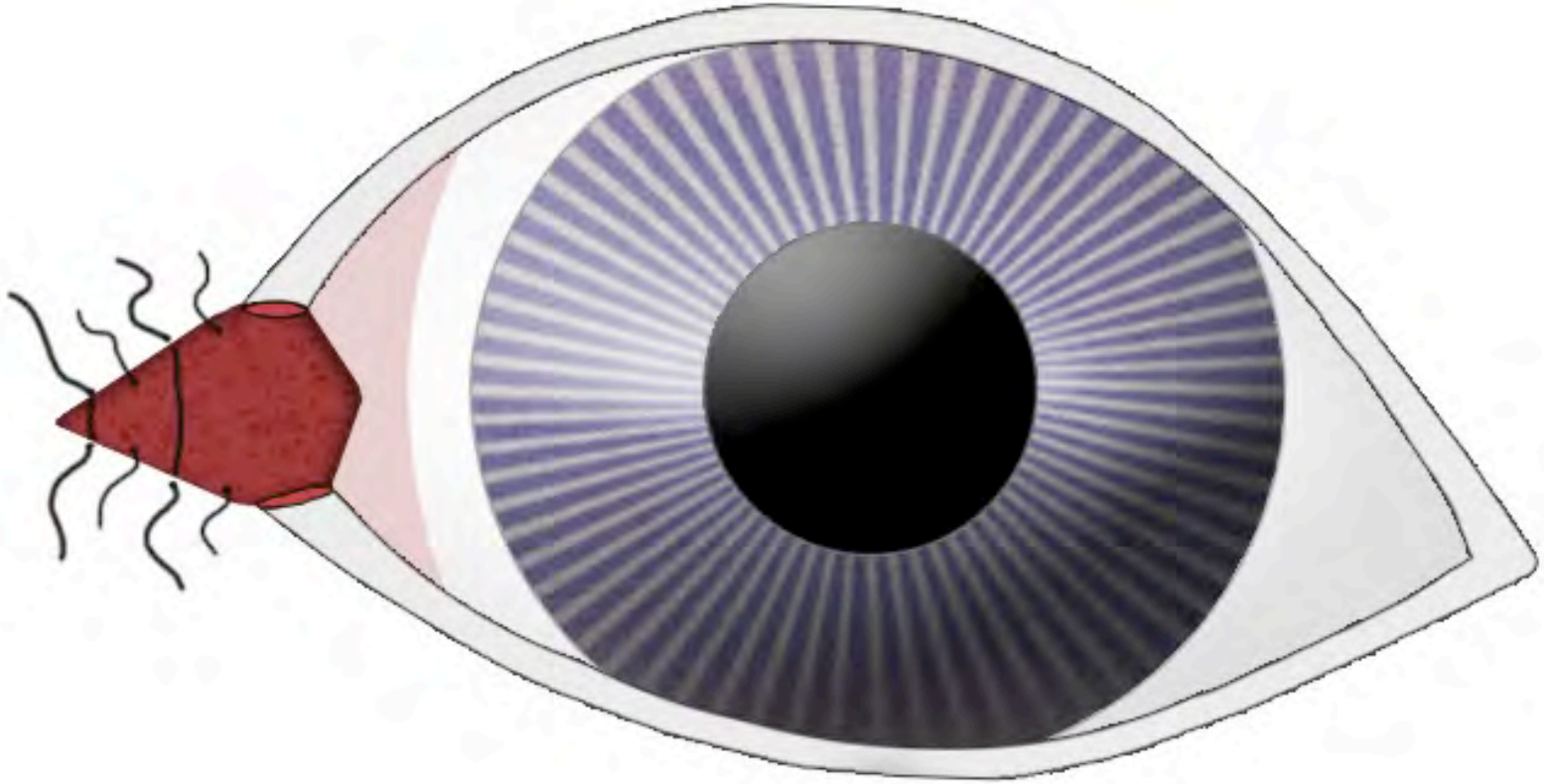


10 years post-OP: “relocated“ puncta lacrimalia



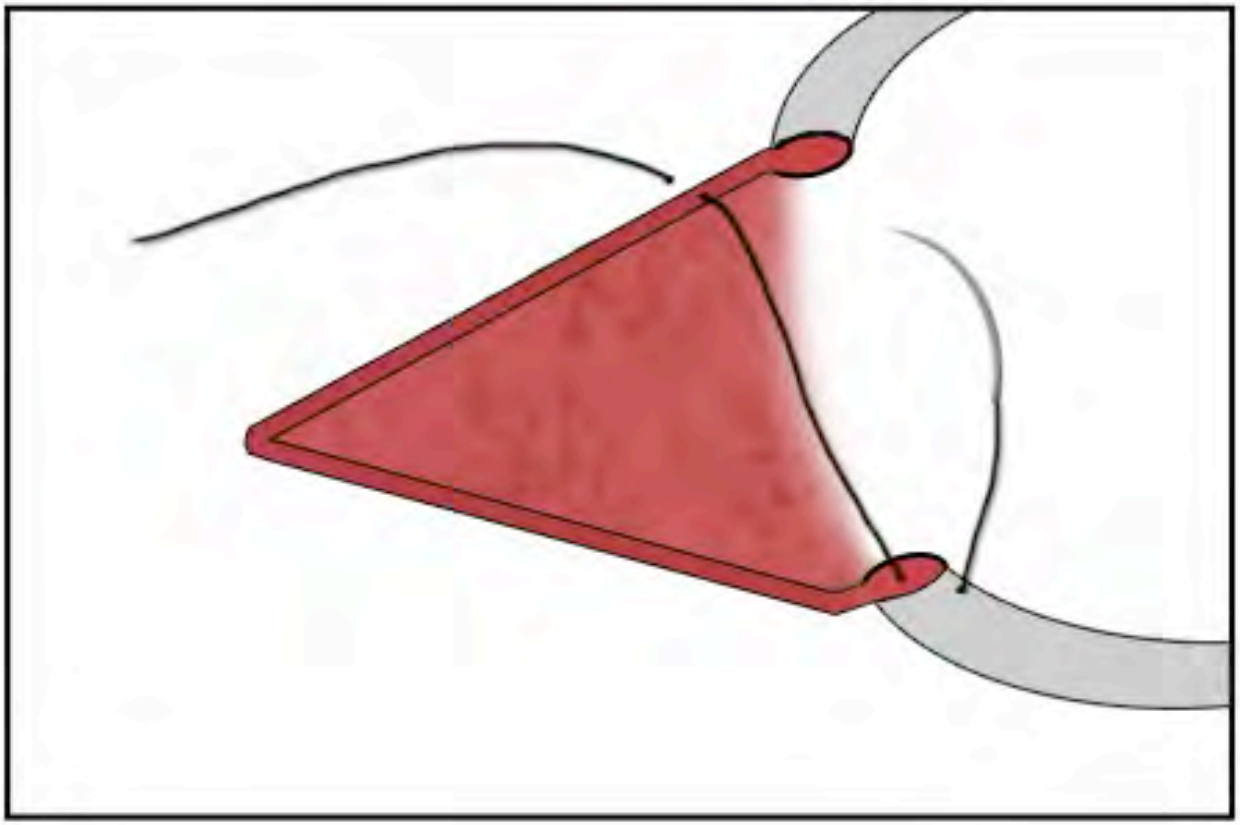


nasal canthoplasty II



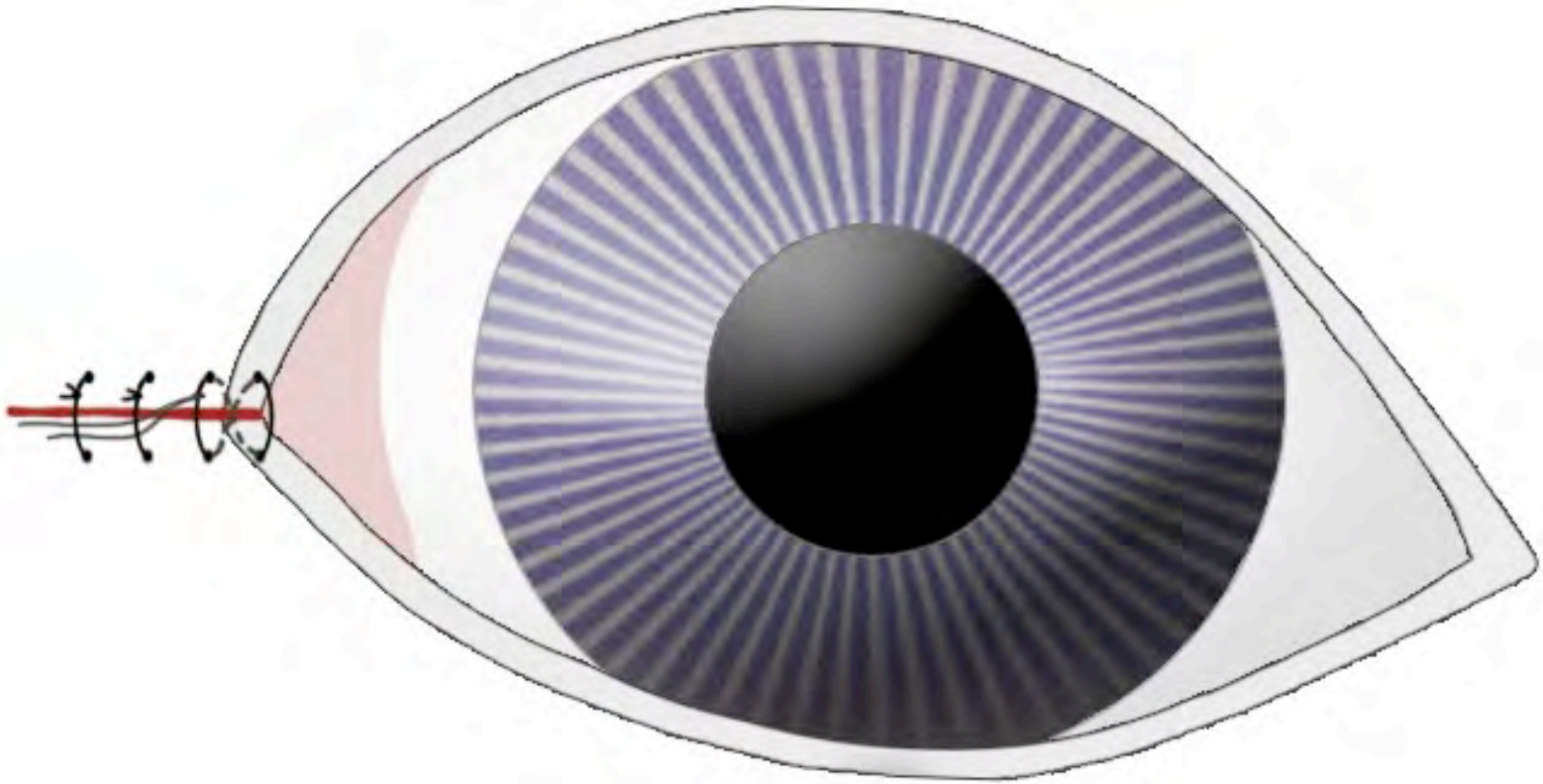
Vicryl® 6-0

nasal canthoplasty III

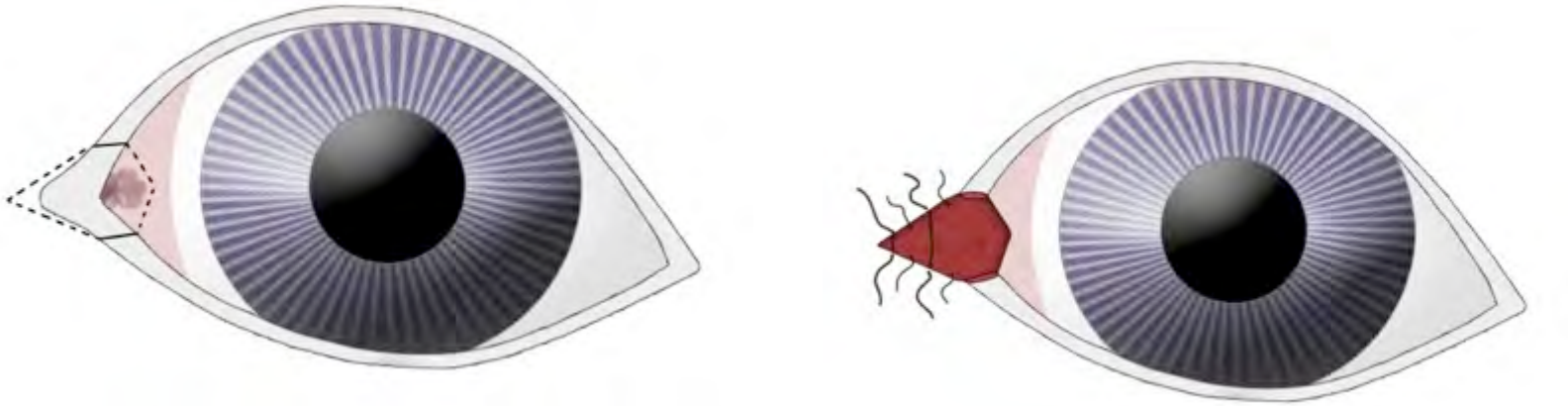


conjunctiva is not sutured

nasal canthoplasty IV



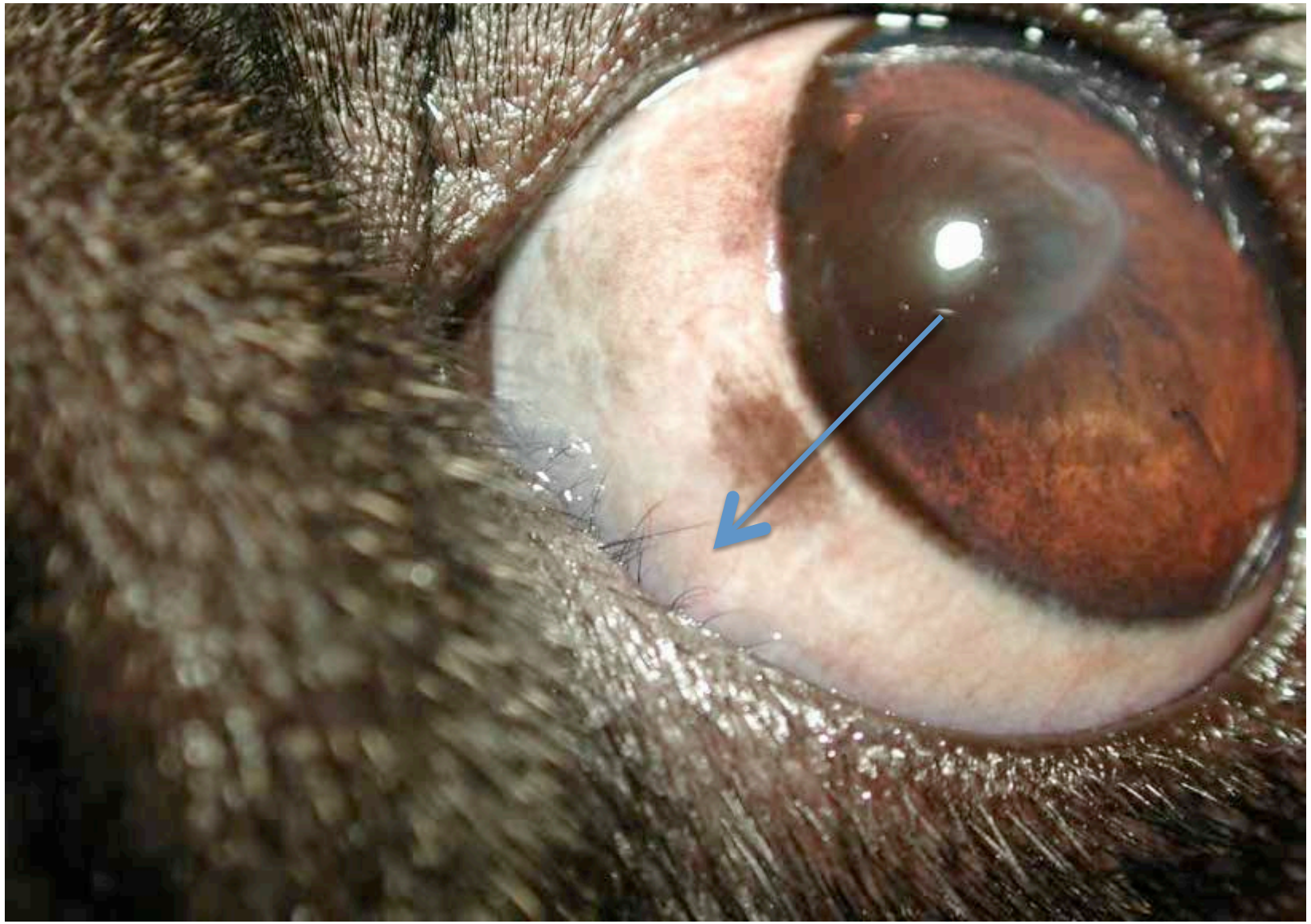
nasal canthoplasty



+ lifelong topical therapy in most brachycephalics (ciclosporin, tacrolimus etc)

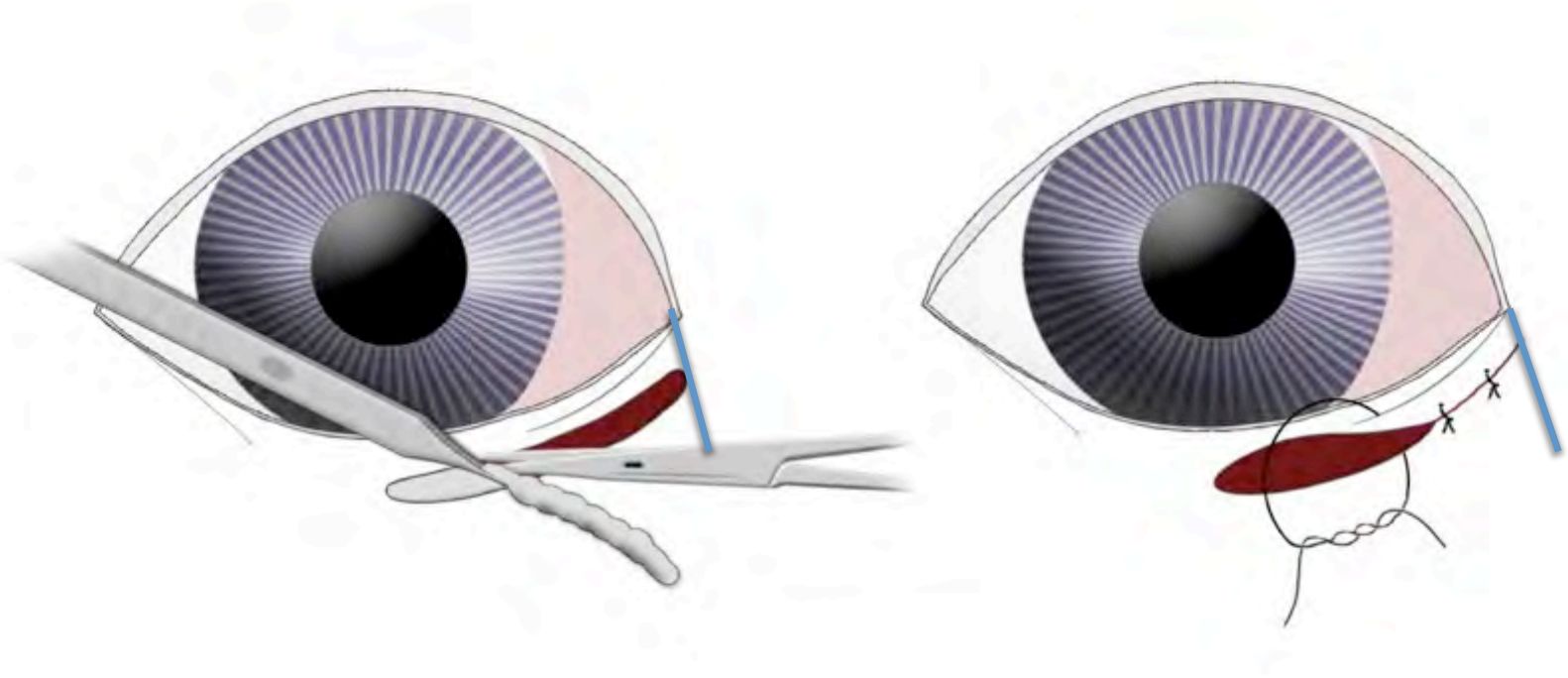
nasal entropion

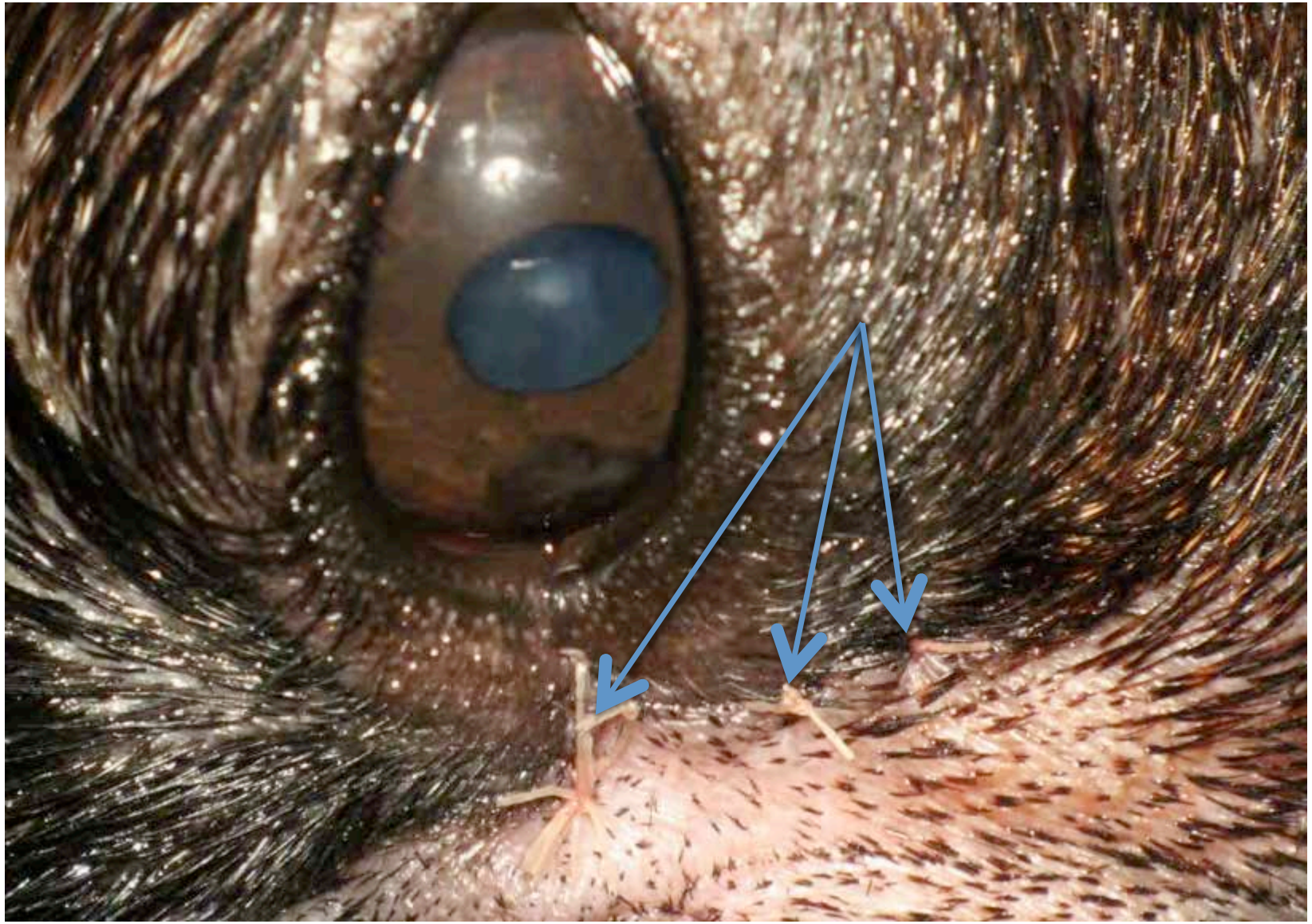
- concurrent problem in most pugs
- chronic irritiation – trichiasis
- surgical correction is combined with nasal canthoplasty



variable degree of nasal entropion

technique for nasal entropion

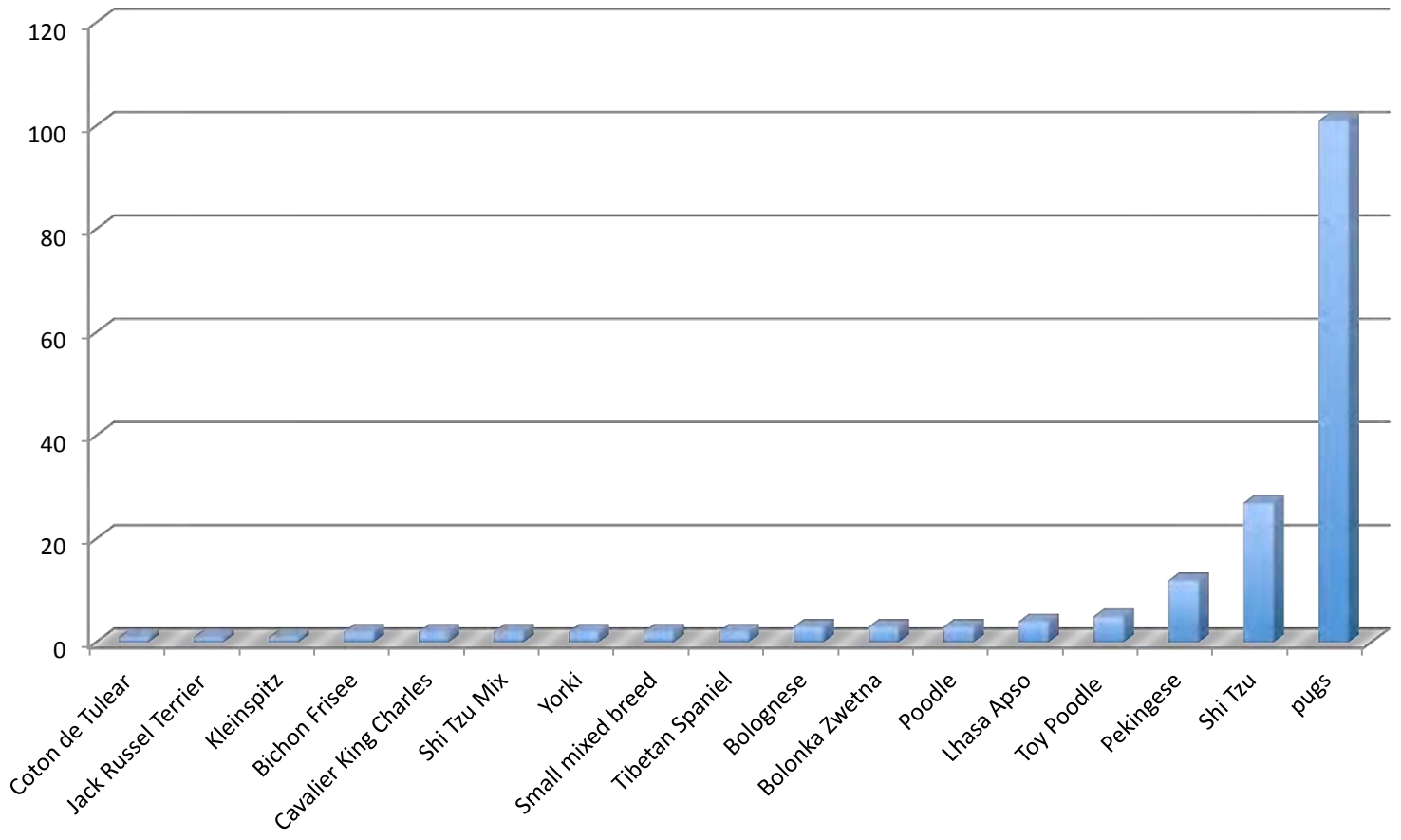




simplified nasal canthoplasty

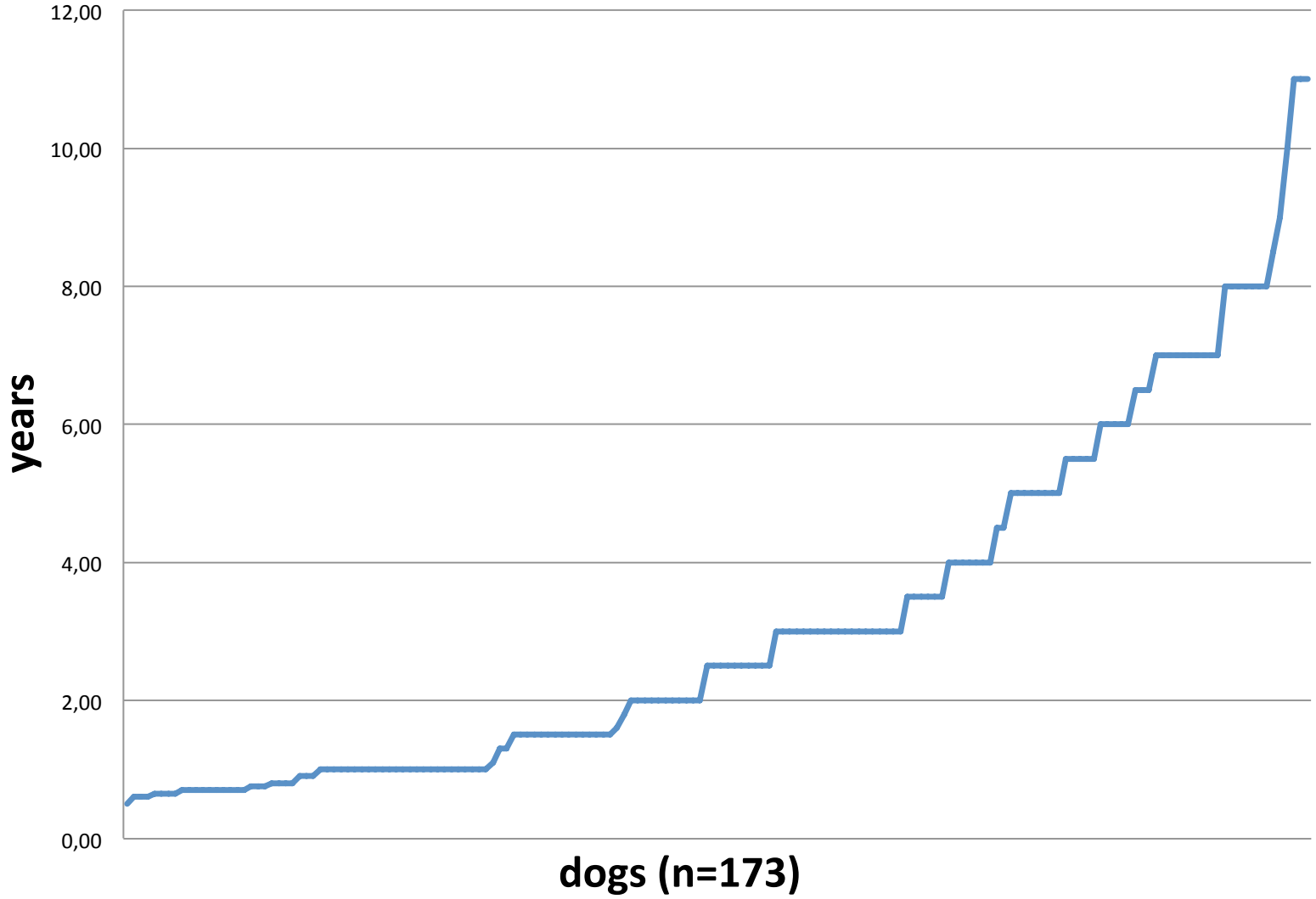
retrospective evaluation (n=173)

operated breeds (n=173)



- 101 Pugs, 27 Shih Tzus, 12 Pekingese
- several other breeds

nasal canthoplasty: age at surgery



mean age at surgery 3,12 years (0.5 – 11 y)

follow up

- no complications related to the technique noted

post-OP nasal canthoplasty: change of facial expression

pre-OP

post-OP

post-Op: typically rounded nasal canthus

nasal canthoplasty

pre-OP

post-OP

nasal canthoplasty

pre-OP

post-OP


pre-OP
4 y post-OP
topical ciclosporin 2%
topical tacrolimus 0.1%

nasal canthoplasty + topical ciclosporin 2%

pre-OP

post OP

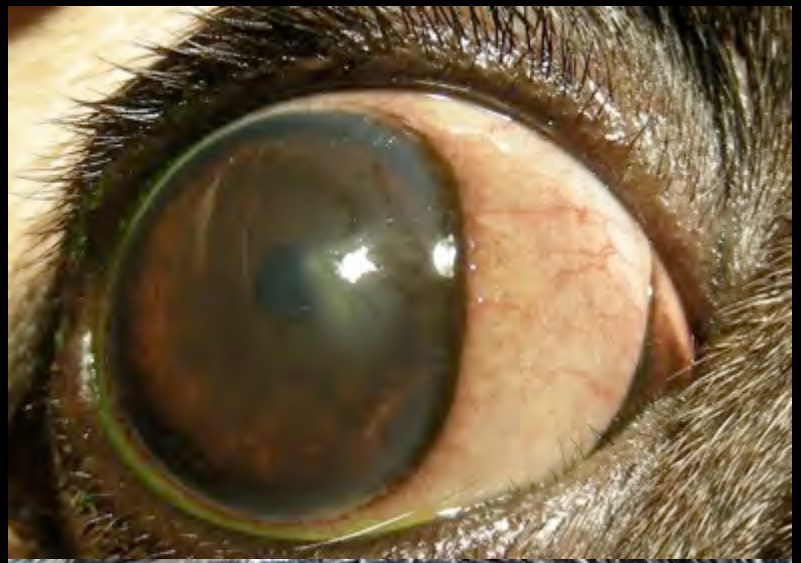
4 y post-OP

pre-OP nasal canthoplasty and ciclosporine 2%

3 y post-OP

nasal canthoplasty + topical ciclosporin 2%

pre-OP



4 y post-OP

Labelle et al: Prevalence and risk factors for the development of pigmentary keratitis in the pug

Proc. ACVO 2012

- PK in 80 % of the dogs examined (n=295)
- statistical evaluation of risk factors
  - STT, TFBUT, CCT, entropion etc – not significantly associated

pre-OP nasal canthoplasty

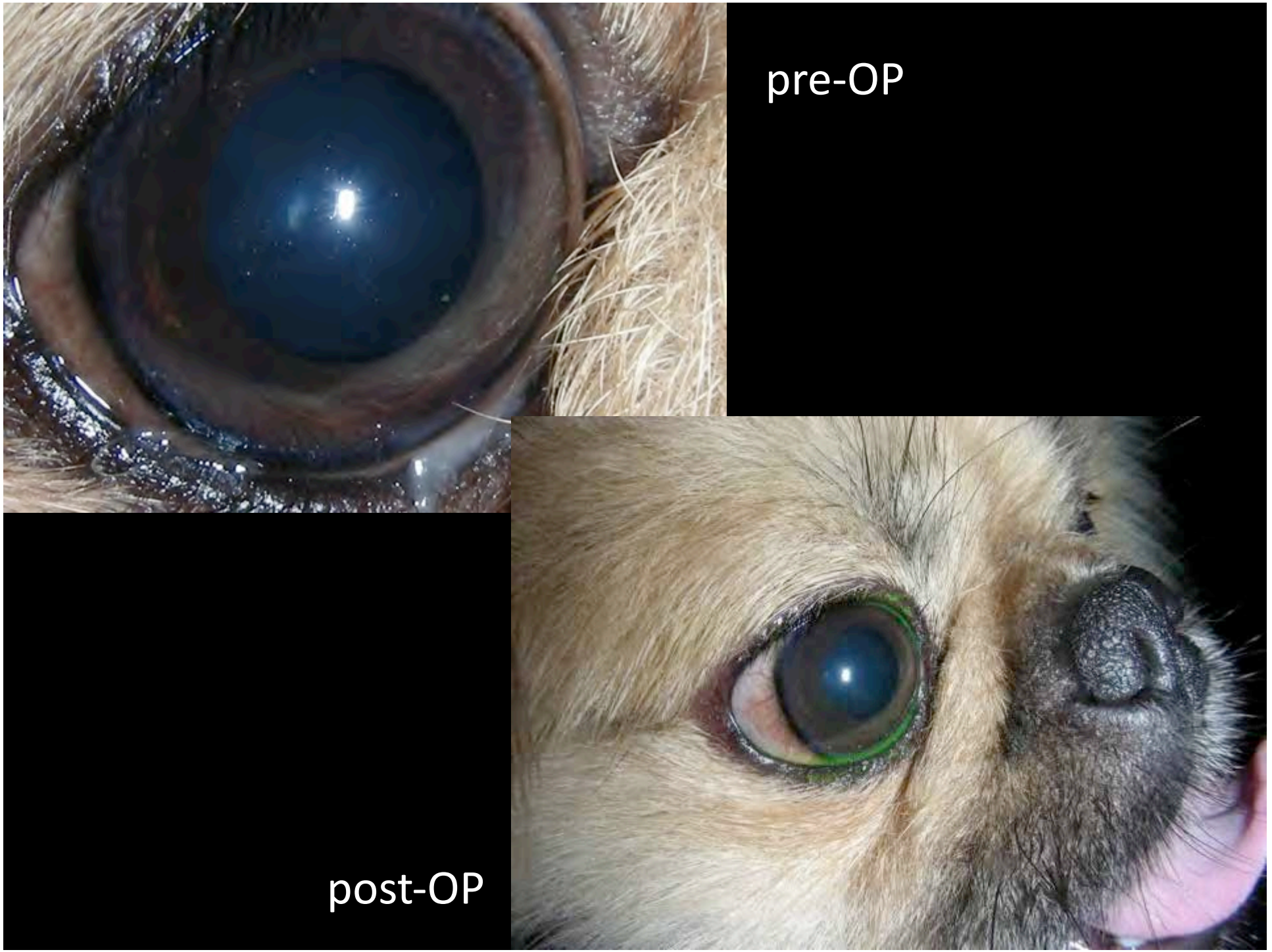
post-OP nasal canthoplast

and ciclosporine 2%

lagophthalmus and nasal fold trichiasis

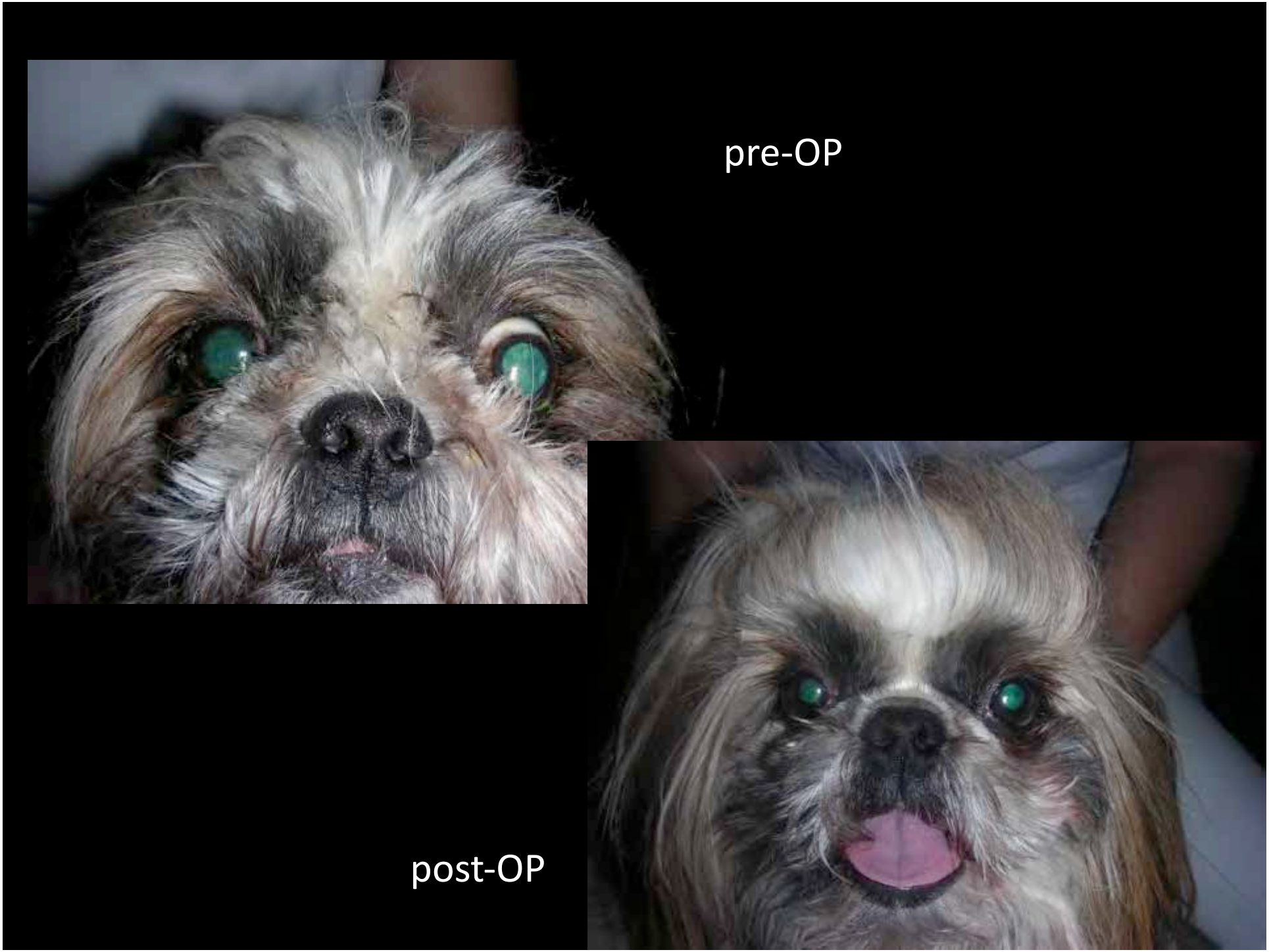
pre-OP canthoplasty

post-OP


pre-OP
post-OP

post-OP nasal canthoplasty

post-OP nasal canthoplasty


pre-OP
post-OP


pre-OP


post-OP

pre-OP nasal canthoplasty

post-OP nasal canthoplasty


pre-OP
post-OP


pre-OP
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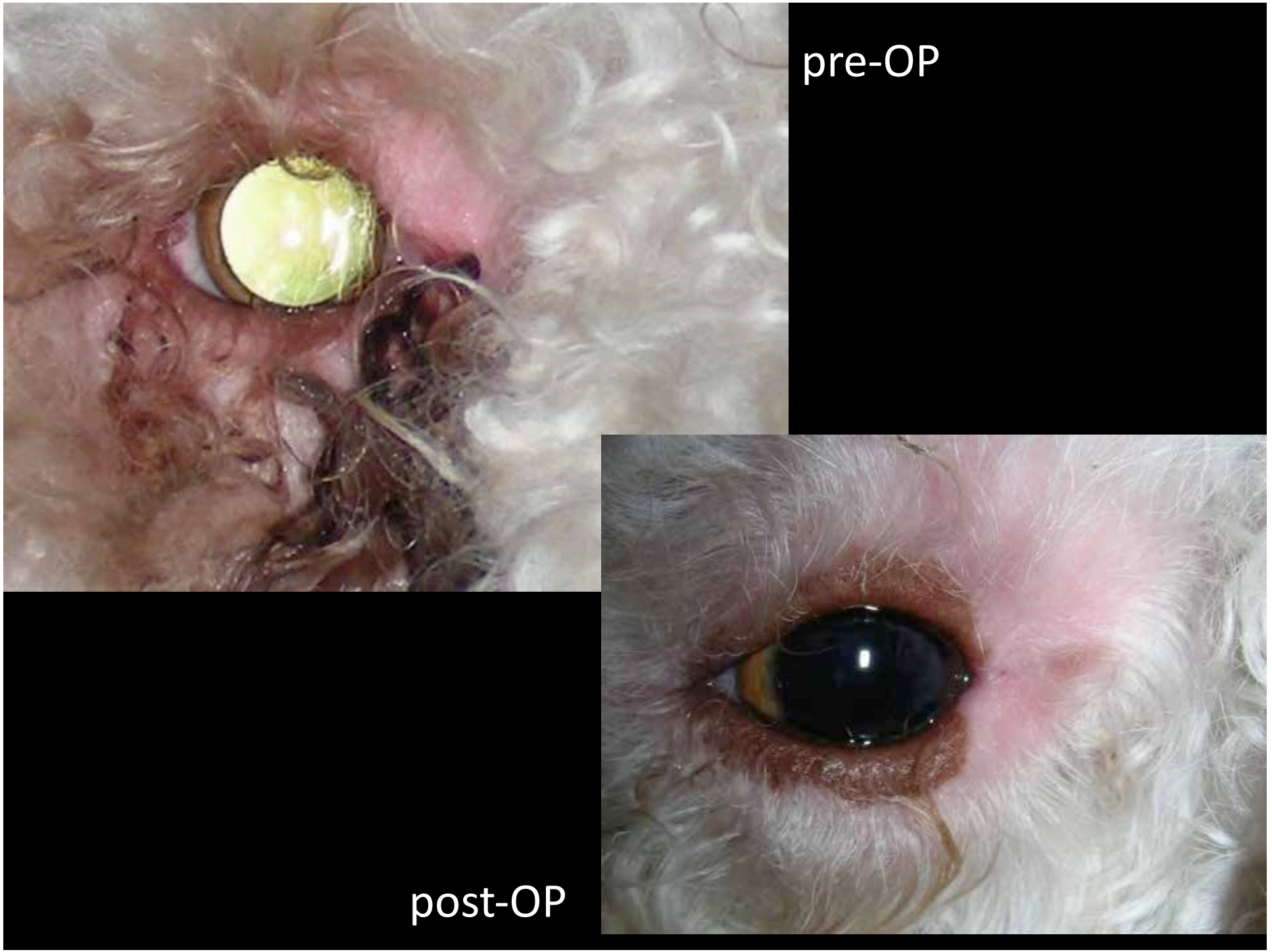
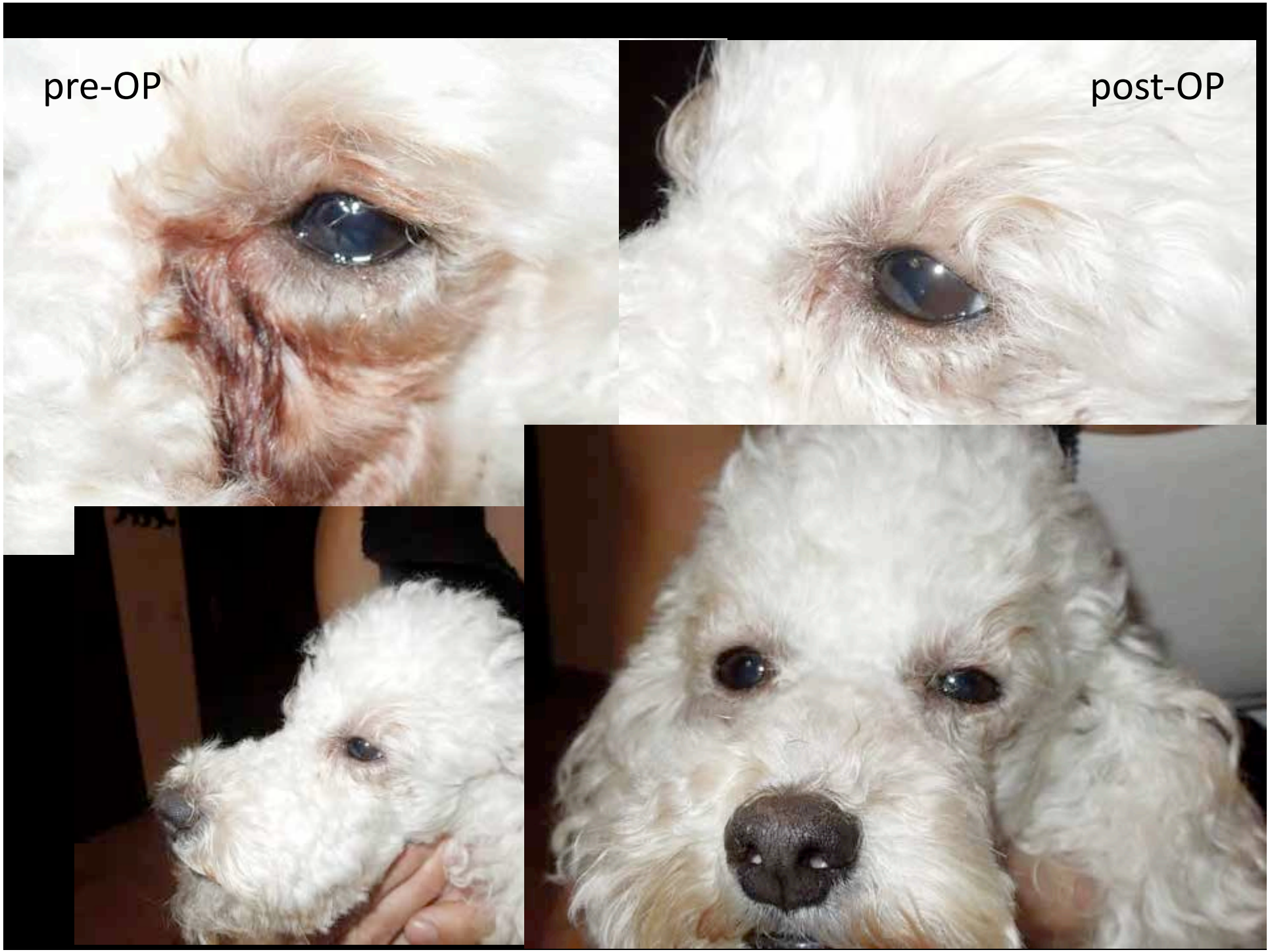
pre-OP

post-OP


pre-OP
post-OP


pre-OP
post-OP

conclusion

- after a learning curve (…) the simplified nasal canthoplasty technique is quick and effective in
  - reducing palpebral fissure
  - reducing exposure keratitis
  - reducing trichiasis and epiphora
  - improving tear film
- splitting of the canaliculi allows proper tear flow even after shortening the lid length >> 30%

simplified nasal canthoplasty

- will result in
  - improvement if most clinical signs
  - improved patient comfort
- combined with lifelong topical therapy (ie ciclosporin, tacrolimus, +/- dexamethasone) it prevents progression of pigmentary keratitis
- the change of facial expression pleases the owners in most cases


THANK YOU