


### ENUCLEATION

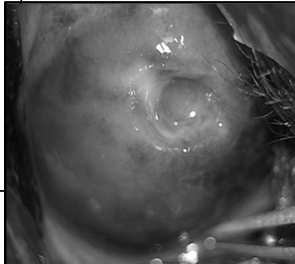
Indications for Enucleation

- Intraocular neoplasia
- Glaucoma (end stage)
- Irreparable trauma to globe or optic nerve
- Large lacerations and corneal perforations
- Proptosis with optic nerve resection
- Blind, severe traumatized or uveitic eyes
  - especially in cats
- Other



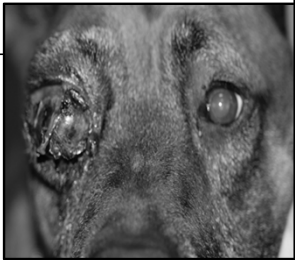
### ENUCLEATION

- Means your treatments have failed and is reserved for blind, painful eyes that cannot be saved
- Perforation with loss of contents
- Severe uveitis
- Endophthalmitis
- Glaucoma (end stage)
- Also useful for intraocular and ocular surface tumors
  - Diffuse iris melanoma
  - Uveal melanoma
  - Squamous cell carcinoma (isolated to globe)



### EXENTERATION

- Indications:
  - Extensive soft tissue neoplasms that do not extend beyond the orbit
  - Extensive intraocular neoplasms with orbit extension
  - Severe orbit infection, nonresponsive to medical therapy
- Removal of all orbital contents:
  - Eyelids, conjunctiva, globe, extraocular muscles, lacrimal gland, nictitating membrane, orbital fat, orbital connective tissue



### EVISCERATION AND PROSTHESIS

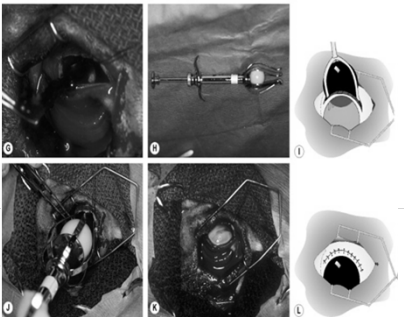
Salvage procedure

Prosthesis is placed within the fibrous tunic

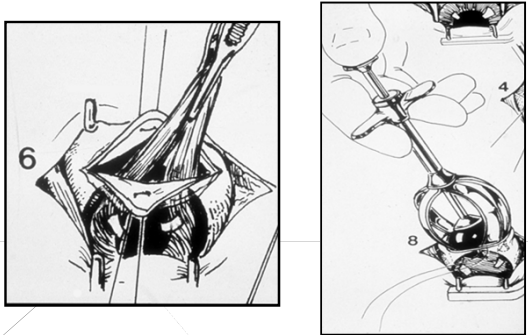
For blind, painful eyes

Should not be performed:

- If eye possibly has a tumor
- If cornea or sclera is compromised



### EVISCERATION AND PROSTHESIS



## EVISCERATION AND PROTHESIS

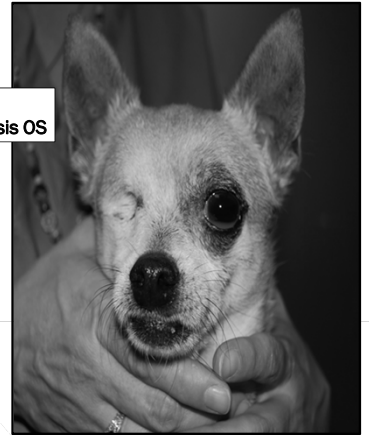
More cosmetic appearance than enucleation

Very few complications

- Can get corneal ulcers
- Can still get keratoconjunctivitis sicca



Enucleation OD  
Evisceration and prosthesis OS



## ENUCLEATION

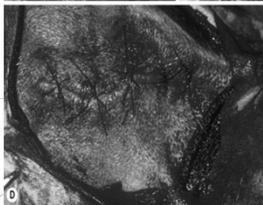
### ENUCLEATION TECHNIQUES

- Transconjunctival ( or subconjunctival) approach
- Transpalpebral approach
- Lateral approach
- I have never done the lateral approach



### TRANSPALPEBRAL APPROACH

Useful for large animals and equine with tumors or severe infection



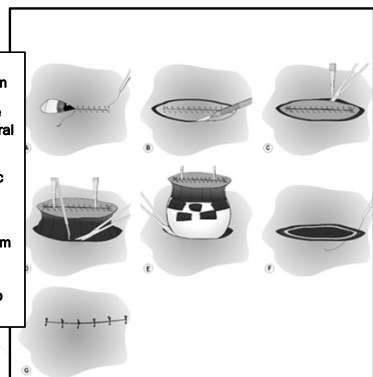
Can use nonabsorbable suture in dorsal and ventral orbital rims to try to decrease sinking post op

I usually place orbital prosthesis in horses

Gelatt Veterinary Ophthalmic Surgery

### TRANSPALPEBRAL APPROACH

- Make skin incision 4-5 mm from eyelid margin
- Bluntly dissect around the conjunctiva; this is a natural tissue plane
- Clamp and cut at the optic nerve and retractorbulbi muscle, then ligate
- There is less orbital septum for closure
- Can easily be converted to exenteration



### SUBCONJUNCTIVAL APPROACH

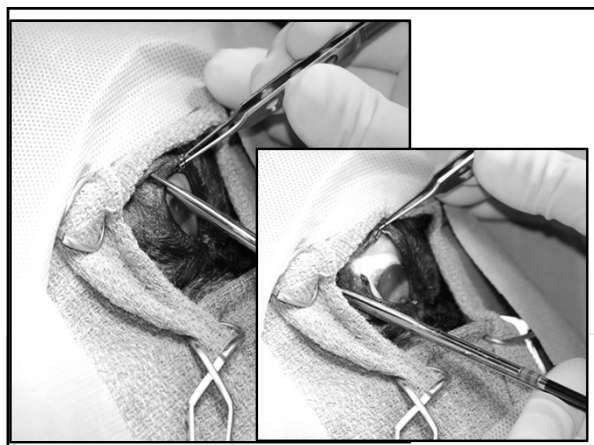
I use this procedure almost exclusively for small animals

- less traction on the globe
- less tissue removed, therefore more cosmetic appearance
- better exposure of vessels and optic nerve
- Easier (I think)

#### TIPS:

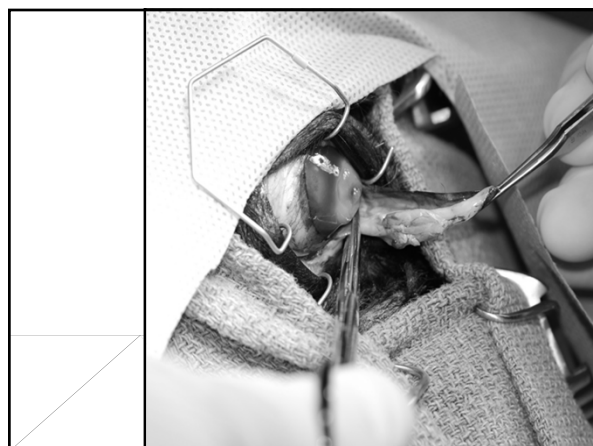
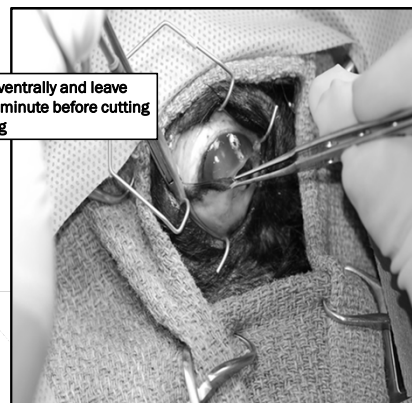
- Make sure to always remove everything in the same order
- For small animals, usually do not have to ligate ON or vessels if you clamp before transecting, but sometimes will use gelfoam or hemoclips
- We will perform this approach in lab
- You can do one eye with this approach and one with transpalpebral if you want to and time allows

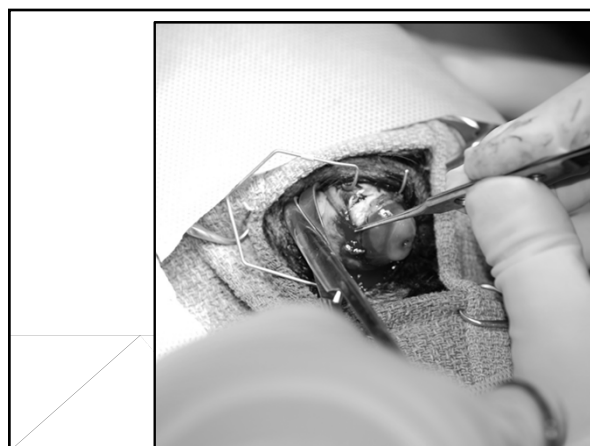
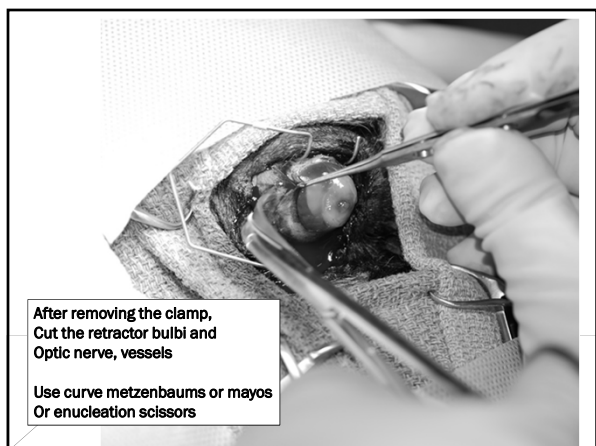
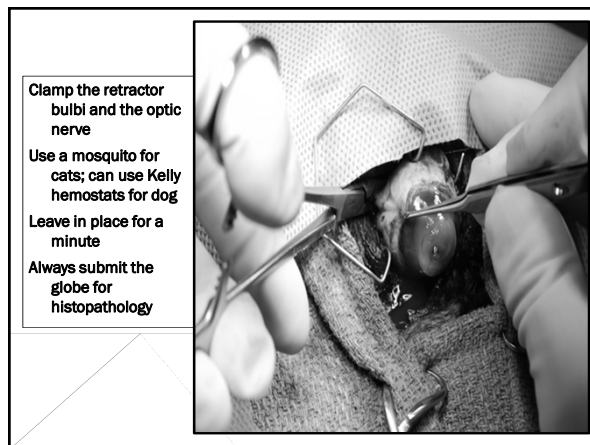
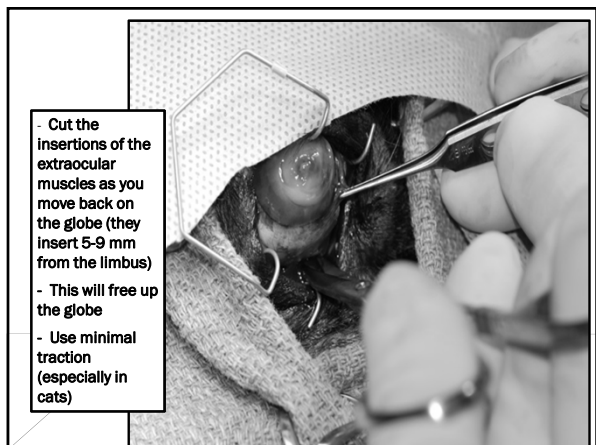
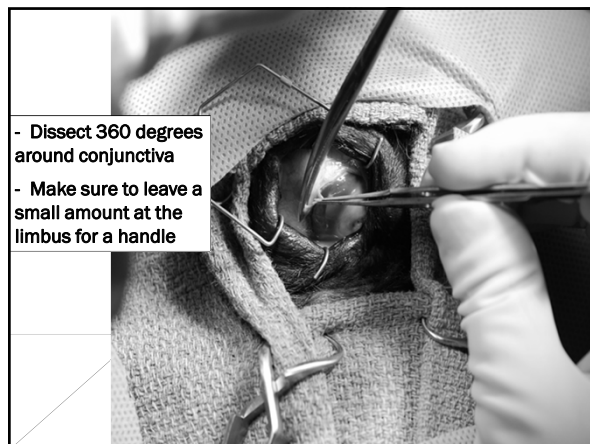
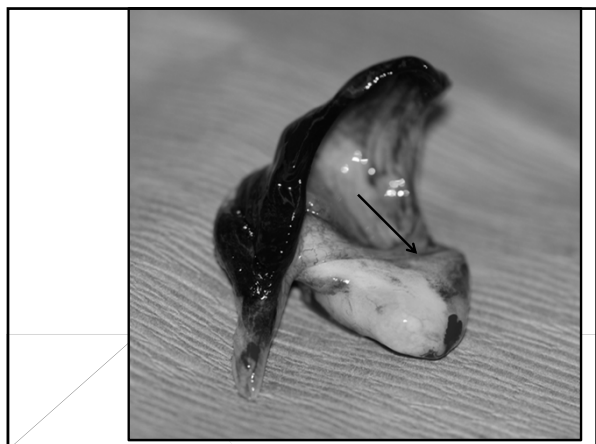
### SUBCONJUNCTIVAL APPROACH- DETAILS

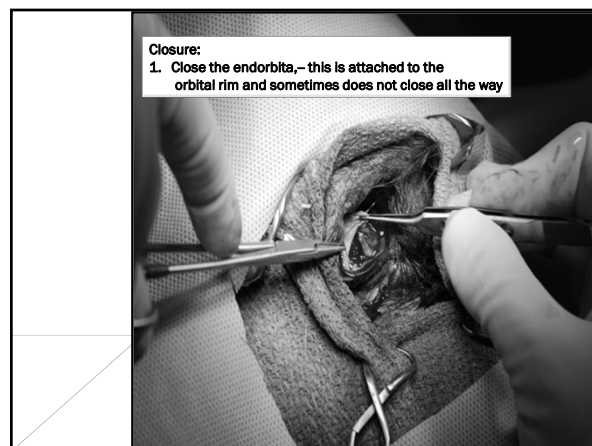
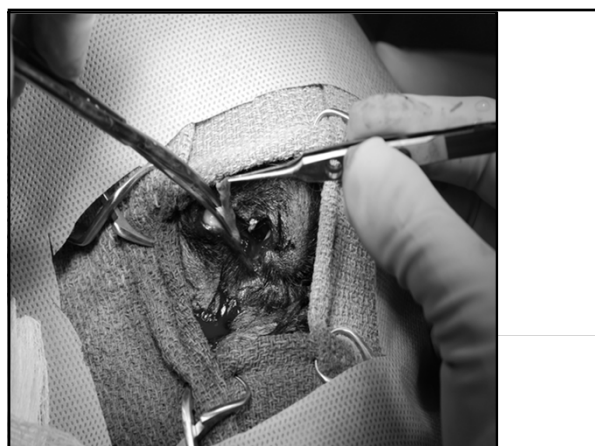
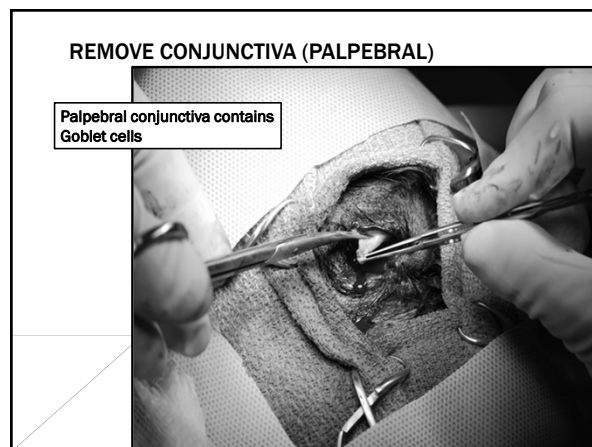
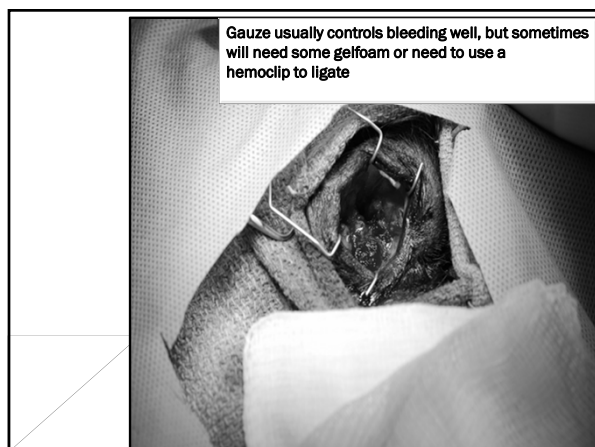
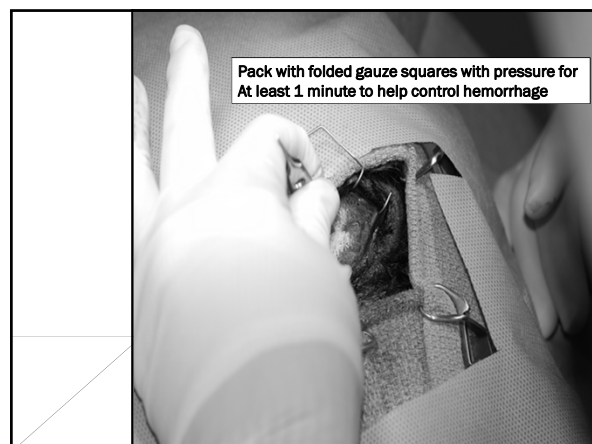
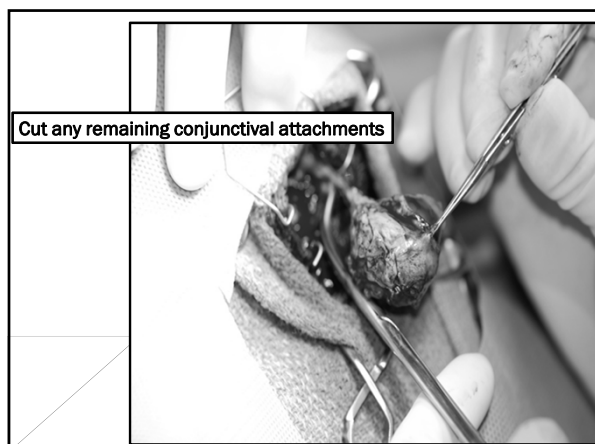


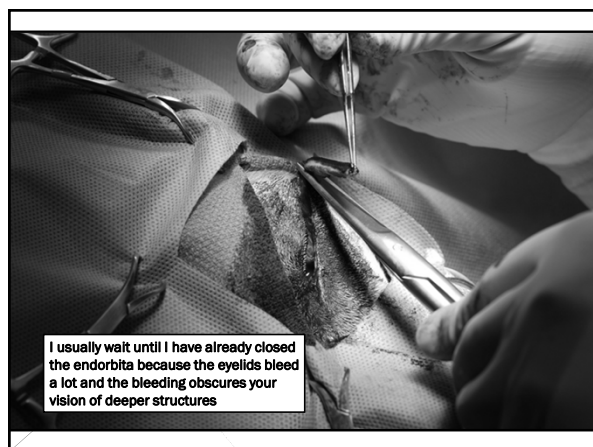
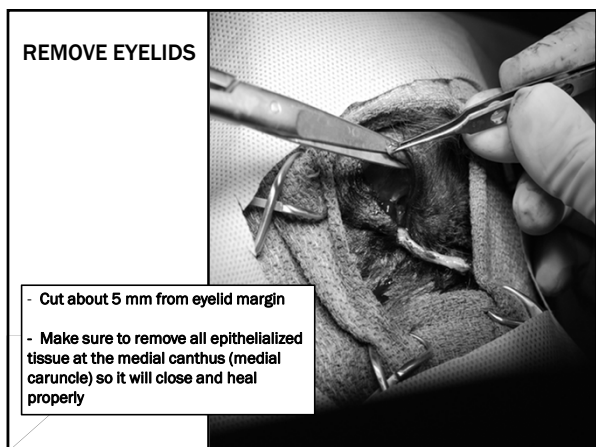
### REMOVE THIRD EYELID

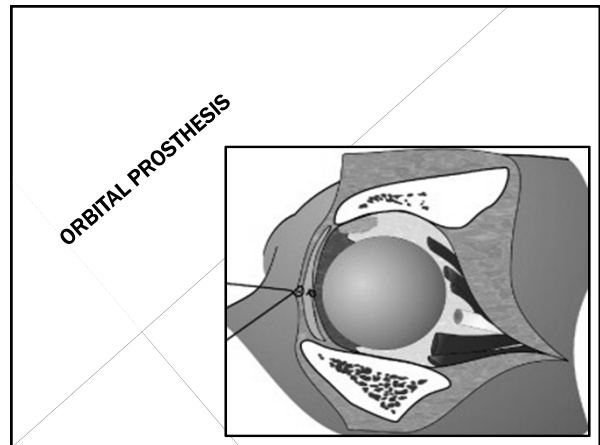
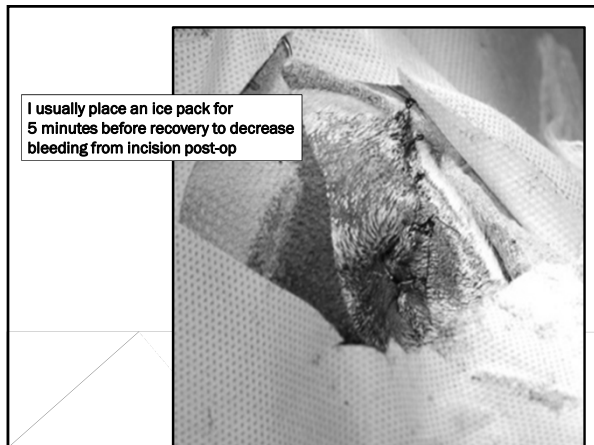
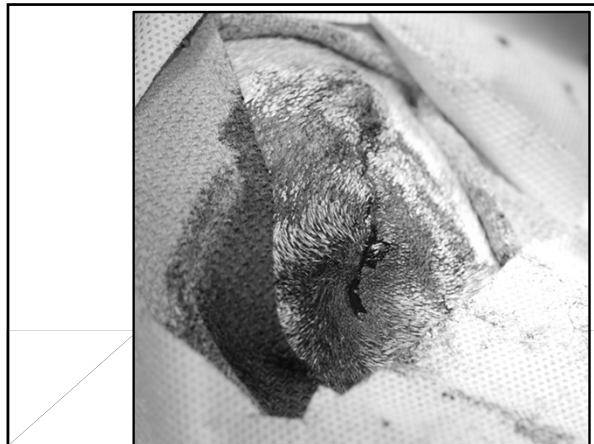
Clamp dorsally and ventrally and leave in place for about 1 minute before cutting to decrease bleeding





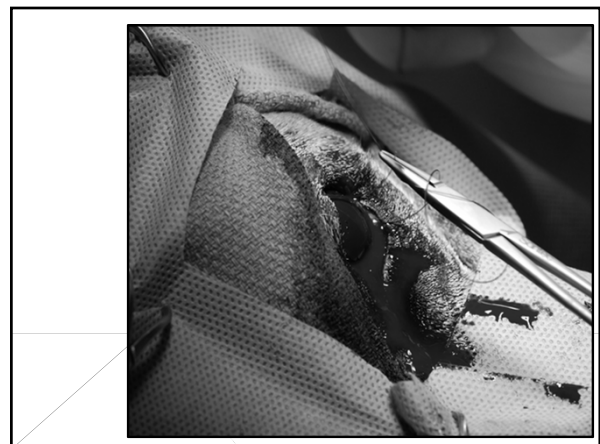




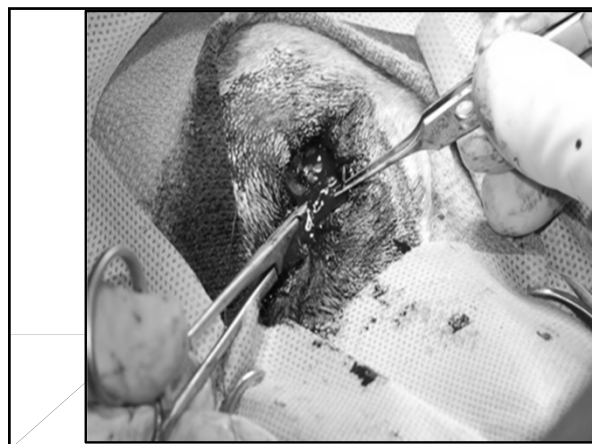


### ORBITAL PROSTHESIS

- Can be placed in the orbit to take up space
- Very useful for horses, but also use commonly for small animals with large orbits (large breed dogs)
- Silicone prosthesis that is steam sterilized
  - Size 40-48 for horses
  - Size 20-24 for small animals
- Absorbable suture material is used to suture the endorbita of the orbital rim to close over the prosthesis







### POST-OPERATIVE CONSIDERATIONS

#### Control pain

- Use oral or injectable NSAIDs if possible
- Do a retrobulbar block (will learn about this in anesthesia lecture)
- I usually give methadone, hydromorphone, or buprenorphine for 12-18 hours post-operatively for additional pain control

There is often a small amount of bleeding from incision and/or nostril following procedure (for up to a few days)

Tends to be minimal

May need to place E collar

Remove sutures 10-14 days

### DISCUSS COSMETICS PRIOR TO SURGERY

Discuss with owner how their pet will look after surgery

- Eye socket will be closed (many owners think it is left open)
- Looks like they are closing eye
- Pet will still have facial expression
- Will sink in slightly (for brachycephalics) and more than that for large breed dogs/horses if prosthesis is not placed.
- Usually discuss with owners that prosthesis is safe, but there is possibility it may need to be removed if causes foreign body reaction.

