

1  **Ruth's Chris Steakhouse  
Practitioner Appreciation Dinner**

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Diplomates, ACVO


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3  **Animal Eye Clinic has moved**

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
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7  **Conjunctival Hemangiosarcoma and Hemangioma in dogs and horses**

- Increased UV light is significant risk factor.
- Occurs on non-pigmented conjunctiva; most commonly on leading edge of third eyelid and temporal sclera.
- Hemangiosarcoma likely to recur in dogs (55%) vs. hemangioma (10.3%) in one study (Pirie et. al., JVO, 2006).
- Breeds over-represented in Hemanioma group include Bassets, Boxers, English Setters and Springers; Dalmatians in Hemangiosarcoma group.

8  **Clinical Picture**

1  ■ "Laddie" 7 yr M Border Collie

2  ■ "June" 4 yr Fe Boxer

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10  **"Bandit" 11 yr Mn English Setter**

- Removed twice by RDVM


11  **May be inoperable**


■ "Blitz" 8 yr M Great Dane

■ Noticed 1 month prior to exam

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12  **"Kelsey" 6 Fe(s) Boxer**

13  **"Rocky" 11 yr M Siberian Husky**

■ Undiagnosed Chronic Superficial Keratitis (Pannus)


■ Corneal hemangiosarcoma

14  **Superficial Keratectomy and H/P confirmed diagnosis**

15  **5 months post-op**

16  **"Sara" 10 yr Diabetic Fe Blue Heeler**

17  **1 week and 1 month**

18  **Hemangiosarcoma recurrence 6 month following surgical excision**

19  **Bonnie 11 yr Border Collie Fe (s)**

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21  **Equine Hemangiosarcoma (Angiosarcoma)**

22  **"Kitty" 9 yr QH Mare**

23  **Prognosis**

- No metastatic disease in 108 dogs in one study in JVO in 2006.
- 4 case reports Hacker et. al. showed equine Hemangiosarcoma (Angiosarcoma) may be prone to orbital invasion requiring eye removal. Poor prognosis for survival if this occurs.

24  **Canine Limbal Melanoma**

- Benign biological behavior, but intraocular spread can cause blindness and loss of globe.
- Breed predisposition in German Shepherd, Labrador Retriever, and Golden Retriever.
- Also in cats, but considered rare.
- Possible genetic mutation associated with this disorder in Labs and Golden Retrievers.

25  **Successful Therapies**

- Partial lamellar resection, cryotherapy, and adjunctive graft replacement.
- Surgical reduction and Cryotherapy.
- Surgical reduction and Diode Laser Hyperthermia.
- All effective – Diode Laser spares normal tissue and much less painful than cryotherapy.

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27  **Cytology vs. Biopsy**

28  **"Dusty" 10 M Golden**

- RDVM suspects Horner's Syndrome OS
- Incidental finding was limbal melanoma OD

29  **Debulk and Laser Hyperthermia**

30  **"Misha" 2 yr Fe Lab**

- Limbal melanoma found on routine breeding exam.
- Not present at previous CERF exam 1 year ago.

31  **"Simba" 4 yr Rhodesian Ridgeback**

- 1 month follow-up

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33  **"Dude" 17 yr Mn DSH**

- Renal insufficiency; No Sx.

34  **Inoperable Melanomas Require Enucleation**

35  **Indications for Enucleation, Surgical Technique, and Post-operative Pain Management**

36  **Indications for Enucleation**

- Painful, blind eye, i.e. chronic glaucoma, inoperable ocular perforation, severe blunt trauma, panophthalmitis.
- Inoperable intraocular, orbital or adnexal neoplasia
- Buphthalmos/Lagophthalmos

- Phthisis bulbi

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### 37 **Surgical Techniques**

- Transpalpebral technique – can be performed on any eye requiring removal.
- Transconjunctival technique – good technique for intraocular neoplasia or chronic glaucoma. Cannot be performed when neoplasia may have spread extraocular, i.e., into conjunctiva or eyelids.
- Post-operative orbital cyst formation most common with Transconjunctival approach.

### 38 **Surgical Instruments & Supplies**

- Standard general surgery pack
- Silicone orbital implants
- 4-0 Silk and 4-0 Vicryl suture
- Elastica wrap

### 39 **Intraocular melanoma** **5 yr Male Miniature Schnauzer**

### 40 **Surgical Clip and Prep**

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**Surgical Prep: 50 parts Normal Saline with 1 part Betadine solution (not SCRUB) i.e. 10cc/500ml bag of saline**

### 42

**Results of Betadine Concentration on 4 minute ocular prep**

**Concentration**

**Positive Cultures**

### 43

**4 Minute Surgical Prep: Irrigate conjunctival sac and lid margins for 2 minute (3-4 sponges); cover field with Betadine soaked sponge for 2 minutes.**

### 44 **Positioning – Lateral recumbency with nose slightly elevated. Contact drape enhances sterile field.**

### 45 **Orbital Block**

- Bupivacaine (Marcaine) 2 mg/# max dose. Use 1 to 4 cc in orbital muscle cone.
- Long acting analgesic 6-8 hours).
- Prevents "CNS wind-up" of pain receptors.
- Greatly enhance post-operative analgesia.
- Palpate dorsal rim of orbit.
- Must avoid optic nerve and vascular structures.

### 46 **Technique**

- Globe rotates slightly as injection is given and become slightly exophthalmic. Pupil will dilate if block is in muscle cone.
- Must avoid optic nerve. Intrathecal injection may cause respiratory and/or circulatory failure.

### 47 **Transpalpebral Technique**

- Suture lids margins with two interrupted sutures (4-0 Silk) for manipulation during surgery
- 48  **Dissect through skin and free medial and lateral canthal ligaments without incising conjunctival sac**
- 49  **Sever extraocular muscles at scleral insertion to minimize bleeding**
- 50  **Sever optic nerve without ligation**
  - Once all extraocular muscles are severed excessive traction on optic nerve may damage optic chiasm.
  - Ligation rarely required.
  - May clamp with curved hemostat if desired prior to cutting.
- 51  **Main vascular structure is not arterial**
  - Branch of superficial facial vein enters nasal superior orbit proximal to the tactile hairs. Becomes the dorsal orbital vein. Valve-less vein so it bleeds from both ends if cut.
- 52  **Enucleated Globe**
  - Globe, Conjunctiva, eyelids and small optic nerve stump.
- 53  **Silicone orbital implant –strictly cosmetic.**
  - Trim implant with new scalpel blade and unused scissors to prevent contamination.
- 54  **Closure of orbit**
  - Close orbital fat and fascia with simple Vicryl continuous pattern of 4-0. Attempt to completely cover silicone implant.
  - Infuse 1-2 gram of Cephalozin in orbit around prosthesis prior to skin closure.
- 55  **Closure of skin**
  - 4-0 Vicryl suture in simple interrupted or continuous interlock Pattern.
- 56  **Post-operative Pain Management**
  - Pre-op injection of NSAID such as Rimadyl or Metacam. Rimadyl must be given 3 hours prior to surgery for max effect.
  - Tramadol enhances analgesia of NSAID's
  - Marcaine block lasts 6-8 hours so most outpatient surgery patients relatively pain free at discharge.
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- 57  **Post-operative Pain Management**
  - Buprinex (buprenorphine) 0.005-0.01 mg/pound given IM at discharge. Lasts about 8 hours. Also effective orally in cats, but not in dogs.
  - Begin oral NSAID and Tramadol that evening in dogs and oral Buprinex in cats. Continue for several days. Must be the same NSAID given pre-operatively.
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- 58  **Hemostasis**
- Pack orbit with gauge and apply pressure if hemorrhage is excessive once globe is removed.
  - Elasticon/gauze pressure wrap for 2 hours post-op. Can cause respiratory embarrassment if too tight. Especially in brachycephalic and cats.
- 59  **Potential Complications**
- Orbital Cyst formation due to incomplete removal of conjunctiva or third eyelid.
- 60  **Potential Complications**
- Damage to optic chiasm. More common in cats. Most commonly caused by ligation of optic nerve, which is not necessary.
  - Causes vision impairment in contralateral eye. Usually permanent (loss of PLR, loss of temporal visual field, sometimes blindness).
- 61  **Potential Complications**
- Pneumo-orbit: Orbital emphysema due to air entering orbit from severed nasolacrimal duct. Most common in brachycephalic breeds.
  - May resolve without treatment.
  - Must ligate NL duct if subcutaneous emphysema spreads.
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- 62  **Acute onset. No history of trauma**  
**H/P: Phacoclastic glaucoma (Lens rupture); endophthalmitis**
- 63  **Histopathology**
- Find a good ocular pathologist.
  - Very important especially if cause of cause of glaucoma or panophthalmitis is undetermined.
- 64  **Indications for Wedge Resection**
- Ectropion
  - Small lid lacerations
  - Tumor Excision
  - Can safely remove ¼ to 1/3 of upper or lower lid without causing disfigurement in most dogs and cats.
- 65  **Wedge Resection for Ectropion**
- 66  **Wedge Resection for Ectropion**
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- 68  **" Bogey"**
- Tarsal plate not aligned;
  - Trichiasis present. Suture rub not yet eliminated until lid margin reconstructed.
- 69  **"Pepper" 2 yr Mn Shih Tzu**
- Injured by Groomer at local clinic yesterday
  - Repaired with tissue glue.
  - Neo/Poly/Dex ointment TID OS.
- 70  **Surgical Options**
- 71  **RESECTION MARGIN:**  
**2-3 mm benign tumors**

**5 mm on malignancies**72 73 74  **Mast Cell Tumor; 13 Yr Fe Siamese Cat**75  **One month post-op**76  **Precautions for Wedge Resection**

- Avoid surgery, if possible, proximal to nasal canthus to spare nasolacrimal duct.
- Not all tumors can be resected with wedge.
- Some tumors require enucleation i.e. Mast cell tumor in dogs. (NOTE: Mast cell tumors in cats are usually benign).
- Scissors must be perpendicular to lid margin and blade must be perpendicular to skin surface to achieve clean margins for good apposition.
- Blepharospasm post-op indicates hair and/or suture is rubbing corneal surface.

77  **Lid Laceration**78  **Simple interrupted suture at lid margin**79  **Figure 8 suture at lid margin**80  **Eyelid Neoplasia in dogs**

- Meibomian gland adenoma most common.
- Cauliflower appearance.
- Recurrence common if surgical removal incomplete.
- Cryosurgery is treatment of choice.
- Surgery excision requires wedge resection (small tumors) or eyelid reconstruction (large tumors).

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