



Patrick McCallum, DVM, DACVO

Vision Care For Animals  
4073 El Camino Real  
Palo Alto, CA 94306  
visioncareforanimals.com

Voice 650-422-3700  
Fax 650-422-3705  
[contact@visioncareforanimals.com](mailto:contact@visioncareforanimals.com)

## **Surgical Options for Dogs and Cats with blind and painful eyes**

Dr. Patrick McCallum DVM, Dipl. ACVO

### **Common Questions:**

- Why remove a painful blind eye?
- How will my dog or cat look after surgery?
- What are the benefits and possible complications of each procedure?

This review of the common surgical options for treating your pet's blind and often painful eye serves to illustrate the differences between procedures and we hope will be helpful in your decision making process as you consider these options for your pet.

Blind and painful eyes are a common and unfortunate reality for our veterinary patients. The ultimate goal for these patients is to eliminate the source of their pain and therefore maintain a good quality of life. Many factors will contribute to your decision-making process including emotional, financial, logistical and medical aspects of your pet's condition.

Depending on the cause of your pet's blindness (glaucoma, infection or trauma) there are **three main surgical procedures** we may discuss with you. The goal of these are to make your pet more comfortable and either reduce or eliminate the need for ongoing topical eye medications. In situations when a tumor is suspected within the eye, enucleation (removal of the eye) can be a cure (when the tumor is benign and contained within the sclera (shell) of the eye).

## **Intrascleral Prosthesis (Evisceration):**

A more cosmetic alternative to removal of the eye (enucleation) is evisceration. This technique is the best choice to maintain the most normal cosmetic appearance of your pet. While you and I can have the proverbial "glass eye" implant, this is not feasible for your pet due to the risk of infection and chronic maintenance required. An intrascleral prosthesis is the next best thing.

**\*This is not a good option if infection, significant corneal disease is present, or tumors are suspected\***



Intrascleral prosthesis (also known as ISP") surgery requires brief general anesthesia (usually not more than one hour). The interior contents of the eye are removed, leaving the outer shell (the sclera, cornea, and extraocular muscles) of the eye undisturbed and a silicon sphere is implanted within this connective tissue shell. The presence of the extraocular muscles and the internal implantation of the prosthetic allow the eye be normal in size, and to continue to move in synchrony with the opposite eye.

Following the post-operative healing, the eye with an intrascleral prosthesis is comfortable, and maintained just as a normal "eye", because the outer shell of the eye is living tissue. To a person unaware of your pet's past history they may not be able to appreciate any difference between the normal and surgical eye!

Most patients heal from an intrascleral prosthesis surgery in 3-6 weeks. There are several recheck appointments, usually at 2, 4 and 8 weeks following surgery

Typical appearance of the fully healed prosthetic eye is a dark gray-black color, but keep in mind that the final appearance is achieved over time. There can be a variation in color of the eye during the healing process, and occasionally there can be a grey hazy appearance of the eye or even a more reddish color compared to the desired dark gray-black color.

Intrascleral prosthesis surgery is a good option for pets with relatively healthy corneas. If your pet has dry eye (also called KCS), she or he will continue to depend on you for daily topical therapy and remains susceptible to diseases affecting the outer portion of the eye.

## **Enucleation (removal of the eye):**

For a pet with a painful blind eye, **enucleation** is a surgery that can bring great comfort quickly. In enucleation surgery, the entire eye, conjunctival tissue, and eyelids are removed and the skin and subcutaneous tissue are sewn closed.



We often place a silicone implant within the orbit (eye socket), **underneath the skin** in order to improve the appearance by minimizing the “sunken” appearance that results following removal of the eye. This type of prosthetic should not be confused with the intrascleral prosthetic technique discussed above, following enucleation the eye is closed permanently. After your pet re-grows their hair around the face the appearance is as if your pet is winking or blinking at you.

Enucleation (eye removal), can be performed by your regular veterinarian but typically the placement of the silicon implant (to prevent the sunken appearance) in the orbit is performed only by an ophthalmology specialist.

Removal of the eye requires general anesthesia (again, usually less than one hour). This surgery is a good option in situations where we are concerned about tumors (cancer) or infection within the eye or when the eye has undergone significant trauma or stretching prohibiting the use of an Intrascleral Prosthetic (Evisceration) described previously. When a biopsy (histological examination) of the eye is required for the diagnosis of your pet’s eye condition this is the only option available. Complications of enucleation are few and rapid recovery is expected. Typically a post-operative recheck is required 2 weeks following surgery at which time the skin sutures are also removed.

## Intravitreal Injection:

Intravitreal injection (also known as Ciliary Body Ablation or "CBA") is useful for elderly pets that cannot safely undergo prolonged anesthesia due to medical reasons such as heart or kidney failure. **\*This is not a good option if infection, significant corneal disease is present, or tumors are suspected\***



(pre-injection eye)      (post-injection eye, smaller in size)

Using an antibiotic Gentamicin or antiviral Cidofovir we inject this drug into the eye. In high concentrations this results in the destruction (killing) of the ciliary body (the origin of normal eye fluid) resulting in the reduction of fluid production and hence lowered pressure and decreased pain of the eye. This procedure is also toxic to the retina so permanent blindness results if not already present.

Your pet will have a very brief general anesthetic so that the injection can't be felt, but the actual procedure is very rapid, lasting only a few minutes.

Complications of intravitreal injection include expected short-term inflammation, and possible intraocular bleeding. These problems are not unusual and can be treated. A long-term frustration is that some patients have a partial response to the treatment, and there is a return of the glaucoma (high pressure) requiring a second injection or alternative procedure. There is also the chance of generalized shrinking of the eye (pthisis bulbi). If this occurs there is usually no treatment required, and the eye is comfortable, but your pet's appearance will be affected.

Following the procedure you will be asked to continue topical therapy for a variable amount of time until the pressure stabilizes. Typical post-operative rechecks are at 2, 4 and 8 weeks.

We hope that this summary of the surgical procedures commonly used to help patients with a blind eye helps to clarify the options available, and assists you in making a decision for your pet. Please contact us if you have any questions.