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Dear Colleagues,

Greetings from all the staff at the Johannesburg and Cape Animal Eye Hospitals. Our specialist dedicated ophthalmology practice is now 20 years old. It's amazing to think that already more than four years have gone by since we have had a permanent presence in Cape Town consulting from Tuesday to Friday. This clinic has grown and we wish to thank all our referring colleagues for your continued support of both the Jhb and Cape Town specialist facilities. We will continue to make ourselves available to assist you and your clients. Customer care, excellent service and keeping abreast with the latest ophthalmology technology and trends remain our primary goal. In this newsletter we would like to bring to your attention some of the

services we offer within our hospitals as well as highlight some new and exciting developments in ophthalmology and new equipment that we are currently using which you may see mentioned in our reports to your practices.

Over the last two years we have invested extensively in new equipment, diagnostic tools and treatment instrumentation that now offer new and exciting ways to manage problems. We always attend the annual international veterinary ophthalmology congresses and we can assure you that we are keeping current with the modern trends in veterinary ophthalmology.

We consult on a regular basis at the following locations:

- [Jhb Animal Eye Hospital](#)
- [Cape Animal Eye Hospital](#)
- [Onderstepoort Vet Hospital](#)
- [Westville Vet Hospital – KZN](#)
- UAE [Dubai and Abu Dhabi]
- Hong Kong

New Staff:

Dr Christie Boucher has just joined our practice. Christie and her vet husband ran a clinic in the UK for about 10 years and then returned home and Christie is completing her ophthalmology specialisation and just has her thesis to hand in. Christie's thesis project has been on documenting ocular pathology in South African captive bred cheetahs.

From 2017 Christie will be based at our Onderstepoort Eye Clinic on Mondays and Tuesdays, as well as the main hospital in Fourways, Gauteng on Wednesdays and Thursdays. Christie is already proving to be an asset to the practice and her enthusiasm is contagious.



Pigmentary Keratitis:

Pigmentation over the cornea in dogs, and in particular Pugs and Pekingese, is an extremely common problem and it is not uncommon that the pigmentation eventually causes visual problems for the pet. Historically there has been very little one can do for these cases, but recent work in Germany has shown that there are a number of things



that can be done now to either reduce the severity of the problem or even dramatically improve the visual capacity of severely affected animals.



Before Surgery



At the JAEH and CAEH we are now offering these procedures. The problems in these breeds are multifactorial and frequently are related to the large palpebral opening referred to as macroblepharon, excessive exposure of the globe that in most cases is already in a semi "exophthalmic " position as well as the main contributing problems being medial lower lid entropion, facial fold irritation and the presence of keratoconjunctivitis sicca. There is no generalised approach to the management of these patients but each will be assessed individually and the best treatment option[s] selected. Most cases involve a variety of the procedures. These may include facial fold resection, medial entropion, permanent lateral

canthoplasty, and now the newly described and effective medial canthoplasty surgery. In some severe cases of pigmentary keratitis, cryosurgery to the cornea can be performed as an adjuvant treatment to assist in sloughing the pigmentation from the cornea and then follow up with Tacrolimus eye drops long-term.

This recently described medial canthoplasty technique is probably the single most effective treatment option and it involves delicate excision under magnification of the medial caruncle with preservation of the lacrimal ducts.



After Surgery



Intraorbital silicone prostheses for dogs and horses:

Did you know that silicone is the most abundant element on earth? Medical grade silicone is one of the least bioreactive materials available for medical usage today and thus makes an excellent source for intraorbital prostheses.

Many cases of severe ocular disease may result in an enucleation or exenteration of the globe. In most cases it is a traumatic experience, perhaps more so for the owners of our patients than for the animals themselves. These surgical procedures are concluded by suturing the skin closed over the orbital cavity. As the wound heals, a rather



Without Prostheses



With Prostheses

obvious and often cosmetically poor indentation of skin results.

In performing the surgery, part of our responsibility is to create as good a postsurgical appearance as possible. Cosmetics ARE important. Most enucleations performed on horses, dogs and cats are done using the transpalpebral technique. To be aesthetically successful, this method requires the placement of some type of orbital implant, otherwise, a marked indentation or dimpling will occur.

Tacrolimus 1%

Tacrolimus belongs to the macrolide antibiotic group. It is a potent immunomodulator and as the 0.02% medication drops are considered to be 100X more potent than Cyclosporine A and shows an 83% response rate to its use. There are some patients that seem to be refractory to the normal 0.02% Tacrolimus when used for keratoconjunctivitis sicca and these are problematic patients. There are a new Tacrolimus 1% drops produced by Kyron Laboratories. A study showed that with tid dosing, 70% of patients improved and only 30% improved with a bid dosing. Within 3 weeks, 60% had shown >3 mm/min improvement in the Schirmer tear test [STT] and 50% had shown >10mm/min increase in STT. In non-responding eyes there was an improvement in the keratitis and corneal clarity and no change in STT. The latter seems to be a common outcome from the cases that we are medicating and owner satisfaction with the new medication is very high.

A range of silicone implants are now available and these can be placed in the orbit before the skin wound is closed. A conforming equine model is available for intraorbital use only. This has been given the nickname of a “top hat” prosthesis, based on its shape

Because of the unique configuration of the equine orbit, this implant is superior to simple round models. The silicone can easily be trimmed with a scalpel blade during surgery and fitted snugly into the equine orbit.

The small animal implants are all spheres and are available in 12 sizes. Their dark colour makes them suitable for either intraorbital implantation following an enucleation, or intrascleral implantation following the evisceration of the globe.



Algerbrush II:

Corneal ulcers or erosions are one of the most common corneal conditions encountered in dogs. Most of these lesions usually heal very well when topical antibiotic drops and lubricants are used but we certainly do encounter more stubborn and often chronic non-healing erosions. There is a specific condition found in dogs [Boxers and Corgis are over represented] which is called Spontaneous Chronic Corneal Epithelial Degeneration [SCCED]. This condition results in a non-healing erosion that just seems to take ages to heal and in many cases healing only takes place following some surgical intervention.

It is well recognised that one can stimulate healing of corneal ulcers by the initial removal of the dead loose cells and this will create a new fresh bed in which new healthy epithelial cells can grow over the lesion and assist permanent healing. Removal of the dead cells has historically been done by placing a topical anaesthetic drop, then rubbing the corneal surface with a dry cotton bud to remove the cells. A very successful surgical intervention includes scraping the cells off with a blade and then making many small grooves into the corneal surface.

Recently, a new alternative instrument, the Algerbrush II has been invented and is used by ophthalmologists to remove corneal foreign bodies as well as being a very useful instrument to remove dead tissue involved in corneal ulcers. In a controlled manner one can create a rough surface to assist new cells adhering and growing over the lesion. The Algerbrush II has a diamond tip burr that rotates at a high frequency and this abrades the corneal surface.



A soft contact lens may be placed as a bandage lens following this procedure. All these techniques have variable success rates but the Algerbrush II is certainly an improvement from the cotton tip method of debriding. Although the cornea usually heals well, one may encounter occasions when the cornea does not heal immediately and either the procedure may need to be repeated or a more aggressive form of debriding may be required [striate keratotomy]. Post-operative medications following any of these procedures are critical to the speedy recovery of the cornea. All patients that have had any of these treatment options should be re-evaluated after about 10-14 days to check the healing progress. A further evaluation and staining of the cornea may be required after this. According to the article reference below, the average healing rate took 19 days. This instrument does not totally eliminate the use of the very successful striate keratotomy which most likely will still be chosen as the treatment of choice for really bad sloughing erosions. The Algerbrush II can also be used for removing early corneal sequestrums, calcified deposits, as we see in cases of corneal dystrophy or senile corneal dystrophy.

[Management of spontaneous chronic corneal epithelial defects (SCCEDs) in dogs with diamond burr debridement and placement of a bandage contact lens. [Vet Ophthalmol.](#) 2013 Mar;16(2):83-88.]

Famcyclovir:

Antiviral drugs can target any step in the viral replicative process from viral adsorption to release from the host cell. The most effective antiviral therapies target viral proteins responsible for DNA synthesis.





Feline herpesvirus-1 (FHV-1) is a member of the subfamily *Alphaherpesviridae*. These are double-stranded DNA viruses characterised by their short replication cycle, rapid cell-to-cell spread, tendency to induce cell lysis, and persistence in sensory ganglia of their host. FHV-1 can be responsible for a number of ocular conditions namely: conjunctivitis, keratitis [dendritic, geographical and stromal], keratoconjunctivitis sicca, ophthalmia neonatorum, eosinophilic keratitis, corneal sequestrum and symblepharon.



A classic FHV-1 dendritic ulcer

A number of topical antiviral drugs are available. The one big problem with topical treatment however is the frequency of applying the medication. All antiviral drugs are virostatic, therefore, they must be administered frequently, ideally 6 times daily making client and patient compliance unlikely.

Famciclovir is the prodrug of Penciclovir, and is converted to the active drug following absorption across the gastrointestinal tract. Famciclovir is converted to BRL 42359 and then to Penciclovir by hepatic aldehyde oxidase. The activity of this enzyme is however only 2% of that compared to humans. This results in the fact that a really high dose of Famciclovir is needed to accomplish the required concentration of Penciclovir. A dose of 90mg/kg Famciclovir twice daily results in the formation of enough Penciclovir to be secreted in an effective concentration in the tears. This results in the constant supply of a highly effective virostatic drug in the precorneal tearfilm. FHV infections should be treated until the symptoms have disappeared. This usually results in treatment times of 3 – 4 weeks. As it is metabolised by the liver and excreted via the kidneys it may be prudent to monitor liver and kidney function prior to its administration and during the course of treatment.



Severe conjunctivitis in a FHV-1 affected cat

The product used to be only available as a tablet. It is now available in a palatable paste through Kyron Laboratories. This formulation is easy to administer and also far more affordable than the traditional tablet formulation.

¹ A review of antiviral drugs and other compounds with activity against feline herpesvirus type 1. Sara M Thomasy, David Maggs; *Veterinary Ophthalmology* [2016] Supplement 1, 119 – 130

² Feline Herpesvirus 1. Ocular manifestations, diagnosis and treatment options. David Gould, *Journal of Feline Medicine and Surgery* [2011] 13, 333 - 346

Diabetic Cataracts:

We all encounter many patients with diabetes in our hospitals and 50% of diabetic dogs will develop cataracts within 5-6 months of being diagnosed with diabetes and this increases to 75% affected within 12 months and 80 % of dogs will have cataracts within 16 months. The incidence in cats is a lot lower as the lens has less aldose reductase enzyme. Every week we are assessing diabetic dogs for the development or treatment of cataracts. It is not uncommon to encounter the dog being presented for assessment and finding that the patient already has subtle signs or obvious signs of uveitis. This is more correctly termed a phacolytic uveitis [a lens induced uveitis]. The inflammatory reaction is being driven by the antigenic lens proteins. We also frequently see patients where the lens induced uveitis is so severe that the anterior chamber of the globe is filled with inflammatory exudate and permanent posterior synechiae [iris to lens adhesions] and secondary glaucoma is already present, retinal detachments are noted on ultrasound and the globe is rendered permanently blind, not a surgical candidate and most frequently will require enucleation as medical management is extremely unsatisfactory.



It is also interesting to note the following statistics:

- ❑ Untreated eyes – There is a **255x** higher failure rate than surgically treated eyes
- ❑ Untreated eyes – There is a **65x** higher failure rate than medically treated eyes
- ❑ Medically Treated eyes - These have a **4x** higher failure rate than surgically treated eyes.

The moral of the statistics is that chances of success in keeping the eye visual is higher for eyes undergoing surgery than for eyes that do not receive surgery (Lim 2011) .

It is thus our opinion that **all diabetic dogs in your** practice should be referred for a careful slit lamp examination even if the client may not be considering a surgical intervention. Early assessment and identification of uveitis and glaucoma assessment and an attempt at early management would be a huge advantage. Far too often we see cases where the window of opportunity to do something has been lost.

Referral policies:

We have a very active website and have one ophthalmologist each week dedicated to managing internet enquiries and assisted by the practice manager so it is **absolutely essential that if you are making an internet enquiry to please make use of the practice email address and not via an individual ophthalmologist's personal email or cell phone** as this person may not be available to answer promptly.

info@animaleyehospital.co.za

A referral form is available on our website. If you want to e-mail this to us prior to the scheduled appointment please use the following e-mail addresses.

Johannesburg Animal Eye Hospital: reception@animaleyehospital.co.za

Cape Animal Eye Hospital: surina@animaleyehospital.co.za

You can download the referral form here:

<http://jaeh.co.za/attachments/article/1/Referral%20formB&W%20Blank.doc>

By directing your enquiry through the practice reception staff [Jhb: 011 465 1237] or Cape Town [021 930 6632] we will ensure a speedy reply. All enquiries during office hours must be directed through the Jhb or Cape Town reception staff and not via cell phones.

We still consult twice a year in both the United Arab Emirates and Hong Kong as well as provide consulting elsewhere in the world on a regular basis. We make regular consulting trips to Westville Veterinary Hospital, KZN.

Thank you once again for referring your patients to us and we continue to strive to offer excellent service, expertise and the most sophisticated technologies available.

Regards,

“The Eye Guys”,
Drs Goodhead, Venter, Odayar and Boucher

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