



FORMAL ABSTRACTS



MONDAY, 2 OCTOBER

VOLUNTARY EYE ULTRASOUND TRAINING BY IMMERSION IN PINNIPEDS : A FANTASTIC TOOL FOR FOLLOW-UP AFTER CATARACT SURGERY

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Surgical removal of the lens has become more frequent in pinnipeds over the years and generally occurs through an intra or extracapsular approach upon full ripening of the lens (Dutton, 1998; Van der Pol et al, 2003; Colitz et al, 2010). However, most post-surgery controls have been limited to direct, indirect, and whenever possible slit-lamp observation (Colitz et al, 2011).

Ultrasound can help in the identification of disorders that are sometimes difficult to identify, through lack of pupillary dilatation and/or anterior opacities, and is thus an ideal approach to better understand the healing or potential complication processes that occur post-surgically (Filing, 2004).

Open eye ultrasound examination of the internal structures of the eye globe can easily be performed by immersion through voluntary behavior in pinnipeds (Joury et al, 2014). Thanks to the excellent acoustic coupling of the water, higher quality visualization is obtained compared to trans-palpebral access. Reference images of the internal eye structures were henceforth obtained (Lacave & Huguet, 2014).

Thirty-two pinnipeds from five different species (11 *Zalophus californianus*, 8 *Otaria byronia*, 7 *Arctocephalus pusillus*, 5 *Phoca vitulina*, 1 *Halichoerus grypus*) and from five different facilities were assessed by voluntary eye immersion ultrasound. A Logiq e VET and Logiq e BT12 (General Electrics) with L8-18i-RS and 12L-RS probes, were utilized in four parks; while a SonoSite edge with a L38x transversal probe was used in the fifth park.

Adaptation of the immersion technique, set-up practical solutions, direct and protected contact approaches together with the respective positions of the animals, trainer and veterinarian will be reviewed.

Twelve animals had had cataract surgery by three different surgeons in the last 15 years. At the time of this abstract, seven animals had already been reviewed and none had a clear vitreous. Six had signs of vitreous degeneration (2 Zc, 1 Ap, 3 Pv) – compatible with floaters, asteroid hyalosis or vitreous detachment (Johnson, 2010; Kador & Wyman, 2008), though a clear confirmation of which one was not possible – while the last one (1 Hg) had severe vitreous gel destruction with the presence of organized fibrinous membranes. Review of the five remaining operated animals, together with more results from other parks are expected before the presentation at the conference. These findings may indicate that full vitrectomy may be a recommendation when performing cataract surgery in pinnipeds.

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PINNIPED WITH A BIG HEART? DIAGNOSING, TREATING AND CARING FOR A CALIFORNIA SEA LION IN CONGESTIVE HEART FAILURE

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Pinnipeds in zoos and aquariums are living longer thanks to great advances in medical care, and are presenting with illnesses previously unseen to those caring for them. Diagnosing congestive heart failure (CHF) in a California sea lion (*Zalophus californianus*) provided many challenges to both training and veterinary staff.

Lilli, a 28 year old geriatric California sea lion, presented with symptoms that progressed quickly to life threatening. Considering age and previous health conditions, we moved quickly towards a diagnosis using a planned anesthetic procedure after a sharp decline in health and participation. We were able to coordinate with a local cardiologist to perform several diagnostic tests at once in order to make a quick initial diagnosis. Several challenges presented themselves throughout: the diagnosis, treatment, and overall long term care plan for Lilli. With the lack of information on caring for marine mammals in heart failure, we relied on data from domestic species.

Lilli's husbandry training and carefully kept records proved key to the diagnosis, treatment, and long term care plan for Lilli. We adapted current husbandry behaviors to allow Lilli to hold a position for repeated echocardiograms to monitor her heart disease without the further need for anesthesia. Daily husbandry checks, careful behavioral observations, as well as routine echocardiograms and blood work were crucial in Lilli's care. Due to our close working relationship with veterinary staff and through preventative husbandry training we are able to provide knowledge and information on the symptoms, diagnosis, treatment options, as well as long term care to help manage a California sea lion presenting with heart failure.