



PRACTICAL LABS

Monday May 20, 2024

Faculty of Veterinary Medicine, Ghent University

1 MORNING SESSIONS (08:00 – 12:00)

AVIAN HISTOPATHOLOGY

Richard Ducatelle (*Ghent University, Merelbeke, Belgium*)

Histology can be a useful diagnostic tool especially in exotic and wild birds where the diagnostic portfolio is often rather slim. It can be used both for confirmation of a presumptive diagnosis at necropsy, or as a stand alone diagnostic screening test. Starting from the peculiarities of normal histology, this wet lab will guide the attendees through the diagnostic protocol which is based on pattern recognition, using real life cases from the case load of the histopathology lab at Ghent university and affiliated labs. Following an introduction using a slide projector where the principles and type lesions will be explained, all participants will have a microscope and a set of slides available. The tutor will guide and help each participant to find the typical diagnostic aspects.

INTRODUCTION TO AVIAN ORTHOPAEDICS: CONSERVATIVE MANAGEMENT AND BASIC ORTHOPAEDICS TECHNIQUES

Daniel Calvo Carrasco (*Mandai Wildlife Group, Singapore, Singapore*) & **Mikel Sabater González** (*Manor Veterinary Clinic, Edgbaston, UK*)

This wet-lab is focused on the conservative and surgical management of various articular and skeletal orthopaedic disorders in birds. The session will start with a systematic and comprehensive review of the avian anatomical and physiological aspects of relevance for the management of orthopaedic cases. This will be followed by an overview of the therapeutic techniques commonly used. The practical tutorials will allow the attendants to practise avian external coaptation techniques (e.g., Altmann's tape splint, figure-of-8 bandage, figure-of-8 bandage attached to the body, use of splints) as well as to perform the basic orthopaedic techniques (e.g., intramedullary pin placement, type I external fixator, type II external fixator and tie-in constructs). This wet-lab is directed at those clinicians with little-to-basic knowledge of avian orthopaedics but also at those more experienced aiming to refresh their knowledge and/or practical skills.

POST-MORTEM EXAMINATION AND APPROPRIATE COLLECTION AND PROCESSING OF SAMPLES IN PET, ZOO AND WILD BIRDS FOR HEALTH SCREENING AND DISEASE SURVEILLANCE IN AVIAN POPULATIONS

Luisa Fischer (*Wildlife Research Institute, State Agency for Nature, Environment and Consumer*

Protection North Rhine-Westphalia, Bonn, Germany) & **Dominik Fischer** (*Der Grüne Zoo Wuppertal, Germany*)

Infectious diseases affect pet, zoo and wild birds worldwide.



Some diseases are associated to specific gross pathological findings such as yellowish plaque-like pharyngeal lesions caused by *Trichomonas gallinae*. Furthermore, diagnosis of several highly contagious and severe avian diseases such as avian influenza, New Castle disease or pasteurellosis, which are potentially associated with substantial economic losses in commercial fowl and high mortality in free-ranging populations, gross pathology and further laboratory examinations are the method of choice. Moreover, emerging pathogens such as West Nile virus and Usutu virus require a thorough pathological examination and a targeted sample collection. This is especially recommendable from a One-Health perspective in case of zoonotic infectious agents, able to cause health issues in humans and livestock. Necropsy and sample collection in wild birds or in captive avian collections enable a continuous health monitoring and disease surveillance as well as the identification of the cause of mortality events. Furthermore, results of such surveillance programs are relevant for governmental authorities, nature conservation agencies and other stakeholders in order to perform a risk assessment and to initiate local intervention measures. This practical lab includes a throughout protocol and practical tips and tricks to perform a thorough necropsy and to collect relevant samples in birds. The procedure will be explained, demonstrated and practiced by participants. Moreover, information about sample collection for wildlife disease monitoring as well as background information about selected avian diseases will be given.

EXOTIC COMPANION MAMMAL INTUBATION

Dan Johnson (*Avian and Exotic Animal Care, Raleigh, USA*)

Endotracheal intubation provides airway control and improves patient safety. However, small exotic mammals – especially rabbits and rodents – can seem nearly impossible to intubate. Lab participants will learn how to overcome the obstacles to intubation in these species. Didactic lecture will be followed by on-screen demonstration of rabbit/rodent glottal anatomy and various blind and visual intubation techniques including blind intubation with and without a tracheal guide (catheter or wire), direct visual intubation using laryngoscope or otoscope, side-by-side intubation with the aid of an endoscope, and over-the-endoscope intubation. Participants will then practice these on rabbit cadavers and a variety of other small exotic mammal cadavers. As we are forced to change this lab into 'Exotic Companion Mammal Intubation Lab'.

AVIAN OPHTHALMOLOGY - PRINCIPLES AND APPLICATION

Rüdiger Korbel (*University of Munich, Munich, Germany*)

This practical lab includes two parts: part one will provide the participants – based on a slide presentation – with a practically orientated overview on avian ophthalmology with (1) anatomy and physiology of the avian eye, (2) ophthalmological instrumentation, (3) ophthalmological examination procedures, (4) ocular disorders and (5) recent advances in avian ophthalmology including Borna virus borne disorders treatment of post trauma intraocular haemorrhages.

Part two will guide the participants through the complete practical ophthalmological examination procedure and focusing on ophthalmoscopy (i. e. examination of the ocular fundus considering the most frequent post trauma ocular conditions) using di- and nocturnal raptors as well as artificial fundus examination models.



CLINICAL APPROACH TO EMERGENT CAPTIVE AVIAN REPRODUCTIVE DISEASE

Anneliese Strunk (*Center for Bird and Exotic Animal Medicine, Bothell, USA*)

Disorders of the reproductive tract cause significant morbidity and mortality in pet bird species, often leading to presentation on an emergency basis. The first part of this workshop will provide a case based discussion of common diseases associated with avian reproductive tract, with an emphasis on ovostasis and cloacal prolapse/disease in psittacines and fowl. Second part consists of a hand-on workshop for managing ovostasis and cloacal prolapse using a chicken hen model.

2 AFTERNOON SESSIONS (13:30 – 17:30)

AVIAN AND REPTILIAN HEMATOLOGY

Helene Pendl (*Pendl Lab, Zug, Switzerland*)

This practical lab focuses on the classic-manual microscopic evaluation of avian and reptilian blood films. It is based on a collection of more than 200 samples from about 100 pre-evaluated cases. Every slide is accompanied by a double-sided laminated sheet. The front page contains a series of photographs of the cytomorphologic characteristics of the slide. The back page contains the complete evaluation including haematologic diagnosis, comments, and critical report. The collection encompasses a large variety of species including *Psittaciformes*, *Falconiformes*, *Strigiformes*, *Sphenisciformes*, *Gruiformes*, *Galliformes*, *Squamata*, and *Testudines*. Beginners train to recognize the physiologic and pathologic characteristics of blood cells and should be able to perform a differential count afterwards. Advanced practitioners are invited to self-assess their knowledge in a quiz-like manner. Participants are invited to bring their own samples and to discuss them with the instructor. Specific topic working places can be set up for colleagues who express their special field of interest to the instructor in advance such as for example only haematozoa, only birds of prey, or similar.

ADVANCED AVIAN ORTHOPEDIC SURGERY

Neil Forbes (*Homer Forbes International Ltd, Helensburgh, UK*) & **Daniel Calvo Carrasco** (*Mandai Wildlife Group, Singapore, Singapore*)

In treating birds with fractures, the clinician must be prepared to think laterally (and outside the box), considering each case individually, taking into account: compound / closed, patient size, proximity to a joint, species temperament (in respect of post-operative care) and life style and origin (in respect of degree of perfection achievable and necessary for an acceptable post operative life).

For many years, the hybrid or tie in fixator has been the main stay technique in avian orthopaedics, within the presenter's and many other facilities, although over time. new adaptations and applications have been introduced.

The pre-wetlab presentation, will be focused on newer techniques in avian orthopaedics. Recent adjustments to the hybrid-fixator technique, broadening its traditional applications to improve the management of more complex fractures affecting the diaphyses, on occasions involving the use of trans-articular stabilisation.



Elbow and inter-tarsal luxations, splay legs, distraction osteogenesis, stabilisation of cervical fractures, management of bilateral mandibular fractures, mandibular deficits and mandibular mal-alignment will be discussed. In the wetlab, delegates will undertake the following fracture repairs, tibio-tarsus, ulna, ulna + radius, major metacarpi, proximal humerus, distal femur and if time permits mandibular fractures.

RABBIT SOFT TISSUE SURGERY

Inge Thas (*Veterinary Practice Thas, Zwijnaarde, Belgium*)

This wet-lab has been designed for veterinarians in general practice wishing to expand their knowledge on rabbit soft tissue surgery. In the theoretical part we will cover differences between rabbits and dogs and cats, choice of instrumentation for soft tissue surgery in rabbits, short introduction to tracheal intubation techniques and common surgeries in rabbits such as elective procedures (ovariectomy, ovariohysterovaginectomy, orchidectomy), explorative laparotomy, gastrotomy, enterotomy, liver lobectomy, cystotomy and urethrotomy (urolithiasis). The practical part will consist of training on cadavers of the surgical techniques covered in the theoretical part. Participants will also have the opportunity to practice different techniques of intubation. This wet lab will give participants the opportunity to get real hands-on practical experience and will provide confidence to implement these procedures in their own veterinary practices.

ORTHOPEDIC SURGERY IN RABBITS

Charly Pignon (*Alfort National Veterinary School, Maisons-Alfort, France*) & **Adeline Decambon** (*Hopia Clinique Vétérinaire Bozon, Guyancourt, France*)

Pet rabbits are prone to limb fractures due to their thin bones, their behavior as prey animals, and their more frequent exposure to traumatic injuries (such as vehicular accidents, falls, or bites by dogs or cats). If orthopedic surgical principles described in the literature for domestic carnivores could be applied to this species, proper knowledge of regional anatomy, forces applied to the bone, and the appropriate instrumentation are necessary when contemplating surgical repair of a fracture in a rabbit. Failure to prepare adequately for rabbit orthopedic surgical repair significantly increases the chance of postoperative complications. After a theoretical presentation of 1 hour, participants will practice and learn for 3 hours how to perform orthopedic surgery on the tibia, femur, and radius-ulna on rabbits' cadavers. The surgical approach to the bones, the use of orthopedic instrumentation, and the reduction and stabilization of fractures (Type 2 and Tie-in External Skeletal Fixator) will be performed under the direct supervision of the discussants.

GENERAL REPTILE ULTRASONOGRAPHY WITH ECHOCARDIOGRAPHY WETLAB

Lionel Schilliger (*Argos SpéNAC, Paris, France*)

This lab will cover ultrasound examination of the heart and other coelomic organs in snakes, lizards and chelonians. Restraint, positioning, artifacts, and patient examination (approaches and sections) will be discussed and demonstrated, and attendees will have the opportunity to practice these techniques on live animals.



RAPTOR FOOT SURGERY

John Chitty (*Private Consultancy, Salisbury UK*)

Foot problems are common in captive raptors, most commonly infections, trauma and bumblefoot. This lab is intended to provide an introduction to raptor foot care for inexperienced avian practitioners but will also explore some more advanced techniques for those more experienced but only seeing raptors on an occasional basis. The lab will utilise cadavers to enable the following techniques: tarsometatarsal splinting, foot bandaging techniques - ball and bumblefoot, bumblefoot surgery including digit sacrifice, digit amputation, tendon repair surgery, wound closure techniques.



HANDS-ON WORKSHOP BASICS OF HANDLING AND EXAMINING*

Monday May 20, 2024

Faculty of Veterinary Medicine, Ghent University)

(* target audience Veterinary Nurses, Animal Caretakers, Veterinarians with limited veterinary exotics expertise, Students)

EXOTIC COMPANION MAMMALS

Katleen Hermans (Ghent University, Merelbeke, Belgium) & **Lieve Meulemans** (University College Ghent, Melle, Belgium)

(20 May 2024, timeslot 1: 08:00 – 09:15; timeslot 2: 09:30-10:45; timeslot 3: 11:00-12:15)

REPTILES AND AMPHIBIANS

Frank Pasmans (Ghent University, Merelbeke, Belgium) & **Tom Verbeek** (Veterinary Clinic Trigenio, Nijlen, Belgium)

(20 May 2024, timeslot 1: 08:00 – 09:15; timeslot 2: 09:30-10:45; timeslot 3: 11:00-12:15)

BIRDS

Gunther Antonissen (Ghent University, Merelbeke Belgium) & **Bjorn Geeroms** (Veterinary Clinic Geeroms - Dewolf, Roosdaal, Belgium)

(20 May 2024, timeslot 1: 08:00 – 09:15; timeslot 2: 09:30-10:45; timeslot 3: 11:00-12:15)

In the hands-on workshops, participants will be shown how to handle birds, small mammals and/or reptiles and amphibians. The emphasis will be on properly restraining animals, allowing physical examination and performing basic clinical (non invasive) procedures. Live animals will be provided for demonstration. Participants will have the opportunity for hands-on acquisition of basic skills to properly handle and examine the available animals