Course Organiser: Heidi Radke

Lecturers: Heidi Radke, Richard Whitelock, Matthew Allen, Valentina Brioschi, Claudia Zindl, Anna Cronin, Cesar Gomes

Term: Michaelmas

Pre-requisites for the Course:
Knowledge of functional anatomy and of orthopaedic pathology.

Aims:
To produce a graduate - with a good general knowledge of fracture repair techniques and implants and ability to recognize when fractures need stabilization, which fractures are amenable to conservative treatment and which would benefit from surgical repair.
Top produce a graduate - able to identify and treat the common conditions that cause lameness in the dog and cat and to be able to apply orthopaedic principles to new situations using a problem solving approach.

Objectives:
At the end of the course the student should:

- be able to recall clinical anatomy and surgical/biomechanical principles
- comprehend anatomical, pathological and biomechanical principles as they relate to the musculoskeletal system
- be able to analyse clinical, pathological and diagnostic imaging information required to identify musculoskeletal abnormalities
- be able to perform the synthesis of information required to construct a list of differential diagnoses and to plan treatment protocols
- to develop the application of principles to new situations using a problem solving approach

Lecture List:

A. FRACTURES

1A. Fracture Assessment
The classification and description of fractures ensures a thorough understanding of the nature of the injury. The pre-operative assessment of the patient will emphasise the importance of fracture planning. HR

2A. Fracture Implants.
Pins, screws, wires, plates and interlocking nails will be described including the principles for their application HR

3A. ESF & Growth plate diseases
ESF equipment and principles of application.
The common angular limb deformities of the canine fore and hind limb will be described and a rational approach to their management/treatment will be presented.

4A. Fracture Repair – open and physeal
a) Fracture reduction, Bone grafting, radiological assessment.
b) Open and physeal fractures. The special management of these types of fracture will be illustrated.

5A. Appendicular Fracture Repair
Diaphyseal fractures, articular fractures, avulsion fractures, small bone fractures and specific fractures will be discussed using specific examples to illustrate the principles of fracture repair.

6A. Axial Fracture Repair
Axial skeleton: fractures and luxations of the mandible, maxilla, scapular, pelvis and spine

7A. Complications of Fracture Repair
Diagnosis and management of delayed and non-unions, malunions and post traumatic osteomyelitis.

B. LAMENESS

1B. Lameness Examination of the Dog
History, gait examination, physical examination, ancillary aids to diagnosis - synoviocentesis and biopsy techniques. (Radiography, haematology, biochemistry, serology and blood culture will not be covered).

2B. Arthritis

3B. Ligament and Musculotendinous Problems
Rupture of collateral and plantar/palmar ligaments ligaments and repair. Arthrodesis: principles for general and specific joint fusions. Congenital and acquired luxations Muscle and tendon disruptions, contractures Tenosynovitis

4B. Hip Dysplasia
Pathogenesis and radiographic features. Treatment options.

5B. Elbow dysplasia and Osteochondrosis

6B. Cruciate Disease
Pathogenesis and radiographic features. Treatment options.
7B. **Patella Luxation**  
Pathogenesis and radiographic features. Treatment options.  
Comparing the situation in canine and feline patients.  

8B. **Bone Disease**  
Osteosarcoma: pathogenesis and treatment options.  
Nutritional secondary hyperparathyroidism; metaphyseal osteopathy;  
panostitis; hypertrophic pulmonary osteopathy; ischaemic necrosis of the  
femoral head and others - Clinical and radiographic signs, treatment options

**Practical Component:**

**5th Year** - A two hour practical will take the form of a ‘spot test’ using clinical  
specimens, radiographs, implants and slides. This will emphasise the  
importance of the five objectives identified in the curriculum document.

**6th Year** – During the induction to the final year, a dedicated orthopaedic day  
including an orthopaedic workshop offers the possibility to get hands-on  
experience using orthopaedic tools and implants following the basic principles  
of internal fixation.

Two weeks of small group teaching in the 6th year will comprise the majority  
of the practical work. A fracture plan quiz based on radiographs, and a factual  
recall quiz covering the orthopaedic syllabus will be completed and marked  
during the rotation. Students will be taught and assessed on their ability to  
perform an orthopaedic examination. Clinical cases affected with a variety of  
orthopaedic diseases will be seen during the fortnight.

**Handouts** will be provided for every lecture to form a framework for note  
taking, and to emphasise the major points within each lecture.

**Further reading (all books in our library)**  
1. BSAVA Manual of Musculoskeletal disease  
2. Handbook of Small Animal Orthopaedics and Fracture Treatment  
3. An Atlas of Surgical Approaches to the Bones of the Dog & Cat  
5. Feline orthopedic surgery and musculoskeletal disease  
6. Fossum surgery textbook  
8. Denny & Butterworth handbook of Orthopaedics