

RESPIRATORY SYSTEM

Course Organiser: A Williams
Lecturers: V Scott, B Skelly, JD Slater, J Wood, A Williams
Term: Easter

Aims:

To lay the foundations for the discussion of respiratory diseases in species medicine courses, by covering the following areas:

- Clinical assessment of the respiratory tract and respiratory function
- Defence mechanisms of the respiratory tract
- Main types of pathological change encountered in the respiratory tract brought about by infectious agents, trauma, toxins, immunological reactions and environmental factors
- Basic concepts and examples of toxicological disease of the lung
- Basic pharmacological treatment of respiratory disease.

Objectives:

On completing the course, the student should:

- Know how to assess the state and function of the respiratory system
- Understand basic examples of respiratory pathology arising from infectious agents, trauma, toxins, immunological reactions and environmental factors.
- Understand the principles of treatment of inflammatory and infectious disease of the respiratory tract.

Pre-requisites:

- A basic understanding of the functional anatomy and physiology of the respiratory tract as presented in the preclinical courses.
- A basic understanding of pathological processes particularly inflammation, healing and repair.

This course is given alongside the basic principles of microbiology and epidemiology as presented in the Principles of Microbiology course and also in the Parasitology course. Correlation will be made between the information in the three courses. The practical in this course will include material derived from those courses.

Lecture List:

1. Upper Respiratory Tract

AW

Aetiology, pathogenesis and pathology of diseases of the upper respiratory tract, including special reference to viral, bacterial, fungal and parasitic diseases in domestic animals; common presenting signs; methods of investigation.

2. Barriers to microbial invasion of the upper and lower respiratory tract

JDS

The respiratory tract as a habitat for bacteria; defences; immunity; upper and lower respiratory tract disease.

3-4. Pharynx, Larynx and Conducting Airways

AW

Aetiology and pathology of diseases of the pharynx, larynx, trachea, bronchi and bronchioles; common presenting signs; methods of investigation.

5. Multi-factorial infectious disease

JW

Many infectious disease problems in animals have a multi-factorial aetiology. This requires a therapeutic and prophylactic approach that takes into account all the different contributing factors, both infectious and managerial. Using equine respiratory disease as the example, the complex interaction between environment, pathogen and host populations will be described and discussed.

6-7. Pathology of the lung

AW

Common inflammatory diseases of the lung will be reviewed. Pneumonia. Patterns of pathology and specific examples. Non-inflammatory diseases of the lung; atelectasis, emphysema, circulatory disturbances. Methods of investigation.

8. Pathology of the pleura and neoplastic diseases of the respiratory tract

AW

Pathology of the pleura and pleural cavity. Pneumothorax, hydrothorax. Pleuritis and pleural effusions. Primary and secondary neoplasias.

9. Treatment of inflammatory, infectious and obstructive diseases of the respiratory system.

BJS/VS

Use of anti-inflammatory drugs and antimicrobials in infection and inflammation of the airways, lung parenchyma and pleura. Pharmacology/therapeutics of airway calibre control: drugs used in the treatment of selected respiratory tract diseases.

Practical: 1 x two hour practical

The practical sessions will look at examples of respiratory pathology.

Handouts: will be provided, to cover all lectures.

Further reading:

For reference and further reading only:

1. Pathology of Domestic Animals (4th Ed) Vol 2. Jubb, Kennedy and Palmer. Chapter 6 'Respiratory System'
2. Veterinary Pathology (6th Ed). Jones, Hunt & King.