

Cells to Systems

LECTURE 7

THE BODY PLAN

LECTURER

DR JANINE HOFMANN

Email: hofmann.j@unimelb.edu.au

INTENDED LEARNING OUTCOMES

At the end of this lecture, you should be able to:

- Identify regions of the body by their anatomical name in domestic and novel species, necessary to communicate in a meaningful way.
- Describe the position and relationships of the major systems in relation to the major bones of the quadruped skeleton and in relation to each other, so they can be found in any animal you are presented with.
- Identify major structures of the major systems by their anatomical name and relative position, to facilitate communication about these body systems.
- Find selected structures from a written description and/or their anatomical name, a necessary skill in a veterinary career, for example to follow instructions to perform a surgery.

KEY WORDS

- Body regions: pectoral limb, pelvic limb, head, neck, thorax, abdomen, pelvis.
- Body cavities: thoracic/abdominal/pelvic
- Relationships of generalised body systems (musculoskeletal, cardiovascular, lymphatic, nervous, integument) and body systems with a restricted range (respiratory, digestive, urinary, reproductive, endocrine).
- Specific structures/organs: heart, aorta, carotid artery, jugular vein, cranial vena cava, caudal vena cava, portal vein, brain, spinal cord, spleen, trachea, lungs, diaphragm, tongue, teeth, oesophagus, liver, stomach, intestines, kidneys, bladder, male and female reproductive tract.

LECTURE OVERVIEW

The organs and structures of the body can be categorised into ten body systems based on a common function, and often a similar structure and origin. Each system can be studied individually, called a systematic approach, which provides insight into the normal physiology of the system, as well as the disease processes that affect it. The systematic approach does not illustrate the relationships between structures within different systems in the same body region or provide approaches to specific structures in the living animal. To understand these relationships and approaches, the ability to identify a structure's location in relation to other structures within the same system and with structures from other systems is needed.

This lecture provides an overview of the relative positions and extent of the different body systems and highlights the important structures.

FURTHER READING

Hermanson, de Lahunta & Evans. *Miller and Evans' Anatomy of the Dog* (any edition). Available as an e-book through the University library [here](#).

Evans & de Lahunta. *Guide to the Dissection of the Dog* (any edition). Link to its' University library page [here](#).

Goody. Dog Anatomy, A pictorial approach to canine structure (2nd edition). Link to its' University library page [here](#).

Singh. Dyce, Sack & Wensing's *Textbook of Veterinary Anatomy* (any edition). Link to its' University library page [here](#).

König & Liebich. *Veterinary Anatomy of Domestic Mammals* (any edition). Link to its' University library page [here](#).

vet-Anatomy, the interactive atlas of veterinary anatomy by IMAIOS. Available through the University library [here](#).