

Veterinary Bioscience:

Digestive System



LECTURE 29

CONSEQUENCES OF GUT STASIS FOR FLUID MOVEMENT

LECTURER

DR NICHOLAS BAMFORD

n.bamford@unimelb.edu.au

INTENDED LEARNING OUTCOMES

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

- Identify the fluids that are secreted into the gastrointestinal tract daily with a concept of their volume and composition in the different species.
- Apply an understanding of the enterosystemic fluid cycle in different animal species to explain the consequences of obstruction in different regions of the digestive tract for fluid and electrolyte balance.
- Describe how the gastrointestinal tract can be clinically assessed in large animal species.

KEY WORDS

Fluid movement; enterosystemic fluid cycle; plasma volume; electrolyte balance; gastrointestinal tract; mucosal barrier; clinical examination.

LECTURE OVERVIEW

Saliva, gastric fluid, bile, pancreatic and intestinal fluids are secreted into the digestive tract. The relative volume of these fluids as well as their composition varies considerably between the different species according to diet and type of digestive tract. Much of these fluid secretions are reabsorbed at a more distal part of the digestive tract, exactly where depends on gastrointestinal tract anatomy and physiology.

Obstruction to fluid movement along the digestive tract, either physical or functional, can have significant consequences for the fluid balance and circulation of the animal. This lecture looks at common clinical situations in different species where normal fluid movement in the gastrointestinal tract is disturbed. We will examine the clinical consequences for the animal when this occurs, including fluid, electrolyte and acid-base disturbances. We will also look at the different ways of assessing the gastrointestinal tract, particularly in the horse.