

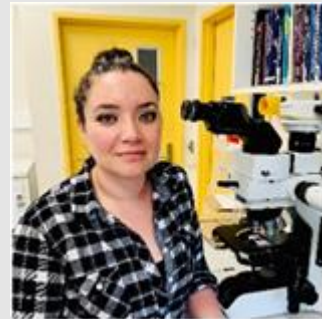
# Veterinary Bioscience: Cells to Systems

## Lecture 10 The role of blood and blood cells in homeostasis

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Astrid is a graduate of the University of Guadalajara, Mexico (2007), and serves as a Lecturer in Clinical Pathology here at the University of Melbourne. After veterinary school, she completed a Master's in Veterinary Clinical Pathology in 2011, followed by a Doctor of Veterinary Science degree (research + residency) in Clinical Pathology at the Ontario Veterinary College, University of Guelph, Canada, in 2017. She joined the faculty at Melbourne in October of 2018 and is currently pursuing Board Certification in Clinical Pathology.

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## Intended Learning Outcomes

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

- Describe the components of blood (cells, ions, proteins, platelets), giving their normal values.
- Describe the main functions of blood in the homeostasis of the body.
- Identify the cells in the blood and their species variations.
- Discuss the normal balance of blood cell turnover and how this enables an animal to respond to infection.

## Keywords

- Haematocrit, haemoglobin, erythrocyte, platelet, anaemia, neutrophil, monocyte, eosinophil, lymphocyte, basophil, protein.

## Lecture Overview

Blood is a specialized bodily fluid with essential functions, including the transportation of respiratory gases, nutrients and waste products, chemical messengers, and cells. In this lecture, we will examine the formed and unformed components of blood and their role in homeostasis, paying particular attention to the function of leukocytes.

## Further Reading

<https://eclinpath.com/>

Hall JE: Guyton and Hall Textbook of Medical Physiology, 14th Ed. Elsevier, 2021. UoM ebook

<https://www.clinicalkey.com.au/#!/browse/book/3-s2.0-C20170004883>

Latimer KS. Duncan & Prasse's Veterinary Laboratory Medicine. Clinical Pathology. 5<sup>th</sup> Ed 2011. UoM ebook

<https://ebookcentral.proquest.com/lib/unimelb/detail.action?docID=821970>

Harvey JW. Veterinary hematology: a diagnostic guide and color atlas. Elsevier/Saunders, 2012. UoM ebook

<https://www.sciencedirect.com/book/9781437701739/veterinary-hematology>