

Submitted: 06/05/2022

Accepted: 11/06/2022

Published: 11/07/2022

Anatomical knowledge retention in veterinarians and veterinary students

Jelle Stans*

¹*Institute for Globally Distributed Open Research and Education, Beringen, Belgium*

A thorough understanding of anatomy is essential for clinical practice in a wide variety of fields, including medicine (Orsbon *et al.*, 2014; Singh *et al.*, 2021). Over time, the share of anatomy in the curriculum of medicine has been reduced (Turner, 2007). This has raised concerns with several authors about a potential inadequate anatomical knowledge and retention of some practitioners (Narnaware and Neumeier, 2020; Singh *et al.*, 2021). Several studies have been conducted to assess this knowledge in a wide range of healthcare professions including physicians (Gupta *et al.*, 2008), physical therapy students (Valenza *et al.*, 2015) and nursing students (Narnaware and Neumeier, 2020).

In veterinary medicine, a strong knowledge of anatomy is also essential for quality care. Depending on their specific field of practice, veterinarians don't only need to have a general knowledge of vertebrate anatomy, but also of different species under their treatment. Therefore, it is important to assess the anatomical knowledge retention of both general vertebrate – and species-specific anatomy in both veterinarians and veterinary students.

Despite several studies assessing the impact of different study methods and aids in veterinary anatomy (Preece *et al.*, 2013; Laakkonen, 2021), only one study has assessed anatomical knowledge retention in the veterinary field (Gutierrez *et al.*, 2016). This study focused specifically on the retention of bovine anatomical knowledge. The authors concluded that in their fourth year of veterinary school, the students had only a low retention of the relevant anatomical knowledge. Despite being only a single study, it raises several issues and provides the basis for further research.

A first step for further research could be studies that compare the retention of general vertebrate anatomy in students at the end of their undergraduate education and at the time of their graduation. This will shed light on the retention of the knowledge that is the basis for all further anatomical study. When these studies are conducted in several institutions, conclusions could be drawn about the best ways to teach and maintain these basic concepts. In a second phase, the retention of the anatomy of animals routinely kept as pets, such as cats and dogs, could be assessed in recent graduates and more experienced veterinarians. These results could also be stratified by specialization. This way, it can be assessed whether routine contact with these animals may lead to a better retention of insights into their anatomy. Finally, anatomical knowledge of specific animals could be assessed in specialists who start their clinical practice and compared with more experienced clinicians.

To conclude, in contrast to other clinical disciplines, anatomical knowledge retention has only been studied very little in veterinary medicine. Further research could identify potential issues which could then be mitigated with targeted interventions.

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*Corresponding Author: Jelle Stans. Institute for Globally Distributed Open Research and Education, Beringen, Belgium.
Email: jelle.stans@hotmail.be

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