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# Veterinary Education with regards to Veterinary Medicinal Products and their use in the Middle East



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# Veterinary Pharmacology

- Veterinary pharmacology is the study of drugs, which is concerned with medications can be used with animals, ranging from topical flea management medications for cats and dogs to antibiotics which can be used to treat infections in large animals. People who work in this field should have advanced degrees in veterinary sciences.

# Fields of Interest



- Veterinarians are interested in the molecular structure of drugs, how drugs work, safe drug dosages, [side effects](#) associated with drugs, the discovery of new drugs, new applications for existing medications, drug treatment protocols, and a variety of related topics. The major market in veterinary pharmacology is in drugs for domestic pets and animals used in agriculture.



**The challenge faced by veterinary educators is how best to prepare current and future veterinarians in effectively providing pharmaceutical services to large, small, aquatic, wild, and exotic animals.**



# TEACHING VETERINARY PHARMACOLOGY

- **A survey of the status of the curricular content of veterinary pharmacology in the most of the faculties of veterinary medicine in the region was conducted. An average of 68 lecture hours was found to be devoted to lecture in basic pharmacology with 90 % of the lectures presented in the second year of the curriculum. Pharmacology laboratory instruction averaged 72 contact and discussion hours. Thus, the total mean contact time for basic veterinary pharmacology \_as 140 hours.**

- This survey did not determine course content. The core of knowledge does not extend beyond that of a comprehensive textbook on *Veterinary Pharmacology and Therapeutics*. Furthermore, it is impossible to cover all of this material within **140** contact hours and, therefore, the core of basic veterinary pharmacology is humanely less than that presented within the pages of the aforementioned text.



# Basic veterinary pharmacology should provide.



- **1. Competence in oral and written communication concerning veterinary pharmacology.**
- **2. A general understanding of the world of pharmacology, its culture and its people.**
- **3. A fundamental grasp of the concepts and principles of pharmacology.**



- **4. A knowledge base of the important concepts and principles of veterinary pharmacology, and entry level ability to receive clinical instruction.**
- **5. The essentials of scientific behavior to include thoroughness, reliability, efficiency, and critical analysis.**
- **6. Problem solving and critical thinking skills.**
- **7. Training and experience in pharmacological investigations.**
- **8. Experience and skills in modern information management systems.**
- **9. Personal integrity and ethical values including compassion for people and animals.**



# **Current subjects of veterinary pharmacology in the curriculum of most faculties of veterinary medicine**

**Introduction to basic veterinary pharmacology,**

**Pharmacodynamics,**

**Drug Absorption,**

**Drug distribution,**

**Drug metabolism,**

**Drug excretion,**

**Pharmacokinetics,**

**Drug and chemical residues,**

- **Introduction to the Autonomic Nervous System,**
- **Cholinergic pharmacology:**
- **ANS drugs,**
- **Anticholinesterases and Parasympathomimetics,**
- **Parasympathetic blockers,**
- **Adrenergic and antiadrenergic drugs,**
- **Ganglionic blockers,**
- **Neuromuscular blockers,**
- **drugs affecting on the different organs and systems,**
- **Antimicrobials,**
- **Wormers,**
- **anti-parasitic drugs,**
- **vitamins and hormones.**



- **Veterinarians should become more sophisticated in their understanding of pharmacology and other related subjects like physiology, microbiology, veterinary public health to most appropriately apply of hormonal and antimicrobial drugs**
- **Development of different tools for the rational use of veterinary drugs and biological**
- **The middle east veterinary medical associations and other veterinary organizations should sponsor in-depth seminars on this topic, and faculties of veterinary medicine should ensure that students graduate with a sophisticated understanding of factors affecting choice of special drugs like antimicrobial drugs**
- **Environmental impact of veterinary drugs and biological should be part of veterinary education**
- **The gradually use of alternative veterinary medicine in farm animals.**

**Thank you for your attention**

