

<<机能实验学>>

图书基本信息

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## <<机能实验学>>

### 内容概要

《机能实验学（第二版）（英文版）》主要包括三部分内容，一是较系统地介绍机能学实验基本知识、动物学实验基本技术、科研基本方法以及实验室安全规则等，强调了对实验基本知识和技术方法的掌握；第二部分为生理学、病理生理学和药理学的一些经典实验内容，共由34个实验项目组成，主要用于促进对医学理论知识的理解；第三部分由综合性实验、探索性实验、病例讨论、高水平论文分析等内容组成，主要用于训练和提高学生的综合实验能力和科研素质。

本教材在形式上以英文为主，对章节段落的标题及少数较难的专业词汇则插入中文注释。

本教材涉及大量的医药学基础与临床专业英语词汇，因此除可作为生理学、病理生理学和药理学等实验双语教材外，还可作为各专业学生学习医学专业英语的良好课外读物。

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## 章节摘录

版权页：插图： In the 19th century, physiological knowledge began to accumulate at a rapid rate, particularly with the appearance of the Cell theory of Matthias Schleiden and Theodor Schwann in 1838. But in that time, doctors based their theories on metaphysical (形而上学) ideology, and personal experience often dictated their clinical decisions. Science-based medicine was largely absent. It was not until French physiologist Claude Bernard (1813-1878) began to perform a series of rigorous laboratory investigations and animal experimentation, that the old medicine had begun to enter scientific modern times. Bernard's most notable discoveries are the role of the pancreas in digestion, and the liver's ability to make sugar. Bernard's masterpiece was his book entitled "An Introduction to the Study of Experimental Medicine", published in 1865. In his book, Bernard argued that progress in medicine could not be achieved without the application of experimental physiology. Therefore, Claude Bernard is acknowledged as the father and founder of experimental medicine. Physiology is the study of normal, healthy bodily function (as opposed to anatomy, which is the study of normal structure). When something disrupts normal physiological processes, it enters the realm of pathophysiology. Pathophysiology (病理生理学) is the study of the changes of normal mechanical, physical, and biochemical functions, caused by a disease, or resulted from an abnormal syndrome. More formally, it is the branch of medicine which deals with any disturbances of normal body functions, caused by disease or prodromal (前兆病状) symptoms. There is substantial overlap between "pathology" and "pathophysiology." Pathology as a general term refers to the causes and consequences of a disease that leads to a specific diagnosis. It can also refer specifically to a tissue diagnosis. Pathophysiology refers more to the actual changes in organ systems that lead to the manifestation of the disease as can be observed as symptoms or measurable organ system changes. Pharmacology (药理学) is the study of how drugs exert their effects on living systems. The two main areas of pharmacology are pharmacodynamics (药效学) and pharmacokinetics (药物代谢动力学). The former studies the effects of the drugs on biological systems, and the latter the effects of biological systems on the drugs. In broad terms, pharmacodynamics discusses the interactions of chemicals with biological receptors, and pharmacokinetics discusses the absorption, distribution, metabolism, and excretion of chemicals from the biological systems. Pharmacology deals with how drugs interact within biological systems to affect function. Pharmacologists work to identify drug targets in order to learn how drugs work. Pharmacologists also study the ways in which drugs are modified within organisms.

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