

Cambridge University Press

978-0-521-52318-9 - Mechanisms of Disease: An Introduction to Clinical Science, Second Edition

Stephen Tomlinson, Anthony M. Heagerty, Anthony P. Weetman and Rayaz A. Malik

Frontmatter

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Mechanisms of Disease

An Introduction to Clinical
Science

Second Edition

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Preface to the first edition

This book reflects innovative approaches to the learning of core subjects and provides opportunities for in-depth study in undergraduate medicine, emphasising the understanding of principles rather than simply memorising facts. Our approach follows the direction of curricular development throughout the UK and the expressed educational aim of the General Medical Council. In addition, higher medical training at the postgraduate level will be increasingly based on the principles of clinical science; given the accelerating pace of advances in biomedical knowledge, requirements of continuing education are likely to have a strong scientific component.

The introductory section of the book sets out the essentials of molecular and cellular biology as they relate to mechanisms of disease. There is also a brief description of some established and more recently developed methodologies used in molecular and cell biology.

The book then outlines leading-edge scientific knowledge and demonstrates how this is fundamental to the practice of up-to-date clinical medicine. Each chapter focuses on one or more clinically important exemplar topics where science has helped to develop clinical practice or improved understanding of the basis of disease.

Each chapter falls broadly into two parts: the first is devoted to basic mechanisms and the second to the application of knowledge of these basic mechanisms to the understanding of the pathogenesis and diagnosis of an exemplar condition. Although the emphasis is on mechanisms of disease, aspects of treatment are also included

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where they have explanatory value in understanding disease processes. Authors have usually focused on one specific exemplar condition, but where appropriate, there is comment on other diseases relevant to the section 'mechanism'.

The overriding aim of the book is to meet the need for new approaches to learning medicine; it also provides information for students undertaking special study modules, encouraging self-directed learning

by the study in depth of specific subjects chosen by the students themselves.

We are especially grateful to Professor David R. London, Registrar of the Royal College of Physicians of London, for the chapter on the historical development of concepts of disease, which we believe sets the scene for succeeding chapters.

S. Tomlinson, A. M. Heagerty and P. Weetman

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Preface to the second edition

This second edition of *Mechanisms of Disease* builds on our original aims of providing a mechanistic, as opposed to traditional, list-based approach to medicine. This is in keeping with the huge transformation in both undergraduate and postgraduate teaching and learning and is in accord with the aims of the General Medical Council (GMC) described in *Tomorrow's Doctors* (1993, 2003).

This book provides the essential knowledge required for the core curriculum and is delivered by leading clinicians and scientists. In keeping with one of the major remits of the GMC on delivering the core curriculum, *factual information* has been 'kept to the essential minimum that students need at this stage of medical education'. The use of principles of disease combined with an appropriate exemplar approach provides learning opportunities that help the student to explore knowledge and evaluate and integrate evidence critically, motivating them to develop the necessary skills for self-directed learning. The use of exemplars provides students with clinical information relevant to their special study modules and *student-selected components*, allowing them to study particular areas in depth. Again in keeping with the change from simply 'learning lists' to establishing principles of disease, each chapter provides knowledge of the sciences and scientific methods on which medicine is based.

Finally, to integrate theory with clinical practice, each chapter includes a series of clinical scenarios, followed by questions.