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# PREFACE

*Fundamentals of Pharmacology* is primarily a text for undergraduate and postgraduate students in the health science disciplines, particularly those in nursing. Students of other health disciplines whose roles involve pharmacological therapy (such as pharmacy, podiatry, optometry, paramedic and physiotherapy), as well as those studying basic science, should find much of the material relevant to their studies. Qualified health professionals may also find this textbook useful as a part of their continuing professional education and postgraduate studies.

## Our approach

Philosophically, our goal is to empower health professionals through an understanding of the fundamental scientific principles of pharmacology that inform clinical practice. To promote understanding, we believe that the effects of medicines on physiological and pathophysiological processes have to be clearly explained. We have included a small amount of chemistry and biochemistry where appropriate in order to facilitate this understanding. With a greater appreciation of the action of medicines and their target tissues, the reader should be able to deduce what therapeutic and adverse effects to expect, as well as the precautions and contraindications to consider. We have sought to balance the pharmacology content with considerations associated with clinical practice in the most readable way.

Furthermore, where possible we have tended to describe the important characteristics of medicine groupings rather than focus on individual agents, and have used prototypes and common generics as examples. The rationale for this approach is that new medicines are regularly entering the market while older agents are removed. The average practitioner cannot possibly keep up with all of these changes. However, if a student knows which grouping a new agent belongs to, the principal characteristics of the medicine can be easily deduced.

This book is primarily designed to establish the foundations in pharmacology. We encourage students to refer to independent sources of electronic and hard-copy references found in clinical settings, such as the *Australian Medicines Handbook*, or *Therapeutic Guidelines*, for more detailed information regarding individual therapeutic agents (e.g. dosage, special precautions and toxicological information).

We hope that you will find this textbook a valuable companion in your pursuit of a fundamental understanding in that most fascinating area of clinical knowledge—pharmacology.

## Changes in the ninth edition

This edition reflects the availability of medicines in Australia and New Zealand at the time of publication. Consistent with the information currently available to us, we have updated the book by including new medicines that have entered the marketplace and excluding those that have been removed since the last edition.

Pharmacology is a complex area of study for health professional students. We are always looking for ways to enhance readability for students. In this edition, content has been carefully reviewed. The book has been reduced and made more concise, **down from the 79 chapters** of the last edition, **to 67 chapters** for this edition. This change reflects the streamlining of content. Section headings, and some chapter headings, reflect **a stronger focus on body systems** and the **treatment of common conditions**. We have

also removed the medicine summary tables at the end of most chapters as this information is readily available in sources such as the *Australian Medicines Handbook*.

We have changed our terminology with respect to the use of the words **patient** and **drug**. We have completely avoided the term **patient** as it reflects an unequal relationship between health service user and provider. Instead, we refer to the **person** or **people** or **individuals**. We have also favoured the term **medicine** over the term **drug**, as it reflects the **clinical or therapeutic use** of a substance rather than an illicit or recreational usage. We have tended to use the term **drug** in the scientific pharmacological context, when referring to pharmacodynamic or pharmacokinetic properties.

Where appropriate, the therapeutic approaches and the new medicines associated with the management of important clinical conditions—such as **cardiovascular disease, diabetes mellitus, infectious disease, immune disorders and psychiatric illness**—have been brought up to date with current clinical guidelines.

A number of **new figures and tables** have been included to assist students in visualising difficult pharmacological concepts, the sites of actions of medicines, and the range of effects expected in a person when particular types of medicines are administered. **New concept maps** linking the pharmacology and pathophysiology are included in this edition. We now cover **nociception and pain, diabetes mellitus, rheumatoid arthritis, asthma, inflammatory bowel disease and ischaemic heart disease**.

#### END-OF-CHAPTER AND END-OF-SECTION FEATURES

The book contains hundreds of end-of-chapter questions to assist in the consolidation of learning—all of these have been reviewed.

Revised integrated case studies appear at the end of sections to assist with making the links between theory and practice.