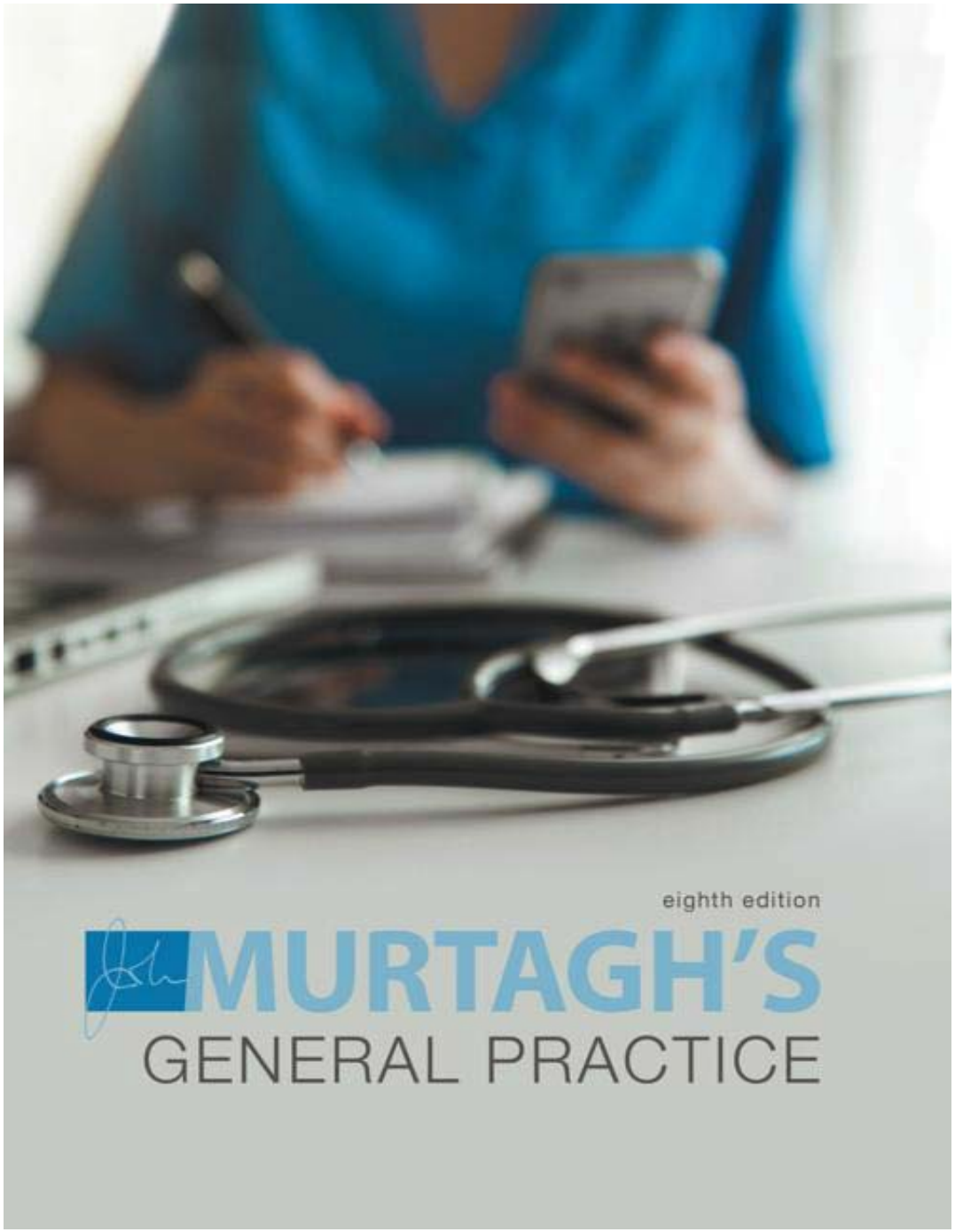
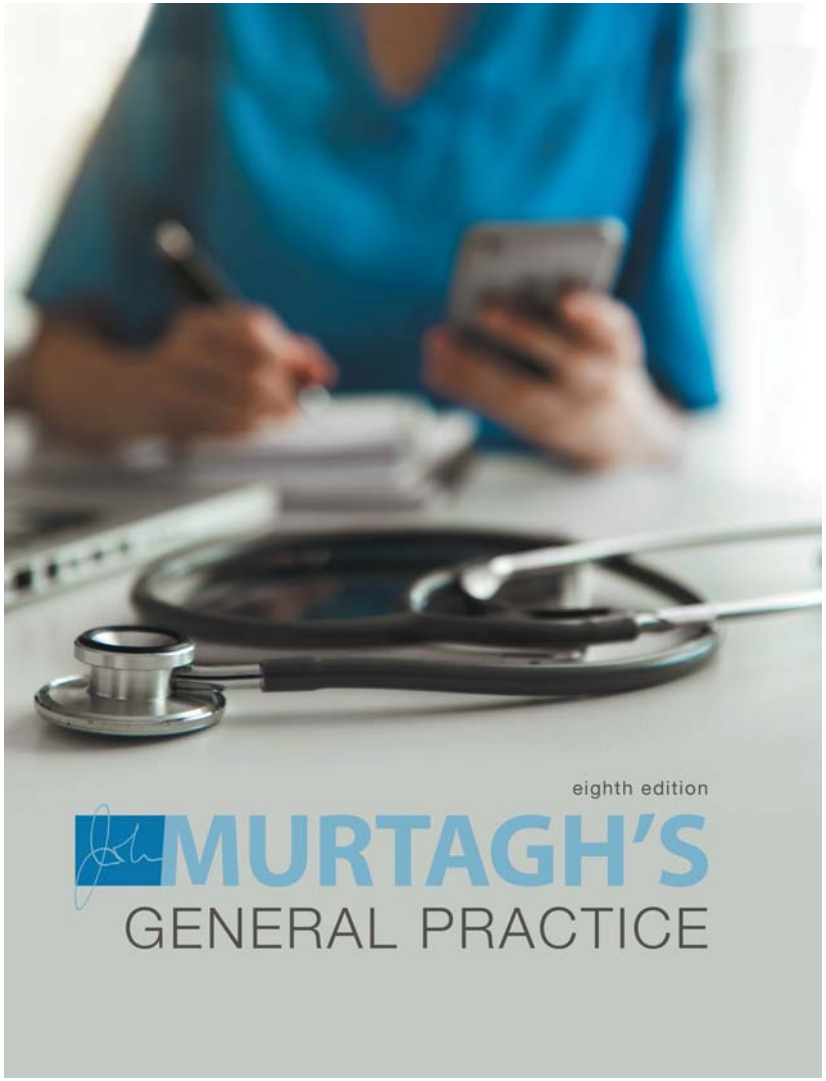

eighth edition
MURTAGH'S
GENERAL PRACTICE


eighth edition
MURTAGH'S
GENERAL PRACTICE

eBook Murtagh General Practice, 8th Edition

Cover



MURTAGH'S

GENERAL PRACTICE

eighth edition

MURTAGH'S

GENERAL PRACTICE

This eighth edition published 2022
First edition published 1994, second edition published 1998, third edition published 2003, fourth edition published 2007, fifth edition published 2011, sixth edition published 2015, seventh edition published 2018

National Library of Australia Cataloguing-in-Publication Data:

A catalogue record for this book is available from the National Library of Australia

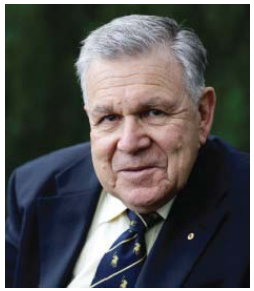
Authors: John Murtagh, Jill Rosenblatt, Justin Coleman, Clare Murtagh
Title: John Murtagh's General Practice
Edition: 8th edition

Print ISBN: 9781743768235
eBook ISBN: 9781743768242

Published in Australia by
McGraw-Hill Education (Australia) Pty Ltd
Level 33, 680 George Street, Sydney NSW 2000

Publisher: Rochelle Deighton
Copyeditor: Julie Wicks
Proofreader: Meredith Lewin
Permissions Manager: Rachel Norton
Cover design: Christa Moffitt, christabella designs
Internal design: David Rosemeyer
Author photograph: Gerrit Fokkema Photography
Illustrators: Alan Laver/Shelly Communications and John Murtagh
Typeset by Straive

The authors



Professor John Murtagh AO

MBBS, MD, BSc, BEd, FRACGP, DipObstRCOG
Emeritus Professor in General Practice, School of Primary Health, Monash University, Melbourne
Professorial Fellow, Department of General Practice, University of Melbourne
Adjunct Clinical Professor, Graduate School of Medicine, University of Notre Dame, Fremantle, Western Australia

John Murtagh was a science master teaching chemistry, biology and physics in Victorian secondary schools when he was admitted to the first intake of the newly established Medical School at Monash University, graduating in 1966. Following a comprehensive postgraduate training program, which included surgical registrarship, he practised in partnership with his wife, Dr Jill Rosenblatt, for 10 years in the rural community of Neerim South, Victoria.

He was appointed Senior Lecturer (part-time) in the Department of Community Medicine at Monash University and eventually returned to Melbourne as a full-time Senior Lecturer. He was appointed to a professorial chair in Community Medicine at Box Hill Hospital in 1988 and subsequently as chairman of the extended department and Professor of General Practice in 1993 until retirement from this position in 2010. He now holds teaching positions as Emeritus Professor in General Practice at Monash University, Adjunct Clinical Professor, University of Notre Dame and Professorial Fellow, University of Melbourne. He achieved the Doctor of Medicine degree in 1988 for his thesis ‘The management of back pain in general practice’.

He was appointed Associate Medical Editor of *Australian Family Physician* in 1980 and Medical Editor in 1986, a position he held until 1995. In 1995 he was awarded the Officer of the Order of Australia for services to medicine and to medical education in the field of general practice and to professional groups.

One of his numerous publications, *Practice Tips,* was named as the British Medical Association’s Best Primary Care Book Award in 2005. In the same year John Murtagh was awarded the inaugural David de Kretser medal from Monash University for his exceptional contribution to the Faculty of Medicine, Nursing and Health Sciences over a significant period of time. Members of the Royal Australian -College of General Practitioners may know that the honour of the namesake of the College library was bestowed upon him. In 2018 he was awarded the Australian Medical Association’s Gold Medal for exceptional and long-standing commitment and contribution to general practice and advancing the profession through medical education.

Today John Murtagh continues to enjoy active participation in medical education activities. His vast experience with all medical groups has provided him with tremendous insights into their needs, which is reflected in the culminated experience and wisdom of *John Murtagh’s General Practice.*

Dr Jill Rosenblatt

MBBS, FRACGP, DipObstRCOG, GradDipAppSci

Jill Rosenblatt graduated in medicine from the University of Melbourne in 1968. Following terms as a resident medical officer she entered rural practice in Neerim South, Victoria, in partnership with her husband John Murtagh. She was responsible for inpatient hospital care in the Neerim District Bush Nursing Hospital and in the West Gippsland Base Hospital. Her special interests were obstetrics, paediatrics and anaesthetics. Jill has also had a special interest in Indigenous culture and health since she lived at Koonibba Mission in South Australia, where her father was Superintendent.

After leaving rural life she came to Melbourne and joined the Ashwood Medical Group, where she practised comprehensive general medicine, and care of the elderly in particular. She was appointed Adjunct Senior Lecturer in the Department of General Practice at Monash University in 1980 and a teacher in the GP registrar program.

She gained a Diploma of Sports Medicine (RACGP) in 1985 and a Graduate Diploma of Applied Science in Nutritional and Environmental Medicine from Swinburne University of Technology in 2001.

Jill Rosenblatt brings a wealth of diverse experience to the compilation of this textbook. This is based on 50 years of experience in rural and metropolitan general practice. In addition, she has served as clinical assistant to the Shepherd Foundation, the Menopause Clinics at Prince Henry’s

Hospital and Box Hill Hospital and the Department of Anaesthetics at Prince Henry's Hospital. Jill has served as an examiner for the RACGP for 39 years and for the Australian Medical Council for 16 years. She was awarded a life membership of the Royal Australian College of General Practitioners in 2010 and a Distinguished Service award of the College in 2014.

Dr Justin Coleman

MBBS, FRACGP, MPH

General Practitioner, Julanimawu Health Service, Wurrumiyanga, NT

Senior Lecturer, Flinders University Medical School

Medical Educator, NTGPE

Editorial Advisory Board, Diabetes Management Journal

Board Director, GP Supervisors Association Governance Board, ALIVE National Centre for Mental Health Research Translation

Justin Coleman graduated from Melbourne University Medical School in 1992 and has subsequently worked as a rural GP in Victoria, the remote NT and Brisbane, primarily in Aboriginal and Torres Strait Islander health.

Soon after graduating, Justin began writing for the GP newspaper *Medical Observer* and hasn't stopped since. One of his weekly columns, 'Handy Hints for GPs', ran for 13 years. He writes regular humorous opinion columns.

Justin is a prolific writer for medical and non-medical readerships; he has published well over 1500 medical articles in around 50 different newspapers, magazines, books and journals. For five years he served as President of the Australasian Medical Writers Association and he regularly runs writing workshops for medical writers and academics.

Since completing a Master of Public Health (UQ 2011, first class hons), Justin has dedicated much of his career to educating other GPs about how to improve various aspects of medical practice. His interests include evidence-based medicine, the rational use of medical tests and treatments, and dealing with uncertainty during a GP consultation. He represents the RACGP on matters pertaining to conflicts of interest and fiercely guards his own independence, never having accepted payment from a pharmaceutical or medical device company.

Over three decades, Justin has supervised hundreds of medical students and GP registrars. He has taught in the medical schools of four universities and for a dozen medical education organisations.

Justin edited his first medical book 25 years ago and has remained a medical editor ever since. He completed a Writing and Editing program in 2010 (UQ, first class hons). He was editor of the *Diabetes Management Journal*, writes and does peer reviews for the MJA, AJGP (formerly AFP) and BMJ, and is a member of the Australasian Health and Medical journal Editors' Network (AHMEN).

Justin was honoured to be invited by Professor John Murtagh to help edit Australia's seminal textbook on general practice. This represents the grand intersection of every one of his aforementioned interests.

Dr Clare Murtagh

MBBS, FRACGP

General Practitioner, Sydney

Clare Murtagh completed her medical studies at Monash University in 2007 and spent her early career working in hospitals in Geelong and rural Victoria. Following experience as a medical officer for trekkers in Nepal, she moved to Sydney where she completed her General Practice training in 2013.

A passionate generalist, Clare has special interest in dermatology, women's health and paediatrics. She holds a Diploma of Dermatology and Certificates in Sexual and Reproductive Health, and Medical Education. While practising at Your Doctors in Sydney's inner west, she has cared for a wide variety of patients and is an antenatal shared care provider.

In recent years, Clare has gained increasing experience in medical education as a supervisor of training GPs and as an examiner for the RACGP. She has worked as a medical educator at GP Synergy and is a lecturer on dermatology.

Clare has been an enthusiastic contributor to the 'Women's health', 'Sexual health' and 'Problems of the skin' sections of the last three edition of *Murtagh's General Practice.* As the daughter of co-authors John Murtagh and Jill Rosenblatt, she has benefited from their mentorship and appreciates the genesis and philosophy of the editorial direction of the textbook.

Foreword

In 1960 a young schoolmaster, then teaching biology and chemistry in a secondary school in rural Victoria, decided to become a country doctor. He was part of the first intake of students into the Medical School of the newly established Monash University, and at the end of his six-year undergraduate medical course and subsequent intern and resident appointments his resolve to practise community medicine remained firm. After more than a decade in country practice with his life partner, Dr Jill Rosenblatt, during which he meticulously documented the cases he treated, in 1977 John Murtagh took up an academic position in the new Department of General Practice at Monash University. He subsequently moved through the ranks of Senior Lecturer, Associate Professor and Professor, now enjoying the title of Emeritus Professor.

Through his writing, pedagogy and research, John Murtagh became a national and international authority on the content and teaching of primary care medicine. It was during his tenure as Medical Editor of *Australian Family Physician* from 1986 to 1995 that the journal became the most widely read medical journal in Australia.

This textbook provides a distillate of the vast experience gained by a once rural doctor, whose career has embraced teaching; whose abiding interest is in ensuring that disease, whether minor or life-threatening, is recognised quickly; and whose concern is that strategies to match each contingency are well understood.

The first edition of this book, published in 1994, achieved remarkable success on both the national and international scene. The second and third editions built on this initial success and the book has become known as the ‘bible of general practice’ in Australia. In addition to being widely used by practising doctors, it has become a popular and standard textbook in several medical schools and also in the teaching institutions for alternative health practitioners, such as chiropractic, naturopathy and osteopathy. In particular, medical undergraduates and graduates struggling to learn English have found the book relatively comprehensible. The fourth and fifth editions were updated and expanded, retaining the successful, user-friendly format, including clinical photography and illustrations in colour. Dr Jill Rosenblatt joined John in authoring and editing the fifth, sixth and seventh editions. Two new author/editors in Dr Justin Coleman and Dr Clare Murtagh subsequently joined the panel.

Having known John and worked with him for more than three decades, I feel privileged to write this foreword to the eighth edition, adding to earlier forewords by the late Professor Schofield. During this 27-year period I have watched each edition blossom, only to be superseded by a bigger and better replacement. John Murtagh has become a legend nationally and internationally, and in a 2012 *Medical Observer* survey he was voted the most revered Australian doctor, ahead of Fred Hollows and Victor Chang. Most recently, in 2018 John was awarded the Australian Medical Association’s highest honour, the AMA Gold Medal for his ‘contribution to medicine and general practice as a doctor and educator’. In addition, in 2019 he became an Officer of the Order of Australia (AO) for his contribution to scholarship in General Practice, superseding his award of Member of the Order of Australia (AM) awarded in 1996.

This edition retains the time-honoured framework that has made it the seminal text for GPs, GP registrars and students of general practice worldwide. It is to general practice what ‘Harrisons’ is to internal medicine.

Although this edition retains the same format, it has a number of significant changes and additions, including a strong emphasis on viral infections including the coronaviruses. Reflecting John’s lifelong commitment to medical education, he has included more visual material, more practical tips for day-to-day clinical practice and importantly, more on therapeutics supported by references to *Therapeutic Guidelines.*

The expanded volume has necessitated a significant increase in references to original sources to substantiate the evidence base within this text. As expected in contemporary texts, there is also an abundance of online resources.

John Murtagh’s works, including this text, have been translated into Italian by McGraw-Hill Libri Italia s.r.l., Portuguese by McGraw-Hill Nova Iorque and Spanish by McGraw-Hill Interamericana Mexico and also into Chinese, Greek, Polish and Russian. In 2009 *John Murtagh’s General Practice* was chosen by the Chinese Ministry of Health as the textbook to aid the development of general practice in China. Now, 27 years since its beginning, the text is available in 13 languages, most recently adding Farsi and Turkish translations. A truly remarkable achievement.

GC SCHOFIELD
OBE, MD, ChB(NZ), DPhil(Oxon), FRACP, FRACMA, FAMA
Emeritus Professor of Anatomy
Dean of Medicine
Monash University, 1977–88

Leon Piterman AM (Foreword to the sixth, seventh and eighth editions)
MBBS, MD, MMed, MEdSt, FRCP(Edin), FRACGP
Professor of General Practice,
Monash University

Contents

Acknowledgments

Professor Murtagh would like to thank the Publication Division of the Royal Australian College of General Practitioners for supporting his past role as Medical Editor of *Australian Family Physician*, which provided an excellent opportunity to gather material for this book. Acknowledgment is also due to those medical organisations that have given permission to use selected information from their publications. They include the Preventive and Community Medicine committee of the RACGP (Guidelines for Preventive Activities in General Practice), Therapeutic Guidelines Limited, the Hypertension Guideline Committee: Research Unit RACGP (South Australian Faculty) and the *Medical Observer*, publishers of *A Manual for Primary Health Care*, for permitting reproduction of Appendices I–IV.

For decades, *Therapeutic Guidelines* (TG) has set the gold standard for practice guidelines, beginning with the benchmark antibiotic guidelines. The panels for the various disciplines include experts from many fields whose collective wisdom and evidence base in their deliberations inspires confidence and authority for treatment decisions. General practitioners also have input in the panels. The authors of *Murtagh's General Practice* wish to thank Therapeutic Guidelines Limited for the outstanding information which provides an authoritative framework for our publication. *Therapeutic Guidelines* is the ultimate therapeutic reference across all categories, from analgesics and antibiotics to ulcers and wound management.

Special thanks to the late Chris Sorrell for his art illustration, and to Nicki Cooper, Jenny Green and Caroline Menara for their skill and patience in typing the manuscript.

Many of the quotations at the beginning of chapters appear in either Robert Wilkins (ed), *The Doctor's Quotation Book*, Robert Hale Ltd, London, 1991, or Maurice B. Strauss (ed), *Familiar Medical Quotations*, Little, Brown & Co., New York, 1958.

Thanks also to Professor Roger Pepperell, Dr Bruce Mugford, Dr Lucie Stanford, Dr Mohammad Shafeeq Lone, Dr Brian Bedkobar for content advice and Professor Chris White for technical support, Dr Ebrahim Pishan, Dr Joseph Turner and Lesley Rowe for reviewing the manuscript, and to the publishing and production team at McGraw-Hill Education (Australia) for their patience and assistance in so many ways.

Finally, thanks to Dr Ndidi Victor Ikealumba for his expert review of *General Practice* sixth edition, tropical medicine and his subsequent contribution.

Photo credits

Figure 31.4, p. 383 is used with permission from *Harrison's Principles of Internal Medicine* 20th edn (2018) by JL Jameson, AS Fauci, DL Kasper, SL Hauser, DL Longo and J Loscalzo,

McGraw-Hill Education US.

Figure 124.11, p. 1398 is used with permission from Clinical Sports Medicine 4th edn (2009) by P Brukner and K Khan, McGraw-Hill Educations (Australia)

Figure 28.6, p. 328 is used with permission from Practical Office Orthopedics (2017) by E Parks, McGraw-Hill Education US.

Photographs appearing on the pages below are from *The Colour Atlas of Family Medicine* (2008) and 2nd edn (2013) and *The Color Atlas and Synopsis of Family Medicine* 3rd edn (2019) by RP Usatine, MA Smith, EJ Mayeaux Jr and H Chumley, McGraw-Hill Education US, with the kind permission of the following people:

Dr Richard P Usatine: Figure 119.7 (photo), p. 1330.

Dr Richard P Usatine, 2e: Figure 61.1, p. 747; Figure 61.2, p. 749; Figure 61.8, p. 755; Figure 116.21, p. 1302.

Dr Richard P Usatine, 3e: Figure 8.3, p. 68; Figure 25.5, p. 284; Figure 30.13, p. 362; Figure 39.12, p. 478; Figure 61.6, p. 752; Figures 84.6 and 84.7, p. 971; Figure 84.8, p. 972; Figure 93.5, p. 1071; Figure 98.5, p. 1119; Figure 99.1, p. 1124; Figure 109.5, p. 1214; Figure 113.11, p. 1258; Figure 117.2, p. 1310; Figures 118.5 and 118.6, p. 1324; Figure 119.7 (photo), p. 1330.

Dr William Clark: Figure 39.3, p. 471; Figure 39.6, p. 472; Figure 39.7, p. 473; Figure 48.1, p. 580.

Frontline Medical Communications: Figure 88.4, p. 1019; Figure 115.6, p. 1288.

Paul D. Comeau: Figure 40.6, p. 489.

DEA: Figure 12.6, p. 117.

Dr Nicolette Deveneau: Figure 93.2, p. 1069.

Javier La Fontaine DPM: Figure 115.5, p. 1287.

Dr Michelle Rowe: Figure 12.5, p. 117.

Dr C. Blake Simpson: Figure 46.1, p. 557.

Dr Marc Solioz: Figure 8.1, p. 66.

Dr Eric Kraus: Figure 112.5, p. 1240.

Dr Hugh Newton-John: Figure 9.1, p. 73; Figure 20.4, p. 200; Figure 50.3, p. 59.7; Figure 86.3, p. 991.

Professor Barry Firkin and Professor Hatem Salem: Figure 9.4, p. 77.

Dr Peter Ryan: Figure 21.4, p. 209.

Dr Marissa Lassere: Figure 21.5, p. 209.

Professor John Masterton: Figure 25.12, p. 292; Figure 26.2, p. 300; Figure 26.3, p. 302.

Bruce Black: Figure 39.8, p. 474; Figure 39.10, p. 476.

John Colvin and Joseph Reith: Figure 40.2, p. 487; Figure 40.3, p. 487; Figure 40.4, p. 488; Figure 40.5, p. 489; Figure 40.8, p. 491; Figure 40.12, p. 493; Figure 40.14, p. 493.

Robin Marks: Figure 57.13, p. 710; Figure 112.10, p. 1243; Figure 116.17, p. 1300.

Dr Peter Couran: Figure 113.15, p. 1260.

Dr John Troller: Figure 116.9, p. 1297.

Preface

The discipline of general practice has become complex, expansive and challenging, but nevertheless remains manageable, fascinating and rewarding. *John Murtagh's General Practice* attempts to address the issue of the base of knowledge and skills required in modern general practice. Some of the basics of primary healthcare remain the same. In fact, there is an everlasting identity about many of the medical problems that affect human beings, be it a splinter under a nail, a stye of the eyelid, a terminal illness or simply stress-related anxiety. Many of the treatments and approaches to caring management are universal and timeless.

This text covers a mix of traditional and modern practice with an emphasis on the importance of clinical reasoning, early diagnosis, strategies for solving common presenting problems, continuing care, holistic management and 'tricks of the trade'. One feature of our discipline is the patient who presents with undifferentiated problems featuring an overlap of organic and psychosocial components. There is the constant challenge to make an early diagnosis and identify the ever-lurking, life-threatening illness. Hence the 'must not be missed' catch cry throughout the text. To reinforce this awareness, 'red flag pointers' to serious disease are included where appropriate. The general practice diagnostic model, which pervades all the chapters on problem solving, is based on the authors' experience, but readers can draw on their own experience to make the model work effectively for themselves.

This eighth edition expands on the challenging initiative of diagnostic triads (or tetrads), which act as a brief *aide-memoire* to assist in identifying a disorder from three (or four) key symptoms or signs. A particular challenge in the preparation of the text was to identify as much appropriate and credible evidence-based information as relevant. This material, which still has its limitations, has been combined with considerable collective wisdom from experts, especially from the *Therapeutic Guidelines* series. A key objective of this publication is to achieve a balance between science and the art of general practice. To provide updated accuracy and credibility, the authors have had the relevant chapters peer reviewed by independent experts in the respective disciplines. These consultants are acknowledged in the reviewers section. The revised editions also have the advantage of co-authorship from experienced general practitioner Dr Jill Rosenblatt. Additional authors include Dr Clare Murtagh, a general practitioner with experience in medical education, and Dr Justin Coleman, past president of the Australasian Medical Writers Association with special interests in 'Choosing wisely' programs and evidence-based medicine.

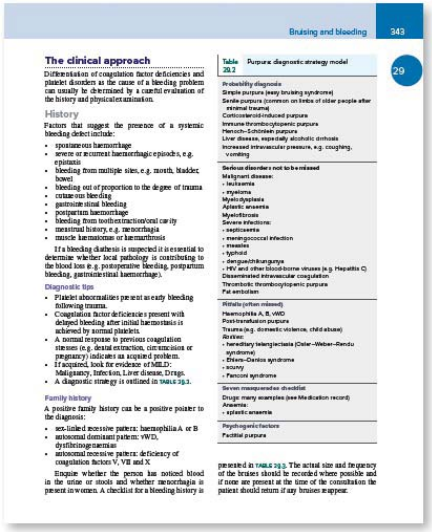
A comprehensive book such as this one, which presents a basic overview of primary medicine, cannot possibly cover all the medical problems likely to be encountered. An attempt has been made, however, to focus on problems that are common, significant, preventable and treatable. Recent content includes expanded material on genetic disorders and infectious diseases, particularly coronaviruses and acute respiratory distress syndrome.

John Murtagh's General Practice is written as a user-friendly text with the recent graduate, the international medical graduate and the medical student in mind. However, all primary-care practitioners will gain useful information from the book's content.

Making the most of your book

Diagnostic strategy models

Diagnostic strategy models for common presenting problems form the backbone of this book. *General Practice* is renowned for this unique and powerful learning feature, which was introduced in the first edition.



Bruising and bleeding 343

29

The clinical approach

Differentiation of coagulation factor deficiencies and platelet disorders as the cause of a bleeding problem can usually be determined by a careful evaluation of the history and physical examination.

History

Factors that suggest the presence of a systemic bleeding defect include:

- spontaneous haemorrhage
- severe or recurrent haemorrhagic episodes, e.g. epistaxis
- bleeding from multiple sites, e.g. mouth, bladder, bowel
- bleeding out of proportion to the degree of trauma
- cutaneous bleeding
- gastrointestinal bleeding
- postpartum haemorrhage
- bleeding from tooth extraction/oral cavity
- menstrual history, e.g. menorrhagia
- muscle haematomas or haemarthrosis

If a bleeding diathesis is suspected it is essential to determine whether local pathology is contributing to the blood loss e.g. postoperative bleeding, postpartum bleeding, gastrointestinal haemorrhage).

Diagnostic tips

- Platelet abnormalities present as early bleeding following trauma.
- Coagulation factor deficiencies present with delayed bleeding after initial haemostasis is achieved by normal platelets.
- A normal response to previous coagulation stressors (e.g. dental extraction, circumcision or pregnancy) indicates an acquired problem.
- If acquired, look for evidence of MELD: Malignancy, Infection, Liver disease, Drugs.
- A diagnostic strategy is outlined in TABLE 29.2.

Family history

A positive family history can be a positive pointer to the diagnosis:

- sex-linked recessive pattern: haemophilia A or B
- autosomal dominant pattern: vWD, dysfibrinogenaemias
- autosomal recessive pattern: deficiency of coagulation factors V, VII and X

Enquire whether the person has noticed blood in the urine or stools and whether menorrhagia is present in women. A checklist for a bleeding history is presented in TABLE 29.3. The actual size and frequency of the bruises should be recorded where possible and if none are present at the time of the consultation the patient should return if any bruises reappear.

Table 29.2 Purpura: diagnostic strategy model

Probability diagnosis
Simple purpura (easy bruising syndrome)
Senile purpura (common on limbs of older people after minimal trauma)
Corticosteroid-induced purpura
Immune thrombocytopenic purpura
Henoch–Schönlein purpura
Liver disease, especially alcoholic cirrhosis
Increased intravascular pressure, e.g. coughing, vomiting

Serious disorders not to be missed
Malignant disease:
- leukaemia
- myeloma

Myelodysplasia
Aplastic anaemia
Myelofibrosis
Severe infections:
- septicaemia
- meningococcal infection
- measles
- typhoid
- dengue/chikungunya
- HIV and other blood-borne viruses (e.g. Hepatitis C)

Disseminated intravascular coagulation
Thrombotic thrombocytopenic purpura
Fat embolism

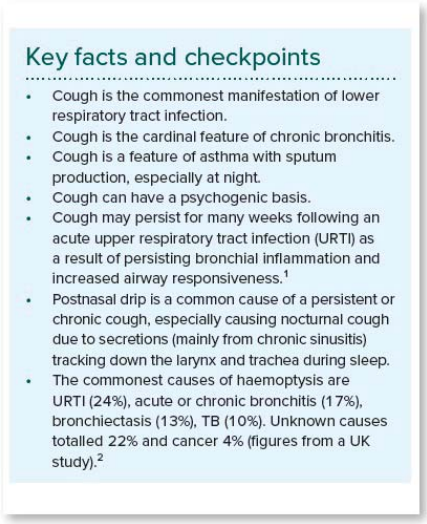
Pitfalls (often missed)
Haemophilia A, B, vWD
Post-transfusion purpura
Trauma (e.g. domestic violence, child abuse)
Rarities
- hereditary telangiectasia (Osler–Weber–Rendu syndrome)
- Ehlers–Danlos syndrome
- scurvy
- Fanconi syndrome

Seven masqueraders checklist
Drugs: many examples (see Medication record)
Anaemia:
- aplastic anaemia

Psychogenic factors
Factitial purpura

Key facts and checkpoints

Key facts and checkpoints provide accurate statistics and local and global contexts.

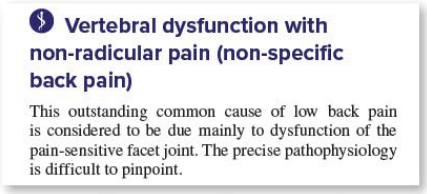


Key facts and checkpoints

- Cough is the commonest manifestation of lower respiratory tract infection.
- Cough is the cardinal feature of chronic bronchitis.
- Cough is a feature of asthma with sputum production, especially at night.
- Cough can have a psychogenic basis.
- Cough may persist for many weeks following an acute upper respiratory tract infection (URTI) as a result of persisting bronchial inflammation and increased airway responsiveness.[1]
- Postnasal drip is a common cause of a persistent or chronic cough, especially causing nocturnal cough due to secretions (mainly from chronic sinusitis) tracking down the larynx and trachea during sleep.
- The commonest causes of haemoptysis are URTI (24%), acute or chronic bronchitis (17%), bronchiectasis (13%), TB (10%). Unknown causes totalled 22% and cancer 4% (figures from a UK study).[2]

The staff of Asclepius

The staff of Asclepius icon highlights diseases for when you are specifically searching for information on a particular disease.

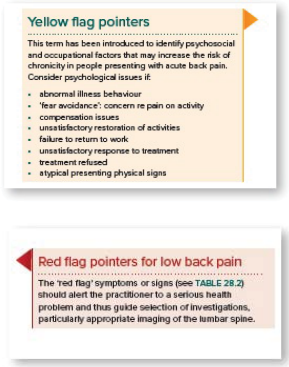


Vertebral dysfunction with non-radicular pain (non-specific back pain)

This outstanding common cause of low back pain is considered to be due mainly to dysfunction of the pain-sensitive facet joint. The precise pathophysiology is difficult to pinpoint.

Red and yellow flags

Red and yellow flags alert you to potential dangers. Red is the most urgent, but yellow also requires careful consideration.



Yellow flag pointers

This term has been introduced to identify psychosocial and occupational factors that may increase the risk of chronicity in people presenting with acute back pain. Consider psychological issues if:

- abnormal illness behaviour
- 'fear avoidance': concern re pain on activity
- compensation issues
- unsatisfactory restoration of activities
- failure to return to work
- unsatisfactory response to treatment
- treatment refused
- atypical presenting physical signs

Red flag pointers for low back pain

The 'red flag' symptoms or signs (see TABLE 28.2) should alert the practitioner to a serious health problem and thus guide selection of investigations, particularly appropriate imaging of the lumbar spine.

Clinical framework

Clinical framework based on major steps of clinical features, investigations, diagnosis, management and treatment reflects the key activities in the daily tasks of general practitioners.

Infections of the central nervous system 201

There are three forms of mediated viral encephalitis: direct, delayed (latent) and immune mediated (postinfectious encephalomyelitis).

Toxoplasma gondii

A protozoal infection seen in immunocompromised patients, especially HIV. Refer for specialist advice.

Investigations
- Lumbar puncture: CSF (usually aseptic meningitis)
- CSF PCR for viral studies, esp. HSV, toxoplasma
- CT scan—often shows cerebral oedema
- Gadolinium-enhanced MRI
- EEG—characteristic waves

Treatment

Organise hospitalisation where treatment will be supportive. Suspected herpes simplex encephalitis should be treated with IV aciclovir immediately.

Note: Meningoencephalitis is meningitis plus some parenchymal involvement of brain substance.

Autoimmune encephalitis

This is a recently identified group of neuropsychiatric disorders seen typically in young people.[1] There is a prodrome of fever and headache followed by days or weeks of psychiatric behavioural problems with bizarre symptoms and movements. It may be related to a paraneoplastic manifestation, e.g. ovarian cancer. Diagnosis is confirmed by blood and CSF antibody testing (anti-NMDA receptor). Specialist referral for diagnosis and specific immunotherapy is appropriate.

Brain abscess and subdural empyema[4,8]

A brain (cerebral) abscess is a focal area of infection in the cerebrum or cerebellum. It presents as a space-occupying intracerebral lesion. Suspect in any patient with a raised intracranial pressure. The infection can reach the brain by local spread or via the bloodstream; for example, endocarditis or bronchiectasis. Therefore, in no chart is a focus of infection elsewhere but it can follow ear, sinus, dental, periodontal or other infection and also a skull fracture. The organisms are polymicrobial, especially microaerophilic cocci and anaerobic bacteria in the non-immunocompromised. In the immunocompromised, *Toxoplasma*, *Nocardia* sp. and fungi.

Clinical features

Raised intracranial pressure
- Headache
- Nausea and vomiting
- Altered conscious state
- Papilloedema

Other
- Focal neurological signs such as hemiplegia, dysphasia, ataxia
- Seizures (30%)
- Fever (may be absent)
- Signs of sepsis elsewhere, e.g. teeth, endocarditis

Investigations
- MRI (if available) or CT scan
- FBE, ESR/CRP, blood culture
  Note: Lumbar puncture is contraindicated.
- Consider endocarditis

Management

Management is urgent neurosurgical referral. Aspiration or biopsy is essential to guide antimicrobial treatment, which may (empirically) include metronidazole IV and a cephalosporin, e.g. ceftriaxone IV. Nocardiosis is treated with other antibiotics.

Spinal subdural or epidural abscess[2]

These uncommon focal infections can be extremely difficult to diagnose so an index of suspicion is required to consider such an abscess. The usual organism is *Staphylococcus aureus*.

Clinical features[2]
- Back pain (increasing) ± radiculopathy
- Percussion tenderness over spine
- Evolving neurological deficit, e.g. gradual leg weakness and sensory loss ± fever (may be absent)

Causes
- Associated infection: furuncle, decubitus ulcer, adjacent osteomyelitis, discitis, other
- Back trauma with haematoma
- Post-subdural or epidural anaesthetic block
- One-third is spontaneous

Investigations
- Blood culture
- MRI scan to localise abscess and spinal cord pressure

Management

Urgent neurosurgical referral. Empirical therapy while awaiting culture results may include dyfluclaxacillin IV + gentamicin IV or vancomycin IV.

20

Seven masquerades checklist

This unique feature of the book reminds you of potential and hidden dangers underlying patient presentations.

Seven masquerades checklist

Depression, diabetes, drugs, spinal dysfunction and UTI can all cause abdominal pain: acute, subacute or chronic. Abdominal pain and even tenderness can accompany diabetic ketoacidosis. Drugs that can cause abdominal pain are listed in TABLE 24.3.

Spinal dysfunction of the lower thoracic spine and thoracolumbar junction can cause referred pain to the abdomen. The pain is invariably unilateral, radicular in distribution and related to activity. It can be confused with intra-abdominal problems such as biliary disease (right-sided), appendicitis and Crohn disease (right side), diverticular disorder (left-sided) and pyelonephritis.

Diagnostic triads

Key features that may discriminate between one disease and another are clearly presented.

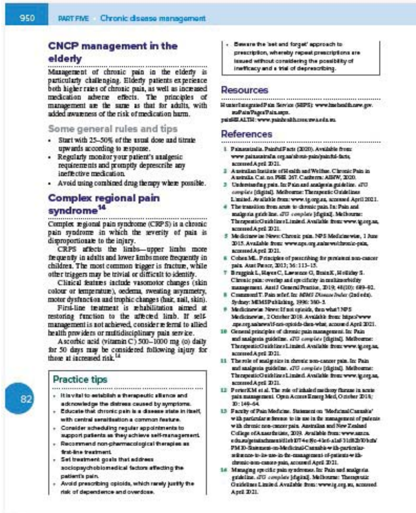
DxT light-brown skin patches + skin tumours + axillary freckles ➜ NF1

Evidence-based research

Evidence-based research is recognised with a full chapter on research in general practice and evidence base, including more on qualitative models. In addition, substantial references are provided for every chapter.

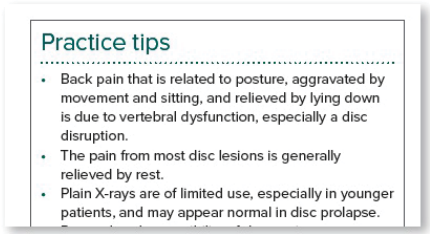
Extensive coverage of paediatric and geriatric care, pregnancy and complementary therapies

Extensive coverage of paediatric and geriatric care, pregnancy and complementary therapies is integrated throughout, as well as devoted chapter content providing more comprehensive information in these areas.



Practice tips

Practice tips consist of key points that are of use in the clinical setting.



Clinical photos

Clinical photos provide authentic, visual examples of many conditions and serve as either a valuable introduction or confirmation of diagnosis.

FIGURE 129.5 Cutaneous leishmaniasis in a serviceman after returning from the Middle East

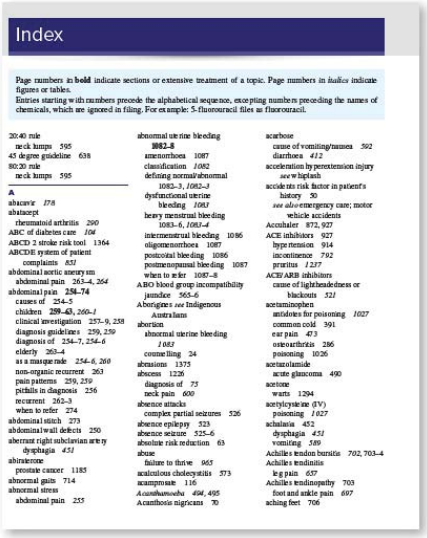
Full colour illustrations

Full colour illustrations are provided, with more than 600 diagrams in the clean, simple style that has proved so popular.

FIGURE 28.5 The slump test: one of the stages

Significantly enhanced index

The index has more sub-categories with bold page numbers indicating the main treatment of a topic, enabling you to quickly pinpoint the most relevant information. Page numbers in italics refer to figures and tables. Entries with '*see also*' have cross-references to related, but more specific information on the topic.



Index

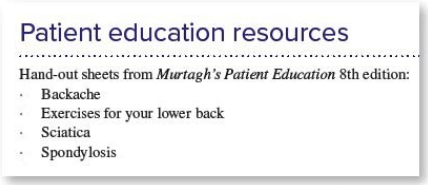
Page numbers in **bold** indicate sections or extensive treatment of a topic. Page numbers in *italics* indicate figures or tables.
Entries starting with numbers precede the alphabetical sequence, excepting numbers preceding the names of chemicals, which are ignored in filing. For example: 5-fluorouracil files as fluorouracil.

20:40 rule
  neck lumps 595
45 degree guideline 638
80:20 rule
  neck lumps 595

A
abacavir *378*
abatacept
  rheumatoid arthritis *290*
ABC of diabetes care *104*
ABCD 2 stroke risk tool 1364
ABCDE system of patient complaints *851*
abdominal aortic aneurysm
  abdominal pain 263–4, *264*
abdominal pain **254–74**
  causes of 254–5
  children **259–63**, *260–1*
  clinical investigation 257–9, 258
  diagnosis guidelines 259, *259*
  diagnosis of 254–7, *254–6*
  elderly 263–4
  as a masquerade *254–6*, *260*
  non-organic recurrent 263
  pain patterns 259, *259*
  pitfalls in diagnosis 256
  recurrent 262–3
  when to refer 274
abdominal stitch 273
abdominal wall defects 250
aberrant right subclavian artery
  dysphagia *451*
abiraterone
  prostate cancer 1185
abnormal gaits 714
abnormal stress
  abdominal pain *255*
abnormal uterine bleeding **1082–8**
  amenorrhoea 1087
  classification *1082*
  defining normal/abnormal 1082–3, *1082–3*
  dysfunctional uterine bleeding *1083*
  heavy menstrual bleeding 1083–6, *1083–4*
  intermenstrual bleeding 1086
  oligomenorrhoea 1087
  postcoital bleeding 1086
  postmenopausal bleeding 1087
  when to refer 1087–8
ABO blood group incompatibility
  jaundice 565–6
Aborigines *see* Indigenous Australians
abortion
  abnormal uterine bleeding *1083*
  counselling 24
abrasions 1375
abscess 1226
  diagnosis of *75*
  neck pain *600*
absence attacks
  complex partial seizures 526
absence epilepsy 523
absence seizure 525–6
absolute risk reduction 63
abuse
  failure to thrive *965*
acalculous cholecystitis 573
acamprosate 116
Acanthamoeba *494*, *495*
Acanthosis nigricans 70
acarbose
  cause of vomiting/nausea *592*
  diarrhoea *412*
acceleration hyperextension injury *see* whiplash
accident risk factor in patient's history 50
see also emergency care; motor vehicle accidents
Accuhaler 872, 927
ACE inhibitors 927
  hypertension 914
  incontinence *792*
  pruritus *1237*
ACE/ARB inhibitors
  cause of lightheadedness or blackouts *521*
acetaminophen
  antidotes for poisoning *1027*
  common cold 391
  ear pain *473*
  osteoarthritis 286
  poisoning 1026
acetazolamide
  acute glaucoma 490
acetone
  warts 1294
acetylcysteine (IV)
  poisoning *1027*
achalasia 452
  dysphagia *451*
  vomiting *589*
Achilles tendon bursitis *702*, 703–4
Achilles tendinitis
  leg pain *637*
Achilles tendinopathy 703
  foot and ankle pain *697*
aching feet 706

Patient education resources

Indicates where you can find relevant information from *Murtagh's Patient Education*, eighth edition, to photocopy and hand out to patients.



Patient education resources

Hand-out sheets from *Murtagh's Patient Education* 8th edition:

- Backache
- Exercises for your lower back
- Sciatica
- Spondylosis

Reviewers

Content consultants

The authors are indebted to the many consultants who reviewed parts of the manuscript relevant to their areas of expertise and provided help and advice.

Dr Marion Bailes, Dr Joanne Gardiner and Dr Kate Walker	refugee health
Associate Professor Deborah Bateson	family planning
Dr Roy Beran	epilepsy; neurological dilemmas
Dr James Best	depression, anxiety, male health, child and adolescent health, communication skills
Dr Clare Boema	family planning
Dr John Boxall	palpitations
Dr Penny Burns	disaster medicine, pandemics
Dr Jill Cargnello	hair disorders
Dr Belinda Chan	breast disorders
Dr Paul Coughlin and Professor Hatem Salem	bruising and bleeding; thrombosis and thromboembolism
Mr Rod Dalziel	shoulder pain
Dr David Dilley	pain in the arm and hand
Dr David Dunn and Dr Hung The Nguyen	the health of Indigenous peoples
Dr Robert Dunne	common skin wounds and foreign bodies
Associate Professor John Eden	the menopause
Professor Jon Emery	genetic disorders, malignant disease
Dr Fiona Fargie	sexually transmitted infections
Genetic Health Services, Victoria	genetic disorders
Dr Lindsay Grayson and Associate Professor Joseph Torresi	travel medicine, the returned traveller and tropical medicine
Mr John Griffiths	pain in the hip and buttock
Professor Michael Grigg	pain in the leg
Dr Gary Grossbard	the painful knee
Dr Eliza Hannam	postnatal care
Dr Peter Hardy-Smith	the red and tender eye; visual failure
Associate Professor Peter Holmes	cough; dyspnoea; asthma; COPD
Professor Michael Kidd, Dr Ron McCoy and Dr Alex Welborn	human immunodeficiency virus infection
Professor Gab Kovacs	abnormal uterine bleeding; the subfertile couple
Professor Even Laerum	research in general practice
Mr Peter Lawson (deceased), Dr Sanjiva Wijesinha and Dr Andrew Pattison	men’s health, disorders of the penis, prostatic disorders, scrotal pain, inguinoscrotal lumps
Dr Jessica Lowe	cervical cancer screening
Dr Peter Lowthian	arthritis
Mr Frank Lyons	common fractures and dislocations
Dr John Mackellar	child abuse and domestic violence
Dr Linda Mann	basic antenatal care
Professor Barry McGrath	hypertension
Dr Joe McKendrick	malignant disease
Dr Kim Matthews	the subfertile couple
Dr Luke Murtagh	pain and its management
Professor Robyn O’Hehir	allergic disorders, including hayfever
Dr Michael Oldmeadow	tiredness
Dr Frank Panetta	chest pain
Dr Geoff Quail	pain in the face, sore mouth and tongue
Mr Ronald Quirk	pain in the foot and ankle
Dr Ian Rogers	emergency care
Professor Avni Sali	abdominal pain, lumps in the breast, jaundice, constipation, dyspepsia, nutrition
Dr Stanley Santiagu and Dr Jemma Dalrymple	abnormal uterine bleeding
Dr Ronald Schweitzer	intimate partner violence and sexual assault
Dr Deshan Sebaratnam and Dr Margit Polcz	problems of the skin
Dr Heidi Spillane	sexual health
Dr Hugo Standish	urinary tract infection, chronic kidney failure

Dr Richard Stark	neurological diagnostic triads
Dr Liz Sturgiss	obesity
Professor Geoff Sussman	skin ulcers
Dr Paul Tallman	stroke and transient ischaemic attacks
Dr Alison Walsh	breastfeeding, postnatal breast disorders
Professor Greg Whelan	alcohol problems, drug problems
Dr Lynne Wray	vaginal discharge, vulvar disorders
Dr Alan Yung	fever and chills, sore throat
Dr Ronnie Yuen	diabetes mellitus, thyroid and other endocrine disorders

Laboratory reference values

These reference values and ranges are given in the system of international units (SI) and may vary from laboratory to laboratory.

An asterisk (*) indicates that paediatric reference ranges differ from the adult range given.

Electrolytes/renal	
Sodium	135–145 mmol/L
Potassium*	3.5–5.0 mmol/L
Chloride	95–110 mmol/L
Bicarbonate	23–32 mmol/L
Urea	3–8.0 mmol/L
Creatinine	♀ 50–110; ♂ 60–120 µmol/L
eGFR	>60 mL/min/1.72 m2
Calcium*	2.10–2.60 mmol/L (total)
Phosphate	0.90–1.35 mmol/L
Magnesium*	0.65–1.00 mmol/L
Uric acid*	♀ 0.12–0.40; ♂ 0.15–0.45 mmol/L

Liver function/pancreas	
Bilirubin*	<20 µmol/L (total) <3 µmol/L (direct)
AST*	<40 U/L
GGT*	♀ <30; ♂ <50 U/L
Alkaline phosphatase (ALP)*	25–100 U/L
Total protein	60–80 g/L
Albumin	38–50 g/L
Amylase	30–110 U/L
Lipase	<100 U/L

Glucose	
Glucose fasting	3–5.4 mmol/L
Glucose random	3–7.7 mmol/L
HbA1c	4.7–6.1%

Haematology	
Hb*	♀ 115–165; ♂ 130–180 g/L
PCV*	♀ 37–47; ♂ 40–54%
MCV*	80–100 fL
Reticulocytes	0.5–2.0%
White cells	4.0–11.0 × 109/L
Platelets	150–400 × 109/L
ESR	<20 mm; <35mm if >70 years
Band neutrophils*	(0.05 × 109/L)
Mature neutrophils*	(2.0–7.5 × 109/L)
Lymphocytes*	(1.0–4.0 × 109/L)
Monocytes*	(0.2–0.8 × 109/L)
Eosinophils*	(0.0–0.4 × 109/L)
Folate	serum 7–45 nmol/L, red cell 360–1400 nmol/L
s Vitamin B12	(150–700 pmol/L)

Coagulation	
Bleeding time	2.0–8.5 min
Fibrinogen	2.0–4.0 g/L
Prothrombin time	sec.
Prothrombin ratio INR	1.0–1.2
APTT	25–35 sec
D-dimer	<500 mg/mL

Others	
s Creatine phospho kinase	<90 U/L
s Lead	<2 µmol/L
s C–reactive protein	<10 mg/L
Vitamin D	>75 mmol/L

Cardiac/lipids	
Troponin I or T	<0.1 ug/L
CK total	♀ <200; ♂ <220 U/L
CK-MB	<25 U/L
Cholesterol*	<5.5 mmol/L
Triglycerides*	<1.7 mmol/L
HDL cholesterol	♀ 1–2.2; ♂ 0.9–2.0 mmol/L
LDL cholesterol	2–3.4 mmol/L

Thyroid tests	
Free T_4	10.0–25.0 pmol/L
Ultra–sensitive TSH*	0.4–5.0 mU/L
Free T_3	3.3–8.2 pmol/L

Other endocrine tests	
s Cortisol	8 am 130–700 nmol/L
	4 pm 80–350 nmol/L
FSH	1–9 IU/L (adult ♀) 10–30 IU/L (ovulation) 4–200 IU/L (postmenopausal)
Oestradiol menopausal	<200 pmol/L
Testosterone	♀ <3.5; ♂ 10–35 nmol/L

Tumour markers	
PSA	0–1.0 mcg/L
CEA	<7.5 mcg/L
AFT	<10 mcg/mL
CA–125	<35 U/mL

Iron studies	
Ferritin	♀ 15–200; ♂ 30–300 mcg/L
Iron	10–30 µmol/L
Iron–binding capacity	45–80 µmol/L
Transferrin	2–3.5 g/L
Transferrin saturation	♀ 15–45%; ♂ 15–55%

Blood gases/arterial	
pH*	7.38–7.43
P_aO_2*	85–105 mmHg
P_aCO_2*	36–44 mmHg
Bicarbonate*	20–28 mmol/L
Base excess*	–3 to +3 mmol/L

Normal values: worth knowing by heart

The following is a checklist that can be used as a template to memorise normal quantitative values for basic medical conditions and management.

Vital signs (average)	< 6 months	6 months – 3 years	3 – 12 years	Adult
Pulse	120–140	110	80 – 100	60 – 100
Respiratory rate	45	30	20	14
BP (mmHg)	90/60	90/60	100/70	≤ 130/85

Children's weight	1–10 years
Rule of thumb:	Wt = (age + 4) × 2 kg

Fever—temperature (morning)[(a)] (a) There is considerable diurnal variation in temperature so that it is higher in the evening (0.5–1°C). I would recommend the definition given by Yung et al. in *Infectious Diseases: a Clinical Approach*: 'Fever can be defined as an early morning oral temperature > 37.2°C or a temperature > 37.8°C at other times of the day'. Dangerous ≥ 41.5°C.	
Oral	> 37.2°C
Rectal	> 37.7°C
Diabetes mellitus—Diagnostic criteria: blood sugar	
Random 1 reading if symptomatic 2 readings if asymptomatic	> 11.1 mmol/L
Fasting	> 7.0 mmol/L
or	the 2 values from an oral GTT
Hypokalaemia	
Serum potassium	< 3.5 mmol/L
Jaundice	
Serum bilirubin	> 19 µmol/L
Hyperkalaemia	
Serum potassium	> 5.0 mmol/L
Hypertension	
BP	> 140/90 mmHg
Alcohol excessive drinking	
Males	> 4 standard drinks/day
Females	> 2 standard drinks/day
Alcohol health guidelines (NHMRC)	
Males and females	≤ 10 standard drinks/week < 4 standard drinks/occasion

Anaemia—haemoglobin	
Males	< 130 g/L
Females	< 120 g/L
Body mass index	**Wt (kg)/Ht (m2)**
Normal	20–25
Overweight	> 25
Obesity	> 30

Abbreviations

AAA	abdominal aortic aneurysm
AAFP	American Academy of Family Physicians
ABA	Australian Breastfeeding Association
ABC	airway, breathing, circulation
ABCD	airway, breathing, circulation, dextrose
ABFP	American Board of Family Practice
ABI	ankle brachial index
ABO	A, B and O blood groups
AC	air conduction
AC	acromioclavicular
ACAH	autoimmune chronic active hepatitis
ACE	angiotensin-converting enzyme
ACL	anterior cruciate ligament
ACR	albumin creatine ratio
ACTH	adrenocorticotrophic hormone
AD	aortic dissection
AD	autosomal dominant
ADHD	attention deficit hyperactivity disorder
ADLs	activities of daily living
ADT	adult diphtheria vaccine
AF	atrial fibrillation
AFI	amniotic fluid index
AFP	alpha-fetoprotein
AI	aortic incompetence
AICD	automatic implantable cardiac defibrillator
AIDS	acquired immunodeficiency syndrome
AIIRA	angiotension II(2) reuptake antagonist
AKF	acute kidney failure
ALE	average life expectancy
ALL	acute lymphocytic leukaemia
ALP	alkaline phosphatase
ALT	alanine aminotransferase
ALTE	apparent life-threatening episode
AMI	acute myocardial infarction
AML	acute myeloid leukaemia
ANA	antinuclear antibody
ANCA	antineutrophil cytoplasmic antibody
ANF	antinuclear factor
a/n/v	anorexia/nausea/vomiting
AP	anterior–posterior
APF	Australian pharmaceutical formulary
APH	ante-partum haemorrhage
APRI	AST to platelet ratio index
aPTT	activated partial thromboplastin time
AR	autosomal recessive
ARB	angiotension II receptor blocker
ARC	AIDS-related complex
ARDS	adult respiratory distress syndrome
ARR	absolute risk reduction
ART	anti-retroviral therapy
ASD	atrial septal defect
ASIS	anterior superior iliac spine
ASOT	antistreptolysin 0 titre
AST	aspartate aminotransferase
ATFL	anterior talofibular ligament
AV	atrioventricular
AVM	arteriovenous malformation
AZT	azidothymidine

BC	bone conduction
BCC	basal cell carcinoma
BCG	bacille Calmette–Guérin
bDMARDs	biological disease modifying antirheumatic drugs
BMD	bone mass density
BMI	body mass index
BNP	B-type natriuretic peptide
BOO	bladder outlet obstruction
BP	blood pressure
BPH	benign prostatic hyperplasia
bpm	beats per minute
BPPV	benign paroxysmal positional vertigo
BSE	breast self-examination

Ca	carcinoma
CABG	coronary artery bypass grafting
CAD	coronary artery disease
CAP	community-acquired pneumonia
CBE	clinical breast examination
CBT	cognitive behaviour therapy
CCB	calcium-channel blocker
CCF	congestive cardiac failure
CCP	cyclic citrinullated peptide
CCT	controlled clinical trial
CCU	coronary care unit
CD4	T helper cell
CD8	T suppressor cell
CDT	combined diphtheria/tetanus vaccine
CEA	carcinoembryonic antigen
CFL	calcaneofibular ligament
CFS	chronic fatigue syndrome
cfu	colony forming unit
CHC	combined hormonal contraception
CHD	coronary heart disease
CHF	chronic heart failure
CI	confidence interval
CIN	cervical intraepithelial neoplasia
CJD	Creutzfeldt–Jakob disease
CK	creatinine kinase
CK–MB	creatinine kinase–myocardial bound fraction
CKD	chronic kidney disease
CKF	chronic kidney failure

CMC	carpometacarpal
CML	chronic myeloid leukaemia
CMV	cytomegalovirus
CNS	central nervous system
co	compound
COAD	chronic obstructive airways disease
COC	combined oral contraceptive
COCP	combined oral contraceptive pill
COMT	catechol-O-methyl transferase
COPD	chronic obstructive pulmonary disease
COX	cyclooxygenase
CPA	cardiopulmonary arrest
CPAP	continuous positive airways pressure
CPK	creatine phosphokinase
CPPD	calcium pyrophosphate dihydrate
CPR	cardiopulmonary resuscitation
CPS	complex partial seizures
CR	controlled release
CRD	computerised reference database system
CREST	calcinosis cutis; Raynaud phenomenon; oesophageal involvement; sclerodactyly; telangiectasia
CRF	chronic renal failure
CRFM	chloroquine-resistant falciparum malaria
CRH	corticotrophin-releasing hormone
CR(K)F	chronic renal (kidney) failure
CRP	C-reactive protein
CSF	cerebrospinal fluid
CSFM	chloroquine-sensitive falciparum malaria
CSIs	COX-2 specific inhibitors
CSU	catheter specimen of urine
CT	computerised tomography
CTD	connective tissue disorder
CTG	cardiotocograph
CTS	carpal tunnel syndrome
CVA	cerebrovascular accident
CVS	cardiovascular system
CXR	chest X-ray

DAA	direct-acting antivirals
DBP	diastolic blood pressure
DC	direct current
DDAVP	desmopressin acetate
DDH	developmental dysplasia of the hip
DDP	dipeptidyl peptidase
DEXA	dual energy X-ray absorptiometry
DHA	docosahexaenoic acid
DHEA	dihydroepiandrosterone
DI	diabetes insipidus
DIC	disseminated intravascular coagulation
DIDA	di-imino diacetic acid
DIMS	disorders of initiating and maintaining sleep
DIP	distal interphalangeal
dL	decilitre
DMARDs	disease modifying antirheumatic drugs
DNA	deoxyribose-nucleic acid
DOACs	direct acting anti-coagulants
DOM	direction of movement
DRE	digital rectal examination
DRABC	defibrillation, resuscitation, airway, breathing, circulation
drug dosage	bd—twice daily; tid, tds—three times daily; qid—four times daily
ds	double strand
DS	double strength
DSM	diagnostic and statistical manual (of mental disorders)
DU	duodenal ulcer
DUB	dysfunctional uterine bleeding
DVT	deep venous thrombosis
DxT	diagnostic triad

EAR	expired air resuscitation
EBM	Epstein–Barr mononucleosis (glandular fever)
EBNA	Epstein–Barr nuclear antigen
EBV	Epstein–Barr virus
ECC	external chest compression
ECG	electrocardiogram
ECT	electroconvulsive therapy
ED	emergency department
EDD	expected due date
EEG	electroencephalogram
ELISA	enzyme-linked immunosorbent assay
EMG	electromyogram
ENA	extractable nuclear antigen
EO	ethinyloestradiol
EPA	eicosapentaenoic acid
EPL	extensor pollicis longus
EPS	expressed prostatic secretions
ER	external rotation
ESRF	end-stage renal failure
ESR(K)F	end-stage renal (kidney) failure
ERCP	endoscopic retrograde cholangiopancreatography
esp.	especially
ESR	erythrocyte sedimentation rate
ET	embryo transfer
ETT	endotracheal tube

FAD	familial Alzheimer disease
FAI	femeroacetabular impingement
FAP	familial adenomatous polyposis
FB	foreign body
FBE	full blood count
FDIU	fetal death in utero
FDL	flexor digitorum longus
FEV_1	forced expiratory volume in 1 second
FHL	flexor hallucis longus
fL	femto-litre (10–15)
FOBT	faecal occult blood test
FRAX	fracture risk assessment tool
FRC	functional residual capacity
FSH	follicle stimulating hormone

FTA–ABS	fluorescent treponemal antibody absorption test
FTT	failure to thrive
FUO	fever of undetermined origin
FVC	forced vital capacity
FXS	fragile X syndrome

g	gram
GA	general anaesthetic
GABHS	group A beta-haemolytic streptococcus
GBS	Guillain–Barré syndrome
GCA	giant cell arteritis
GESA	Gastroenterological Society of Australia
GFR	glomerular filtration rate
GGT	gamma-glutamyl transferase
GHJ	glenohumeral joint
GI	glycaemic index
GIFT	gamete intrafallopian transfer
GIT	gastrointestinal tract
GLP	glucagon-like peptide
GnRH	gonadotrophin-releasing hormone
GO	gastro-oesophageal
GORD	gastro-oesophageal reflux disease
GP	general practitioner
G-6-PD	glucose-6-phosphate dehydrogenase
GSI	genuine stress incontinence
GU	gastric ulcer
GV	growth velocity

HAV	hepatitis A virus
anti-HAV	hepatitis A antibody
Hb	haemoglobin
HbA	haemoglobin A
anti-HBc	hepatitis B core antibody
HBeAg	hepatitis Be antigen
anti-HBs	hepatits B surface antibody
HBsAg	hepatitis B surface antigen
HBV	hepatitis B virus
HCG	human chorionic gonadotropin
HCV	hepatitis C virus
anti-HCV	hepatitis C virus antibody
HDL	high-density lipoprotein
HDV	hepatitis D (Delta) virus
HEV	hepatitis E virus
HFA	hydrofluoro alkane
HFM	hand, foot and mouth
HFV	hepatitis F virus
HGV	hepatitis G virus
HHC	hereditary haemochromatosis
HIDA	hydroxy iminodiacetic acid
HIV	human immunodeficiency virus
HLA-B27	human leucocyte antigen
HMGCoA	hydroxymethylglutaryl CoA
HNPCC	hereditary non-polyposis colorectal cancer
HPV	human papilloma virus
HRT	hormone replacement therapy
HSIL	high-grade squamous intraepithelial lesion
HSP	Henoch–Schönlein purpura
HSV	herpes simplex viral infection
H	hypertension

IBS	irritable bowel syndrome
ICE	ice, compression, elevation
ICHPPC	International Classification of Health Problems in Primary Care
ICS	inhaled corticosteroid
ICS	intercondylar separation
ICSI	intracytoplasmic sperm injection
ICT	immunochromatographic test
IDDM	insulin dependent diabetes mellitus
IDU	injecting drug user
IgA	immunoglobulin A
IgE	immunoglobulin E
IgG	immunoglobulin G
IgM	immunoglobulin M
IGRA	interferon gamma release assay
IHD	ischaemic heart disease
IHS	International Headache Society
IM, IMI	intramuscular injection
IMS	intermalleolar separation
inc.	including
INCS	intranasal corticosteroids
INR	international normalised ratio
IOC	International Olympic Committee
IOFB	intraocular foreign body
IP	interphalangeal
IPPV	intermittent positive pressure variation
IR	internal rotation *or* immediate release
ITP	idiopathic (or immune) thrombocytopenia purpura
IUCD	intrauterine contraceptive device
IUGR	intrauterine growth retardation
IV	intravenous
IVF	in-vitro fertilisation
IVI	intravenous injection
IVP	intravenous pyelogram
IVU	intravenous urogram

JIA	juvenile idiopathic arthritis
JVP	jugular venous pulse

KA	keratoacanthoma
KFT	kidney function test
kg	kilogram
KOH	potassium hydroxide
KS	Kaposi sarcoma
KUB-CT	kidney ureter bladder scan

LA	local anaesthetic

LABA	long-acting beta agonist
LBBB	left branch bundle block
LBO	large bowel obstruction
LBP	low back pain
LCR	ligase chain reaction
LDH/LH	lactic dehydrogenase
LDL	low-density lipoprotein
LFTs	liver function tests
LH	luteinising hormone
LHRH	luteinising hormone releasing hormone
LIF	left iliac fossa
LMN	lower motor neurone
LNG	levonorgestrel
LPC	liquor picis carbonis
LRTI	lower respiratory tract infection
LSD	lysergic acid
LSIL	low-grade squamous intraepithelial lesion
LSS	lumbar spinal canal stenosis
LUQ	left upper quadrant
LUT	lower urinary tract
LUTS	lower urinary tract symptoms
LV	left ventricular
LVH	left ventricular hypertrophy

MAIS	*Mycobacterium avium intracellulare* or *M. sacrofulaceum*
mane	in morning
MAOI	monoamine oxidase inhibitor
MAST	medical anti-shock trousers
MB	myocardial base
mcg	micrograms (also µg)
MCL	medial collateral ligament
MCP	metacarpal phalangeal
MCU	microscopy and culture of urine
MCV	mean corpuscular volume
MDI	metered dose inhaler
MDMA	methylenedioxymethamphetamine
MDR	multi-drug resistant TB
MG	myaesthenia gravis
MHT	menopause hormone therapy
MI	myocardial infarction
MIC	mitral incompetence
MID	minor intervertebral derangement
MMSE	mini mental state examination
MND	motor neurone disease
MRCP	magnetic resonance cholangiopancreatography
MRI	magnetic resonance imaging
MRSA	methicillin-resistant *staphylococcus aureus*
MS	multiple sclerosis
MSM	men who have sex with men
MSST	maternal serum screening test
MSU	midstream urine
MTP	metatarsophalangeal
MVA	motor vehicle accident

N	normal
N saline	normal saline
NAAT	nucleic acid amplification technology
NAD	no abnormality detected
NCDs	non-communicable diseases
NET	norethisterone
NF	neurofibromatosis
NGU	non-gonococcal urethritis
NHL	non-Hodgkin lymphoma
NH&MRC	National Health and Medical Research Council
NIDDM	non-insulin dependent diabetes mellitus
NNT	numbers needed to treat
nocte	at night
NR	normal range
NRT	nicotine replacement therapy
NSAIDs	non-steroidal anti-inflammatory drugs
NSCLC	non-small cell lung cancer
NSTEACS	non-ST segment elevation acute coronary syndrome
NSU	non-specific urethritis
NTT	nuchal translucency test
NVDPA	National Vascular Disease Prevention Alliance

(o)	taken orally
OA	osteoarthritis
OCP	oral contraceptive pill
OGTT	oral glucose tolerance test
OSA	obstructive sleep apnoea
OSD	Osgood–Schlatter disorder
OT	occupational therapist
OTC	over the counter

PA	posterior–anterior
PAD	peripheral arterial disease
PAN	polyarteritis nodosa
Pap	Papanicolaou
PBG	porphobilinogen
PBS	Pharmaceutical Benefits Scheme
pc	after meals
PCA	percutaneous continuous analgesia
PCB	post coital bleeding
PCI	percutaneous coronary intervention
PCL	posterior cruciate ligament
PCOS	polycystic ovarian syndrome
PCP	pneumocystitis pneumonia
PCR	polymerase chain reaction
PCV	packed cell volume
PD	Parkinson disease
PDA	patent ductus arteriosus
PDD	pervasive development disorders
PEF	peak expiratory flow
PEFR	peak expiratory flow rate
PET	pre-eclamptic toxaemia
PET	positron emission tomography
PFO	patent foramen ovale

PFT	pulmonary function test
PGL	persistent generalised lymphadenopathy
PH	past history
PHR	personal health record
PID	pelvic inflammatory disease
PIP	proximal interphalangeal
PJP	pneumocystis jirovecii pneumonia
PKU	phenylketonuria
PLISSIT	permission: limited information: specific suggestion: intensive therapy
PLMs	periodic limb movements
PMDD	premenstrual dysphoric disorder
PMS	premenstrual syndrome
PMT	premenstrual tension
PaO2	partial pressure oxygen (arterial blood)
POP	plaster of Paris
POP	progestogen-only pill
PPI	proton-pump inhibitor
PPROM	preterm premature rupture of membranes
PR	per rectum
prn	as and when needed
PRNG	penicillin-resistant gonococci
PROM	premature rupture of membranes
PSA	prostate specific antigen
PSGN	post streptococcal glomerulonephritis
PSIS	posterior superior iliac spine
PSVT	paroxysmal supraventricular tachycardia
PT	prothrombin time
PTC	percutaneous transhepatic cholangiography
PTCA	percutaneous transluminal coronary angioplasty
PTFL	posterior talofibular ligament
PU	peptic ulcer
PUO	pyrexia of undetermined origin
PUVA	psoralen + UVA
pv	per vagina
PVC	polyvinyl chloride
PVD	peripheral vascular disease

qds, qid	four times daily

RA	rheumatoid arthritis
RACGP	Royal Australian College of General Practitioners
RAP	recurrent abdominal pain
RBBB	right branch bundle block
RBC	red blood cell
RCT	randomised controlled trial
RF	rheumatic fever
Rh	rhesus
RIB	rest in bed
RICE	rest, ice, compression, elevation
RIF	right iliac fossa
RPR	rapid plasma reagin
RR	relative risk
RRR	relative risk reduction
RSD	reflex sympathetic dystrophy
RSI	repetition strain injury
RSV	respiratory syncytial virus
RT	reverse transcriptase
rtPA	recombinant tissue plasminogen activator
RUQ	right upper quadrant

s	serum
SABA	short-acting beta agonist
SAH	subarachnoid haemorrhage
SARS	severe acute respiratory distress syndrome
SBE	subacute bacterial endocarditis
SBO	small bowel obstruction
SBP	systolic blood pressure
SC/SCI	subcutaneous/subcutaneous injection
SCC	squamous cell carcinoma
SCFE	slipped capital femoral epiphysis
SCG	sodium cromoglycate
SCLC	small cell lung cancer
SERM	selective estrogen receptor modulator
SIADH	syndrome of secretion of inappropriate antidiuretic hormone
SIDS	sudden infant death syndrome
SIJ	sacroiliac joint
SL	sublingual
SLD	specific learning disability
SLE	systemic lupus erythematosus
SLR	straight leg raising
SND	sensorineural deafness
SNHL	sensorineural hearing loss
SNPs	single nucleotide polymorphisms
SNRI	serotonin noradrenaline reuptake inhibitor
SOB	shortness of breath
SLS	salt-losing state
sp	species
SPA	suprapubic aspirate of urine
SPECT	single photon emission computerised tomography
SPF	sun penetration factor
SR	sustained release
SSRI	selective serotonin reuptake inhibitor
SSS	sick sinus syndrome
statim	at once
STEMI	ST segment elevation myocardial infarction
STI	sexually transmitted infection
STS	sodium tetradecyl sulfate
SUFE	slipped upper femoral epiphysis
SVC	superior vena cava
SVT	supraventricular tachycardia

T_3	tri-iodothyronine
T_4	thyroxine
TA	temporal arteritis
TB	tuberculosis
TCA	tricyclic antidepressant
tds, tid	three times daily
TENS	transcutaneous electrical nerve stimulation

TFTs	thyroid function tests
TG	triglyceride
TIA	transient ischaemic attack
TIBC	total iron binding capacity
TM	tympanic membrane
TMJ	temporomandibular joint
TNF	tissue necrosis factor
TOE	transoesophageal echocardiography
TOF	tracheo-oesophageal fistula
TORCH	toxoplasmosis, rubella, cytomegalovirus, herpes virus
TPHA	Treponema pallidum haemaglutination test
TSE	testicular self-examination
TSH	thyroid-stimulating hormone
TT	thrombin time
TUE	therapeutic use exemption
TUIP	transurethral incision of prostate
TURP	transurethral resection of prostate
TV	tidal volume

U	units
UC	ulcerative colitis
U & E	urea and electrolytes
UGIB	upper gastrointestinal bleeding
µg	microgram
UMN	upper motor neurone
URT	upper respiratory tract
URTI	upper respiratory tract infection
US	ultrasound
UTI	urinary tract infection
U	ultraviolet

VAD	voluntary assisted dying
VAS	visual analogue scale
VBI	vertebrobasilar insufficiency
VC	vital capacity
VDRL	Venereal Disease Reference Laboratory
VF	ventricular fibrillation
VMA	vanillylmandelic acid
VPG	venous plasma glucose
VRE	vancomycin-resistant enterococci
VSD	ventricular septal defect
VT	ventricular tachycardia
VUR	vesicoureteric reflux
VVS	vulvar vestibular syndrome
vWD	von Willebrand disease

WBC	white blood cells
WBR	white → blue → red
WCC	white cell count
WHO	World Health Organization
WPW	Wolff–Parkinson–White

XL	sex linked

Part 1 The basis of general practice

1 The nature, scope and content of general practice

Medical practice is not knitting and weaving and the labour of the hands, but it must be inspired with soul and be filled with understanding and equipped with the gift of keen observation; these together with accurate scientific knowledge are the indispensable requisites for proficient medical practice.

MOSES BEN MAIMON (1135–1204)

General practice is a traditional method of bringing primary health care to the community. It is a medical discipline in its own right, linking the vast amount of accumulated medical knowledge with the art of communication.

Definitions

General practice can be defined as that medical discipline which provides 'community-based, continuing, comprehensive, preventive primary care', sometimes referred to as the CCCP model. It is regarded as synonymous with primary care and family practice.

The Royal Australian College of General Practitioners (RACGP) uses the following definitions of general practice and primary care:

> General practice is that component of the health care system which provides initial, continuing, comprehensive and coordinated medical care for all individuals, families and communities and which integrates current biomedical, psychological and social understandings of health.
>
> A general practitioner is a medical practitioner with recognised generalist training, experience and skills, who provides and coordinates comprehensive medical care for individuals, families and communities.
>
> General/family practice is the point of first contact for the majority of people seeking health care. In the provision of primary care, much ill-defined illness is seen; the general/family practitioner often deals with problem complexes rather than with established diseases.

The RACGP has defined five domains of general practice:

- communication skills and the doctor–patient relationship
- applied professional knowledge and skills
- population health and the context of general practice
- professional and ethical role
- organisational and legal dimensions

Furthermore the RACGP has identified eight core characteristics of general practice:

1. whole person care
2. person centredness
3. continuity of care
4. comprehensiveness
5. diagnostic and therapeutic skills
6. a command of complexity and uncertainty
7. coordinated clinical teamwork
8. leadership, advocacy and equity

Additional functions of primary health care promoted by the American College of Family Physicians (AAFP).[1,2]

- First contact care including the early diagnosis of acute disease
- Continuity of care for the individual patient, their family and his/her environment
- Highly personalised care
- Care of chronic disease
- Gatekeeper care or co-ordinating role drawing on traditional major disciplines
- Community health awareness

General practice is fundamentally relational, based on the doctor having a deep understanding of the whole person and the ability to manage complex conditions and circumstances. The general practitioner functions as a physician, counsellor, advocate and agent of change for individuals, families and their communities.[3]

General practice is not the summation of specialties practised at a superficial level and we must avoid the temptation to become ‘specialoids’. In the current climate, where medicine is often fragmented, there is a greater than ever need for the generalist. The patient requires a trusted focal point in the often bewildering health service jungle. Who is to do this better than the caring family doctor taking full responsibility for the welfare of the patient and intervening on his or her behalf? Specialists also need highly competent generalists to whom they can entrust ongoing care.

Unique features of general practice

Anderson, Bridges-Webb and Chancellor[4] emphasise that ‘the unique and important work of the general practitioner is to provide availability and continuity of care, competence in the realm of diagnosis, care of acute and chronic illness, prompt treatment of emergencies and a preventive approach to health care’.

The features that make general practice different from hospital- or specialist-based medical practices include:

- first contact
- compassion
- diagnostic methodology
- early diagnosis of life-threatening and serious disease
- continuity and availability of care
- personalised care
- care of acute and chronic illness
- domiciliary care
- emergency care (prompt treatment at home or in the community)
- family care
- palliative care (at home)
- preventive care
- scope for health promotion and patient education
- holistic approach to management
- health care coordination

The GP has to be prepared for any problem that comes in the door (see FIG. 1.1).

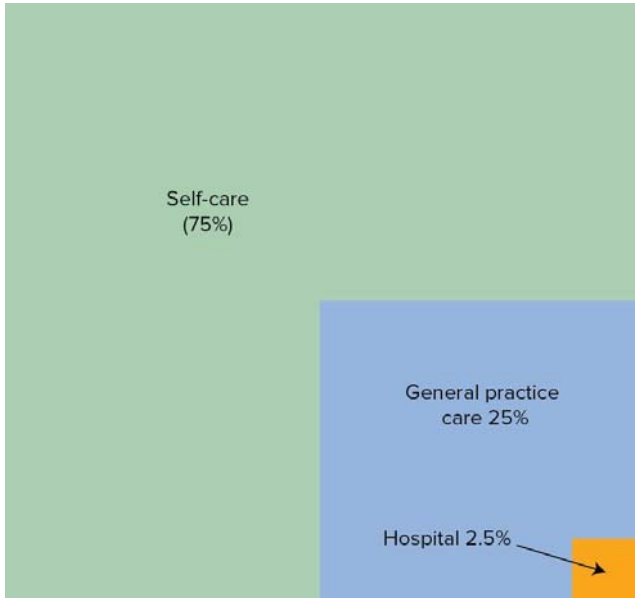


FIGURE 1.1 Degrees of care of health

Apart from these processes the GP has to manage very common problems including a whole variety of problems not normally taught in medical school or in postgraduate programs. Many of these problems are unusual yet common and can be regarded as the ‘nitty gritty’ or ‘bread and butter’ problems of primary health care.

In considering the level of care of symptoms, 25% of patients abandon self-care for a visit to the GP. Ninety per cent of these visits are managed entirely within primary care. Levels of care are represented in FIGURE 1.1 .[5]

Holistic approach to management

The management of the whole person, or the holistic approach, is an important approach to patient care in general practice. Whole-person diagnosis is based on two components:

1. the disease-centred diagnosis
2. the patient-centred diagnosis

The disease-centred consultation is the traditional medical model based on the history, examination and special investigations, with the emphasis on making a diagnosis and treating the disease. The disease-centred diagnosis, which is typical of hospital-based medicine, is defined in terms of pathology and does not focus significantly on the feelings or circumstances of the person suffering from the disease.

> Whole-person care—mind and body—is the hallmark of the good GP.

The patient-centred consultation not only takes into account the diagnosed disease and its management but also adds another dimension—that of the psychosocial hallmarks of the patient, including details about:

- the patient as a person
- emotional reactions to the illness
- the family
- the effect on relationships
- work and leisure

- lifestyle
- the environment

Taylor and colleagues, in their patient-centred model of health care, emphasise six interactive components of the patient-centred process:[6]

1. exploring both the disease and the illness experience
2. understanding the whole person
3. finding common grounds regarding management
4. incorporating prevention and health promotion
5. enhancing the doctor–patient relationship
6. being realistic regarding time and resources

Contemporary general practice focuses on patient-centred medicine, which, in alliance with evidence-based medicine, benefits both patient and doctor.

Continuing care

The essence of general practice is continuity of care. The doctor–patient relationship is unique in general practice in the sense that it covers a span of time that is not restricted to a specific major illness. The continuing relationship involving many separate episodes of illness provides an opportunity for the doctor to develop considerable knowledge and understanding of the patient, the family and its stresses, and the patient's work and recreational environment.

The epidemiological work of Barbara Starfield and others demonstrates that most of the important population health outcomes are more associated with access to primary health care than they are to specialist services. In other words, if a society (rich or poor) wishes to reduce the number of heart attacks, cancer deaths or infant mortality, it is more effective to improve access to GPs than it is to cardiologists, oncology centres or neonatal units. According to Starfield and her colleagues, 'The evidence also shows that primary care (in contrast to specialty care) is associated with a more equitable distribution of health in populations.'[7]

In 2008 the World Health Organization (WHO) reaffirmed the global importance of primary health care with its landmark report *Primary Health Care*: *Now More Than Ever*. WHO[8] highlighted the evidence that continuity of care through general practice contributed to the following better outcomes:

- lower all-cause morbidity
- better access to care
- fewer rehospitalisations
- fewer consultations with specialists
- less use of emergency services
- better detection of adverse effects of medication interventions

Home visits

'You don't know your patient until you have seen them in their home.' Home visits are a goldmine of information about intrafamily dynamics. They should cement the doctor–patient relationship if used appropriately. GPs are the only doctors who practise domiciliary care.

Common presenting problems

Common presenting symptoms in Australian general practices (BEACH study, 2013) are presented in TABLE 1.1 [9] (note that the top 15 problems represent only one-third of all encounters).

Table 1.1 Most frequent presenting problems in Australian general practice

		Per cent of problems
1	Hypertension	5.7
2	Immunisation	4.2
3	URTI	3.3
4	Depression	2.9
5	Diabetes	2.3
6	Lipid disorders	2.1
7	General check-up	1.9
8	Osteoarthritis	1.7
9	Back pain	1.7
10	Prescription	1.6
11	Oesophageal (inc. GORD)	1.6
12	Female genital check-up	1.5
13	Acute bronchitis/bronchiolitis	1.5
14	Asthma	1.3
15	Anxiety	1.2
Cumulative top 15		34.6

Source: Cooke et al.[9]

To cover 75% of presenting problems, GPs must be able to diagnose and manage more than 100 different problems, and to cover 85% requires a good working knowledge of 167 problems.[9] The breadth of knowledge required to become a proficient GP is tremendous.

The content of this book reflects what is fundamental to the nature and content of general practice—that which is common but is significant, relevant, preventable and treatable.

Symptoms and conditions related to litigation

Medical defence organisations have highlighted the following areas as being those most vulnerable for management mishaps:

- acute abdominal pain
- acute chest pain
- breast lumps

- children’s problems, especially the sick febrile child <2 years, groin pain and lumps
- dyspnoea ± cough (?heart failure, cancer, TB)
- headache

The most common reasons for claims against GPs are:

- diagnostic error 38%
- procedural complications 18%
- treatment issues 16%
- general duty of care 14%
- medication-related issues 9%
- legal issues 2%
- consent issues 1%
- medicolegal reports 1%
- anaesthesia 1%

Source: S Bird, MDA National

Chronic disease management

A study of international target conditions[10,11] in chronic disease management has highlighted the importance of the following (as common themes):

- ischaemic heart disease
- chronic heart failure
- cerebrovascular disease
- hypertension
- type 2 diabetes
- chronic obstructive pulmonary disease
- asthma
- obesity
- epilepsy
- hypothyroidism
- chronic mental illness, especially depression
- medication monitoring
- arthritis

The family

Working with families is the basis of family practice, and families living in relative harmony provide the basis for the good mental health of their members and also for social stability.

Families take many shapes and forms, among them single-parent households, de facto partnerships, three-generational households, same-sex couples and families formed by a partnership between two separated parents and their children. Psychosocial problems may occur in almost any family arrangement and family doctors need to know how to address such problems.

Family therapy is ideally undertaken by GPs, who are in a unique position as providers of continuing care and family care. It is important for them to work together with families in the counselling process and to avoid the common pitfalls of working in isolation and assuming personal responsibility for changing the family. We should understand that definitions of family vary greatly across cultures.

Bader[12] summarises working with families succinctly:

> From the perspective of family therapy, working with families means avoiding the trap of being too directive, too responsible for the family’s welfare, with the result that the family becomes overly dependent on the general practitioner for its health and development. From the perspective of family education, working with families means developing the skills of anticipating guidance, helping families to prepare, not only for the normal changes occurring as the family develops, but also for the impact of illness on the family system.

Families in crisis

Doctors are closely involved with families who experience unexpected crises, which include illnesses, accidents, divorce, separation, unemployment, death of a family member and financial disasters.

The effect of illness

Serious illness often precipitates crises in individual members of the family, crises that have not previously surfaced in the apparently balanced family system. For example, bereavement over the unexpected loss of a child may lead to marital breakdown.

In the long term, other family members may be affected more than the patient. This may apply particularly to children and manifest as school underachievement and behaviour disturbances.

During the crisis the obvious priority of the doctor is to the patient, but the less obvious needs of the family should not be ignored.

Guidelines for the doctor

- Include the family as much as possible, starting early in the acute phase of the illness. This may necessitate family conferences.
- Include the family on a continuing basis, especially if a long-term illness is anticipated. Page 6 It is helpful to be alert for changes in attitudes, such as anger and resentment towards the sick member.
- Include the family in hospital discharge planning.
- If a serious change in family dynamics is observed, the use of experts may be needed.
- Offer a family conference at critical times.

Significant presentations of family dysfunction

The following presentations may be indicators that all is not well, and the doctor needs to ‘think family’:

- relationship or sexual difficulties
- multiple presentations by multiple family members
- abnormal behaviour in a child
- the ‘difficult patient’
- inappropriate behaviour in the antenatal and/or postpartum period
- drug or alcohol abuse in a family member
- evidence of physical or sexual abuse in one of the partners (male or female) or a child
- psychiatric disorders, especially depression and psychosis
- increased stress/anxiety
- complaints of chronic fatigue or insomnia

It is important that the family doctor remains alert to the diversity of presentations and takes the responsibility for identifying an underlying family-based problem.

The patient and family dynamics

Family doctors see many people who present with physical symptoms that have primarily an emotional or psychosocial basis with either little or no organic pathology. In order to understand the clinical manifestations of the sick role of patients, family doctors should first understand the individual’s response to stress stimuli, which may come from external (family, work or sexual behaviour) or internal (personality trait or psychosocial) sources (see FIG. 1.2 and TABLE 1.2).

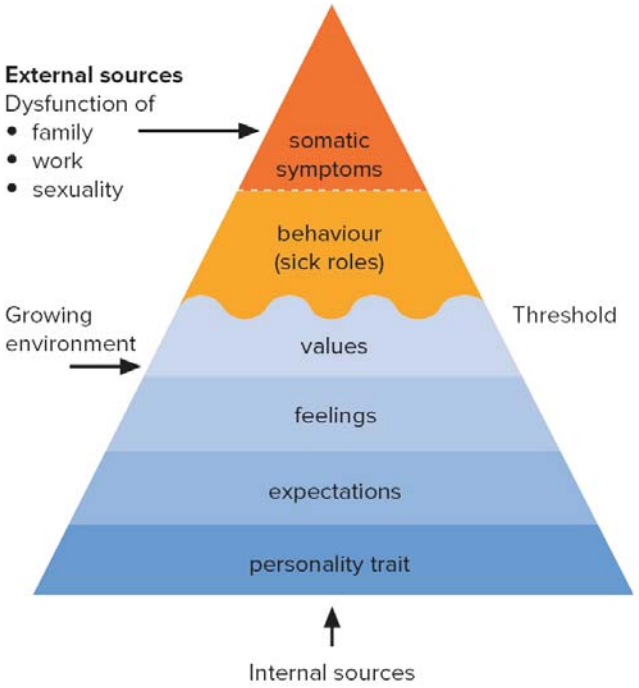


FIGURE 1.2 Family dynamics and psychosomatic illness iceberg

Table 1.2 Areas of possible biopsychosocial dysfunction

Work	Family	Sex
Type of work Workload Work environment Goals Work satisfaction	Present family (change of structure and function) Extended family (parents and relatives) Growing environment (family tree)	Sexual dysfunction Disharmony Deprivation Guilt

How to evaluate the family dynamics

- Carefully observe family members interacting.
- Invite the whole family to a counselling session (if possible).
- Visit the home: a visit on the way home from work may be very revealing. This will be appropriate in some but not all family practice settings.
- Prepare a genogram (see FIG. 23.1 , CHAPTER 23): family dynamics and behaviour can be understood by drawing a family map or genogram (a diagrammatic representation of family structure and relationships).[13,14]

The genogram

Page 7

The genogram is a very valuable pedigree chart that usually covers three generations of a family tree.[13] Such a visual framework helps the general practice consultation as you can continue to build on that basic framework. Copies can be given to patients and families to reflect on at home and return to their GP for further insights.[15] Genograms are a useful strategy for involving family members who may have been reluctant to be involved in discussions on family matters.[14] An example, including the use of symbols, is shown in FIGURE 23.1 (refer to CHAPTER 23).

The family life cycle

Helpful in understanding the dynamics of the family is the concept of the family life cycle,[16] which identifies several clearly defined stages of development (see TABLE 1.3). Such an understanding can help the doctor form appropriate hypotheses about the problems patients are experiencing at a particular stage. Each stage brings its own tasks, happiness, crises and difficulties. This cycle is also well represented in FIGURE 1.3 , which indicates the approximate length of time on each of the stages.

Table 1.3 The family life cycle[12]

1.	Leaving home	Establishing personal independence. Beginning the emotional separation from parent(s).
2.	Getting married, entering de facto	Establishing an intimate relationship with spouse/partner. Developing further the emotional separation from parent(s).
3.	Learning to live together	Dividing the various relationship roles in an equitable way. Establishing a new, more independent relationship with family.
4.	Parenting the first child	Opening the family to include a new member. Dividing the parenting roles.
5.	Living with the adolescent	Increasing the flexibility of the family boundaries to allow the adolescent(s) to move in and out of the family system.
6.	Launching children: the empty-nest phase	Accepting the multitude of exits from and entries into the family system. Adjusting to the ending of parenting roles.
7.	Retirement	Adjusting to the ending of the wage-earning roles. Developing new relationships with children, grandchildren and each other.
8.	Old age	Dealing with lessening abilities and greater dependence on others. Dealing with losses of friends, family members and, eventually, each other.

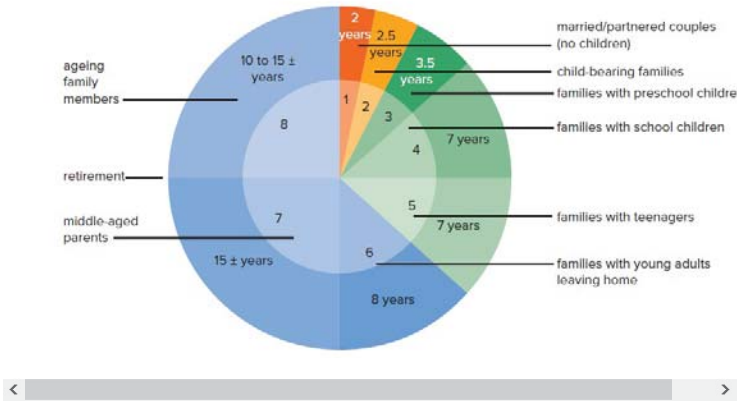


FIGURE 1.3 The family life cycle (approximate time in each stage)[17, 18]

Resources

The World Organization of National Colleges, Academies and Academic Associations of General Practitioners/Family Physicians (WONCA). Available from: www.globalfamilydoctor.com, accessed February 2021. Page 8

Australian Government, Institute of Family Studies. Family Matters No. 87, 2011. *Think Family: A new approach to Families at Risk.* Available from: https://aifs.gov.au/sites/default/files/fm87e.pdf, accessed February 2021.

References

1 American Academy of Family Physicians. Official definition of Family Practice and Family Physician (AAFP Publication No. 303). Kansas City, Mo: AAFP, 1986.

2 Rakel RE. *Essentials of Family Practice.* Philadelphia: WB Saunders Company, 1993: 2–3.

3 RACGP. What is General Practice? Available from: https://www.racgp.org.au/becomingagp/what-is-a-gp/what-is-general-practice/, accessed February 2021.

4 Anderson NA, Bridges-Webb C, Chancellor AHB. *General Practice in Australia.* Sydney: Sydney University Press, 1986: 3–4.

5 Fraser RC, ed. *Clinical Method: A General Practice Approach* (3rd edn). Oxford: Butterworth-Heinemann, 1999.

6 Taylor RJ, McAvoy BR, O'Dowd T. *General Practice Medicine.* Edinburgh: Churchill Livingstone, 2003: 6–7.

7 Starfield B, Shi L, Macinko J. Contribution of primary care to health systems and health. Milbank Q, 2005; 83(3): 457–502. doi:10.1111/j.1468-0009.2005.00409.x

8 World Health Organization. *The World Health Report 2008; Primary Health Care: Now More Than Ever.* Geneva: WHO, 2008.

9 Cooke, G et al. Common general practice presentations and publication frequency [online]. Aust Fam Physician, Jan/Feb 2013; 42(1/2): 65–68.

10 Piterman L. *Chronic Disease Management OSP Report.* Melbourne: Monash University, 2004.

11 Rakel RE, Rakel DP. *Textbook of Family Medicine* (9th edn). Philadelphia: Elsevier Saunders, 2016: 16.

12 Bader E. Working with families. Aust Fam Physician, 1990; 19: 522–8.

13 McGoldrick M, Gerson R. *Genograms in Family Assessment.* New York: WW Norton, 1985: chs 1–4.

14 Jackson L, Tisher M. Family therapy skills for general practitioners. Aust Fam Physician, 1996; 25: 1265–9.

15 Larner G, Lajorie M. Family therapy in general practice: how to treat. Australian Doctor, 2006; 10 December: 23–30.

16 Van Doorn H. *Common Problems Checklist for General Practice.* Melbourne: Royal Australian College of General Practitioners, 1989: 19.

17 McWhinney IR, Freeman T. *A Textbook of Family Medicine* (2nd edn). Oxford: Oxford University Press, 2009: 230–44.

18 Duvall EM. *Family Development* (5th edn). Philadelphia: Lippincott, 1977.

2 Consulting skills

The essential unit of medical practice is the occasion when in the intimacy of the consulting room the person who is ill or believes himself (or herself) to be ill, seeks the advice of a doctor whom he (she) trusts. This is the consultation and all else in the practice of medicine derives from it.

SIR JAMES SPENCE 1960

The *objectives of the consultation* are to:

- determine the exact reason for the presentation
- achieve a good therapeutic outcome for the patient
- develop a strong doctor–patient relationship

The skills of general practice

A successful outcome to the medical consultation depends on a whole array of skills required by the GP. Although interrelated, these skills, which can be collectively termed 'consulting skills', include interviewing skills, clinical skills, diagnostic skills, management skills, communication skills, educative skills, therapeutic skills, manual skills and counselling skills.

Communication skills, which are fundamental to consulting skills, are the key to the effectiveness of the doctor as a professional, and expertise with these skills is fundamental to the doctor–patient relationship. Communication skills are essential in obtaining a good history and constitute one of the cornerstones of therapy (see CHAPTER 3).

A skilled interviewer will succeed in transmitting his or her findings to the patient so that they are clearly understood, are not unduly disturbing, and inspire trust and confidence in the physician.

Models of the consultation

Several models that formalise the general practice consultation can be very useful for developing an understanding of the process of the consultation. Two classic models are those by Pendleton and colleagues,[1] and by Stott and Davis.[2] Pendleton and colleagues, in their landmark book *The Consultation: An Approach to Learning and Teaching*,[1] defined seven key tasks to the consultation, which serve as helpful guidelines:

1. To define the reason for the patient's attendance, including:
   - the nature and history of problems
   - their aetiology
   - the patient's ideas, concerns and expectations
   - the effect of the problems
2. To consider other issues:
   - continuing problems
   - risk factors
3. To choose, with the patient, an appropriate action for each problem
4. To achieve a shared understanding of the problems with the patient
5. To involve the patient in the management and encourage him or her to accept appropriate responsibility
6. To use time and resources efficiently and appropriately:
   - in the consultation
   - in the long term
7. To establish or maintain a relationship with the patient that helps to achieve the other tasks

The exceptional potential in each primary care consultation described by Stott and Davis,[2] which is presented in TABLE 2.1, also acts as an excellent aide-mémoire to achieve maximal benefit from the consultation.

Table 2.1 The potential in each primary care consultation

A	B
Management of presenting problems	Modification of health-seeking behaviour
C	**D**

Source: Stott & Davis[2]

Phases of the consultation

The consultation can be considered in three phases, as follows:

Page 10

1. Establishment of rapport (see FIG. 2.1)
2. Diagnostic phase
   - the interview and history
   - the physical and mental examination
   - investigations
3. Management phase
   - explanation and education
   - prescribing medication
   - procedural–therapeutic or extended diagnostic
   - referral
   - follow-up

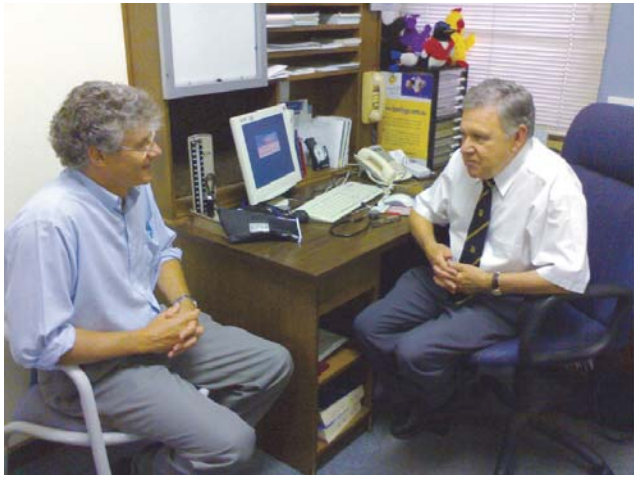


FIGURE 2.1 The consultation: establishment of good rapport is the foundation to successful consulting skills

Practice tip

Remembering the patient's preferred name and their basic past history creates powerful rapport.

The history

The doctor has four basic tasks to perform during the history-taking phase of the consultation. These are to determine:

1. the patient's stated reason for attending
2. why the patient is attending today, or at this particular time in the course of this illness
3. a list of problems or supplementary symptoms
4. any other initially unspoken or hidden reason for attending (e.g. the fear of cancer)

The old medical cliché that 'a good history is the basis of the clinical examination' is as relevant

as always. The art of history taking, which is based on good communication, is the most fundamental skill in general practice and requires a disciplined approach.

An interesting approach is that used by Professor Rita Charon of Columbia University: 'I will be your doctor, and so I need to know a great deal about your body, health and your life. Please tell me what you think I should know about your situation.'[3]

Guidelines include:[4]

- Commence by eliciting the presenting complaint.
- Permit an uninterrupted history.
- Use appropriate language—keep the questions simple.
- Use specific questions to clarify the presenting complaint.
- Write notes or use the keyboard to record information but maintain as much eye contact as possible.
- Enquire about general symptoms, such as fatigue, weight changes, fever, headache, sleep and coping ability (see TABLE 2.2). These are important since they uncover 'red flags' for serious, life-threatening disorders.
- Undertake a relevant systems review.
- A historical checklist includes past medical history, complete medication history, drug habits and sensitivities, family history, psychosocial history and preventive care history.
- Give feedback to the patient about your understanding of the problems and agenda, and correct any misconceptions.

Table 2.2 Important general questions

Fatigue, tiredness or malaise
Fever, sweating, shakes
Weight change, especially loss
Pain or discomfort anywhere
Any unusual lumps or bumps
Any unusual bleeding
Skin problems—rash or itching

Good questions

In order to determine any underlying agenda or significant psychosocial problems, it is very helpful to use analytical questions. Such opening questions and inviting statements could include:

- Why have you come to see me today?
- Do you have any particular concern about your health?
- That really interests me—tell me more—it seems important.

- What were you hoping I could do for you today?
- Where would you put your real feelings between 0 and 100%?
- What is it that's really upsetting or bothering you?
- What do you really think deep down is the cause of your problem?
- Are you basically satisfied with your life?
- Is there anything that I haven't asked you and that you should tell me about?
- Tell me about things at home.
- Tell me about things at work.
- Do you experience any bullying?
- Are you afraid that something bad is going to happen to you?
- Is your relationship with any particular loved one/person causing you stress? (This may lead to information about sensitive issues such as domestic violence or sexual problems.)
- Is there anything in your life that you would like to change?
- I'm concerned about what you are not telling me.

Basic interviewing techniques

A number of basic interviewing techniques[5] encourage communication. It is important to use the least controlling interview techniques before embarking on direct questioning.

Questions

When the patient is asked a question, the doctor tends to take control of the interview, and so directs it along the lines of his or her own thinking or hypothesis generation. The problem is that if questions are used too early in the interview, the amount of desirable information is restricted and may disrupt the true priorities of the patient's concerns.

Open-ended questions and direct questions are very useful at appropriate times, while other questions are very restrictive. Examples, using pain as the 'problem', are:

- Open-ended question: 'Tell me about the pain.'
- Direct question: 'Where is the pain?'
- Closed question: 'Is the pain severe?'
- Leading question: 'The pain is severe?'
- Reflective question: 'You want to know the cause of the pain?'

The open-ended question

The open-ended question is essential in initiating the interview. A question such as 'What kind of troubles have you been having?' says to the patient 'I'm interested in anything you may feel is important enough for you to tell me'.

The open-ended question gives the patient an opportunity to take temporary control of the consultation and to outline problems and concerns.

Ongoing interview strategies of listening and silence, facilitation and summarisation are outlined in CHAPTER 3 (section on Communication in the consultation).

Information from other sources

Sometimes it is important to obtain information from other sources, especially friends or relatives. Off-hand comments from others may be loaded with 'cues' and one should be listening intently.

Problem definition

Part of the diagnostic process is defining the patient's problem or problems. The more complex the presentation, the more necessary it is to have an orderly approach. It is clearly important to list the problems in a priority order. These problems may have been 'offered' by the patient, 'observed' by the doctor, 'derived' during the interview or 'known' from the past history. Problems can be conveniently considered as organic or physiological, and intrapersonal or social.[6]

Touching the patient

Sometimes a natural response is to touch the distressed patient as a reassuring gesture. It is best to adopt a caring-and-support gesture, such as offering tissues to the weeping patient, but it may be quite acceptable for most patients to give a reassuring, momentary touch somewhere between the shoulder and wrist on the arm nearest to you. Touching should be a natural gesture that is comfortable for both the doctor and patient. Touch elsewhere should generally be avoided.

The physical and mental examination

If a diagnostic hypothesis based on the history is being tested, the examination may be confined to one system or to one anatomical region. However, other regions, systems or a general examination may be undertaken for medicolegal or preventive reasons. Patients tend to feel vulnerable during the physical examination, so their sensitivity and modesty have to be respected. Generally, the examination is conducted in relative silence, with the doctor instructing the patient what to do.

Patients need to be warned of possible discomfort or pain that may accompany certain examinations, of the reason for the examination and of its immediate results, particularly if normal. Continued silence on the doctor's part is often interpreted by patients as being indicative of something serious or unusual being found. For the same reason, the doctor's non-verbal behaviour is important.

Medicolegal guidelines for examinations[7,8]

The following guidelines have been recommended by the NSW Medical Board for consultations and physical examinations:

- Carefully explain the nature and purpose of the physical examination before you start. Take particular care with explanations before rectal, vaginal, breast and genital examination.
- Indicate when an examination may be uncomfortable and ask the patient to advise if you are causing pain.
- If a patient is required to disrobe, explain to what extent undressing is required and why.
- A patient's modesty should be preserved when undressing and dressing before and after a physical examination. Privacy screens, sheets and gowns should be provided as a matter of course. Clinic staff should not interrupt physical examinations.
- If the patient requests the presence of a chaperone or a friend, this should be respected.
- Do not lock the door of the consultation room. The setting should allow the patient confidence to terminate the consultation at any time if he or she is uncomfortable.
- Ask yourself, 'Is what I am doing part of accepted medical practice?'.[9]

Investigations

It is often necessary to arrange for special tests to assist in the diagnostic process or to monitor the progress of certain illnesses or response to treatment. The informed consent of patients must

be obtained. A collaborative decision for or against certain tests may be negotiated.

GPs have a responsibility (clinical and economic) to be very discerning and selective in the investigations that they choose. The questions that should be asked in decision making include:

- Is this investigation necessary?
- Will it change my management?

Richard Asher (1954) listed the questions a clinician should ask before requesting an investigation:[10]

- Why am I ordering this test?
- What am I going to look for in the result?
- If I find it, will it affect my diagnosis?
- How will this affect my management of the case?
- Will this ultimately benefit the patient?

In general, investigations should be performed only when the following criteria are satisfied:[10]

- The consequence of the result of the investigation could not be obtained by a cheaper, less intrusive method (e.g. taking a better history or using time).
- The risks of the investigation should relate to the value of the information likely to be gained.
- The result will directly assist in the diagnosis or have an effect on subsequent management.

The three strikes and you're out rule

A very useful rule is to bail out of the diagnosis and refer to a colleague if you have failed to make a diagnosis after three consultations.

Management phase of the consultation

The management phase of the consultation may immediately follow the information-gathering interview, or it may take place on review, after diagnostic tests or referral. It should be remembered that there are at least two people concerned in management: the doctor *and* the patient. Poor patient compliance with any proposed therapy can be a result of a poorly conducted management phase. It is necessary not only for the doctor to make statements concerning therapy and the reasons for the chosen therapy, but also for the information to be conveyed in a language appropriate to each patient's understanding. Negotiate a management plan.

Management includes immediate care, prevention and long-term care. Doctors generally tend to be authoritarian in their management proposals. Whole-person management, however, implies that the patient's views are listened to, explanations are offered where necessary by the doctor and an educative approach is adopted to encourage the patient to actively participate in management and preventive behaviour, where possible.

The objectives of the management phase of the consultation are summarised in TABLE 2.3 .

Table 2.3 Objectives of the management phase of the consultation[5]

To make use of the doctor–patient relationship in therapy
To involve the patient as far as possible in the management of his or her own problem
To educate the patient about the illness
To promote rational prescribing
To achieve compliance in therapy
To emphasise preventive opportunities
To provide appropriate reassurance
To encourage continuity of ongoing care

The sequence of the management interview[5]

Page 13

The following, which represents an excellent teaching strategy, is a suggested *10-point plan* or sequence for conducting a management interview. These guidelines will not always need to be applied in their entirety, and may need to be staged over a number of consultations. The use of this sequence should ensure identification of all the patient's problems by the doctor (including fears, feelings and expectations), adequate patient understanding of his or her problems, an acceptable and appropriate treatment plan being defined for each problem, preventive opportunities being addressed, and the patient being satisfied with the consultation and being clear about follow-up arrangements.

The sequence is as follows.

1 Tell the patient the diagnosis

2 Establish the patient's knowledge of the diagnosis

3 Establish the patient's attitude to the diagnosis and management

4 Educate the patient about diagnosis

- Correct any incorrect health beliefs recognised in point 2.
- Supplement the patient's existing knowledge to a level appropriate to the needs of the patient and the doctor.

5 Develop a management plan for the presenting problem

Develop precise instructions using three headings:

- *Immediate:* always included, even if no action is proposed
- *Long term:* for chronic, long-term or recurrent illnesses
- *Preventive:* sometimes specific measures apply—often patient education is the method required

The patient should be encouraged at this stage to participate in decision making regarding management and to make a commitment to the plans.

6 Explore other preventive opportunities

7 Reinforce the information

- Use the patient's own results (e.g. X-rays and ECGs).
- Encourage the patient to participate in the decision making and in accepting some degree of responsibility for his or her own management.

8 Provide take-away information

- Examples of this important strategy include patient instruction leaflets and resource contacts.

9 Evaluate the consultation

10 Arrange follow-up

Closing the session

Good closure is an important strategy; ask 'Has this visit helped you and your problems—is there anything more I can do?'

A patient management strategy

Brian McAvoy, writing in Fraser's excellent book *Clinical Method: A General Practice Approach*, presents a helpful aide-mémoire in the approach to patient management:[10]

1. reassurance and/or explanation
2. advice
3. prescription
4. referral
5. investigation
6. observation (follow-up)
7. prevention

Prescriptions

It is worth emphasising that prescribing medicine is a relatively complex skill that requires considerable knowledge of the disease, patient's expectations, the drugs prescribed, their interactions and their adverse reactions. Part of this skill is making a decision not to prescribe medication when it is not absolutely necessary and then explaining the reasons and including non-pharmacological measures. This decision may be made in the context of a patient expecting a biochemical solution for his or her problem. As McAvoy points out, 'If in doubt whether or not to give a drug—don't'.[10]

Rational prescribing applies particularly to opioids, antibiotics and tranquillisers.

Antimicrobial stewardship

This positive strategy describes a systematic approach to optimising the use of antimicrobials, with a view to improve outcomes and reduce adverse consequences, especially the development of resistant strains.

General guidelines for antibiotic prescribing

Choose the agent with the:

- narrowest spectrum that will cover the likely pathogens (based on culture/sensitivity)
- lowest cost if efficacy and safety are otherwise equal
- indications should be evidence based
- ensure oral therapy is used where clinically appropriate
- dosage individualised to the patient
- fewest serious side effects
- duration as short as possible

- proven microbiological guidelines to guide therapy

Avoid wherever possible:

- prescribing antibacterial antibiotics for viral respiratory infections
- combinations if a single drug is likely to be effective
- topical antibiotics, as resistance is much more likely to develop (exceptions include eye infections and vaginitis)
- antibiotic combinations, except in proven clinical circumstances or when coverage is difficult with a single drug
- prophylactic antibiotics, unless they are of proven benefit (in general only in some elective surgery or dental procedures)

The common respiratory infections such as acute otitis media, pharyngitis, tonsillitis, acute bronchitis, bronchiolitis and influenza have commonly a viral cause and it is appropriate to treat symptomatically with a 'wait and see' surveillance.[11]

Referral

The decision to refer a patient is also another important skill. It is often difficult to find the right balance. Some practitioners refer excessively—others cling to their patients inappropriately. It is a mistake not to refer a patient with a serious chronic or life-threatening disease. Apart from consultants and hospitals, referral should be considered to GP colleagues or partners with special interests or expertise, support groups and other members of the primary health care team, such as physiotherapists, dietitians, chiropodists and social workers. At all times the GP should act as the focal reference point and maintain control of patient management.

The 'gatekeeper' role of the GP

A patient's GP is the obvious and ideal linchpin in the health care system to take responsibility for the patient's health concerns and management. The patient may become confused with the system, especially if his or her problems are many and complex. The patient's GP has a vital role in acting as a 'gatekeeper' between primary and secondary care, and between paramedical services. The GP should always act in the patient's best interests and intervene, if necessary, to ensure that the patient is getting the best possible care.

The healing art of the doctor

The counselling process in general practice is based on the therapeutic effect of the doctor. This well-recorded feature is reinforced if the doctor has a certain professional charisma, and is caring and competent. We cannot underestimate the dependency of our patients on this healing factor, especially where significant psychic factors are involved.

Key points on patient management[12]

- The diagnostic process begins at the door of the waiting room when you invite the patient in.
- It is difficult, perhaps impossible, to reassure patients in the absence of an appropriate physical examination and certain investigations.
- Reassurance must always be appropriate and therefore based on a substantial foundation: inappropriate reassurance damages the credibility of both the doctor and his or her profession.
- The two key characteristics of the doctor in establishing the basis of a successful outcome for the doctor–patient relationship are caring and responsibility.
- Vital factors included in this relationship are good communication, genuine interest and trust.
- Listen to what the patient is saying and not saying.

References

1 Pendleton D et al. *The Consultation: An Approach to Learning and Teaching.* Oxford: Oxford University Press, 1984.

2 Stott N, Davis R. The exceptional potential in each primary care consultation. J R Coll Gen Pract, 1979; 29: 201–5.

3 Charon R. *The self-telling body*. Narrative Inquiry, 2006; 16:191–200.

4 Nyman KC. *Successful Consulting*. Melbourne: Royal Australian College of General Practitioners, 1996: 11–32.

5 Rose AT. Basic interview techniques. In: Kidd M, Rose A. *An Introduction to Consulting Skills.* Community Medicine Student Handbook. Melbourne: Monash University, 1991: 32–40.

6 Gask L, Usherwood T. The consultation. BMJ, 2002; 324: 567.

7 Johnson P. Bedside manners: advice for doctors in training. UMP Journal, 1998; 2: 2.

8 *Guidelines for Medico-Legal Consultation and Examinations.* Sydney: NSW Medical Board, 1997.

9 Bird S. Managing professional boundaries. Aust Fam Physician, 2013; 42(9): 666–8.

10 Fraser RC. *Clinical Method: A General Practice Approach* (3rd edn). Oxford: Butterworth-Heinemann, 1999: 6–72.

11 Scott AM, Del Mar C. Controlling antibiotic prescribing for lower respiratory tract infections. BMJ, 2017; 357: j2398.

12 Tam M. Hints and tips in the medical consultation: The Medicine Box: Advice March 2007: 1–3.

3 Communication skills

Most people have a furious itch to talk about themselves and are restrained only by the disinclination of others to listen. Reserve is an artificial quality that is developed in most of us as a result of innumerable rebuffs. The doctor is discreet. It is his business to listen and no details are too intimate for his ears.

W Somerset Maugham (1874–1965), *The Summing Up*

Hippocrates wrote:

> In the art of medicine there are three factors—the disease, the patient and the doctor . . . It is not easy for the ordinary people to understand why they are ill or why they get better or worse, but if it is explained by someone else, it can seem quite a simple matter—if the doctor fails to make himself understood he may miss the truth of the illness.[1]

Francis Macnab, Doctor of Divinity and patient, wrote: 'The style of the doctor, the communication of the doctor and the person of the doctor at the level of primary contact and primary care can be crucial in a person's life.'[2]

Much of the art of general practice lies in the ability to communicate. Listening is generally regarded as the most important skill.

Research continues to focus the 'blame' for communication breakdown on the doctor, ignoring the role of the patient.[3]

Communication

Communication can be defined as 'the successful passing of a message from one person to another'.

There are five basic **elements** in the communication process:

- the communicator
- the message
- the method of communicating

- the recipient
- the response

Important **principles** facilitating the communication process are:

- the rapport between the people involved
- the time factor, facilitated by devoting more time
- the message, which needs to be clear, correct, concise, unambiguous and in context
- the attitudes of both the communicator and the recipient

These elements and principles can be seen emerging in various phases through the consultation, as illustrated in FIGURE 3.1 .

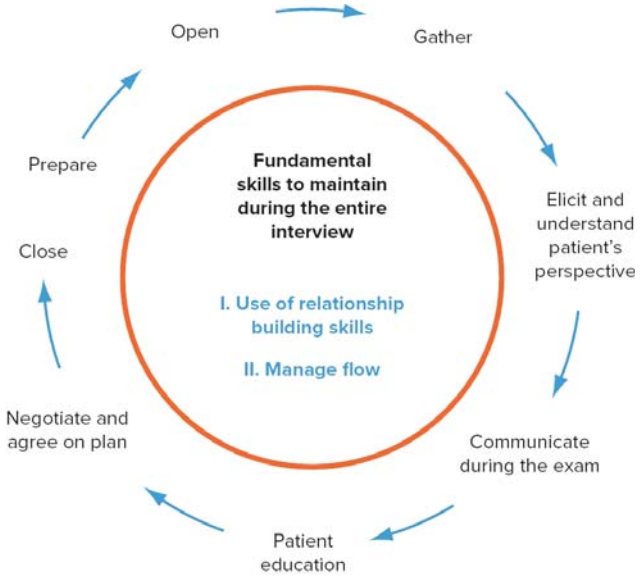


FIGURE 3.1 The sequence of communication in the consultation

Source: Reproduced with permission from Macy Initiative on Health Communication, New York University School of Medicine.

Communication in the consultation[3,4]

Communication in the consultation can be considered in the following sequence:

The doctor requires appropriate communication skills for complete diagnosis (physical, emotional and social) and competent management. It is important to be aware of the patient's cultural background and educational level, and allow for these factors. The majority of interaction between doctor and patient occurs in the traditional consultation. This involves both verbal and non-verbal communication.

Prepare

The 'prepare' phase includes preparation done both well before the consultation and then just prior to the consultation. Well before consulting, the doctor should think about and prepare the physical environment. Comfort and privacy should be maximised, and distractions and interruptions minimised. The patient should be physically positioned to feel empowered (e.g. avoid talking across a desk or talking down to a patient on a bed).

As well as reviewing the environment, doctors should review themselves. They should do some self-reflection to consider what personal qualities, assumptions and values they have that may influence a consultation.

Just prior to the consultation, a review of the patient's health record will improve the doctor's awareness of important facts about the patient. Opening the file is actually when the consultation starts. Here, crucial clues can be found, such as:

- what happened at the last consultation
- the important medical issues for this patient
- any recent test results or correspondence that have arrived
- the names of partners, parents or children who may come into the room with the patient
- brief notes on personal characteristics, likes/dislikes (e.g. has needle phobia)

When a record is examined well, the reasons for the consultation can often be anticipated prior to the formal start of the consultation, giving the doctor a wonderful opportunity to improve communication.

Increasingly in general practice we see patients as part of a team. The patient may previously have been seen by a practice nurse or a more junior doctor or medical student. This 'teamlet model of primary care'[5,6] has been shown to help elucidate patients' concerns, as have 'patient agenda forms', which patients fill out prior to the consultation, prompting them to list what is on their agenda for the consultation.[6,7]

At first contact, we usually call a patient from the waiting room into the consulting room. Having your eyes and ears ready and focused here can give you invaluable information. What is the person wearing? What is the significance of any badges, necklaces, rings or tattoos? What does

his or her body language suggest? Who is accompanying the patient and how are they interacting with each other? Clues about their interests (e.g. a child's T-shirt reflecting a favourite TV character), their cultural and social backgrounds (e.g. dress and appearance) and even their medical issues at hand (e.g. a limp, a bandage or carrying an X-ray folder or hospital letter) abound in this 'pre-opener space'. Picking up on these clues early helps the doctor anticipate and reflect on issues before they emerge in the consultation, avoids communication breakdown, makes the patient feel that the doctor is interested in him or her and can make the doctor appear switched on and observant.

Open

When we get to the 'opener' (e.g. 'What can I do for you today?' or 'Why have you come to see me today?') and beyond, we should:[8]

- greet and address the patient by his or her preferred name (and anyone else entering the room)
- try to make the patient feel comfortable
- try to appear 'unhurried' and relaxed
- focus firmly on the patient
- use open-ended questions where possible
- make appropriate reassuring gestures

Listen and gather

It is in the early stages of the consultation that silence (on the doctor's part) can be golden. In what is termed *active listening*, described by Egan[9] as follows:

> One does not listen with just his ears: he listens with his eyes and with his sense of touch. He listens by becoming aware of the feelings and emotions that arise within himself because of his contact with others (that is, his own emotional resonance is another 'ear'), he listens with his mind, his heart, and his imagination. He listens to the words of others, but he also listens to the messages that are buried in the words or encoded in all the cues that surround the words. He listens to the voice, the demeanour, the vocabulary, and the gestures of the other. He listens to the context, verbal messages and linguistic pattern, and the bodily movements of others. He listens to the sounds, and to the silences.

Allowing the patient to talk (without interruption), and even leaving a slightly prolonged pause, often provides enough space for the patient's concerns to emerge. This is especially the case with psychosocial issues.[10]

Listening includes four essential elements:

- checking facts
- checking feelings
- encouragement
- reflection

Listen with understanding, in a relaxed, attentive silence. Use reflective questions, such as:

- 'You se'em very sad today.'
- 'You seem upset about your husband.'
- 'It seems you're having trouble coping.'
- 'You seem to be telling me that ...'
- 'Your main concern seems to me to ...'

Three techniques that have been demonstrated[8,11] to improve how we elicit patient concerns are:

- facilitation
- the open-to-closed cone
- summarisation

Facilitation refers to comments or behaviours by the doctor that encourage the patient to keep talking. This could include a head-nod, a 'hmm' at the right time, or 'Tell me more about that'. The open-to-closed cone is a gradual narrowing of focus from an indirect non-directive exploration to a more direct exploration. It is often difficult to resist the urge to 'dive in' and explore the initial concern raised and narrow the cone too quickly.[6,12]

After each problem or concern is elicited, the doctor should continue to explore to ensure there are not any more. Using a patient-centred approach leads to improved patient trust and satisfaction, more appropriate prescribing and more efficient practice.[6]

Summarisation is when the doctor provides the patient with an explicit verbal summary of the information gathered thus far in the consultation.[11] This helps to orientate the patient, acknowledging to him or her that the doctor has taken on board what they have said, and reflecting back to the patient the doctor's understanding of it.

Non-verbal communication

Non-verbal communication or body language is a vital feature of the communication process. Human communication takes place through the use of gestures, postures, position and distances (non-verbal communication or *body language*) more than by any other method. Non-verbal cues comprise the majority of the impact of any communicated message (see TABLE 3.1).[13]

Table 3.1 Impact of the message

Cue	%
Words alone	7
Tone of voice	38

Recognition of non-verbal cues in our communication is important, especially in a doctor–patient relationship. Charles Darwin in his *Expression of the Emotions in Man and Animals* (1872) concluded that there is a unique pattern of non-verbal actions for each emotion, such as snarling as a sign of aggression. The ability to identify non-verbal cues improves communication, rapport and understanding of the patient's fears and concerns. Recognising body language can allow doctors to modify their behaviour, thus promoting optimum communication.

Interpreting body language

The interpretation of body language, which differs between cultures, is a special study in its own right, but there are certain cues and gestures that can be readily understood. Examples illustrated include: the depressed patient (see FIG. 3.2); barrier-type signals, often used as a defensive mechanism to provide comfort or indicate a negative attitude (see FIG. 3.3); and a readiness gesture, indicating a desire to terminate the communication (see FIG. 3.4).

FIGURE 3.2 Posture of a depressed person: head down, slumped, inanimate; position of desk and people correct

FIGURE 3.3 Body language barrier signals: **(a)** arms folded, **(b)** legs crossed, **(c)** 'ankle lock' pose

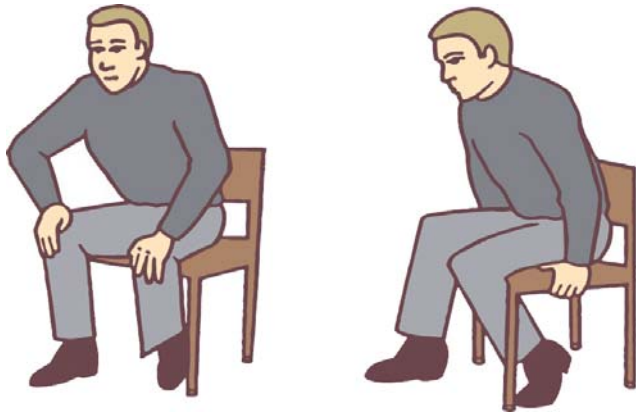


FIGURE 3.4 Body language: 'readiness to go' gestures

Having noted the non-verbal communication, the doctor must then deal with it. This may require confrontation—that is, diplomatically bringing these cues to the patient's attention and exploring the associated feeling further.

Page 18

The patient's perspective

To be truly patient-centred, it is not enough merely to find out the patient's concerns and needs

—we also need to explore his or her ideas, beliefs and expectations.[8] What is the patient's *perspective* on his or her concerns and needs? What does the patient expect of you and from the consultation? What are the priorities?

To best meet this challenge, doctors should be vigilant for verbal and non-verbal cues that suggest frustrations, fears and anxieties.[3] A shuffle in a chair or a stiffening in posture may give a clue as to the emotional context a patient places on a particular issue. The issue is therefore not only whether we have listened, but whether we have understood.[10]

Discovering the patient's beliefs about illness will allow us to make statements to them that are congruent with those beliefs. This is especially important in mental health, where illness beliefs are often emotionally laden and unpredictable.

Understanding the patient's perspective also needs to be considered in a cultural context. Culture can have many dimensions, including ethnicity, age, gender, sexuality, community and religious beliefs. Being *culturally competent* by showing an interest in, respect for and sensitivity to that culture will help us achieve a shared understanding of where the patient is coming from and how he or she is seeing things.[8]

Communicating during the physical examination or procedure

In the same way that we obtain consent for surgical procedures, we should also fully inform the patient of what we plan to do and obtain consent in any physical interaction with the patient. Physical examination can be very confrontational for some patients and this can be underestimated by the doctor. There may be factors of which the doctor is unaware that may make examination particularly difficult for the patient, such as unpleasant previous experiences, cultural, gender or sexual issues surrounding touch, or phobias about medical procedures or needles.

As well as preparing the patient, explaining during the examination or procedure what is happening and what we are observing and finding will help the patient feel valued and respected. We should also continue to keep an ear out for any further patient concerns being raised.[3]

If we are fully eliciting the patient's concerns and needs and are consulting using a patient-centred approach, a point is reached in the consultation where the information flow will need to go in the opposite direction—from doctor back to patient (in fact, in most consultations this flow often moves repeatedly back and forth). How we deliver this information is critical to patient communication.

Four techniques that will help maximise patient understanding are:

- signposting
- 'chunk and check'
- avoiding jargon
- using visual and physical techniques to communicate[8]

Signposting is a technique whereby the doctor explicitly states what he or she has done and/or is about to do (e.g. 'Andrew, I have finished examining you, now I would like to explain what I think the issues are' or 'Mrs Jones, I have two matters I would like to discuss: first ...'). Signposting helps orientate the patient, which further helps him or her to relax and focus better on what you are saying.

Chunk and check is where the doctor provides a chunk of information to the patient and then immediately checks the patient's understanding of what has been said. Chunk and check works best when the chunks are small, as this information is often new to the patient and best digested in small grabs.

Jargon is a barrier to communication in many professions (think accountants or IT technicians) and medicine is rife with jargon.

When dealing with patients, using jargon not only impairs the patient's understanding, but can also be alienating and intimidating. The patient needs to have the cognitive and communicative capacity to understand the message.[14]

Visual and physical methods of conveying information given (or plans made) can include diagrams, models, patient hand-outs or information sheets.[8] Having ready access to electronic visual materials or websites on a desktop computer can also help. Videos on websites such as YouTube can be used to illustrate how the body functions, how a disease manifests or a particular medical procedure, and directing patients to reputable and reliable information sources on the internet or elsewhere (before they find unreliable information themselves) will help avoid misinformation and extend the communication beyond the consultation.

Negotiate and agree on a plan

Looking beyond patient-centred communication, we can then think about planning: what do we intend to do, how we are going to decide this, who is going to do it? The preferred technique for this is *shared or collaborative decision making.*[14,15] The aim should be to have such collaboration at all stages of the consultation. But because patients can often feel intimidated, it is a challenge for the doctor to make the patient feel comfortable enough to do so.[16]

To enable this collaboration, the doctor and patient should treat each other's concerns with respect; this will lead to a shared responsibility for agenda setting.[10] Such collaboration, when done well, can lead to a coming-together of thinking that has been called a *shared mind.*[14] 'This is what I would suggest, what do you think?' As a way of thinking, a shared mind involves a doctor being mindful of the patient's values, thoughts and feelings (as well as those of his or her own), and seeing where the two connect.[17]

This mindfulness of each other's position can help the negotiation of what happens in the consultation and also avoid communication breakdowns. For instance, what shall we deal with today, and what should be delayed or rolled over to another consultation?[10] It can also help repair a communication breakdown.

One technique that uses this principle is called an *empathic bridge*.[10] This is where we anchor the conversation in the patient's experience by reflecting or paraphrasing. From this anchor, we then manoeuvre the conversation back to where it needs to be.

Another aspect of the doctor–patient relationship that enhances collaborative decision making, particularly in general practice, is *shared experiences*.[18] GP–patient relationships evolve over time, and a shared experience such as helping a patient through a difficult pregnancy, a major illness or even doing a home visit can enrich the relationship, deepen the connection and trust between doctor and patient, and lead to greater collaborative decision making.

Close

How should we close a consultation? If we follow the principles of patient-centred communication and remember that we should keep our focus on the patient's concerns and needs, it soon becomes apparent.

First, is the patient aware of the imminent closure? Anxious and distressed patients may have no idea how long they have been ruminating about their concerns through the consultation, and letting them know in advance that closure is being planned (and why) will allow them to not feel pushed out of the room.

Secondly, making sure that there are no further disclosures of concerns or needs to come (yet again) will reduce the risk of what has been termed the 'doorknob presentation'—the raising of a patient concern that happens as the doctor puts his or her hand on the doorknob to leave the room (this has also been called the 'Oh, by the way doctor' syndrome in the USA, the 'à propos, docteur' in France and 'tussen haakjes' in Denmark, which translates to 'between two brackets' or, as we may say, 'parenthetically').[10]

Thirdly, summarising the critical points of the consultation and planned actions and expectations will provide a final opportunity to identify gaps between what the doctor and patient are respectively thinking. We should also prepare a safety net by considering any possible unexpected outcomes to what is being planned (e.g. what a parent should watch out for and what to do if things worsen with the febrile infant patient).

Finally, we should thank and say farewell to the patient with an appropriate parting statement. Does this include a handshake? This may be determined by your style, the patient's style and cultural issues.

Use of relationship-building skills

During the consultation and throughout a doctor–patient relationship over many consultations (and potentially, in general practice, over decades), effective communication is underpinned by using skills that develop the interpersonal relationship between doctor and patient.[3,8]

These skills include the doctor paying attention to non-verbal behaviour on display, as mentioned above, such as appropriate eye contact, posture, position and movement. Verbal cues such as the speed of speech, volume and tone can also be used. If using a computer or taking written notes, the doctor should do so in a fashion that does not interfere with dialogue or rapport. Also, given that patients are often highly emotionally invested in what we say, consulting in a manner that reflects confidence (without stepping over into arrogance) will help build trust.

Rapport, which originates from an old French word that literally means 'to carry back', can be engendered by fostering connections back and forth with the patient. Displaying empathy for the patient's situation or feelings, acknowledging his or her view or efforts, and dealing sensitively with embarrassing or disturbing topics such as pain or grief will engender rapport. We can show we are willing to provide emotional support by overtly expressing our concern or understanding, or a willingness to help or offer partnership.[8,16] An offer such as 'I am really keen to help you with this situation' can go a long way.

Connections that build rapport can also happen away from medical issues, and are often more powerful. This is where the 'clues' that we were looking for at the beginning of the consultation can come into play. If a short interplay can happen between doctor and patient about something the patient is passionate about or interested in, which has nothing to do with the medical issues at hand, the patient will feel that he or she is respected as a person, not just as a medical presentation to be solved. Examples of such clues that could be picked up and explored by the doctor could be a favourite toy being held by a child, a book that a patient carries into the room or the doctor noticing that the occupation of the patient is something he or she is interested in asking about. It comes down to patients feeling that the doctor is actually interested in them. When such connections are made, any tension in the consultation room can be seen to evaporate.

Other rapport-building techniques

A person can develop a rapport with another by mimicking his or her body language, speech, posture, pace and other characteristics. Such techniques can be used to help the doctor communicate better with a patient and also to improve the patient's attitude by changing the patient's body language position.

Mirroring

Mirroring is a useful technique whereby the limb positions and body angles of the person you are talking to can be copied. A mirror image is formed of their position so that when they look at you they see themselves as in a mirror. It is not necessary to copy uncomfortable gestures or unusual limb positions, such as hands behind the head. A partial mirror is often sufficient.

Pacing

People exhibit a certain rhythm or pace that can be revealed through their breathing, talking and

movements of the head, hands or feet. If you can copy the pace of another person, it will establish a sense of oneness or rapport with them. Once this pace is established, you can change their pace by changing yours. This is called *leading*.

Vocal copying

Vocal copying is another way to develop rapport with people. It involves copying intonation, pitch, volume, pace, rhythm, breathing and length of the sentence before pausing.

Manage flow

At the end of the day, the doctor has a professional responsibility to appropriately meet the needs of the patient but also to keep control of a consultation so that it does not affect other consultations which follow. In most consultations, this is not difficult, but with a small proportion of patients, particularly those who have mental health and/or psychosocial issues to deal with, maintaining control and managing time can be challenging.[19]

A balance must be struck between maintaining control and not undermining the doctor–patient relationship.

The doctor having a 'wide-angle lens' on the consultation, so that he or she is mindful of where they are up to in the consultation and how much time has been taken up already, as well as the actual medical issues being discussed, will help anticipate a problem. Doing so subtly (e.g. not looking at a watch!) will help. It can be useful to have a wall clock situated behind the patient's chair or to be aware of where the consultation timer is on the computer screen. Naturally, even if the time is way over, it may be entirely appropriate to carry on if it is an important issue, such as with a suicidal or distressed patient.

If a consultation's flow is becoming problematic, the doctor should employ *appropriate use of power*.[18] This can be done with techniques such as setting rules in advance for patients where this is a problem (e.g. time limits for the consultation or limits on the number of concerns to be addressed). We can also use, if required, *blocking behaviours*, which can be verbal or non-verbal. These are behaviours that consciously block the flow of a consultation that is not being appropriately controlled. Examples include the doctor using body language that suggests he or she has something to say, or purposefully focusing on the (sometimes very short) space between a hyper-verbal patient's sentences to enable him or her to 'jump in' and take control of the consultation. On the other hand, it is important to avoid blocking approaches to effective patient communication. These are highlighted in the following negative dozen 'road blocks'.[20]

'Road blocks' to good communication

Judging

1. Criticising: 'You didn't bother to follow up that test'
2. Name-calling: 'You are becoming a worrisome drug addict'
3. Diagnosing: 'I can read you like a book'
4. Praising evaluative: 'You're a good patient—I know you can manage this ...'

Sending solutions

1. Ordering: 'You must stop smoking'
2. Threatening: 'If you don't change, you will be in dire circumstances'
3. Moralising: 'I cannot condone that sort of behaviour—it's wrong and won't help you'
4. Excessive/inappropriate questioning
5. Advising/patronising: 'When you're overseas, be on your best behaviour'

Avoiding the other's concerns

1. Diverting/changing the subject: 'What did you think of the election result?'
2. Logical argument: 'This wouldn't have happened if you ...'
3. Reassuring: 'What are you worrying about? Hundreds of people have to face up to that ...'

Practice tips

- Using a patient-centred approach leads to improved patient trust and satisfaction, more appropriate prescribing and more efficient practice.
- Undertaking the strategies of facilitation, the open-to-closed cone and summarisation will help us effectively elicit patient concerns.
- Associated with listening, observe non-verbal language, which may in many instances be the most significant part of the communication process.
- Techniques that will help maximise patient understanding are signposting, 'chunk and check', avoiding jargon and using visual and physical techniques to communicate.
- Collaborative decision making helps the negotiation of what happens in the consultation and also avoids communication breakdowns.

Key features of good communication[21]