MURTAGH'S general practice

sixth edition

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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 medical 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 combines these positions with part-time general practice, including a special interest in musculoskeletal medicine. 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 held until 1995. In 1995 he was awarded the Member of the Order of Australia for services to medicine, particularly in the areas of medical education, research and publishing.

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 he was named as one of the most influential people in general practice by the publication *Australian Doctor*. 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 he was bestowed the honour of the namesake of the College library.

Today John Murtagh continues to enjoy active participation with the diverse spectrum of general practitioners—whether they are students or experienced practitioners, rural- or urban-based, local or international medical graduates, clinicians or researchers. His vast experience with all of these 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*.

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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 Rosenblatt also has 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 continues to practice 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 45 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.

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 text book 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 and sixth editions.

This edition, launched 20 years after the first edition, represents a further milestone in Emeritus Professor John Murtagh's remarkable career. Having known John and worked with him for almost three decades, I feel privileged to write this foreword to the sixth edition, adding to earlier forewords by the late Professor Schofield. During this 20-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.

This edition retains the time-honoured framework that has made it the seminal text for GPs 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. There is much more on chronic disease, in keeping with the increasing prevalence of chronic disease and the challenges it presents in treating an ageing community. 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. Its translation was completed later that year.

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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.

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Photo credits

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Dr Eric Kraus: Fig 122.5, p 1305.

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 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.

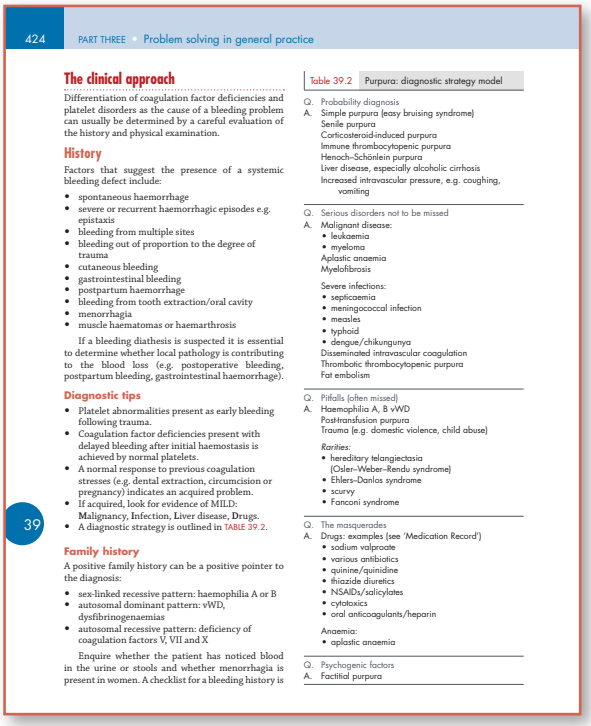
This sixth edition expands on the challenging initiative of diagnostic triads (or tetrads), which act as a brief *aide-memoire* to assist in identifying a disorder from three (or four) key symptoms or signs. A particular challenge in the preparation of the text was to identify as much appropriate and credible evidence-based information as possible. This material, which still has its limitations, has been combined with considerable collective wisdom from experts, especially from the *Therapeutic Guidelines* series. 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 edition also has the advantage of co-authorship from experienced general practitioner Dr Jill Rosenblatt. 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. Expanded material on genetic disorders, infectious diseases and tropical medicine provides a glimpse of relatively uncommon presenting problems in first-world practice.

John Murtagh's General Practice is written 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. A summarised form is available in Murtagh's Flash Cards App.

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.



424 PART THREE • Problem solving in general practice

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
- bleeding out of proportion to the degree of trauma
- cutaneous bleeding
- gastrointestinal bleeding
- postpartum haemorrhage
- bleeding from tooth extraction/oral cavity
- 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 stresses (e.g. dental extraction, circumcision or pregnancy) indicates an acquired problem.
- If acquired, look for evidence of MILD: Malignancy, Infection, Liver disease, Drugs.
- A diagnostic strategy is outlined in TABLE 39.2.

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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 patient has noticed blood in the urine or stools and whether menorrhagia is present in women. A checklist for a bleeding history is

Table 39.2 Purpura: diagnostic strategy model

Q. Probability diagnosis
A. Simple purpura (easy bruising syndrome)
Senile purpura
Corticosteroid-induced purpura
Immune thrombocytopenic purpura
Henoch–Schönlein purpura
Liver disease, especially alcoholic cirrhosis
Increased intravascular pressure, e.g. coughing, vomiting

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

Aplastic anaemia
Myelofibrosis

Severe infections:
- septicaemia
- meningococcal infection
- measles
- typhoid
- dengue/chikungunya

Disseminated intravascular coagulation
Thrombotic thrombocytopenic purpura
Fat embolism

Q. Pitfalls (often missed)
A. 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

Q. The masquerades
A. Drugs: examples (see 'Medication Record')
- sodium valproate
- various antibiotics
- quinine/quinidine
- thiazide diuretics
- NSAIDs/salicylates
- cytotoxics
- oral anticoagulants/heparin

Anaemia:
- aplastic anaemia

Q. Psychogenic factors
A. 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 the commonest 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]

Vertebral dysfunction with non-radicular 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.

The staff of Asclepius

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

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
- compensation issues
- unsatisfactory restoration of activities
- failure to return to work
- unsatisfactory response to treatment
- treatment refused
- atypical physical signs

Red flag pointers for low back pain

There are several so-called 'red flag' or precautionary pointers to a serious underlying cause of back pain (see TABLE 38.3). Such symptoms and signs should alert the practitioner to a serious health problem and thus guide selection of investigations, particularly plain films 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 293

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Brain abscess[4,5]

A brain (cerebral) abscess is a focal area of infection in the cerebrum or cerebellum. It presents as a space-occupying intracerebral lesion. The infection can reach the brain by local spread or via the bloodstream, for example, endocarditis. There may be no clue to 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-immunosuppressed. In the immunosuppressed, *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.

Spinal subdural or epidural abscess

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[6]

- 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 di/flucloxacillin IV, + gentamicin IV, or vancomycin IV.

Prion transmitted diseases[7,8]

Prions are proteinaceous infected particles devoid of nucleic acid that can present with a wide spectrum of neurological presentations. The feature is transmissible spongiform encephalopathy (TSE) with Creutzfeldt–Jakob disease being the classic example. Other examples of TSE forms affecting humans are variant CJD, kuru (New Guinea) and fatal familial insomnia.

Creutzfeldt–Jakob disease

There are three distinct forms of CJD: sporadic (80–85%), familial (15%) and iatrogenic (1%). The annual incidence is one per million people. Usual transmission is from contaminated human tissue (e.g. corneal graft), cadaver pituitary human gonadotrophin or eating contaminated beef. There is no specific treatment for the disease.

DxT fatigue + psychiatric symptoms + myoclonus ➜ CJD

Clinical features

- Progressive dementia (starts with personality change and memory loss—eventual loss of speech)
- Myoclonus/muscle spasms
- Fatigue and somnolence
- Variable neurological features (e.g. ataxia, chorea)

Seven masquerades checklist

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

Q. Seven masquerades checklist
A. Depression
Diabetes (ketoacidosis)
Drugs (especially narcotics)
Anaemia (sickle cell)
Endocrine disorder (thyroid storm, Addison)
Spinal dysfunction
UTI (including urosepsis)

Q. Is the patient trying to tell me something?
A. May be very significant.
Consider Munchausen syndrome, sexual dysfunction and abnormal stress.

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.

13 Research and evidence-based medicine

Not the possession of truth, but the effort of struggling to attain it brings joy to the researcher.

GOFFHOLD LASSING (1729–81)

Effective research is the trademark of the medical profession. When confronted with the great responsibility of understanding and treating human beings we need as much scientific evidence as possible to render our decision making valid, credible and justifiable.

Research can be defined as 'a systematic method in which the truth of evidence is based on observing and testing the soundness of conclusions according to consistent rules'[1] or, to put it more simply, 'research is organised curiosity',[2] the end point being new and improved knowledge.

In the medical context the term 'research' tends to conjecture bench-type laboratory research. However, the discipline of general practice provides a fertile research area in which to evaluate the morbidity patterns and the nature of common problems in addition to the processes specific to primary health care.

There has been an excellent tradition of research conducted by GPs. Tim Murrell in his paper 'Nineteenth century masters of general practice'[3] describes the contributions of Edward Jenner, Caleb Parry, John Snow, Robert Koch and James MacKenzie, and notes that 'among the characteristics they shared was their capacity to observe and record natural phenomena, breaking new frontiers of discovery in medicine using an ecological paradigm'.

This tradition was carried into the 20th century by GPs such as William Pickles, the first president of the Royal College of General Practitioners, Keith Hodgkin and John Fry, all of whom meticulously recorded data that helped to establish patterns for the nature of primary health care. In Australia the challenge was taken up by such people as Clifford Jungfer, Alan Chancellor, Charles Bridges-Webb, Kevin Cullen and Trevor Beard in the 1960s,[4] and now the research activities of the new generation of GPs, academic-based or practice-based, have been taken to a higher level with the development of evidence-based medicine (EBM).

Based on the work of the Cochrane Collaboration and the initiatives of Chris Silagy and later Paul Glasziou and Chris Del Mar in particular it has developed in the context of Australian general practice and now beyond that. The focus of EBM has been to improve health care and health economics. Its development has gone hand in hand with improved information technology. EBM is inextricably linked to research.

The aim of this chapter is to present a brief overview of research and EBM and, in particular, to encourage GPs, either singly or collectively, to undertake research—simple or sophisticated—and also to publish their work. The benefits of such are well outlined in John Howie's classic text *Research in General Practice*.[5]

Why do research?

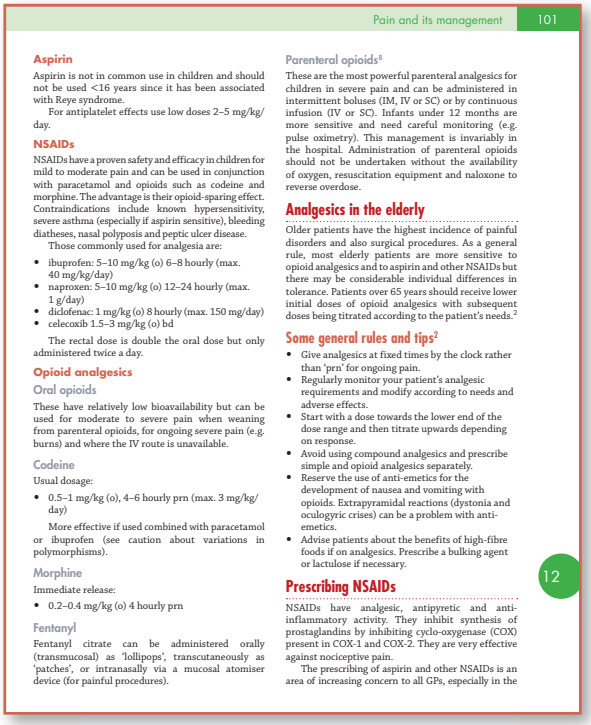
The basic objective of research is to acquire new knowledge and justification for decision making in medical practice. Research provides a basis for the acquisition of many skills, particularly those of critical thinking and scientific methodology. The discipline of general practice is special to us with its core content of continuing, comprehensive, community-based primary care, family care, domiciliary care, whole-person care and preventive care. To achieve credibility and parity with our specialist colleagues we need to research this area with appropriate methodology and to define the discipline clearly. There is no area of medicine that involves such a diverse range and quantity of decisions each day as general practice, and therefore patient management needs as much evidence-based rigour as possible.

Our own patch, be it an isolated rural practice or an industrial suburban practice, has its own micro-epidemiological fascination. Thus, it provides a unique opportunity to find answers to questions and make observations about that particular community.

There are also personal reasons to undertake research. The process assists professional development, encouraging clear and critical thinking, improvement of knowledge and the satisfaction of developing new skills and opening horizons.

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.



Pain and its management 101

Aspirin

Aspirin is not in common use in children and should not be used <16 years since it has been associated with Reye syndrome.

For antiplatelet effects use low doses 2–5 mg/kg/day.

NSAIDs

NSAIDs have a proven safety and efficacy in children for mild to moderate pain and can be used in conjunction with paracetamol and opioids such as codeine and morphine. The advantage is their opioid-sparing effect. Contraindications include known hypersensitivity, severe asthma (especially if aspirin sensitive), bleeding diatheses, nasal polyposis and peptic ulcer disease.

Those commonly used for analgesia are:

- ibuprofen: 5–10 mg/kg (o) 6–8 hourly (max. 40 mg/kg/day)
- naproxen: 5–10 mg/kg (o) 12–24 hourly (max. 1 g/day)
- diclofenac: 1 mg/kg (o) 8 hourly (max. 150 mg/day)
- celecoxib 1.5–3 mg/kg (o) bd

The rectal dose is double the oral dose but only administered twice a day.

Opioid analgesics

Oral opioids

These have relatively low bioavailability but can be used for moderate to severe pain when weaning from parenteral opioids, for ongoing severe pain (e.g. burns) and where the IV route is unavailable.

Codeine

Usual dosage:

- 0.5–1 mg/kg (o), 4–6 hourly prn (max. 3 mg/kg/day)

More effective if used combined with paracetamol or ibuprofen (see caution about variations in polymorphisms).

Morphine

Immediate release:

- 0.2–0.4 mg/kg (o) 4 hourly prn

Fentanyl

Fentanyl citrate can be administered orally (transmucosal) as 'lollipops', transcutaneously as 'patches', or intranasally via a mucosal atomiser device (for painful procedures).

Parenteral opioids[8]

These are the most powerful parenteral analgesics for children in severe pain and can be administered in intermittent boluses (IM, IV or SC) or by continuous infusion (IV or SC). Infants under 12 months are more sensitive and need careful monitoring (e.g. pulse oximetry). This management is invariably in the hospital. Administration of parenteral opioids should not be undertaken without the availability of oxygen, resuscitation equipment and naloxone to reverse overdose.

Analgesics in the elderly

Older patients have the highest incidence of painful disorders and also surgical procedures. As a general rule, most elderly patients are more sensitive to opioid analgesics and to aspirin and other NSAIDs but there may be considerable individual differences in tolerance. Patients over 65 years should receive lower initial doses of opioid analgesics with subsequent doses being titrated according to the patient's needs.[2]

Some general rules and tips[2]

- Give analgesics at fixed times by the clock rather than 'prn' for ongoing pain.
- Regularly monitor your patient's analgesic requirements and modify according to needs and adverse effects.
- Start with a dose towards the lower end of the dose range and then titrate upwards depending on response.
- Avoid using compound analgesics and prescribe simple and opioid analgesics separately.
- Reserve the use of anti-emetics for the development of nausea and vomiting with opioids. Extrapyramidal reactions (dystonia and oculogyric crises) can be a problem with anti-emetics.
- Advise patients about the benefits of high-fibre foods if on analgesics. Prescribe a bulking agent or lactulose if necessary.

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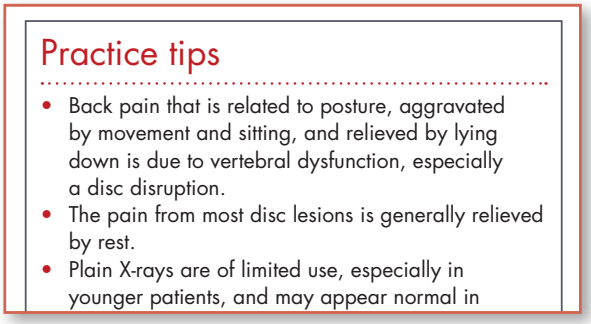
Prescribing NSAIDs

NSAIDs have analgesic, antipyretic and anti-inflammatory activity. They inhibit synthesis of prostaglandins by inhibiting cyclo-oxygenase (COX) present in COX-1 and COX-2. They are very effective against nociceptive pain.

The prescribing of aspirin and other NSAIDs is an area of increasing concern to all GPs, especially in the

Practice tips

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



Practice tips

- Back pain that is related to posture, aggravated by movement and sitting, and relieved by lying down is due to vertebral dysfunction, especially a disc disruption.
- The pain from most disc lesions is generally relieved by rest.
- Plain X-rays are of limited use, especially in younger patients, and may appear normal in

Clinical photos

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

FIGURE 15.4 Cutaneous leishmaniasis in a serviceman after returning from the Middle East

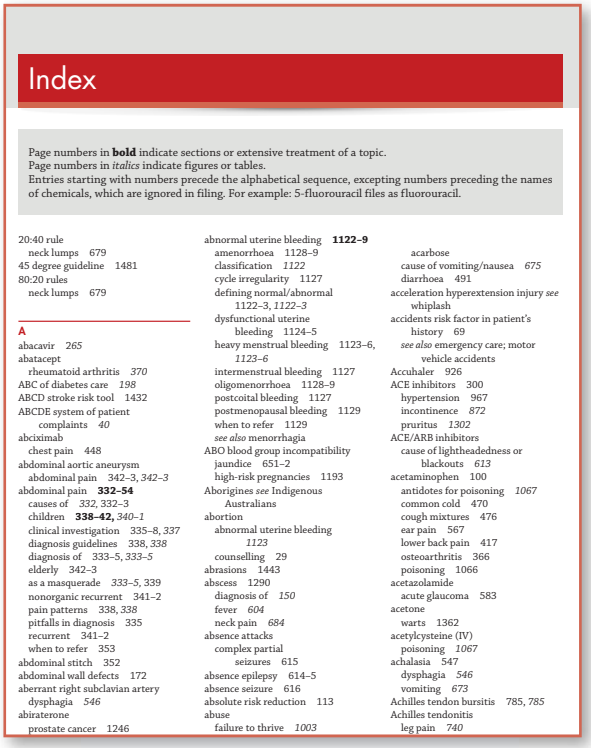
Full colour illustrations

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

FIGURE 38.5 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.



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Page numbers in *italics* indicate figures or tables.
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Patient education resources

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

Patient education resources

Hand-out sheets from *Murtagh's Patient Education* 6th edition:

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

Reviewers

The sixth edition underwent a rigorous peer review process to ensure that *General Practice* remains the gold standard reference for general practitioners around the world.

To that end, the author and the publishers extend their sincere gratitude to the following people who generously gave their time, knowledge and expertise.

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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.

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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 m^2
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 × 10^9/L
Platelets	150–400 × 10^9/L
ESR	<20 mm; <35mm if >70 years
Band neutrophils*	(0.05 × 10^9/L)
Mature neutrophils*	(2.0–7.5 × 10^9/L)
Lymphocytes*	(1.0–4.0 × 10^9/L)
Monocytes*	(0.2–0.8 × 10^9/L)
Eosinophils*	(0.0–0.4 × 10^9/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'.	
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	
Males and females	≤ 2 standard drinks/day < 4 standard drinks/occasion
Anaemia—haemoglobin	
Males	< 130 g/L
Females	< 115 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
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
ANCI	antineutrophil cytoplasmic antibody
ANF	antinuclear factor
a/n/v	anorexia/nausea/vomiting
AP	anterior–posterior
APF	Australian pharmaceutical formulary
APH	ante-partum haemorrhage
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
BOO	bladder outlet obstruction
BP	blood pressure
BPH	benign prostatic hyperplasia
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
CD_4	T helper cell
CD_8	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's 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
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
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
DOM	direction of movement
DRE	digital rectal examination
DRABC	defibrillation, resuscitation, airway, breathing, circulation
drug	bd—twice daily
dosage	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
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})
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
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
GP	general practitioner
G-6-PD	glucose-6-phosphate
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-B_{27}	human leucocyte antigen
HMGCoA	hydroxymethylglutaryl CoA
HNPCC	hereditary nonpolyposis colorectal cancer
HPV	human papilloma virus
HRT	hormone replacement therapy
HSIL	high grade squamous intraepithelial lesion
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
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
INR	international normalised ratio
IOC	International Olympic Committee
IOFB	intraocular foreign body
IP	interphalangeal
IPPV	intermittent positive pressure variation
IR	internal rotation
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
JCA	juvenile chronic arthritis
JVP	jugular venous pulse
KA	keratoacanthoma
KFT	kidney function test
kg	kilogram
KOH	potassium hydroxide
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
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
MDR	multi-drug resistant TB
MG	myaesthenia gravis
MHT	menopause hormone therapy
MI	myocardial infarction
MIC	mitral incompetence
MID	minor intervertebral derangement
MND	motor neurone disease
MRCP	magnetic resonance cholangiography
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
NET	norethisterone
NF	neurofibromatosis
NGU	non-gonococcal urethritis
NHL	non-Hodgkin's lymphoma
NH&MRC	National Health and Medical Research Council
NIDDM	non-insulin dependent diabetes mellitus
NNT	numbers needed to treat
NOAC	new oral anticoagulants
nocte	at night
NR	normal range
NRT	nicotine replacement therapy
NSAIDs	non-steroidal anti-inflammatory drugs
NSCLC	non-small cell lung cancer
NSU	non-specific urethritis
NTT	nuchal translucency test
(o)	taken orally
OA	osteoarthritis
OCP	oral contraceptive pill
OGTT	oral glucose tolerance test
OSA	obstructive sleep apnoea
OSD	Osgood–Schlatter disorder
OTC	over the counter
PA	posterior–anterior
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
PKU	phenylketonuria
PLISSIT	permission: limited information: specific suggestion: intensive therapy
PLMs	periodic limb movements
PMDD	premenstrual dysphoric disorder
PMS	premenstrual syndrome
PMT	premenstrual tension
PaO_2	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
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
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
STI	sexually transmitted infection
STD	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
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's disease
WBC	white blood cells
WBR	white → blue → red
WCC	white cell count
WHO	World Health Organization
WPW	Wolff–Parkinson–White
XL	sex linked

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 co-ordinates 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 seven 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

The American Academy of Family Physicians (AAFP) has expanded on the function of delivery of primary health care.[1,2]

> Primary care is a form of delivery of medical care that encompasses the following functions:
> 1 It is 'first-contact' care, serving as a point-of-entry for patients into the health care system.
> 2 It includes continuity by virtue of caring for patients over a period of time, both in sickness and in health.
> 3 It is comprehensive care, drawing from all the traditional major disciplines for its functional content.
> 4 It serves a coordinative function for all the health care needs of the patient.
> 5 It assumes continuing responsibility for individual patient follow-up and community health problems.
> 6 It is a highly personalised type of care.

Pereira Gray[3] identifies six principles—primary care, family care, domiciliary care and continuing care, all designed to achieve preventive and personal care. 'We see the patient as a whole person and this involves breadth of knowledge about each person, not just depth of disease.'

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
- 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 (FIGURE 1.1).

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]

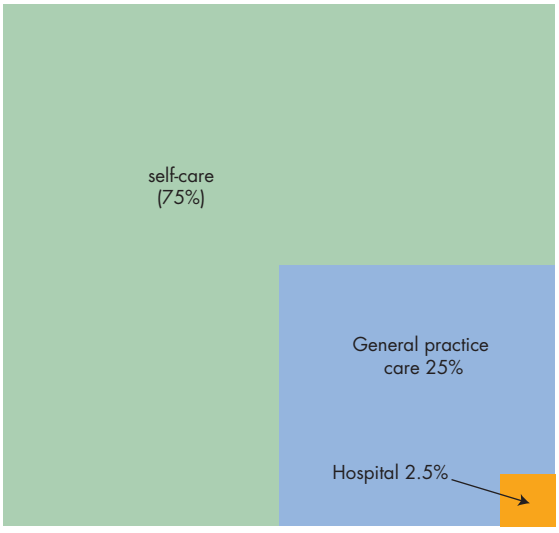

FIGURE 1.1 Degrees of care of symptoms

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 of the person suffering from the disease.

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

1

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.

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[7] 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 intra-family dynamics. They should cement the doctor–patient relationship if used appropriately. We are the only doctors who practise domiciliary care.

Computers

Computers have simplified and streamlined the design and use of practice registers and patient-recall systems in addition to their use for accounting purposes. Their potential for continuing care, patient education and doctor education is considerable.

Common presenting symptoms

Common presenting symptoms in Australian practices are presented in TABLE 1.1,[8] where they are compared with those in the US.[9] The similarity is noticed but the different classification system does not permit an accurate comparison. In the third national survey of morbidity in general practice in Australia[9] the most common symptoms described by patients were cough (6.2 per 100 encounters), throat complaints (3.8 per 100), back complaints (3.6 per 100) and upper respiratory tract infection (URTI) (3.2 per 100). In addition, very common presentations included a check-up (13.7 per 100) and a request for prescription (8.2 per 100). McWhinney lists the 10 most common presenting symptoms from representative Canadian and British practices but they are divided between males and females.[10]

Table 1.1 Most frequent presenting problems/symptoms (excluding pregnancy, hypertension, immunisation and routine check-up)

	Australia	United States
Cough	1	1
Throat complaint	2	2
Back pain	3	4
URTI	4	11
Rash	5	5
Abdominal pain	6	6
Depression	7	
Ear pain	8	3
Headache	9	10
Fever	10	7
Weakness/tiredness	11	
Diarrhoea	12	
Asthma	13	
Nasal congestion/ sneeze	14	12
Chest pain	15	13
Knee complaint	16	8
Visual dysfunction		9

Source: Australian figures: Britt et al.[8]; United States figures (all specialties): De Lozier & Gagnon[9]

For males in the Canadian study these symptoms are (in order, starting from the most common) cough, sore throat, colds, abdominal/pelvic pain, rash, fever/chills, earache, back problems, skin inflammation and chest pain.

For females the five other symptoms that are included are menstrual disorders, depression, vaginal discharge, anxiety and headache.

In the British study the most common symptoms are virtually identical between males and females and include cough, rash, sore throat, abdominal pain, bowel symptoms, chest pain, back pain, spots, sores and ulcers, headache, muscular aches and nasal congestion.[11]

Most frequent presenting symptoms in the author's practice

The most common presenting symptoms in the author's practice[12] were identified, with the emphasis being on pain syndromes:

- cough
- disturbance of bowel function
- pain in abdomen
- pain in back
- pain in chest
- pain in head
- pain in neck
- pain in ear
- pain in throat
- pain in joints/limbs
- rashes
- sleep problems
- tiredness/fatigue
- vaginal discomfort

These symptoms should accurately reflect Australian general practice since the rural practice would represent an appropriate cross-section of the community's morbidity, and the recording and classification of data from the one practitioner would be consistent.

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

Common managed disorders

Excluding a general medical examination, hypertension and upper respiratory tract infection (URTI) were the two most common problems encountered in both the Australian and US[13] studies. The 23 most frequent individual disorders are listed in Table 1.2 and accounted for over 40% of all problems managed.[8,14]

Table 1.2 Most frequently managed disorders/diagnoses (rank order) excluding prescriptions

	Australia	United States
General medical examination	1	1
Hypertension	2	3
URTI	3	2
Immunisation	4	*
Depression	5	6†
Acute bronchitis/bronchiolitis	6	13
Asthma	7	29
Back complaint	8	
Diabetes mellitus	9	8
Lipid metabolism disorder	10	*
Osteoarthritis	11	10
Sprain/strain	12	5
Contact dermatitis	13	9
Acute otitis media	14	18
Anxiety	15	6†
Sleep disorders/insomnia	16	–
Urinary tract infection	17	11
Female genital check-up, Pap test	18	(under 1)
Sinusitis	19	25
Occupational check-up	20	27
Oesophageal disease	21	27
Menopause complaint	22	27
Viral disease	23	–

* not listed

† combined

Source: Australian figures: Britt et al.[8]; United States figures: Rosenblatt et al.[13]

1

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

Chronic disease management

A study of international target conditions[15] in chronic disease management has highlighted the importance of the following (as common themes):

- coronary heart disease
- chronic heart failure
- stroke
- hypertension
- diabetes mellitus type 2
- chronic obstructive pulmonary disease
- asthma
- epilepsy
- hypothyroidism
- chronic mental illness
- medication monitoring

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The family

2

Whether in rich or poor countries, 'developed' or 'developing', the health of individuals is influenced by family life, and families are affected by the illnesses and misfortunes of their members.

IAN MCWHINNEY (1926–2012)

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

However, the traditional concept of the nuclear family, where the wife stays at home to care for the children, occurs in only about 15% of Australian families. Approximately 46% of Australian marriages end in separation. Families take many shapes and forms, among them single-parent households, de facto partnerships, 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[1] 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.

Characteristics of healthy families

Successful families have certain characteristics, an understanding of which can give the family doctor a basis for assessing the health of the family and a goal to help set targets for change in disrupted families. Such characteristics are:

- *Healthy communication.* In this situation family members have freedom of expression for their feelings and emotions.
- *Personal autonomy.* This includes appropriate use of power sharing between spouses/partners.
- *Flexibility.* This leads to appropriate 'give and take' with adaptation to individual needs and changing circumstances.
- *Appreciation.* This involves encouragement and praise so that members develop a healthy sense of self-esteem.
- *Support networks.* Adequate support from within and without the family engenders security, resistance to stress and a healthy environment in general (see FIG. 2.1). The family doctor is part of this network.

FIGURE 2.1 Three generations of a supportive family network

- *Family time and involvement*. Studies have shown that the most satisfying hallmark of a happy family is 'doing things together'.
- *Spouse/partner bonding*. The importance of a sound marital relationship becomes obvious when family therapy is undertaken.
- *Growth*. There needs to be appropriate opportunities for growth of individual family members in an encouraging atmosphere.
- *Spiritual and religious values*. An attachment to spiritual beliefs and values is known to be associated with positive family health.

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. It is recognised, for example, that bereavement over the unexpected loss of a child may lead to marital breakdown, separation or divorce.

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. It may necessitate family conferences.
- Include the family on a continuing basis, especially if a long-term illness is anticipated. 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 in the family, and so the doctor needs to 'think family':

- marital or sexual difficulties
- multiple presentations of a family member—'the thick file syndrome'
- 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
- susceptibility to illness
- 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 patients who present with physical symptoms that have primarily an emotional or psychosocial basis with either little or no organic pathology. As many as 50–75% of patients utilising primary care clinics have a psychosocial precipitant as opposed to biomedical problems as the main cause of their visit.[2]

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. 2.2 and TABLE 2.1).

Table 2.1 Areas of possible biopsychosocial dysfunction

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

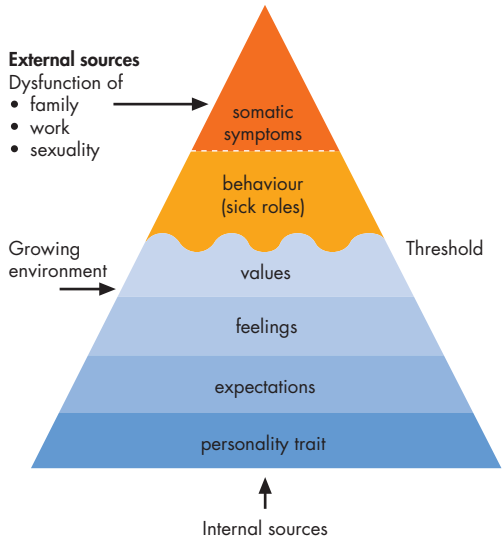

FIGURE 2.2 Family dynamics and psychosomatic illness iceberg

How to evaluate the family dynamics

- Carefully observe family members interacting.
- Invite the whole family to a counselling session (if possible).
- Visit the home: an impromptu home visit (with some pretext such as a concern about a blood test result) 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. 18.1, CHAPTER 18): family dynamics and behaviour can be understood by drawing a family map or genogram (a diagrammatic representation of family structure and relationships).[3,4]

The genogram

The genogram is a very valuable pedigree chart that usually covers three generations of a family tree.[3] Genograms are a useful strategy for involving family members who may have been reluctant to be involved in discussions on family matters.[4] An example, including the use of symbols, is shown in FIGURE 18.1 (refer to CHAPTER 18).

The family life cycle

Helpful in understanding the dynamics of the family is the concept of the family life cycle,[5] which identifies several clearly defined stages of development (see TABLE 2.2). 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 2.3, which indicates the approximate length of time on each of the stages.

Table 2.2 The family life cycle[1]

Stage		Tasks to be achieved
1	Leaving home	Establishing personal independence. Beginning the emotional separation from parents.
2	Getting married	Establishing an intimate relationship with spouse. Developing further the emotional separation from parents.
3	Learning to live together	Dividing the various marital 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.

Family assessment

The assessment of families with problems can be formalised through a questionnaire that allows the collection of information in a systematic way in order to give an understanding of the functioning of the family in question.

The questionnaire[1]

1 Family of origin
- Could each of you tell us something about the families you grew up in?
- Where do you come in the family?

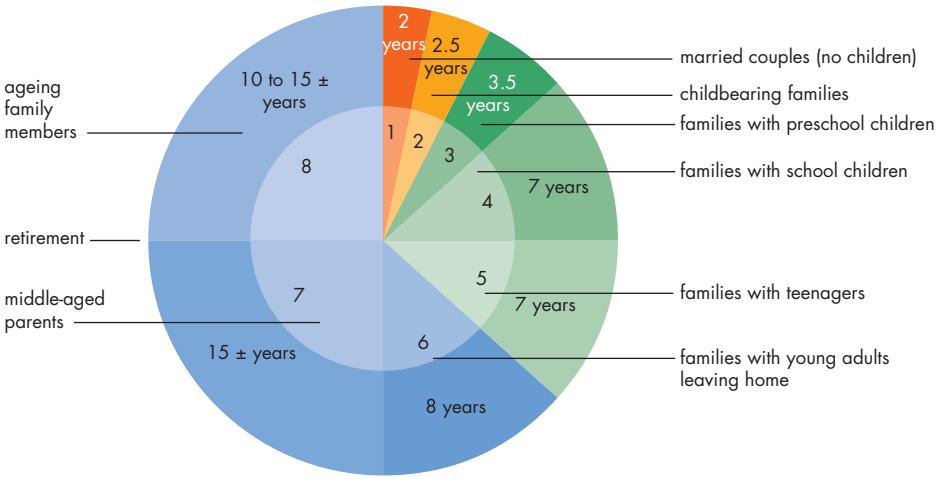

FIGURE 2.3 The family life cycle (approximate time in each stage).
Source: After McWhinney[6] and Duvall[7]

- Were you particularly close to anyone else in the family?
- Were there any severe conflicts between family members?
- Did anyone abuse you in any way?
- Do you have much contact with any of your family now?
- Have you tried to model (or avoid) any features for your own family?

2 History of the couple's relationship
- How did you two meet?
- What attracted you to each other?
- Why did you choose this person rather than someone else?
- How did your families react to your choice?
- How did the birth of your children affect your relationship?
- When was your relationship at its best? Why?

3 Experience in counselling and enrichment
- Have any of you been to a marriage support program?
- Have any of you been to any form of counselling?
- Did you go alone or with another family member?
- What did you like or dislike about the experience?
- In what way was it helpful or unhelpful?

4 Expectations and goals
- Whose idea was it to come here?
- What was the reaction of other family members?
- Why did you come now?
- Was there any particular event that triggered the decision?
- What does each of you hope to gain by coming for an assessment?

5 Family function[1]
- What is it like for each of you to live in this family? (If children are present, they should be asked first.)
- Do you have any difficulty in talking to other members of the family? (Again, children first.)
- Do you have any difficulty in expressing appreciation to each other? (Mention here that studies on healthy families show that both communication and appreciation rank in the top qualities.)
- How do you show appreciation in this family?
- How do you show affection in this family? (Again, children first.)
- How satisfied are you with the present arrangement? Are there any changes you would like to see?
- What ways have you used to resolve disagreements or change the way the family functions?

Assessment based on the questionnaire

- Family members present in interview (names and ages)
- Missing members (names and ages)
- Presenting problems or reasons for family interview identified by whom? Any attempted solutions?

- Roles—structure, organisation (who is dominant and so on)
- Affect—predominant emotional tone and expressed emotions
- Communication—Who dominates? Who talks? Who listens to whom?
- Stage in the family life cycle
- Illness and sickness roles
- Coping mechanisms

Family-based medical counselling

There are several brief counselling models to assist the family doctor in probing and counselling, using a simple infrastructure such as the BATHE model.

The BATHE technique[8]

This really represents a diagnostic technique to identify sources of disharmony, which can act as a springboard for counselling.

The acronym BATHE stands for *background, affect, trouble, handling* and *empathy,* and can be summarised as follows.

Background

Enquire about possible areas of psychosocial problems to help elicit the context of the patient's visit.

- What is happening in your life?
- Is there anything different since before you got sick?
- How are things at home?

Affect

Affect is the 'feeling state' and includes anxiety, so it is wise to probe potentially sensitive areas.

- How do you feel about what is going on in your life?
- How do you feel about your home life?
- How do you feel about work/school?
- How do you feel about your (spouse/partner or daughter or . . .)?
- What is your mood like? Do you feel sad or happy?

Trouble

Enquire about how the patient's problems are troubling the patient.

- What about the situation troubles you most?
- What troubles or worries you most in your life?
- What worries you most at home?
- How stressed and upset are you about this problem?
- How do you think this problem affects you?

Handling

- How are you handling this problem?
- Do you think that you have mishandled anything?
- Do you get support at home to help handle the problem?
- Where does your support come from?
- How do you feel that you are coping?

Empathy

Indicate an understanding of the patient's distress and legitimise his or her feelings.

- That must be very difficult for you.
- That sounds really tough on you.

Steps to bring about behaviour change

Fabb and Fleming have introduced the model of change, which is fundamental to initiating therapy. The five steps are:

1 *Dissatisfaction.* There must be dissatisfaction with the present pattern of behaviour.
2 *Alternative.* There must be an acceptable alternative behaviour pattern available.
3 *Emotional commitment.* There must be an emotional commitment to the new pattern of behaviour over the old.
4 *Practice with feedback.* There must be practice of the new behaviour, with feedback, to establish the new pattern as an available behaviour.
5 *Habituation with support.* There must be installation of the new behaviour in the normal work/living situation with support.

All of these must be present for change to occur. Steps 4 and 5 are often neglected, with the result that change does not occur or is less successful.

Marital disharmony

Family doctors often have to provide marital counselling for one or both partners. The problems may be resolved quite simply or be so complex that marital breakdown is inevitable despite optimal opportunities for counselling.

Opportunities for prevention, including anticipatory guidance about marital problems, do exist and the wise practitioner will offer appropriate advice and counselling. Examples include an accident to a child attributable to neglect by a parent, or similar situation in which that parent may be the focus of blame, leading to resentment and tension. The practitioner could intervene from the outset to

alleviate possible feelings of guilt and anger in that marriage.

Some common causes of marital disharmony are:

- selfishness
- unrealistic expectations
- financial problems/meanness
- not listening to each other
- sickness (e.g. depression)
- drug or alcohol excess
- jealousy, especially in men
- fault finding
- 'playing games' with each other
- driving ambition
- immaturity
- poor communication

Basic counselling of couples

The following text on basic counselling of couples,[9] which should be regarded as a patient education sheet, includes useful advice for couples:

> The two big secrets of marital success are caring and responsibility.

Some important facts

- Research has shown that we tend to choose partners who are similar to our parents and that we may take our childish and selfish attitudes into our marriage.
- The trouble spots listed above reflect this childishness; we often expect our partners to change and meet our needs.
- If we take proper care and responsibility, we can keep these problems to a minimum.
- Physical passion is not enough to hold a marriage together—'when it burns out, only ashes will be left'.
- While a good sexual relationship is great, most experts agree that what goes on *out* of bed counts for more.
- When we do something wrong, it is most important that we feel forgiven by our partner.

Positive guidelines for success (summary)[9]

1 Know yourself.
2 Share interests and goals.
3 Continue courtship after marriage.
4 Make love, not war.
5 Cherish your mate.
6 Prepare yourself for parenthood.
7 Seek proper help when necessary.
8 Do unto your mate as you would have your mate do unto you.

The BE Attitudes (virtues to help achieve success)	
BE honest	**BE** loyal
BE loving	**BE** desiring
BE patient	**BE** fun to live with
BE forgiving	**BE** one
BE generous	**BE** caring

Making lists—a practical task

Make lists for each other to compare and discuss.

- List qualities (desirable and undesirable) of your parents.
- List qualities of each other.
- List examples of behaviour each would like the other to change.
- List things you would like the other to do for you.

Put aside special quiet times each week to share these things.

Pitfalls[1]

The GP who is too closely attached to one or more members of the family can easily become trapped in the role of the 'rescuer' or 'saviour' of those members. The best defence against this trap is to respect the family's autonomy and work with the family to achieve the goals the family sets for itself, thus avoiding three major pitfalls for the GP in treating families:

1 assuming personal responsibility for changing the family
2 working alone, neglecting the assistance of the family
3 becoming a 'rescuer' or 'saviour'

Other pitfalls

- Conducting therapy in the absence of a significant family member
- Breaching confidentiality of individuals within the family
- Failing to recognise the 'ganging-up effect'
- Taking sides
- Failing to use available resources
- Overrelating to your own experiences

Possible solutions to avoid pitfalls[1]

- Let the patients do the work.
- Share the burden with a colleague or other resources.
- Ensure that the goals for therapy are realistic.
- Point out that all family members have to work together and that therapy works best when there is openness on all sides.
- Identify any tendency to look for scapegoats within the family.
- Look out for vulnerable family members—the 'hidden patient.'
- Avoid trying to achieve quick solutions.
- Obtain clear-cut agreements on confidential matters and record this in the history.
- Keep an open mind and avoid forcing your own values on to the family.

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3 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 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 4).

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 3.1, also acts as an excellent aide-memoire to achieve maximal benefit from the consultation.

Table 3.1 The potential in each primary care consultation

A	B
Management of presenting problems	Modification of health-seeking behaviour
C	D
Management of continuing problems	Opportunistic health promotion

Source: Stott & Davis[2]

Phases of the consultation

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

1 Establishment of rapport
2 Diagnostic phase
   - the history
   - the physical and mental examination
   - investigations
3 Management phase
   - explanation and education
   - prescribing medication
   - procedural—therapeutic or extended diagnostic
   - referral
   - follow-up

Practice tip

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

FIGURE 3.1 The consultation: establishment of good rapport is the foundation to successful consulting skills

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.

A very good approach is that used by Professor Rita Charon of Columbia University: 'I'm going to be your doctor, so I need to know a great deal about your body, health and life. Please tell me what you think I should know about yourself and your situation.'

Guidelines include:[3]

- 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 3.2). These are important since they uncover 'red flags' for serious, life-threatening disorders.

Table 3.2 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

- 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.

Good questions

In order to determine any underlying agenda or significant psychosocial problems, it is very helpful to use analytical questions. Such 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.
- 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[4] 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 4, (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-handed 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.[5]

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[6,7]

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.

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:[8]

- 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:[8]

- 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.

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 3.3.

The sequence of the management interview

The following, which represents an excellent teaching strategy, is a suggested *10-point plan* or sequence for conducting a management interview. These guidelines

Table 3.3 Objectives of the management phase of the consultation

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

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

If a diagnosis is not possible, describe the problem as it relates to the presenting symptoms.

2 Establish the patient's knowledge of the diagnosis

This information provides a clear-cut baseline of information from which to launch the management phase of the consultation.

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

Unless this is done the doctor may already have begun to enter a conflicting relationship with the patient without knowing why and be unaware of underlying fears.

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.

Such illness education will be facilitated by the use of appropriate language, special charts and diagrams, models, investigation reports and other relevant aids (e.g. X-rays and ECGs).

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

Common examples of preventive opportunities include immunisation, screening status (e.g. Pap test) and advice about smoking and alcohol problems and safe sex.

7 Reinforce the information

Emphasise information already given about the diagnosis and management by the use of other techniques, for example:

- 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

When time permits, the doctor should encourage feedback regarding the patient's reaction to the way the consultation has been conducted, and establish whether the objectives of both have been met and the patient is satisfied with the outcome.

10 Arrange follow-up

Clear instructions for review need to be made, preferably by providing appointments or stating that no further review is needed. Follow-up not only shows patient response to management, but also enables the reinforcement and clarification of preventive measures and information given. It also allows involvement of others, particularly family members where appropriate.

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:[8]

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'.[8]

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

- 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.

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4 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), *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.

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 4.1.

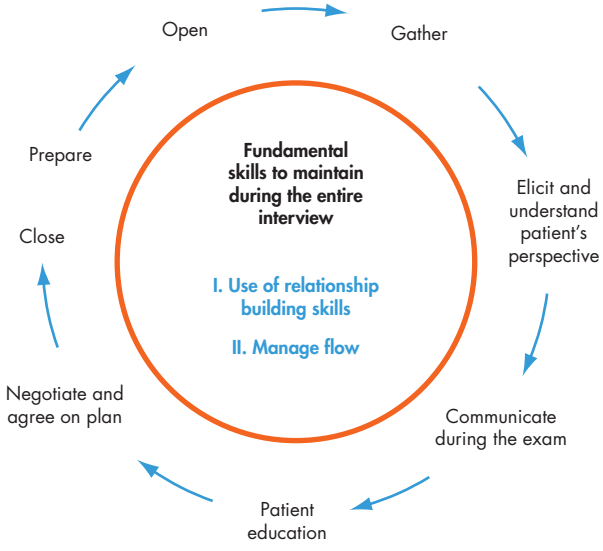

FIGURE 4.1 The sequence of communication in the consultation

Source: Courtesy of the New York University Macy Initiative on Health Communication

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.