Examination Medicine remains a best-selling text amongst FRACP candidates preparing for the Physicians Part 1 Examination, medical students, and trainees from other specialty colleges where examinations involve medical clinical exams.

The book highlights key facts candidates must understand for the fellowship examination and includes information on history taking, the examination and investigations.

NEW TO THIS EDITION
- simplified layout
- ‘hint’ boxes included to help candidates with technique and difficult cases
- imaging – X-rays and scans likely to be shown to a candidate are now incorporated with their appropriate long or short case
- latest College exam formats and possible future changes to the examination have been set out
- long and short cases have been updated.

THE AUTHORS
Nicholas J Talley Professor of Medicine and Epidemiology and Chair, Department of Internal Medicine, Mayo Clinic, Jacksonville, Florida; Visiting Professor, Department of Medicine, University of Sydney and Nepean Hospital, Sydney

Simon O’Connor Cardiologist, The Canberra Hospital; Clinical Senior Lecturer, Australian National University Medical School, Canberra, ACT

Note: Job to print 5 colour: 4x4 plus PMS 877 (metallic silver)
Examination
Medicine
6th edition
Examination
Medicine
6th edition

Nicholas J Talley
MD, PhD, FRACP, FRCP (London), FRCPE (Edin), FAFPHM, FACP, FACG, AGAF
Professor of Medicine and Epidemiology, and Consultant Physician, Mayo Clinic,
Jacksonville, Florida and Rochester, Minnesota; Visiting Professor, University of Sydney,
Nepean Hospital, Penrith

Simon O’Connor
FRACP, DDU, FCSANZ
Cardiologist, The Canberra Hospital;
Clinical Senior Lecturer, Australian National University Medical School, Canberra, ACT
Contents

Foreword viii
Preface x
Acknowledgments xi
An historical note xii
Abbreviations xiv

1 Basic training requirements 1
   The future 6

2 The written examination 7
   The examination format 7
   Approaching multiple-choice questions 8
   Preparation for the written examination 8

3 The clinical examination 11
   The examination format 11
   The mini-CEX 14
   Preparation for the clinical examination 14

4 The long case 17
   The history-taking and physical examination 17
   The presentation 20
   The long-case rationale 21
   Types of long case 23

5 The cardiovascular long case 25
   Ischaemic heart disease 25
   Revascularisation 30
   Infective endocarditis 32
   Congestive cardiac failure 37
   Diastolic heart failure (heart failure with preserved
ejection fraction) 45
   Hyperlipidaemia 45
   Hypertension 50
   Heart transplantation 54
   Cardiac arrhythmias 59

6 The respiratory long case 71
   Bronchiectasis 71
   Lung carcinoma 73
   Chronic obstructive pulmonary disease 79
   Sleep apnoea 84
   Interstitial lung disease, including idiopathic pulmonary fibrosis 87
Contents

Pulmonary hypertension 91
Sarcoidosis 97
Cystic fibrosis 101
Tuberculosis 104
Lung transplantation 110

7 The gastrointestinal long case 113
Peptic ulceration 113
Malabsorption 116
Inflammatory bowel disease 120
Colon cancer 125
Chronic liver disease 127
Liver transplantation 137

8 The haematological long case 141
Haemolytic anaemia 141
Thrombophilia 147
Polycythaemia 151
Idiopathic myelofibrosis 155
Essential thrombocythaemia 156
Chronic myeloid leukaemia 156
Lymphomas 157
Multiple myeloma (myeloma) 165
Bone marrow (haematopoietic cell) transplantation 170

9 The rheumatology long case 175
Rheumatoid arthritis 175
Systemic lupus erythematosus 181
Systemic vasculitis 186
Antiphospholipid antibody syndrome 190
Systemic sclerosis (scleroderma) 192

10 The endocrine long case 197
Osteoporosis (and osteomalacia) 197
Hypercalcaemia 203
Paget’s disease of the bone (osteitis deformans) 205
Acromegaly 209
Types 1 and 2 diabetes mellitus 213

11 The renal long case 223
Chronic kidney disease (chronic renal failure) 223
Renal transplantation 231

12 The neurological long case 235
Multiple sclerosis 235
Myasthenia gravis 238
Guillain-Barré syndrome 240
Transient ischaemic attacks and ‘funny turns’ 242

13 The infectious disease long case 247
Pyrexia of unknown origin 247
HIV/AIDS 250
## Contents

### 14 The short case 259

### 15 Common short cases 263
   - The cardiovascular system 263
     - The cardiovascular examination 263
     - Notes on valve diseases 269
     - The hypertensive examination 288
     - Marfan's syndrome 289
     - Oedema 290
   - The respiratory system 291
     - Respiratory examination 291
     - Chest X-ray films 296
   - The gastrointestinal system 310
     - The abdominal examination 310
   - The haematological system 316
     - The haemopoietic examination 316
   - The endocrine system 318
     - The thyroid gland 318
     - Panhypopituitarism 322
     - Cushing's syndrome 323
     - Acromegaly 325
     - Addison's disease 327
     - Diabetes mellitus 329
     - Hirsutism 332
   - The rheumatological system 332
     - The hands 332
     - The knees 338
     - The feet 338
     - The back 345
   - The nervous system 349
     - Cranial nerves 349
     - Eyes 353
     - One-and-a-half syndrome 354
     - Horner's syndrome 354
     - Notes on the cranial nerves 355
     - Higher centres 365
     - Speech 368
     - Upper limbs 370
     - Shoulder girdle examination 373
     - Lower limbs 374
     - Notes on the neurological examination of the limbs 377
     - Notes on spinal cord lesions 382
     - Dystrophia myotonica 387
     - Gait 387
     - Cerebellum 388
     - Parkinson's disease 391
     - Chorea 392

Further reading 394

Index 397
Foreword

Hippocrates knew this: ‘The life so short, the craft so long to learn.’

The autumn months through to early winter are a beautiful time of year in Australia, with remarkable changes in our flora and relief from increasingly hot summers and the bushfire period. For most people this period creates a good feeling, but for some the reduction in daylight hours and colder temperatures engenders a more melancholic mood—similar feelings are usually experienced at this time of year by FRACP candidates, this being the period that begins with the ‘high’ of success in the written examinations followed by an inevitably anxiety-producing phase as the clinical examination approaches. Thank heavens, then, for a text like this that provides candidates with a succinct and important source of information to assist them through this difficult time.

This edition rightly begins with sections describing the Royal Australasian College of Physicians’ approach to basic physician training. This is a time of major change within the College, with continual endeavours to improve its training program in a less threatening manner without compromising standards. The early chapters describe some of these endeavours, and the College should be congratulated on these efforts, even though the reforms are probably happening slower than many would like. I suspect that it is unlikely that the current mode of clinical examinations will change substantially in the next few years. As such, this text will remain invaluable for every candidate undertaking the clinical examinations.

This edition builds on its successful original format and approach to long- and short-case examinations. At times the detail may be more than is required to master the average long- or short-case examination, but this is only an advantage to future learning. Indeed, this text can help us in our day-to-day work as physicians and is not one to be discarded when the examination is complete. Some of the simplified classifications of important diseases and their relevant investigations and management are set out in a clear tabulated format that becomes an easy reference for all of us at any stage of our career. Exam candidates may be interested to know that it is not uncommon to see examiners carrying this text with them during the week of clinical examinations. Indeed, examiners share some of the same anxieties as the candidates (doing a ‘blind’ neurological short-case examination in front of a professor of neurology was certainly one of my anxiety-producing moments). Yet this serves to reassure candidates that there has been a significant change in the conduct of the exam in recent years so as to make it as fair as possible, and what the examiners find when seeing long and short cases ‘blind’ on the day is what is examined.

Registrars and examiners are not the only ones using this text. Medical students find it valuable, too, even though it is pitched at a level higher than their required knowledge. This goes to the heart of learning to be a physician—namely, that it is a lifelong process, one that begins in medical school and then progresses through the training period of resident and registrar life and continues into consultant physician life. The ‘best’ physicians are those who have the capacity to continue to learn, who know their limitations, adopt a holistic approach to patient care and are able to help their patients by prioritising and managing their medical and social issues. Not
surprisingly, these are the facets of learning that are tested in the long-case examination and are well-addressed in this text.

More-experienced candidates (not that one wants to earn this title) will know that at times the information in this text is more than is required in the real exam and some of the supposed common long cases are not all that common in the actual exam. Nevertheless, a good text will err on the side of including more than is required, rather than leaving out important components of learning. Many of the mnemonics used in the chapters will facilitate recall, although some may not be politically correct!

There is no doubt that the FRACP clinical examination period remains a difficult time in the lives of many doctors and their families. It is pleasing that the College is striving to find more relevant and less imposing methods to assess both the competency and performance of doctors wishing to enter advanced physician training. This is by no means an easy task but is one that must be achieved. The rewards of getting past this barrier are great. Like any job, being a physician has its ups and downs but it is a career in which no two days are the same, where the subject matter is continually changing, where there is wonderful opportunity to engage with a wide variety of junior and senior colleagues, and where we have the privilege to be able to help others on a day-to-day basis.

Professor Mark Brown
Professor of Renal Medicine
St George Hospital and University of New South Wales, Sydney
Preface

It is now almost 25 years since the first edition of *Examination Medicine* appeared. There have been many changes in medical practice and in the Royal Australasian College of Physicians certifying (Part One) examination over this period. We are delighted that previous editions of this book have proven very helpful for senior medical students, Australian Medical Council examinees and postgraduates preparing for specialties that require a detailed knowledge of general medicine and physical examination techniques. We hope that this sixth edition will continue to assist candidates sitting for the FRACP examination. This examination remains a significant hurdle; indeed, we would argue that it is the most rigorous of its kind in internal medicine anywhere in the world, and all who pass (and most will, thanks to the excellent preparation offered through the College) are much better clinicians for the experience.

The clinical examination is now being attempted by a record number of candidates, which has caused considerable logistical difficulties for the College. More than 600 sat the test in 2009 and it is now held in almost every large and middle-sized hospital in the country. The increased number of candidates has led to discussion about the need to consider holding the exam twice a year. The second examination could be offered to candidates who fail their first attempt at the clinical by a small number of marks, the idea being to reduce the numbers sitting the exam in the following year. Other solutions are being canvassed for this difficult logistical problem, so you can expect yet more changes in the near future.

There continues to be vigorous discussion within the College about transformation of the examination process in the future. The short case is viewed by many as an entirely artificial way to assess a candidate’s interaction with patients. For this reason, its contribution to the total mark has been reduced, and it is possible to pass the overall exam despite relatively poor marks in all four short cases. Supporters of the short case believe that a person entering advanced training in a subspecialty should know how to comprehensively examine all the systems of the body and synthesise the data properly in a limited time, which the short case teaches. This debate is likely to continue for some time, but it remains our view that the short case will probably survive.

This edition of *Examination Medicine* has been carefully updated to reflect modern medical practice and the realities of the exam. It is important to remember that we have set out an approach to the long and short cases; you will need other resources to learn all of internal medicine and we offer a list of useful learning materials for you to consider. Candidates should build on the approaches suggested here to develop their own systematic methods. Some examiners have complained (perhaps unfairly!) that all candidates examine, for example, the hands in much the same way. Be guided by this book, your teachers and fellow candidates, and then create your own methodological approach that you can apply with success every day in clinical practice.

Nicholas J Talley
Simon O’Connor
Jacksonville and Canberra
October 2009
Acknowledgments

The following specialists have been kind enough to review the text. We are very grateful for their advice and comments:

- Patrick Manning BHB, MBChB, MMedSc, FRACP, Consultant Endocrinologist, Dunedin Hospital, Dunedin, New Zealand and Associate Professor of Medicine, University of Otago, Dunedin, New Zealand
- Stephen Clarke MBBS PhD FRACP FAcHP, Senior Staff Specialist, Medical Oncology, Concord Hospital, Sydney and Professor of Medicine, University of Sydney
- Jack R Wall MD, PhD, FRACP, FRCPC, Professor of Medicine, University of Sydney and Consultant Endocrinologist, Sydney West Area Heath Service, Nepean Hospital, Penrith
- Nerida Paterson BMed (Newcastle), Dip RACOG, Senior Lecturer, University of Newcastle, New South Wales
- Lilijana Mikuletic MBBS (honors), BMedSc (honors), MPH, DCH, DipO&G, general practitioner and Clinical Associate Lecturer, Faculty of Medicine, University of Sydney

The publishers and authors would also like to thank Professor G Buirski, Director of the Department of Medical Imaging, The Canberra Hospital, for granting permission to use some of the X-rays and scans from The Canberra Hospital X-ray library. In addition, many of the ECG tracings are from *Practical Cardiology* 2nd edn (Elsevier, 2008) and were originally contributed by Dr George Nikolić.
An historical note

The problem is not so much how to test candidates but how to test examinations.


Internal medicine at the beginning of last century was still in its infancy. It was practised largely on an empirical basis. Therapeutics was very limited. Surgery was a more popular specialty, partly because of its greater efficacy in treating many diseases. There were consultant physicians in Australia, but medicine was mainly practised by the family doctor.

In 1930 some leading physicians formed the Association of Physicians of Australia. It aimed to foster expansion of scientific knowledge of medicine in Australia and New Zealand. It also allowed physicians to meet socially. It was an exclusive organisation—only physicians who held honorary appointments at teaching hospitals were eligible to join.

However, non-members began to lobby for the formation of a college. Eventually, after considerable opposition from members of the Association, the Royal Australasian College of Physicians was legally incorporated in 1938 (the title 'Royal' was conferred by King George VI). The inauguration ceremony occurred, with great pageantry, in the Great Hall of the University of Sydney. Sydney was chosen for the headquarters because the Royal Australasian College of Surgeons had previously been established in Melbourne.

Since its beginning, the Royal Australasian College of Physicians has been responsible for maintaining the standards of training and practice of medicine and paediatrics. This was originally achieved by conducting an examination known as 'the Membership'. The College set two major prerequisites for this test:

1. The candidate had to be a graduate of three years’ standing or more from an acceptable medical school.
2. Two Fellows of the College must vouch for the candidate’s integrity and character.

No limits were set on age or experience, no attention was given to previous training, no standard was defined for the examination and few guidelines were laid down. Although this was a rather subjective test, Censors carried out their obligations well, as is obvious from the high standards of internal medicine practised in Australia and New Zealand today. The Membership examination consisted of two papers of essay questions and a clinical and oral examination. Multiple-choice questions were introduced only in 1967.

With the growth of technology and medical knowledge, the College began to coordinate the flourishing specialty associations and societies. By 1968 the need for a change in the evaluation of physician trainees had become apparent. In 1976 the Membership examination was replaced by the Fellowship examination. After considerable discussion within the College, it was decided that the emphasis should be on training, rather than examination. To this end, the FRACP (Part One) examination was established as an early examination to admit candidates to advanced training. Candidates successful in this Part One examination would then have three or four years of supervised training in general medicine or a subspecialty, and in most cases no
An historical note

Further examination would be required. An advanced trainee would be elected a Fellow after the required time of supervised training in accredited terms, if the supervisors' reports were satisfactory.

In this the College decided on a different course from the Royal Australasian College of Surgeons, which requires candidates to sit for an examination at the end of advanced training before election to Fellowship. The actual training emphasis of the Colleges still remains different.

The FRACP examination is now held at centres in Australia and New Zealand. The examination system has its critics. The pass rate for the FRACP is low; on average in the past only 40% of candidates passed both the written exam and their first attempt at the clinical examination. Changes to the format of the clinical examination have increased this somewhat in recent years. In the United Kingdom, the MRCP (UK) also has a low pass rate. In an editorial in *Lancet*, it was suggested there are only two possible reasons for a low pass rate in the MRCP: either the training is of poor quality or the examination is of poor quality, and the College is directly or indirectly responsible for each (*Lancet* 1990; i:443–445). The Royal Australasian College of Physicians has tried to tackle some of these issues in recent years, but vigorous debate on the method of examination continues.

There is no doubt, however, that physician training remains very popular. More than 600 candidates presented themselves for the clinical examination in 2009, many more than the number attempting the examination in the mid-1990s.

The objectives of the Royal Australasian College of Physicians remain the same as they were at its inception. Essentially the College strives to promote the study of the art and science of medicine, and to encourage research and dissemination of knowledge, as well as to promote and ensure the fitness of persons desirous of qualifying for membership of the College. This book deals with strategies to enable candidates to satisfy the strict examination requirements of the College.
Abbreviations

ABP  ambulatory blood pressure
ABVD  adriamycin, bleomycin, vinblastine and dacarbazine
ACE  angiotensin-converting enzyme
ACTH  adrenocorticotrophic hormone
ADP  adenosine diphosphate
AF  atrial fibrillation
AFB  acid fast bacilli
AHI  apnoea hypopnoea index
AICDs  automatic implantable cardioverter-defibrillators
AIDS  acquired immunodeficiency syndrome
ALL  acute lymphocytic leukaemia
ALT  alanine aminotransferase
AMA  antimitochondrial antibody
AMC  Australian Medical Council
ANA  antinuclear antibody
ANCA  antineutrophil cytoplasmic antibody
anti-LKM1  anti-liver and kidney microsomes type 1
AP  anteroposterior
APC  activated protein C
APD  automated peritoneal dialysis
AR blocker/ARB  angiotensin II receptor blocker
AR  aortic regurgitation
AS  aortic stenosis
ASAP  Australian Self-Assessment Programme
ASCA  anti-\textit{Saccharomyces cerevisiae} antibodies
ASD  atrial septal defect
ASH  asymmetrical hypertrophy
ASMA  anti-smooth muscle antibody
AST  aspartate aminotransferase
ATP  antitachycardia pacing
AV  atrioventricular
B2-GP-1  beta2-glycoprotein-1
BCG  bacille Calmette-Guérin
b.d.  twice a day
BiPAP  bilevel positive airways pressure
BMD  bone mineral density
BMI  body mass index
BMS  bare metal stent
BNP  B-type natriuretic peptide
BPPV  benign paroxysmal positional (positioning) vertigo
CABG  coronary artery bypass graft
CAD  coronary artery disease
CAPD  continuous ambulatory peritoneal dialysis
CCP  citrullinated cyclic peptide
CEA  carcinoembryonic antigen
Abbreviations

CFE Committee for Examinations
CIDP chronic inflammatory demyelinating polyradiculoneuropathy
CKD chronic kidney disease
CML chronic myeloid leukaemia
CMV cytomegalovirus
CNS central nervous system
COP cryptogenic organising pneumonia
COPD chronic obstructive pulmonary disease
COX-2 cyclo-oxygenase 2
CPAP continuous positive airways pressure
CPT Committee for Physician Training
CREST calcinosis cutis; Raynaud's phenomenon; (o)esophageal involvement; sclerodactyly; telangiectasia
CRH corticotropin-releasing hormone
CRP C-reactive protein
CRT cardiac resynchronisation therapy
CT computed tomography
CVP cyclophosphamide, vincristine and prednisone
DAF decay-accelerating factors
DC direct current
DES drug-eluting stent
DEXA dual-energy X-ray absorptiometry
DIC disseminated intravascular coagulation
DIP distal interphalangeal
dlCO diffusion capacity for carbon monoxide
dLE discoid lupus erythematosus
DMARDs disease-modifying, antirheumatic drugs
DOT direct observed treatment
DPE Director of Physician Education
DPT Director of Physician Training
dsDNA double-stranded DNA
DVT deep venous thrombosis
EBV Epstein-Barr virus
ECG electrocardiogram
ECOG Eastern Cooperative Oncology Group
EF ejection fraction
EIA enzyme immunoassay
EMG electromyogram
ENA extractable nuclear antigen
EPG electrophoretogram
EPS electrophysiological studies
ES educational supervisor
ESR erythrocyte sedimentation rate
FAP familial adenomatous polyposis
FBC full blood count
FET forced expiratory time
FEV1 forced expiratory volume in one second
FFP fresh frozen plasma
FHH familial hypocalciuric hypercalcaemia
FS fractional shortening
FSH facio-scapulo-humeral
FSH follicle-stimulating hormone
FVC forced vital capacity
Abbreviations

G6PD glucose-6-phosphate dehydrogenase
GGT gamma-glutamyl transferase
GH growth hormone
GI glycaemic index
GM-CSF granulocyte-macrophage colony stimulating factor
GORD gastro-oesophageal reflux disease
GPI glycosylphosphatidylinositol
GTHs general teaching hospitals
GVHD graft versus host disease
HAART highly active antiretroviral therapy
HBV hepatitis B virus
HCC hepatocellular carcinoma
HCV hepatitis C virus
HDL high-density lipoprotein
Hib Haemophilus influenzae type b
HIV human immunodeficiency virus
HLA human leucocyte antigen
HMG-CoA hydroxymethylglutaryl coenzyme A
HMSN hereditary motor and sensory neuropathy
HNPCC hereditary non-polyposis colon cancer
HPL human placental lactogen
HPO hypertrophic pulmonary osteoarthropathy
HSV herpes simplex virus
HUS haemolytic uraemic syndrome
HZV herpes zoster virus
IBD inflammatory bowel disease
ICD implantable cardioverter-defibrillators
IDL intermediate-density lipoprotein
IEPG immunoelectrophoretogram
IGF-I insulin-like growth factor I
ILD interstitial lung disease
INR international normalised ratio
IPF idiopathic pulmonary fibrosis
IPH idiopathic pulmonary hypertension
IPI International Prognostic Index
IRTC Independent Review of Training Committee
IVP intravenous pyelogram
JVP jugular venous pressure
KUB kidneys, ureters, bladder
LA left atrium
LAD left anterior descending
LAHB left anterior hemi-block
LAM lymphangioleiomyomatosis
LBBB Left bundle branch block
LCAT lecithin cholesterol acyltransferase
LDH lactate dehydrogenase
LDL low-density lipoprotein
LH luteinising hormone
LIMA left internal mammary artery
LNAT learning needs analysis
LV left ventricle/left ventricular
LVEDD left ventricular end-diastolic dimension
LVH left ventricular hypertrophy
LVOT  left ventricular outflow tract
LV PW  left ventricular posterior wall
MAC   Mycobacterium avium complex
MALT  mucosa-associated lymphoid tissue
MCP   metacarpophalangeal
MCTD  mixed connective tissue disease
MCV   mean corpuscular volume
MELD  model for end-stage liver disease
MEN   multiple endocrine neoplasia
MGUS  monoclonal gammopathies of uncertain significance
mini-CEX mini-Clinical Evaluation Exercise
MKSAP Medical Knowledge Self-Assessment Program
MR    mitral regurgitation
MRI   magnetic resonance imaging
MS    multiple sclerosis
MSF   multi-source feedback
MSI   microsatellite instability
MTP   metatarsophalangeal
MV    mitral valve
MVP   mitral valve prolapse
NAFLD non-alcoholic fatty liver disease
NAP   neutrophil alkaline phosphatase
NASH  non-alcoholic steatohepatitis
NEP   National Examination Panel
non-STEMI non-ST elevation myocardial infarction
NSAIDs non-steroidal anti-inflammatory drugs
NSTEACS non-ST elevation acute coronary syndrome
NYHA New York Heart Association
OAT   Open Artery Trial
OTPs  overseas-trained physicians
PA    plasma aldosterone
PA    posteroanterior
PAH   pulmonary arterial hypertension
p-ANCA perinuclear antineutrophil cytoplasmic antibodies
PAP   pulmonary artery pressure
PBS   Pharmaceutical Benefits Scheme
PCH   pulmonary capillary haemangiomatosis
PCR   polymerase chain reaction
PDA   patent ductus arteriosus
PDA   professional development advisor
PET   positron emission tomography
PIE   pulmonary infiltrate and eosinophilia
PIP   proximal interphalangeal
PNH   paroxysmal nocturnal haemoglobinuria
PPD   purified protein derivative
PPI   proton pump inhibitor
PRA   plasma renin activity
PREP  Physician Readiness for Expert Practice
PTH   parathyroid hormone
PTLD  Post-transplant lymphoproliferative disease
PTTK  prolonged partial thromboplastin time with kaolin
PUO   Pyrexia of unknown origin
PVD   peripheral vascular disease
### Abbreviations

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Full Form</th>
</tr>
</thead>
<tbody>
<tr>
<td>PVOD</td>
<td>pulmonary veno-occlusive disease</td>
</tr>
<tr>
<td>PY1</td>
<td>Postgraduate Year 1</td>
</tr>
<tr>
<td>RACP</td>
<td>Royal Australasian College of Physicians</td>
</tr>
<tr>
<td>RAD</td>
<td>right-axis deviation</td>
</tr>
<tr>
<td>RBBB</td>
<td>right bundle branch block</td>
</tr>
<tr>
<td>RDW</td>
<td>red cell distribution width</td>
</tr>
<tr>
<td>REM</td>
<td>rapid eye movement</td>
</tr>
<tr>
<td>RLS</td>
<td>restless legs syndrome</td>
</tr>
<tr>
<td>RIMA</td>
<td>right internal mammary artery</td>
</tr>
<tr>
<td>RNP</td>
<td>ribonucleoprotein</td>
</tr>
<tr>
<td>RV</td>
<td>right ventricle/right ventricular</td>
</tr>
<tr>
<td>SAAG</td>
<td>serum-to-ascites albumin gradient</td>
</tr>
<tr>
<td>SAC</td>
<td>Specialist Advisory Committee</td>
</tr>
<tr>
<td>SAM</td>
<td>systolic anterior motion</td>
</tr>
<tr>
<td>SE</td>
<td>supplementary examination</td>
</tr>
<tr>
<td>SIAT</td>
<td>Significant Incident Analysis Tool</td>
</tr>
<tr>
<td>SLE</td>
<td>systemic lupus erythematosus</td>
</tr>
<tr>
<td>STEMI</td>
<td>ST elevation myocardial infarction</td>
</tr>
<tr>
<td>SVC</td>
<td>superior vena cava</td>
</tr>
<tr>
<td>SVGs</td>
<td>saphenous vein grafts</td>
</tr>
<tr>
<td>SVT</td>
<td>supraventricular tachycardia</td>
</tr>
<tr>
<td>TB</td>
<td>tuberculosis</td>
</tr>
<tr>
<td>TIA</td>
<td>transient ischaemic attack</td>
</tr>
<tr>
<td>TIPS</td>
<td>transjugular intrahepatic portosystemic shunt</td>
</tr>
<tr>
<td>TNP</td>
<td>tumour necrosis factor</td>
</tr>
<tr>
<td>TNM</td>
<td>tumour node metastases</td>
</tr>
<tr>
<td>TOE</td>
<td>transoesophageal echocardiography</td>
</tr>
<tr>
<td>TPHA</td>
<td><em>treponema pallidum</em> haemaglutination test</td>
</tr>
<tr>
<td>TR</td>
<td>tricuspid regurgitation</td>
</tr>
<tr>
<td>TSH</td>
<td>thyroid-stimulating hormone.</td>
</tr>
<tr>
<td>TTP</td>
<td>thrombotic thrombocytopenic purpura</td>
</tr>
<tr>
<td>TZDs</td>
<td>thiazolidinediones</td>
</tr>
<tr>
<td>UKPDS</td>
<td>United Kingdom Prognosis in Diabetes Study</td>
</tr>
<tr>
<td>UTHs</td>
<td>university teaching hospitals</td>
</tr>
<tr>
<td>VC</td>
<td>vital capacity</td>
</tr>
<tr>
<td>VDRL</td>
<td>venereal disease research laboratory</td>
</tr>
<tr>
<td>VF</td>
<td>ventricular fibrillation</td>
</tr>
<tr>
<td>VLDL</td>
<td>very-low-density lipoprotein</td>
</tr>
<tr>
<td>VSD</td>
<td>ventricular septal defect</td>
</tr>
<tr>
<td>VT</td>
<td>ventricular tachycardia</td>
</tr>
<tr>
<td>VVI</td>
<td>ventricular-ventricular inhibited</td>
</tr>
<tr>
<td>WC</td>
<td>ward consultant</td>
</tr>
<tr>
<td>WCC</td>
<td>white cell count</td>
</tr>
<tr>
<td>WPW</td>
<td>Wolff-Parkinson-White</td>
</tr>
</tbody>
</table>
Chapter 1

Basic training requirements

I would live to study, and not study to live.

Francis Bacon (1561–1626)

There is nothing more exciting than working as a consultant physician! Colleagues will turn to you for advice on how to diagnose and treat complex cases. You will change the lives of your patients for the better. To become such a respected professional, you must first complete basic physician training. The requirements for basic training, after which a trainee may sit the Royal Australasian College of Physicians’ (RACP) written and clinical examinations, are set out on the RACP website (www.racp.edu.au) under the link to the Basic Training Portal. Basic trainees must register with the College and will have access to this extensive program. Only an outline of the information available to trainees is given here.

As of 2009 many remarkable new acronyms have been introduced to basic training (see Table 1.1) and the training program has been amended. Although it remains to be seen how practical this new and complicated scheme will be, trainees should not be put off by it: basic training will still teach clinical medicine and instil the key skills needed to become a first-class physician, as well as promoting a lifelong love of learning medicine and helping patients.

The new training program has the overall title of Physician Readiness for Expert Practice (PREP) and it includes basic training as well as the three or more years of advanced training. The College describes the principles of training as:

- learner-centred
- workplace focused and assessed
- competency-based
- a blended working environment.

The basic training period is now closely supervised by the College via the Director of Physician Education (DPE; previously the Director of Physician Training, DPT) and the educational supervisor (ES), along with the candidate’s own self-evaluation through his or her learning plan. This process is known as a learning needs analysis (LNA).

Trainees have access to the Significant Incident Analysis Tool (SIAT), which provides online support for both ‘good and bad’ learning experiences. They should also be helped by the introduction of multi-source feedback (MSF). Using MSF, trainees must ask a number of people to assess them, including the educational supervisor, ward consultants (WCs), senior nurses, junior medical staff and allied health professionals. Trainees must undertake at least one MSF encounter per year involving a minimum of six assessors.
In addition, trainees will have the help of a professional development advisor (PDA), who reports to the Director of Physician Education about the trainee’s development and MSF results. The ward consultant is also expected to be involved in active teaching, supervision and support of the trainee, as well as to provide advice to the educational supervisor and information sheets for the educational supervisor and Director of Physician Education.

For the trainee’s idle moments, another recent innovation is the mini-Clinical Evaluation Exercise (mini-CEX). The mini-CEX requires trainees to examine a patient in their own hospital while being watched by an assessor. The trainee will be guided to a specific aspect of history-taking or examination, or both. Before the trainee examines the patient, the trainee and assessor spend some time discussing what should occur. The trainee then spends 15–20 minutes with the patient and another 10–15 minutes afterwards with the assessor again to discuss the performance. The idea is to simulate a normal clinical encounter in which a targeted history and examination are taken and performed.

Physician training has always depended on voluntary (and largely unpaid) help from senior colleagues such as consultants and senior registrars. This help ranges from informal teaching during ward rounds to formal long- and short-case practice sessions and various supervisory roles. Physician training could not work without this assistance. Both trainees and physicians benefit from this close association, personally and professionally. The new physician training should, if anything, strengthen these bonds.

The College requires three years of basic training after the intern year (PY1) in Australia or New Zealand. It consists of at least 36 months of supervised training across the breadth of internal medicine in both general medicine and the other medical subspecialties (‘core’ training), which must involve the continuing care of medical patients in approved hospitals. Approved hospitals are listed on the College’s website. There are four categories of training hospitals: level 3 hospitals—previously

<table>
<thead>
<tr>
<th>TABLE 1.1 The garbled soup of College acronyms</th>
</tr>
</thead>
<tbody>
<tr>
<td>CPT</td>
</tr>
<tr>
<td>DPE</td>
</tr>
<tr>
<td>DPT</td>
</tr>
<tr>
<td>ES</td>
</tr>
<tr>
<td>IRTC</td>
</tr>
<tr>
<td>LNA</td>
</tr>
<tr>
<td>Mini-CEX</td>
</tr>
<tr>
<td>MSF</td>
</tr>
<tr>
<td>NEP</td>
</tr>
<tr>
<td>PDA</td>
</tr>
<tr>
<td>PREP</td>
</tr>
<tr>
<td>PY1</td>
</tr>
<tr>
<td>RACP</td>
</tr>
<tr>
<td>SAC</td>
</tr>
<tr>
<td>SIAT</td>
</tr>
<tr>
<td>WC</td>
</tr>
</tbody>
</table>
called university teaching hospitals (UTHs); level 2 hospitals—previously called general teaching hospitals (GTHs); level 1 hospitals—generally regional hospitals; and secondment hospitals. Trainees must spend at least 12 months in a level 3 hospital and at least three months in a general medicine term. Only six months may be spent in a single subspecialty. Up to three months of this time may be undertaken in each of coronary care, relieving, emergency medicine, nuclear medicine, psychiatry, dermatology or an approved secondment post, but the total time spent in these combined cannot exceed six months. A DPT is appointed in each hospital with an accredited training scheme and he or she is responsible for supervising basic training. The DPT’s approval is required for each rotation.

Accreditation of terms that are suitable for basic training are now looked at more critically to ensure adequate levels of supervision and support for trainees, and some hospitals have lost their accreditation. This applies especially to hospitals that receive resident medical officers on secondment. Up to three months of core training may be carried out in a single approved secondment post. It is important to check with the RACP Department of Education if there is any doubt that the terms are acceptable. Basic training requirements are now so strict that careful negotiation with the hospital for suitable training terms from the beginning of basic training is the only way to ensure that it is possible to sit the examination in the minimum time.

The College details the sequence of steps involved in entry to the Fellowship (FRACP) with fees in 2009 as follows:

- Register as a basic trainee (postgraduation Year 2)—$1500 per year.
- Apply for FRACP examinations—written $2500; clinical $4000.
- Apply for approval of advanced training program—$1200 per year.
- Receive accreditation of advanced training.
- Apply for admission to Fellowship—$749.

The fees rise by about 10% each year. The cost of travel and accommodation must be added to the examination fees. Claiming these expenses as a tax deduction usually seems to be allowed.

The forms for registration as a basic trainee should be downloaded from the College website, and applications can be made online. Applications for approval of basic training must be made early in the year of training and signed by the DPT. Late applications for training and to sit examinations are sometimes accepted (subject to an extra fee), but not always. The exact dates by which all applications are required are set out on the College’s website and must be taken very seriously.

The registration fee is paid annually during basic training and is the start of a physician’s long financial association with the College. In exchange for this ‘small fee’, trainees receive regular information from the College. At the moment this includes the College journal, Fellowship Affairs, but not the Internal Medicine Journal.

Interrupted and part-time training are possible. Research may be accepted for part of non-core basic training. Trainees who have a higher degree (MD or PhD) may apply to have accredited one year of basic training or one year of advanced training.

All trainees are notified by post and by email when their applications are received and again when approval to sit the examination is granted. This second letter gives the times, date and place of the examination. The application to sit the examination is required in November of the prior year.

Success at the written and clinical examinations is not recognised as a specialist qualification. To be admitted to Fellowship of the College requires success in both examinations and completion of basic and advanced training. Once a trainee has completed three years of basic training, he or she can undertake a conditional year of advanced training. During the year the examinations must be successfully completed for the year to be accredited. If the trainee does not pass the examinations, the year cannot count towards advanced training. All advanced training in general medicine
Examination medicine

or a subspecialty must be approved by the appropriate Specialist Advisory Committee (SAC) and by the Committee for Physician Training (CPT). There is no longer any exit examination.

In some cases, exemption from the written examination may be granted. This usually applies to those with postgraduate physician training and overseas qualifications—for example, Membership of the Royal College of Physicians (MRCP) of London or Edinburgh, the Diploma of the American Board of Internal Medicine (ABIM), Fellowship of the Royal College of Physicians (FRCP) Canada or the Master of Medicine (Singapore). The appropriate application form for exemption can be obtained from the College. Approval is not automatic, but rather is at the discretion of the CPT. Exemption from the clinical examination will occasionally be given to highly qualified senior people who trained overseas.

Each year of advanced training is assessed by a supervisor—usually one of the consultants for whom the trainee works during the year. The supervisor submits a report on the trainee’s performance during the year and a recommendation about accreditation of part or all of the year’s training. Unsatisfactory reports are rare. An advanced trainee who receives an unsatisfactory report is offered an interview with a member of the CPT and a representative of the appropriate SAC. This committee will also interview the trainee’s supervisor. A report is then issued by the Independent Review of Training Committee (IRTC). This has replaced the old verification interview. The report and recommendation are considered by the CPT, which makes the final decision. The emphasis for advanced trainees and their supervisors is very much on addressing problems with performance during the year, through regular meetings. Supervisors are encouraged to discuss any problems they perceive with a trainee before the end of the year and to suggest ways of improving performance.

Advanced training requirements are very different for the various subspecialties and details can be obtained from the College.

Determination to pass both sections of the examination at the first attempt is an important part of preparation. The first section is the written examination and the second section is the clinical viva-voce (live-voice) or ‘viva’ test. In December 2004 the College announced that candidates who pass the written examination must pass the clinical examination within five years, otherwise they have to re-sit the written examination before sitting the clinical examination. So a candidate who is successful in the written examination in 2009 has until 2013 to pass the clinical examination. It may be possible to defer sitting the clinical examination for a year, under certain circumstances, but a pass must still be obtained within five years. This change to the rules is retrospective and applies even to candidates who have passed the written examination but then failed the clinical examination and failed the written at the second attempt.

An exemption from the written examination entitles the candidate to sit the viva.

The written examination is held only once every year, in March, in each of the Australian capital cities and in four main centres in New Zealand. Past examination papers are available, usually from two years prior. They are an essential reference point for candidates.

A list of successful candidates is published at each hospital in which the written examination is held. Those who have failed the written examination are sent a feedback sheet indicating their performance in the various subspecialty areas. The DPT of each hospital is sent a list of the average marks for the candidates from that hospital in each subspecialty. Failure in the written examination means waiting a year to sit again.

The clinical examination can be attempted only by candidates who have been successful in the written examination. The viva is held only once each year, in July or August, in a number of cities in rotation. This rotation forms the basis for the unofficial ‘FRACP See Australia Travel Plan’. Experienced candidates know this tour well. In
Australia, clinical examinations are held in the major centres (Sydney, Melbourne, Brisbane or Adelaide) as well as ‘less major’ centres (Hobart, Canberra, Newcastle, Perth, Darwin, Cairns, Wagga Wagga, Geelong and others). In 1989, for the first time in living memory, the viva was postponed in Australia for two months because of a pilots’ strike. Such events cannot be relied on to give more time for preparation.

A pass in the viva counts as a pass in the year that the examination was sat. A supplementary examination (SE), or ‘post’, is offered to fewer than 5% of the candidates who encountered some major disaster during their examination, such as sickness on the day of the examination, or a patient who was too sick to allow proper examination or had a heart attack during it; the ‘post’ is held about three weeks later.

The practice of putting up viva results in one location on the day of the examination has now been reintroduced. Currently, results are posted at 5 pm at a location to be advised; it is usually at the site of the examiners’ meeting. A list of successful candidates in the viva examination is also published in the national press within a week. Notification by mail occurs a little later.

Successful candidates receive a letter of congratulation. Unsuccessful candidates receive an offer to arrange an interview with a College examiner to discuss the reasons for failure. The case notes and marks for each short and long case, which are made by the teams of examiners during the 10-minute period provided for discussion of a candidate's performance, will be available to the candidate and the member of the Committee for Examinations who is providing the advice. Candidates who have been given a ‘post’ can obtain this information very soon after the examination; for the others it will be available somewhat later. The College no longer sends a detailed critique of the candidate’s performance from the notes.

There is no limit to the number of times candidates may sit the entire examination. Some persistent individuals have sat many times (the record, we believe, is 11—and the candidate passed). More than 85% of those who continue to sit do eventually get through, if they have the stamina. The pass rates for the last few years are published by the College and summarised in Table 1.2.

For further information, write to one of the following:
Department of Education
The Royal Australasian College of Physicians
145 Macquarie Street
Sydney NSW 2000 Australia

Department of Education, New Zealand Committee
The Royal Australasian College of Physicians
Kevin Chambers, 16 The Terrace
Wellington 1 New Zealand

<p>| TABLE 1.2 Past examination pass results |</p>
<table>
<thead>
<tr>
<th>Sat</th>
<th>Passed</th>
</tr>
</thead>
<tbody>
<tr>
<td>2009 viva</td>
<td>604</td>
</tr>
<tr>
<td>2009 written examination</td>
<td>698</td>
</tr>
<tr>
<td>2008 written examination</td>
<td>508</td>
</tr>
<tr>
<td>2004 written examination</td>
<td>500</td>
</tr>
<tr>
<td>2003 written examination</td>
<td>475</td>
</tr>
<tr>
<td>2003 viva</td>
<td>446</td>
</tr>
<tr>
<td>2002 viva</td>
<td>425</td>
</tr>
</tbody>
</table>
The future

There has been much discussion within the College and between the College and the Australian Medical Council (AMC) over the past few years about transforming physician training. As a result, a more formal syllabus will probably be introduced within the next few years. This may be followed by changes to basic training, including formative and summative assessments that contribute to the candidate's mark. Currently, these assessments must be undertaken but they do not contribute to the candidate's mark in the written or clinical examinations. Although the clinical examination is often regarded as too subjective to be fair, it still has much support and is very unlikely to be abandoned in favour of a purely written examination, as is used in the United States.

There is also likely to be the addition of more problem-oriented short cases in the future. The 'stem' or introduction given to the candidate will in these cases be more in the form of a problem (e.g. this patient has gained weight, or this patient has had a problem with dropping things, or this patient has neck pain etc.). The candidate will then have to decide what examination to perform rather than being directed to a particular body system.
Chapter 2

The written examination

No man’s opinions are better than his information.

Paul Getty (1960)

The examination format

The written examination is a screening examination to select candidates for further testing. There are two papers, which are held on the same day. The written examination is an objective multiple-choice examination, with five choices in each question.

The first paper (Paper 1) is set with an emphasis on medical sciences and relevant basic science. It contains 70 questions to be answered in two hours. These are all ‘A-type’ questions—that is, of the five alternatives given, only one is correct. Marks are not deducted for wrong answers and therefore it is no longer possible to score a negative mark for the total question. An incorrect or omitted answer will score zero. This is meant to encourage candidates to attempt to answer all questions. There is evidence that ‘A-type’ questions discriminate better between candidates than other formats. The second paper (called, not unexpectedly, Paper 2) contains 100 ‘A-type’ questions to be answered in three hours. Again, each correct answer gains a mark and an incorrect one scores zero.

Although most candidates report that the time limit is sufficient for the completion of Paper 1, this is not the case for Paper 2, which is considerably more rushed. Some candidates have reported difficulty completing Paper 2 in the time allowed. The questions in Paper 2 are clinical scenarios and often contain long preambles, which may include a clinical history and the results of numerous investigations. They can be spread over several paragraphs. The clinical application questions are designed to include tests that a practising clinician must be able to interpret. Various X-ray films (including chest radiographs, computed tomography [CT] and magnetic resonance imaging [MRI] scans), blood films (actual photographs or reports, or both), photographs of urinary sediments and histopathology slides (e.g. renal biopsies) may be included. Photographs (both black-and-white and colour) are usually of high quality. Interpretation of biochemistry results (e.g. liver function tests) is also examined. Normal values are always supplied. The 2009 examination had rather shorter preambles than in recent years, perhaps because of candidates’ complaints regarding having insufficient time to complete the paper.

A pencil is provided at the test, as well as a well-used eraser. It is advisable, however, to bring a pencil sharpener, a spare soft B pencil and a good eraser—particularly if you are indecisive.
The marking system is complex. All questions are approved by a test committee. About one-third of the questions on each paper come from previous papers. These are questions that have been found to be particularly discriminating.

There is, unfortunately, no predetermined pass mark. All candidates' papers are first scored. Any question that most candidates get wrong is examined carefully for degree of difficulty and ambiguity and may be eliminated. The best questions discriminate between 'good' and 'bad' candidates and each question is analysed statistically to determine whether it meets this standard. Then various statistical methods are employed to separate candidates into two groups. The exact pass mark is set at approximately 2.5 standard deviations below the mean mark for Australasia, in such a way that the cut-off falls in a gap between clusters of candidates. Approximately 60–70% of candidates are in the 'good' group, and these people pass. This means that one must aim to be better than at least 35% of the other candidates to be successful. The pass mark is not set according to the number of places that are available in the clinicals. It is expected that about two-thirds of candidates will continue to pass the written examination each year.

The examination used to be held in winter, when experienced candidates could be spotted in the centre of Sydney equipped with coats, scarves and thick woollen socks (for some reason the examination room at the University of Sydney was not heated). This problem has been solved by changing the date of the examination to March.

Approaching multiple-choice questions

By the time most candidates sit this examination, they will have had considerable experience with multiple-choice questions. However, it is worth stating a few relevant points:

- Ensure that you estimate in advance the amount of time you have for each question.
- The questions are complicated and each question tests several items of knowledge. The correct answer may be a number of steps removed from the initial statement. This means that it is important to read each question with great care; noting or underlining the salient points may be helpful, and do look especially for negatives and double negatives. Most candidates find that their first carefully considered answer is more reliable than a change of mind on later review of the paper.
- It is worth remembering that the words 'always' and 'never' do not often apply in medicine. The word 'recognised' means that an association has been described, whereas 'characteristic' implies that the given factor is important to the condition and essential to the diagnosis.
- It is always better to guess at an answer when the question is obscure rather than to leave it out entirely.
- To avoid coming to the end of the paper and finding an unexpected unfilled space on the answer sheet, keep a constant check that question and answer numbers match.

Preparation for the written examination

The College does not provide a curriculum for the written examination but recommends the use of any major textbook and some journals (see the Further Reading section at the end of this book). We recommend concentrating on the latest edition of a standard textbook (e.g. the most recent edition of *Harrison's Principles of Internal Medicine* or the *Oxford Textbook of Medicine*); it is a most satisfactory method of preparation. The *Medical Knowledge Self-Assessment Program* (MKSAP) of the American College of Physicians is also very useful. It contains brief up-to-date accounts of most areas of internal medicine. It clearly indicates the currently fashionable topics on which questions are likely to be set and has a comprehensive
series of multiple-choice questions (and excellent critiques) based on the text. However, only some of these questions are of a similar standard to the written examination questions.

In addition, the College regularly produces its own self-assessment questions—the Australian Self-Assessment Programme (ASAP). None of these questions is ever likely to appear in the examination paper, because the ASAP is primarily educational and therefore tends to have a bias towards positive responses, unlike the written examination.

There is great value in practising multiple-choice questions. Sample questions from past papers are available from the College. These are taken from papers that have been used in recent years. Currently the Committee for Examinations also releases, every second year on the College website, complete copies of written examination papers that were set two years previously. Some of the old released questions usually appear in the current examination paper. The College has a large bank of questions that are adjusted annually. The Written Examination Committee adds new questions and updates and improves old questions.

Many hospitals conduct their own trial examinations, with questions written by staff. Also available on the market are books of multiple-choice questions based on other postgraduate examinations such as the MRCP, but these are of less value.

Many candidates find that practising multiple-choice questions in a study group of three or four to discuss the various options is very helpful.

The College recommends a number of general medicine journals that candidates should read regularly. These currently include (roughly in order of usefulness):
- *Lancet*
- *New England Journal of Medicine*
- *Annals of Internal Medicine*
- *British Medical Journal*
- *Internal Medicine Journal*
- *American Journal of Medicine*.

We recommend concentrating on editorials and review articles. Study of specialist journals is not required.

Each year, postgraduate institutions hold courses on various topics, which some candidates find helpful. A course of lectures lasting 34 weeks (one night per week for 17 weeks per year over two years) is available for candidates in Sydney. Short but comprehensive courses are also available in Australia (e.g. at the Royal Prince Alfred Hospital, Sydney) and New Zealand (e.g. in Dunedin) and can be particularly useful for revision.

The comprehensive lecture series given by the Victorian State Committee of the RACP, running over 40 weeks of the year and held once a week in the evening for three hours, is now videoconferenced widely across Australia. The series covers the entirety of the syllabus in one year. This is particularly useful for trainees in regional centres. Details can be obtained from the RACP Department of Education.

A number of audio programs are available on medical topics. The Audio Digest Internal Medicine programs are available in many libraries and provide updates of topics, but are mostly from a North American perspective and of somewhat patchy quality. The American College of Physicians sells recordings of Board Review Courses in Internal Medicine that provide excellent summaries of recent topics.

In summary, here are a number of conventional but important suggestions for the written examination:
1. Be well rested and avoid travelling long distances on the eve of the examination. Make sure you know where the examination centre is situated.
2. Be familiar with the format of the paper and know how much time to allow for each question.
10 Examination medicine

3. Work through the paper at a leisurely, deliberate pace and return to troublesome questions at the end. Inspiration may well come from other questions.
4. Rely on first careful impressions and do not change an answer if in doubt.
5. Check every tenth question or so to be sure that answer numbers match the question numbers.

Have a short rest after the written examination, but then begin work for the ‘viva’ examination, as time between the two parts of the examination is limited.
Chapter 3

The clinical examination

This is a very testing part. It is more difficult than the written test.

Nick Talley and Simon O'Connor (1986)

The examination format
The clinical examination consists of two sessions (morning and afternoon), each comprising two parts (one long case and two short cases), and now takes up a whole (rather exhausting) day. There is evidence that lengthening a clinical examination improves its reliability and the College believes that the changed format has certainly done that.

Candidates are notified of the starting time of the ordeal after their success in the written examination. Be on time for the clinical examination: it runs to a strict timetable and no allowances can be made for late arrivals.

On the day
For half of the candidates the first session begins with a long case. At the appropriate moment, each candidate is escorted to the patient by a ‘bulldog’ (a term derived from the name of proctors’ attendants at the universities of Oxford and Cambridge). The bulldog is usually a resident medical officer working at the examining hospital who has an interest in sitting the clinical examination. The bulldog introduces the candidate to the patient and then leaves. If ever you have the opportunity to work as a bulldog, you should take it: there is no better way to come to understand what is expected of candidates in the exam.

There are never any examiners in the room during a long case. The time is limited to 60 minutes with the patient. A five-minute warning is given after 55 minutes. At the end, the candidate is escorted by the bulldog from the patient’s room to a chair outside the examiners’ room. Ten minutes are allowed for candidates to pull themselves together and get to the examination room. A glass of water or weak orange juice is usually offered at this stage. If not, do ask for a drink if you need one.

A bell then rings and the candidate is taken in, seated and introduced to the examiners. Try to appear self-possessed (even if weak at the knees), but don't give an air of nonchalance (e.g. by slouching in your chair).

As a rule there are two examiners in the room, but there may be three (one an observer only) and there may be a bulldog sitting in as well. One examiner will be a member of the Committee for Examinations (CFE) or National Examination Panel (NEP), and the other will be an experienced examiner who is a local physician, perhaps even the DPT. Local examiners and NEP and CFE members undergo ‘calibration’
Examination medicine

exercises before they examine. Even experienced examiners are not allowed to examine unless they have been ‘calibrated’ that year. Immediately before the examination, all the examiners interview the long-case patient ‘blind’; that is, without reference to the patient’s case notes. This ensures that the history is up to date, helps gauge any difficulty in terms of the patient’s ability to give a history and enables the examiners to assess the physical signs.

The examiners assess the candidate’s ability to take a detailed history and complete the examination. They also assess the candidate’s ability to identify the patient’s active problems and to recognise priorities for investigation and management. The examiners are interested in seeing whether the candidate recognises the effect of the patient’s disease on the patient and his/her family.

The examiners mark the candidate’s performance in each of these domains according to set key criteria. It would be wise for candidates to examine these anchor statements carefully—they are available on the College website or from the DPT at each hospital. Concise, standard questions will usually be asked. Only two examiners will ask questions—one ‘leads’ the discussion and the other follows near the end for 5–7 minutes. For reasons of fairness, it is unusual for specialists to ‘lead’ the examination of a candidate on a patient with problems in their own field. Examiners will not lead if they know the patient or the candidate. Twenty-five minutes are spent with the examiners, presenting the case and discussing diagnosis and management. The discussion period is critical to passing (or failing).

At the end of the time a bell will ring and the candidate is taken to begin the short-case examination. There are a few minutes available, however, for drinking weak orange juice. Many candidates ask the bulldog’s opinion of their performance. We believe this to be an unwise policy, since the resident medical officer is usually junior to the examinee and so often gives an incorrect assessment.

The candidate is then introduced to the short-case examiners. The examiners for the first short case are never the same as those who examined for the long case, but you may see the long-case examining team for your second short case. Again, one examiner in each team will be a member of the CFE or NEP. Fifteen minutes are allowed for the first short case; a second short case is then examined after a 5- or 10-minute break. The new examination system does not allow for more than two cases per session. This, and the extension of time to 15 minutes for each case, means that examination of each patient is a little less rushed. However, the result of this extra time means that there is a greater opportunity for the examiners to ask questions related to the physical findings.

The examiners assess five domains during the short-case examination: the way the candidate approaches the patient, the thoroughness of the candidate’s examination technique, the candidate’s accuracy of detecting physical signs, the candidate’s ability to offer a diagnosis on the basis of the findings and the candidate’s ability to use investigations to support the physical findings. Examining centres have also been told to have X-rays, CT scans, MRI scans and electrocardiograms (ECGs) available for discussion. The key criteria and the skills that are required to achieve a satisfactory standard are available from the College or the DPT.

The other half of the candidates do this routine in the reverse order.

After lunch the second session begins, and this time the order of the short and long cases is reversed for each candidate. There is no longer provision for extra short cases for candidates who are thought to be borderline.

The marking system

The mark required to pass the examination is 40. Each long case is worth 21 marks and each short case is worth 7 marks—so the total mark possible is 70.

The mark awarded for each short case is out of 7 as follows: 1, very poor performance; 2, well short of expected standard; 3, short of expected standard; 4, expected standard;
5, better than expected standard; 6, much better than expected standard; 7, exceptional performance. In 2006 part marks were introduced for the short case, so now for both the long and short cases the scoring system incorporates positives and negatives (part marks) between 1 and 7, giving a 19-point scale. The use of part marks helps some candidates who are very close to a pass overall. For example, if the examiners agree that a candidate's performance was better than a 4 but not deserving of a 5, a 4+ is awarded, while if the candidate's performance was much better than a 4 but not deserving of a 5, the mark will be a 5–. When the marks are added up at the end of the day, 4+ for example will be 4.33 and 5– will be 4.67. Once a 'raw score' out of 7 is awarded, it is weighted; the long-case scores are multiplied by three.

The examiners try very hard to be fair. Each candidate's performance is discussed at the end of each long- and short-case session. Each examiner scores independently: if there is disagreement about a mark, this is discussed and a consensus mark is chosen. If the examiners cannot agree, the NEP member has the final say. Examiners record any special considerations that may have caused difficulties for the candidate (and flag the assessment sheet with the infamous ‘red dot’) so that these can be considered later by the executive, if necessary. The Chief Examiner of the day (always a member of the CFE or NEP) is responsible for collecting the marked score sheets and dealing with any red dot matters. The examiners do not know the candidate's marks in other sections of the exam (including the written examination), and therefore they do not know the effect of their own mark on the candidate's overall success or failure. The examiners see the same short case four times with four candidates. They give a mark at the end of each session and cannot change this after assessing the other candidates' attempts at the same case. The examination is not meant to be competitive. This means that every candidate can pass if the required standard is achieved.

Rather than trying to pass candidates (as at undergraduate level), the examiners are trying to evaluate the true standard of each candidate. Examinees must prove to the College that they are 'good enough'—that is, they must demonstrate that they have mastered the material and have reached the required standard. The standards are very high, but the College emphasises to the examiners that the standard is that which is required for a person to enter advanced training and not the standard expected of a consultant physician. The rationale for this approach is that trainees who are likely to begin training in a subspecialty should know how to examine all the systems of the body properly and have a sensible approach to the management of medical problems outside their specialty.

Overseas-trained physicians (OTPs) are examined on one long case in their subspecialty area. The standard expected in this case is higher (i.e. at specialist or consultant physician level rather than end-of-basic-training level).

To achieve uniform standards, the CFE has been constantly working on improvements. Senior members of the CFE examine more often with less-experienced examiners. The CFE also holds regular formal calibration exercises, in which all examiners view videotapes and mark a candidate's performance. A general discussion is then held to try to develop a uniform approach. There is no doubt that problems continue, as it remains difficult (if not impossible) to judge ability accurately in such a short period and the calibration is far from perfect; however, the CFE is working towards eliminating obvious mistakes.

The overall pass rate (for the written and viva examinations) in any one year in the past was about 40%. The eventual pass rate after success at the written examination and over four vivas (the old system) approached 85%. Under the new system, the pass rate has increased to 65% or more for the clinical year, although more recent results were better than this, thankfully.
Examination medicine

The mini-CEX

In 2008 the mini-CEX was introduced for basic trainees in their final year; eventually, it will be used in all years of basic training. This is quite separate from the clinical examination and although it has to be performed, it does not count towards marks in the formal clinical examination. The trainee undertakes three or four mini-CEX exams a year, usually in the trainee's own hospital and marked by the DPT or a suitably trained delegate. Each exam lasts 20 minutes and is a cross between a long and short case. The trainee is introduced to a patient and given a clinical problem; for example, ‘Mr Smith has had problems with dyspnoea for a year and has noticed a recent deterioration in his symptoms. Please take a relevant history and examine him.’ The trainee is expected to ask directed questions about the symptoms and then examine the relevant system or systems of the body. This is all observed by the examiner. The trainee then presents the findings and a differential diagnosis, and suggests investigations and possible treatment.

Preparation for the clinical examination

For one mistake made for not knowing, ten mistakes are made for not looking.

JA Lindsay

The clinical examination aims to test not only clinical ability but also attitudes and interpersonal skills. For most candidates a successful approach to the viva depends on seeing a large number of long and short practice cases. It is usually too late to start practising these cases after passing the written examination; preparation should start at least several months beforehand.

To practise for the long cases, try to set aside a regular time each week. Most physicians, if approached, are only too willing to test-run candidates. Being exposed to many different examiners is desirable—this will help iron out mistakes and provide practice in answering different types of questions. Although most teaching hospitals have a training scheme in which long cases are examined by consultants or senior registrars, this is not enough. It is difficult to quote numbers, but we believe 50 formal long cases (across all disciplines) in which different specialists and senior registrars act as examiners represent the bare minimum requirement for preparation. Remember also that each time a patient is admitted to hospital, practice can be gained in the long-case technique—this turns overtime into useful preparation time. Practising cases is also critical in order to be able to cope with management issues in Paper 2 of the written examination.

Practice for the short cases is also important. More examinees used to fail these than the long cases, although this has changed now that the long cases are receiving more emphasis. It is valuable to have senior colleagues, as well as peers, take you on short cases. Travelling to other hospitals to practise is also worthwhile, because you have to examine in strange surroundings while being watched by unfamiliar examiners—it also relieves the boredom somewhat. The best practice examiner is the one who frightens candidates a little but does not demolish them when they make an error. Seek out constructive criticism. For example, many candidates practise in pairs, each person taking turns to be the examiner. Practising being an examiner helps you to appreciate the bad habits that annoy the real examiners.

Equipment is always provided at the hospital where the examination is held. However, it is important to take the following:

1. a familiar stethoscope that you have used for a long time; do not buy a new fancier stethoscope the day before the test—it takes time to get used to a new instrument
The clinical examination

2. a hand-held eye card—obtainable from OPSM for a moderate charge and essential for cranial nerve or eye examinations (see Ch 15)
3. a red-tipped hatpin—you can buy a plain one and paint the top with nail polish; this is invaluable for visual field testing (see Ch 15)
4. paper and pens.

It is debatable whether candidates should take in their own bags of instruments. Many favour bringing their own ophthalmoscope and pocket torch (with fresh batteries in both). Others also like to have cotton wool, neurology pins (an unused one for each case) and spatulas, as well as tuning forks (256 Hz and 128 Hz) and a patella hammer, which is too much to carry in the pockets. This has led to a trend for leather briefcases to house all the equipment (see Fig 3.1). However, the occasional difficult examiner has been known to complain about this! There is a story about one candidate’s briefcase, which was filled with such elaborate equipment, including an inverted cardigan for testing dressing apraxia, that his examiners spent their time inspecting the contents rather than watching him examine the patient (not a recommended approach!).

![Figure 3.1 A candidate’s bag](image)

<table>
<thead>
<tr>
<th>1. Eye charts</th>
<th>9. Jar with lid (containing key for key grip assessment)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2. Buttons and long patella hammer (underneath)</td>
<td>10. Disposable neurology pins</td>
</tr>
<tr>
<td>4. Torch</td>
<td>12. Spatula</td>
</tr>
<tr>
<td>5. Tape measure</td>
<td>13. Cotton buds and spare patella hammer</td>
</tr>
<tr>
<td>6. Tuning forks</td>
<td>14. Carefully shaped foam inserts</td>
</tr>
<tr>
<td>7. Ophthalmoscope and auriscope</td>
<td></td>
</tr>
<tr>
<td>8. Hatpins (red and white)</td>
<td></td>
</tr>
</tbody>
</table>

A few more cautionary tales:
- Candidates who have just bought their bags have been known to forget the combination number needed to release the lock at the critical moment in the exam when the bag has to be opened.
One candidate placed her open bag on the sink in the examination room for her first case, only to have the bag flooded with water when one of the examiners leaned closer to watch the examination and accidentally turned on the tap above the sink.

During practice sessions, it is always a good idea to place equipment in the same pockets each time. In the exam, you do not want to be fumbling at this crucial time—it will only create a poor impression. Consultants, other than cardiologists, carry their stethoscopes or put them in their coat pocket; rarely do they place them around their neck. This seems a sensible policy for aspiring consultants also. Candidates who do carry a briefcase into the test (and many neurologists carry one everywhere) can usually place it on the patient’s bedside table and leave it open so that its contents are easily accessible.

Some candidates take beta-blockers on the day of the test to remain calm. An interesting story from the *Lancet* highlights this very situation. A Scottish physician refers to a British censor who had the habit of counting the temporal pulse of candidates: if he found that the pulse rate was less than 60 beats/minute, he would take this fact into account when giving his mark (Bamber MG 1980 Dope test for doctors. *Lancet* ii:1308). We are unaware of a similar practice in Australasia. However, candidates intending to use these drugs should give themselves a dose during a practice session. One doctor who did not do this learnt to his horror during the actual examination that beta-blockers caused him severe bronchospasm (he failed).

Nervous individuals with a tendency to sweat can have problems. One candidate (now a professor) who was balding and wore glasses, found that, during times of intense stress, rivers of sweat rolled down from his forehead to fog up his glasses and wash them from his nose. His solution was antiperspirant (unscented of course) applied to the forehead (he passed).

Dress is important. The medical establishment is well known for its conservatism, and the nonverbal messages that your appearance gives should not be forgotten when dressing. Traditionally, men and women wear a conservative suit and men a noncommittal tie. Other important considerations for men are having short tidy hair, a neatly trimmed beard if you cannot bear to shave it off, and a neutral smell. Dress formally, with care to project an air of quiet efficiency. White coats are never worn. However, being well dressed is no guarantee of success. There is a story of two male candidates, wearing grey suits and with recently cut hair, who were viewing with satisfaction a third examinee whose long hair was tied neatly in a bun and who was dressed in a flowing Kaftan-like garment—they felt their own success assured with such competition. However, it turned out that they were unsuccessful and their colleague passed.

Preparation is the key to success. Like an Olympic athlete, obtain plenty of sleep in the week before the ordeal; take no alcohol or tranquillisers in the 48 hours before it; and do not study during the final 24 hours. Make sure that you eat something before the examination and avoid taking a long trip to the examination city on the morning of or the night before the test.

**HINT BOX**

1. Remember your bag lock combination number.
2. Do not place your bag on a sink.