Cases for PACES

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Foreword

The MRCP is not an easy exam and nor should it be. Only the competent—and the dedicated—will pass. But it is possible to nudge the exam result in your favour if you prepare for it properly.

The format of the MRCP has changed several times over the years, but it has always contained theoretical and practical (clinical) elements. Passing the theoretical section of the exam is tough, but it equips you with the required knowledge to attempt the clinical section. Success depends upon making the best use of this hard-earned knowledge. The current clinical part of the MRCP–PACES is designed to be a fair and reproducible test, and has come as near as possible to the real world of patient care.

This book is designed to help you through the clinical stage of the MRCP. The important thing about it is that it has been written by experts—not the 'do as I say but not as I do' teachers, but by people who have recently gained their MRCP by actually doing PACES. The three authors wrote the book while Senior House Officers in medicine at Queen's Medical Centre, Nottingham; a busy teaching hospital with a high turnover of medical patients. This volume of practical experience shines through in their approach to PACES.

The QMC Senior House Officers are always a splendid group—intelligent, hardworking, full of common sense and (nearly always) cheerful, and working with them is one of the great pleasures of this hospital. The pass rate in the MRCP at QMC is often 100% and SHOs elsewhere will not do better than to learn from their contemporaries at QMC. They can do that by following the advice given in this book.

John Hampton
Professor of Cardiology, Queen's Medical Centre, Nottingham

Preface

PACES (Practical Assessment of Clinical Examination Skills), which was initiated in June 2001 by the Royal College of Physicians, has replaced the old style long case, short cases and viva format. The exam now comprises five stations in a carousel: History Taking (20 minutes), Communication Skills and Ethics (20 minutes), Cardiology/Neurology (10 minutes each), Respiratory/Abdominal (10 minutes each) and Short Cases (Skin, Locomotor, Eyes and Endocrine: 5 minutes each). The main changes are that candidates must take a history and communicate medical diagnoses to lay patients in front of their examiners. The viva is replaced by 'discussions' that occur at the end of each case, which concentrate on management issues relating to the case.

Cases for PACES mimics the new exam format, and is designed for use in an interactive way. It covers the new stations, with useful information on ethical and legal issues, history-taking advice and worked examples. It also provides mock questions for candidates to practise themselves.

Common cases rather than rarities have been deliberately chosen and are set out in an exam format. It is taken as read that candidates will be familiar in examination techniques and the appropriate order in which to elicit the various signs. In the book, only the key diagnostic clinical signs are documented, followed by extra points that will ensure you score high marks in the case. What follows in the discussion are some of the potential topics that a candidate could be expected to comment on at the end of the case, focusing particularly on management issues. The detail is not exhaustive but rather what is reasonably needed to pass. There is additional room for candidates to make further notes as they see fit. This book is designed to enable groups of candidates to practise 'under exam conditions' at the bedside.

The aim of this book is to put the information that is frequently tested in the clinical PACES exam in a succinct format that will enable capable candidates to pass with ease.

Good luck.

SH, AF, DH

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Abbreviations

ABG	Arterial blood gas
ACE	Angiotensin-converting enzyme
ACTH	Adrenocorticotrophic hormone
AF	Atrial fibrillation
AFP	Alpha-fetoprotein
AICD	Automated implantable cardiac defibrillator
ANA	Anti-nuclear antibody
AR	Aortic regurgitation
5-ASA	5-Aminosalicylic acid
ASD	Atrial septal defect
AVR	Aortic valve replacement
BIPAP	Bilevel positive airway pressure
CABG	Coronary artery bypass graft
CAPD	Continuous ambulatory peritoneal dialysis
CCF	Congestive cardiac failure
CFA	Cryptogenic fibrosing alveolitis
CFTR	Cystic fibrosis transmembrane conductance regulator
CK	Creatine kinase
CML	Chronic myeloid leukaemia
CMV	Cytomegalovirus
COPD	Chronic obstructive pulmonary disease
COMT	Catechol-o-methyl transferase
CRP	C-reactive protein
CSF	Cerebrospinal fluid
CVA	Cerebrovascular accident
CXR	Chest X-ray (radiograph)
DIPJ	Distal interphalangeal joint
DM	Diabetes mellitus
DVLA	Driver and Vehicle Licensing Agency
DVT	Deep vein thrombosis
EBV	Epstein–Barr virus
ECG	Electrocardiogram
EMG	Electromyogram
ESR	Erythrocyte sedimentation rate
FBC	Full blood count
FEV_1	Forced expiratory volume in 1 s
FTA	Fluorescent treponema antibodies
FVC	Forced vital capacity
GH	Growth hormone
Hb	Haemoglobin
HBV	Hepatitis B virus
HCG	Human chorionic gonadotrophin
HCV	Hepatitis C virus
HGV	Heavy goods vehicle
HLA	Human lymphocyte antigen
HOCM	Hypertrophic obstructive cardiomyopathy
HRT	Hormone replacement therapy
HSMN	Hereditary sensory motor neuropathy
HSV	Herpes simplex virus
IBD	Inflammatory bowel disease
IDDM	Insulin-dependent diabetes mellitus
IGF	Insulin-like growth factor
INR	International normalized ratio
ITP	Immune thrombocytopenic purpura
IV	Intravenous

IVU	Intravenous urogram
JVP	Jugular venous pressure
K_{CO}	Transfer coefficient
LAD	Left axis deviation
LDH	Lactate dehydrogenase
LFT	Liver function test
LV	Left ventricle
LVH	Left ventricular hypertrophy
MAO	Monoamine oxidase
MI	Myocardial infarction
MND	Motor neurone disease
MPTP	Methyl-phenyl-tetrahydropyridine
MR	Mitral regurgitation
MRI	Magnetic resonance imaging
MCPJ	Metacarpophalangeal joint
MTPJ	Metatarsophalangeal joint
MVR	Mitral valve replacement
NIPPV	Non-invasive positive pressure ventilation
NSAIDs	Non-steroidal anti-inflammatory drugs
NSCLC	Non-small cell lung cancer
OA	Osteoarthritis
***P*a**	Partial pressure
PBC	Primary biliary cirrhosis
PEG	Percutaneous endoscopic gastrostomy
PEFR	Peak expiratory flow rate
PIPJ	Proximal interphalangeal joint
PRL	Prolactin
PSV	Public service vehicle
PTHrP	Parathyroid hormone related peptide
PUVA	Psoralen ultraviolet A
RA	Rheumatoid arthritis
RAD	Right axis deviation
RBBB	Right bundle branch block
RR	Respiratory rate
RV	Right ventricle
RVH	Right ventricular hypertrophy
Rx	Treatment
SCLC	Small cell lung cancer
SIADH	Syndrome of inappropriate anti-diuretic hormone
SLE	Systemic lupus erythematosus
SOA	Swelling of ankles
SSRI	Selective serotonin reuptake inhibitor
SVCO	Superior vena cava obstruction
T_4	Thyroxine
***T*°C**	Temperature
TIA	Transient ischaemic attack
T_LCO	Carbon monoxide transfer factor
TOE	Transoesophageal echo
TPHA	*Treponema pallidum* haemagglutination assay
TR	Tricuspid regurgitation
TSH	Thyroid stimulating hormone
TTE	Transthoracic echo
U+E	Urea and electrolytes
UC	Ulcerative colitis
UTI	Urinary tract infection
VSD	Ventricular septal defect
WCC	White cell count

Ethics, Law and Communication Skills

ETHICS AND LAW IN MEDICINE

Principles of medical ethics

Most ethical dilemmas can be resolved, at least in part, by considering the four cornerstones of any ethical argument, namely **autonomy, beneficence, non-maleficence and justice.**

Autonomy 'self-rule': respecting and following the patient's decisions in the management of their condition.

Beneficence: promoting what is in the patient's best interests.

Non-maleficence: avoiding harm.

Justice: doing what is good for the population as a whole. Distributing resources fairly.

There is often not a right or wrong answer to tricky ethical problems but this framework enables informed discussion:

Example:

- **PEG feeding a semi-conscious patient post-CVA.**

Autonomy: the patient wishes to be fed, or not.

Beneficence and **non-maleficence:** feeding may improve nutritional status and aid recovery, but with risks of complication from the insertion of the PEG tube and subsequent aspiration. Also the patient's poor quality of life may be lengthened.

Justice: heavy resource burden looking after PEG-fed patients in nursing homes.

In accepting a patient's autonomy to determine the course of management the clinician must be satisfied that the patient is competent. If this is not the case the doctor should act in the patient's best interests.

Competency and consent

Consent is only valid when the individual is competent (or in legal terms, 'has capacity').

- A patient is not incompetent because they act against their best interests.
- Capacity is not a global term but is specific to each decision, i.e. a patient may be competent to make a will but at the same time incompetent to consent to treatment.

- A clinician does not have to prove beyond all reasonable doubt that a patient has capacity, only that the balance of probability favours capacity.
- The three stages in assessing capacity are:
  1 Comprehension and retention of information needed to make the decision.
  2 Ability to believe the information, i.e. no delusion.
  3 Ability to weigh the information and make a decision.
- Patients under 16 yrs of age can consent to treatment if they are deemed 'Gillick competent', i.e. are deemed mature enough to understand the implications of their actions.

Legal aspects

A competent patient

> *Every human being of adult years and of sound mind has a right to determine what shall be done to his/her own body.*

- **Battery (assault):** a procedure or treatment that is performed without consent.
- **Negligence:** harm caused by a doctor acting outside accepted medical opinion or practice (Bolam Principle). If a patient does not receive certain relevant information when consented for a procedure a doctor may be found negligent. It is advisable to tell the patient of all potential serious complications and those with an incidence of at least 1%.

An incompetent patient

A doctor, by acting in the patient's best interests, can treat a patient against their will under common law.

- **Proxy consent:** a relative cannot consent on behalf of an incompetent patient.
- **Implied consent:** by going to hospital a patient should expect a nurse to take their blood pressure and therefore consent for this procedure need not necessarily be sought.
- **Advanced directives (living wills):** a patient makes a choice on their future medical care before they become incompetent. A doctor that treats a patient in the face of an advanced directive could be liable in battery.
- **Power of attorney:** a patient nominates a person (usually a relative) whilst competent to make decisions on their behalf if they were to become incompetent. However, this does not include medical management decisions.

- **Ward of court:** a doctor may apply to a judge to make medical decisions on behalf of the patient. This is advisable if it is not clear what the correct course of management should be and there is opposition from colleagues or relatives against the intended treatment.
- **The Mental Health Act 1983:** can only be evoked to treat psychiatric illness in non-consenting patients.

Section 5(2): emergency doctor's holding power
- Applied by one physician on an *in-patient* to enable a psychiatric assessment to be made.
- 72 h duration.
- Good practice to convert this to a Section 2.

Section 2: admission for assessment order
- Applied by two written medical recommendations (usually a psychiatrist and a GP) and an approved social worker or relative, on a patient *in the community*.
- 28 days duration.
- May be converted to a Section 3.
- The patient has a right of appeal to a tribunal within 14 days of detention.

Section 3: admission for treatment order
- Applied as in a Section 2 on a patient already diagnosed with a mental disorder.
- 3 months duration then reviewed.

Section 4: emergency admission to hospital order
- Applied by one doctor (usually a GP) and an approved social worker or relative.
- Urgent necessity is demonstrable.
- May be converted to a Section 2 or 3.

Confidentiality

GMC Guidance (*Confidentiality: Protecting and Providing Information*, September 2000, Section 1—Patients' right to confidentiality, Paragraph 1)

> *Patients have a right to expect that information about them will be held in confidence by their doctors. Confidentiality is central to trust between doctors and patients. Without assurances about confidentiality, patients may be reluctant to give doctors the information they need in order to provide good care.*

Legal aspects

- Under common law doctors are legally obliged to maintain confidentiality although this obligation is not absolute.
- Maintenance of confidentiality is a public not a private interest—it is in the public's interest to be able to trust a doctor. Therefore breaching confidentiality is a question of balancing public interests.
- Doctors have **discretion** to breach confidentiality when another party may be at serious risk of harm, e.g. an epileptic who continues to drive or an HIV-positive patient who refuses to tell their sexual partner. They may also share information within the medical team.
- Doctors **must** breach confidentiality to the relevant authorities in the following situations:
  (i) Notifiable diseases
  (ii) Drug addiction
  (iii) Abortion
  (iv) *In-vitro* fertilization
  (v) Organ transplant
  (vi) Births and deaths
  (vii) Police request
  (viii) Search warrant signed by a circuit judge
  (ix) Court order
  (x) Prevention, apprehension or prosecution of terrorists or perpetrators of serious crime.

The GMC provides guidelines on when confidentiality may be breached, which do not have the force of the law but are taken seriously by the courts. These guidelines may be consulted at: *www.gmc-uk.org*.

End of life decisions

This is a contentious area and medical opinion is diverse.

Killing vs. letting die

In the former, the doctor causes the patient's death, in the latter the patient's illness causes death, i.e. 'nature takes its course'. However, some disagree stating the doctor's inactivity causes death, which may make it more difficult to morally justify.

Withholding vs. withdrawing treatment

Although it may be emotionally easier to withhold treatment, rather than to withdraw that which has been started already, there are no legal or necessarily moral distinctions between the two.

Doctrine of double effect

This distinguishes actions that are intended to harm versus those where harm is foreseen but not intended. For example, administration of large doses of morphine to palliate a patient with a terminal illness may actually cause a respiratory arrest and subsequent death. It is morally acceptable though because the primary aim was to alleviate pain.

Do-not-resuscitate (DNR) orders

English law does not require doctors to prescribe futile treatments, even if requested to do so by the patient. Therefore a DNR order is an example of limiting treatment that is futile. Doctors should make a decision as to whether to inform the patient of this decision. It may be inhumane and distressing to raise issues of this nature with terminally ill patients.

Euthanasia

Euthanasia is intentional killing, i.e. murder under English law and therefore illegal. Assisted suicide, i.e. helping someone take their own life, is a criminal offence.

Arguments for

- Respecting a patient's autonomy over their body.
- Beneficence, i.e. 'mercy killing', may prevent suffering.
- Suicide is legal but is unavailable to the disabled.

Arguments against

- Good palliative care obviates the need for euthanasia.
- Risk of manipulation/coercion/exploitation of the vulnerable.
- Undesirable practices will occur when constraints on killing are loosened ('slippery-slope' argument).

COMMUNICATION SKILLS

Breaking bad news

If done well this can help the patient come to terms with their illness and minimize psychological distress. There are no hard and fast rules, but a patient-centred approach often helps.

How to do it

- Choose a setting that is private and free from disturbance (give your bleep to someone else). Have enough time to do it properly.
- Invite other health care workers, e.g. a nurse, for support and to ensure continuity of information given by all the team.
- Offer the opportunity for relatives to attend if the patient wishes. This is useful for patient support and can help the dissemination of information.
- Introduce yourself and the purpose of the discussion.
- Check the patient's existing awareness and gauge how much they want to be told.
- Give the bad news clearly and simply. Avoid medical jargon. Avoid information overload. Avoid 'loose terminology' that may be misinterpreted.
- Pause and acknowledge distress. Wait for the patient to guide the conversation and explore their concerns as they arise.
- Recap what has been discussed and check understanding.
- Bring the discussion to a close but offer an opportunity to speak again and elicit the help of other groups, e.g. specialist cancer nurses or societies, to help the patient at this difficult time.

Other problems

- **Denial**

If a patient is in denial reiterate the key message that needs to be addressed. Confront the inconsistencies in their perceptions and if this does not work, acknowledge their denial in a sensitive way. It may be better to leave this to a later date, perhaps when the patient is ready to confront the painful reality.

- **Anger**

This is a natural and usually transient part of the grieving process. 'Shooting the messenger' can occur occasionally, particularly if the news is delivered poorly. Acknowledge their anger and empathize

with their plight. If this does not diffuse the situation, terminate the session and reconvene later.

- **'How long have I got?'**

Answer in broad terms: hours–days, days–weeks, etc. Explore why the patient wants to know.

Dealing with a difficult patient

How to do it

An angry patient

- Listen without interruption and let them voice their anger.
- Keep calm and do not raise your voice.
- Acknowledge they are angry and try to explore why.
- Empathize.
- Apologize if there has been an error.
- If they feel they wish to take matters further then advise them of the trust's complaints procedure.

A non-compliant patient

- Explore why they have not taken their medication. Were the side effects bothering them? Was the drug not working?
- Educate the patient. Perhaps they were not aware how important it was to take the tablets.
- Offer solutions. Direct supervision of treatment, e.g. anti-tuberculosis treatment. Try alternative therapies.

A self-discharging patient

- Explain why you do not want them to leave.
- If they are competent they may leave but do so at their own risk and against medical advice. To stop them is assault.
- If they are incompetent, they can be detained by reasonable force, acting in their best interests under common law. To let them go is negligent. However, if in attempting to detain such a person there is risk of serious injury to the patient or those restraining the patient, then you may have no alternative but to let them go.

A patient that continues to drive despite contraindication

Although it is the duty of the patient (not the doctor) to declare a disability that precludes him/her from holding a UK driving licence, it is one of the acknowledged circumstances under which a breach of confidentiality may be justified.

- Try and persuade the patient to inform the DVLA. Mention lack of insurance cover if they drive and safety issues to themselves and other road users.
- Ask them to provide written evidence that they have informed the DVLA if you suspect they have not.
- Inform the patient that you will write to the DVLA if they fail to do so.
- Write to the DVLA if no evidence is forthcoming and to the patient to inform them you have done so.

Driving restrictions

Disease	Private vehicle licence	HGV/PSV licence
Epilepsy	**1 yr** Fit free **6 months** during treatment changes	**10 yrs** Fit free, off medication
MI	**1 month**	**3 months** Symptom free Completes 9 minutes of Bruce Protocol treadmill test
Stroke	**1 month**	**Banned** If persistent deficit
IDDM	**Notify DVLA**	**Banned**

Any illness where the doctor feels that the patient's ability to drive is significantly impaired should be referred to the DVLA for further action and the patient told not to drive in the mean time.

Other issues to address

- Explore the impact on the patient's job and lifestyle?
- How is the patient going to get home from your clinic?

For full guidelines: *www.dvla.gov.uk/at_a_glance/content.htm*.

Information delivery

Communication skills are frequently assessed by the candidate's ability to inform the patient about their medical condition.

How to do it

- Introduce yourself and establish the reason for the discussion.
- Assess the patient's level of knowledge.

- Give the information required in simple language avoiding medical jargon.
- Facilitate questions and answer them, but avoid digressing too much.
- Formulate a plan of action with the patient.
- Reiterate your discussion with the patient to ensure understanding.
- Offer further information sources, e.g. leaflets, societies or groups.
- Organize appropriate follow-up.
- Close the interview.

Tips

- Read the case scenario carefully and structure your interview in the 5 minutes beforehand.
- This is a role-play station so use your imagination.
- If you are asked a question by the patient and you do not know the answer, say that you are unable to answer at present but you will find out next time (as you would in real life!).
- Be aware of possible legal and ethical facets to the case and pre-empt the examiners by tackling them in the case before the discussion.
- Body language speaks volumes.

Worked examples

Epilepsy

> *An 18-year-old woman who is trying to become a professional model has had her second grand mal seizure in 3 months, which was witnessed by her GP. She has had a normal CT head and metabolic causes have been excluded. She has returned to your outpatient clinic for the results. Please discuss the diagnosis with her.*

Points to discuss

- The diagnosis is epilepsy. Explain what this means to the patient in lay terms: *disorganized electrical activity in the brain*. **(See 'Information delivery' section.)**
- Explore **social aspects**:
  - She has been drinking a lot of alcohol recently and staying out late at all night parties.
  - She drives to modelling agencies and relies heavily on her car.
  - She hates taking tablets.
- Discuss **treatment** options to limit her seizure activity:
  - Avoid alcohol excess and sleep deprivation.
  - Avoid precipitants, e.g. flashing disco lights.

  - Drugs: there are some newer anti-epileptic medications, e.g. Lamotrigine, that have fewer side-effects. This is important to her as she is a model!
- Stress **compliance (if poor compliance see 'Dealing with a difficult patient' section)**
  - It is imperative that if she is on the oral contraceptive combined pill, she is told the risks of **pill failure**. This is important, as anti-epileptics are teratogenic. Advise alternative forms of contraception, e.g. barrier or if this is unacceptable switch to a higher dose oestrogen pill or progesterone pill.
  - If she wants to become **pregnant,** it is a balance of risk between a seizure when pregnant, which carries a significant risk of miscarriage and the potential teratogenic side effects of the drugs. Most physicians encourage female patients wishing to start a family to continue on their epileptic treatment. Remember folate supplements!
- **Safety** issues
  - Avoid swimming or bathing alone and heights.
  - Driving restrictions **(if she continues to drive see 'Dealing with a difficult patient' and 'Breaking confidentiality' sections).**
- **Recap** the important points and formulate an agreed plan.
- **Check understanding** and answer her questions.
- **Other information:** offer leaflets, British Epilepsy Society (*www.epilepsy.org.uk*), contact numbers and an appointment with epilepsy specialist nurse.
- Conclude the interview.

Huntington's chorea

A 26-year-old son of your patient has requested to see you, to discuss his mother's diagnosis. She has developed a dementing illness and chorea in her late forties. Her father committed suicide at the age of 60. A diagnosis of Huntington's chorea has been made on genetic testing. She currently lives in her own home but is not coping. She has also asked her son to help her die. Discuss the relevant issues with her son. He is 'trying for a family'.

Points to discuss

- Ascertain that his mother has consented to this discussion to avoid the **confidentiality** pitfall, and a rather short interview!
  - **Remember if the mother is your patient and the son is not, you only have a duty of care to the mother. If she does not want you to discuss the diagnosis with her son, then to do so would breach confidentiality**.