



Lancaster University
Medical School

Lancaster Medical School

Year 4
Learning Objectives
2023/2024

Contents

Population Health	5
HCS	6
PPVE	8
PCCT	9
Dermatology.....	10
Sexual and Reproductive Health	10
Men's Health, Urology and Renal.....	10
Emergency Presentations	11
Cardio-respiratory arrest	11
Shock & sepsis.....	11
The unconscious patient	12
Multiple trauma.....	12
Anaphylaxis.....	13
Poisoning / Overdose	13
Musculoskeletal emergencies	13
General	13
The patient in acute pain	13
The patient with cancer	14
The patient needing palliative care.....	15
The pre-operative patient	15
Consent to treatment.....	15
The postoperative patient including wound healing.....	16
Breast lump	16
The febrile patient.....	17
Blood & Lymph	17
Anaemia	17
Lymphadenopathy.....	17
Haematological malignancy	18
Bleeding tendency and bruising	18
The patient needing blood transfusion	18
Cardiovascular	18
Central chest pain	18
Limb claudication/gangrene	19
Palpitations/arrhythmia.....	19
Blood pressure problems	19
Swollen painful leg incl. varicose veins and ulcers.....	20
Heart murmurs	20
Child Health	20
The Child as Patient.....	20
Premature Baby / Newborn	21
Respiratory Problems.....	21
Childhood with High Temperature	21
Gastrointestinal Problems	22
Cardiovascular Problems	22
Neurological Problems	22
The Child with Diabetes Mellitus	22
Genitourinary Problems.....	22
Musculoskeletal Problems.....	23

Haematological Problems	23
Digestive	23
Acute abdominal pain.....	23
Bleeding from the GI tract	24
Change in bowel habit.....	24
Chronic abdominal pain.....	25
Jaundice.....	25
Swallowing difficulties.....	25
Diarrhoea	25
Abdominal mass and swelling including groin lump	26
ENT	26
Hoarseness & voice change.....	26
Painful ear.....	26
Hearing loss	26
Nasal obstruction.....	27
Nosebleed.....	27
Sore throat	27
Fits, faints, funny turns and headaches.....	27
Eyes.....	27
Red eye.....	27
Visual loss	28
Eye trauma.....	28
The eye in systematic disease	28
Homeostatic.....	28
Fluid and electrolyte abnormalities	28
Long-term diabetic management.....	28
Diabetic emergencies.....	29
Acid-base abnormalities	30
Abnormal weight/inadequate nutrition	30
Lump in the neck /thyroid disease	30
Mental Health.....	31
The patient who is a risk to themselves and/or others.....	31
Depression/Mood disorder	31
Psychosis.....	32
Substance misuse	32
Dementia & Cognitive Impairment.....	33
Personality disorder.....	33
Musculoskeletal	33
Acute joint pain and swelling	33
Back pain and sciatica.....	34
Chronic joint pain.....	34
Fractured neck of femur (#NOF)	35
See also 'hypercalcaemia, metabolic bone disease and other endocrine disorders'	35
Soft tissue pain/fractures/other minor trauma.....	35
Musculoskeletal deformities and connective tissue diseases.....	36
Neurological	37
Renal Tract.....	37
Difficulty passing urine/urinary retention.....	37
Loin pain/haematuria.....	38
Renal failure	38

Scrotal swellings/pain	38
Respiratory	39
Recurrent Wheezy Breathlessness	39
Acute pleuritic chest pain	39
Haemoptysis	40
Cough.....	40
Obstructive sleep apnoea.....	40
Breathlessness.....	40
Women's Health	41
CCT.....	41
Contraception.....	41
Medical complications of pregnancy.....	41
Abnormal fetal growth	42
Fetal prematurity	42
Normal and abnormal pregnancy	42
Normal and abnormal labour	42
Pelvic pain.....	43
Pre-eclampsia	43
Abnormal cervical smear.....	43
Normal and abnormal puerperium.....	43
Pre-natal diagnosis.....	43
Rectal and vaginal prolapse	44
Vaginal bleeding in pregnancy	44
Subfertility	44
Abnormal menstruation	44
Menopausal disorders	44
Multiple pregnancy	45
Unwanted pregnancy and termination	45

Population Health

- Review the epidemiological evidence for the benefits (and drawbacks) of exercise, with a particular focus on the long term physical and mental benefits.
- Discuss the wider determinants of health, the impact they have on patients, and how they may affect clinical practice.
- Identify major health inequalities that may be experienced by patients and explain how these inequalities may arise and how they can be addressed at a population level.
- Be able to calculate and interpret basic mortality rates and surgical complication rates.
- Review the epidemiology of prostate cancer and examine the evidence base of the effectiveness of screening tests for the disease and the effectiveness of current treatments.
- Describe the role of the Cancer Registry in epidemiology's ability to accurately measure disease in society.
- Examine the types and extent of occupational exposure hazards and investigate how to determine the risk to workers' health, especially for cancer.
- Explore the methods used to evaluate drug safety in populations, i.e. pharmaco-epidemiology.
- Be familiar with peri- and post-operative risk of mortality & morbidity, be familiar with work of the National Confidential Enquiry into Patient Outcome and Death (NCEPOD)
- Understand the epidemiology of falls noting the incidence of neck of femur fractures among older people who fall.
- Consider the clinical and societal benefits of registration as an organ donor and the opt-in/opt-out debate.
- Review the epidemiology of traumatic brain injury.
- Investigate risk of death from accident focusing on perceptions of risk and probability compared to what is known about absolute risk.
- Explore how guidelines for clinical care are constructed, taking into account the levels of evidence from trials and other studies.
- Discuss the public health and socioeconomic burden of chronic back pain and outline strategies for prevention and management.
- Evaluate the epidemiological evidence relating to prescription medication addiction in the UK and consider the health, economic, and social implications of addictions of this type.
- Have an appreciation and understanding of basic epidemiology as applied to drug and other errors in clinical medicine.
- Discuss the reasons for recent changes in guidance for endocarditis prophylaxis.
- Review methods for critical appraisal of quantitative research, and understand what can be wrong or misleading about published evidence in the medical literature.
- Describe the process of systematic review and be able to interpret the output from a meta-analysis.
- Describe how to calculate and interpret a 95% confidence interval.
- Understand how to explain primary, secondary, and tertiary prevention to patients.
- Outline the Cochrane approach to reviewing evidence for evidence-based health care e.g. for evaluating the management of problems associated with interventions for schizophrenia or chronic/severe mental illness, such as the adverse effects of medications prescribed.
- Describe how frameworks for causation, such as the Bradford Hill Criteria, can be applied when critically appraising research evidence.
- Appreciate the differences between population-level and individual-level interventions and approaches to health and how they impact on clinical practice.
- Revise basic health economic concepts and apply them to a clinical decision making setting, with

reference to IVF funding.

- Explore international trends in family size, spacing, and constitution, using appropriate epidemiological indicators, noting trends in multiple pregnancy.
- Revise the design, applications, outputs, and advantages/disadvantages of the randomised controlled trial (RCT), cohort study, case-control study, cross-sectional study.
- Define the concepts number needed to treat (NNT) and number needed to harm (NNH) and explain how they are applied to clinical practice.
- Investigate the epidemiology of the complications of pregnancy; including congenital malformations, stillbirths and perinatal deaths.
- Revise screening programmes offered across the life course in the NHS.
- Understand how to explain the purpose, benefits and risks to patients of common screening tests, such as those involved in the screening process for new-borns.
- Apply the Wilson Junger criteria and other assessment frameworks to existing and proposed screening programmes.
- Be familiar with calculating and explaining basic screening metrics, including specificity, sensitivity, negative predictive value, and positive predictive value.
- Have an understanding of basic infectious disease epidemiology and control, and be able to explain both to lay people.
- Review the list of notifiable diseases in England and Wales, identify those most commonly encountered, and revise the notification period.
- Be familiar with health education initiatives which have helped parents recognise when their child is unwell.
- Be able to identify and maximise opportunities for health promotion within everyday clinical practice.
- Outline the main frequency of maternal mortality by major cause, in the developed and developing world.
- Review the epidemiology of low birth weight, preterm delivery, and intrauterine growth retardation.

HCS

- Discuss recent debates around over-diagnosis and overtreatment; what factors drive over-diagnosis, how do these arguments relate to uncertainty of diagnosis?
- Review methodological approaches to qualitative research.
- Describe and debate the concept of 'multiple disadvantaged status' in the context of health and illness.
- Discuss the psychological and social consequences of the change in body image brought about by amputation and how these might be managed.
- Review approaches to qualitative analysis.
- Revisit psychological theories of adjustment to chronic conditions.
- Revisit key features of chronic illness and discuss in relation to respiratory disorders.
- Consider the ways chronic illness reshapes relationships within families.
- Revisit theories of adjustment to a diagnosis of cancer.
- Review and discuss the impact of chronic disease on mental health.
- Critically discuss the concept of consumerism in healthcare.
- How might decisions made around organ donation impact on a family's perception of death and the grieving process?

- Discuss the psychological impact of an acquired brain injury.
- Revise psychological theories of pain (e.g.. gate-control theory)
- Explore the psychological management of chronic pain.
- Critically discuss how human error, teamwork and organisational culture feature in discourses of patient safety.
- Describe the concept of resilience and discuss its role in self-care in relation to professional practice and personal well-being.
- Outline and critically discuss how adverse child events (ACES) could lead to subsequent mental health problems.
- Explore the scientific status of diagnosis in mental health and critiques of diagnostic tools.
- Discuss debates, conflicting demands and tensions associated with medication in mental health.
- Explore how media portrayals of schizophrenia/psychosis colour perceptions of mental health.
- Discuss the impact of receiving a diagnosis of schizophrenia on the person in question, their family and carers.
- Outline the key arguments that the concept of schizophrenia is inherently flawed.
- What factors might facilitate and maintain the misattribution process of attributing one's own thoughts to an external source?
- What psychological or social functions might be served by attributing some of one's thoughts to a non-self source?
- Consider the relative impact of male versus female infertility on a couple and their relationship, with particular reference to conceptualisations of gender in a heterosexual couple.
- Discuss the psychological impact of assisted conception.
- Explore the impact of a diagnosis of infertility on an individual, a couple and their wider family.
- Discuss how childlessness is conceptualised and debates around this.
- Explore how the notion of family has changed; critically discuss societal discourses about nuclear families, single parents, LGBT parenting.
- Discuss the potential psychological impact of preterm birth on family functioning and with reference to attachment theory.
- Describe how the diagnosis of a chronic illness in childhood can be a threat to the development of a secure attachment.
- Describe the necessary safeguarding processes if a family are struggling to engage with treatment for their child.
- Revisit the psychosocial impact of the diagnosis of chronic disease for the child and family.
- Discuss the advantages and disadvantages of national and local support groups for children with cystic fibrosis and other long-term childhood diseases.
- Describe the potential psychological consequences of the admission for the two children, the parents and their relationship, and family functioning?
- Discuss the individual and contextual factors that mediate people's understanding of risk.
- Describe what paediatric intensive care and neonatal units could do to promote secure attachment.
- Discuss the authority of biomedical knowledge in the context of parental disagreement with medical advice.
- Discuss what Amy is likely to remember about her experience in A&E and while an inpatient.
- Debate assumptions of body ownership during pregnancy.

PPVE

- Develop an awareness of the lengths to which researchers and pioneers will go in order to achieve acclaim for ground breaking research and development.
- Discuss whether the knowledge gathered by unethical research practices should be put to practical use.
- Discuss how government politics can influence patient care and provision of services.
- Identify the NHS responsibilities to visitors from abroad who are accessing treatment.
- Discuss how patients from overseas accessing treatment are posing challenges to NHS values and principles.
- Discuss the extent to which risks and side-effects of surgery need to be discussed with patients.
- Explore the ethical and professional challenges for surgeons arising from non-compliant patients.
- Critique the term 'futile' when discussing treatment plans.
- Debate whether a patient should have a right to receive treatment even when his/her doctor feels it would be futile, and identify the ethical principles that are brought into conflict when making such decisions.
- Explore whether doctors are obliged to discuss treatment which is deemed 'futile' with patients.
- Evaluate the culture of peer review in surgical practice and its impact on teamwork.
- Identify the ethical and professional aspects underlying the process of patient discharge.
- Discuss how the concept of bed blocking can emerge in medical practice.
- Critically reflect on how the definition of death has changed over time discussing the concepts of 'cardiovascular death' and 'brain death' and consider the implications they raise for clinical staff in intensive care.
- Explore the extent a person has ownership over their own body in relation to donation after death.
- Debate the ethical and moral arguments surrounding withdrawing and withholding treatment, from the perspectives of health care professionals and next of kin.
- Outline the ethical and legal arguments in support of, and against, heart beating donors.
- Debate if doctors' ethical obligations differ significantly in detention settings.
- Outline what rights to confidentiality prisoners have regarding their interactions with doctors.
- Reflect on the professional and ethical challenges for doctors in delivering medical care within prisons.
- Define 'significant events' and critically evaluate why it is important to reflect on them.
- Explore how errors relate to medical negligence.
- Define 'medical negligence' and identify how a reasonable standard of care is judged in negligence cases.
- Explore the deinstitutionalisation of people with mental health problems from a deontological and utilitarian perspective.
- Discuss community and individual concerns raised by the deinstitutionalisation of people with mental health problems.
- Explore the challenges facing professionals treating patients with mental health problems with dignity and respect for their privacy.

- Discuss the historical truth telling practices regarding informing patients of their diagnosis of schizophrenia.
- Outline the challenges doctors need to consider when involving people with schizophrenia in research.
- Compare and contrast the moral and ethical issues raised by the freezing of eggs, sperm, and embryos.
- Critically evaluate the constraints placed on NHS funded fertility treatment across the UK
- Identify the ethical and legal debates arising from people having reproductive autonomy.
- Critically discuss the gathering of valid consent from labouring women.
- Reflect on how it is possible to preserve the dignity of women in labour.
- Discuss the evolution of midwives' professional territory.
- Identify the professional and legal formalities following a still birth.
- Consider how an ethics of accommodation can be applied when interacting with families of unwell children.
- Discuss how decisions should be made regarding the treatment of children when the interested parties disagree over what represents the best interests of the child.
- Outline the professional and legal considerations that surround involving children in clinical research.
- Outline the special considerations necessary in gaining consent for procedures involving children.
- Critique the distinction between 'consent' and 'assent', and 'competence' and 'capacity' when treating children.
- Explore the challenges of respecting autonomy and acting beneficently creates for doctors when treating children.
- Describe the 'doctrine of double-effect' and the relevance of the 'intention/foresight' distinction.

PCCT

- Understand the unique role which General Practice and Primary Health Care play in healthcare delivery in the UK, and how it fits into the NHS.
- Develop increased clinical knowledge, history taking, physical examination, differential diagnosis and management of acute and chronic conditions in a General Practice setting.
- Apply evidence and guidelines in clinical decision-making, and develop an awareness of the research base for General Practice.
- Develop clinical and procedural skills relevant to a General Practice setting.
- Develop an awareness of holistic care, and the biopsychosocial model of illness.
- Develop an understanding of the therapeutic doctor patient relationship in primary care, and the importance of continuity, especially in relation to long term conditions.
- Develop an understanding of the role of the GP as first contact care, and as a coordinator of care.
- Develop an understanding of the different ways patients can present in primary care, the normal variations in people, and how to deal with uncertainty in this context.
- Develop experience of seeing patients in different settings: practice, home, clinics, online, telephone consulting.
- List members of the GP Practice Primary Health Care Team (PHCT) and identify and understand their roles.
- Apply effective communication with patients, relatives and colleagues.
- Understand how emergencies are managed in a primary care setting.

- Appreciate how patient safety, clinical governance and quality of care are addressed in General Practice.
- Gain experience at using electronic patient records, and appreciate its advantages especially with respect to note-keeping, coding, recall systems and quality of care.
- Appreciate the role that Primary Care plays in developing environmentally sustainable healthcare practices.
- Understand the importance of disease prevention, health promotion and promoting wellbeing in a primary care setting.

Dermatology

- Describe the presentations, clinical features and basic management of the following skin conditions: Eczema, including atopic aspects, varicose eczema & Pompholyx.
 - Psoriasis including chronic plaque, nails, arthritis & guttate.
 - Herpes Zoster including post herpetic neuralgia and zoster ophthalmicus
 - Fungal skin infections
 - Urticaria including angioedema
 - Acne vulgaris & rosacea
 - Malignancies - SCC/BCC/Melanoma –including ABCDE symptoms assessment.
 - Scabies
 - Seborrheic Keratosis
- Be aware of the relevance of secondary infection in skin conditions.
- Describe the differences between ointments and creams.
- Describe the indications and uses of topical steroids, their relative potencies, local and systemic side effects and relevant patient advice (duration/FTU etc.)
- Describe skin manifestations of common medical conditions (Diabetes, Coeliac disease, IBD, Rheumatoid arthritis, Addison’s disease, Lyme’s disease, SLE)

Sexual and Reproductive Health

- Demonstrate ability to take sexual history.
- Awareness of how the common STIs present, how they are investigated and treated.
- Demonstrate ability to take a history and counsel a patient regarding emergency contraception.
- Understand basics of emergency contraception including: types, pharmacology, indications, contraindications etc.
- Recognise the medical presentations of HIV, including AIDs defining illnesses.
- Revise hepatitis B and C and interpret test results.
- Have a good background knowledge of the different types of contraceptives available including the main benefits, efficacies and side effects.
- Review how to counsel a woman with an unintended pregnancy – discuss options, conscientious objection, logistics of referral for TOP
- Demonstrate ability to take an Erectile Dysfunction history, awareness of causes (organic and psychogenic), links to cardiovascular disease, investigations and management (psychosexual & medications). Pharmacology of PDE5 inhibitors and awareness of options prescribed in urology.

Men’s Health, Urology and Renal

- Know the most common reasons why men have poorer health and shorter life expectancy in the UK and worldwide- for example higher rates of suicide, smoking and risk taking behaviour.
- Be aware that the most common causes of death for young men (depending on age) are trauma

and suicide and for men over 50 is heart disease.

- Know strategies that have been attempted to address common causes of death for young men and men over 50, including public health initiatives such as 'well man clinics', and be aware of their limitations.
- Introduction to controversial concept of male menopause and hypogonadism leading to an awareness of media influence on health seeking behaviour.
- Differential diagnosis of haematuria including history, examination and basic investigations of:
 - benign prostatic hypertrophy
 - urinary tract infection
 - acute pyelonephritis
 - bladder cancer
 - prostate cancer
 - renal calculi
- Differential diagnosis of proteinuria.
- Recognition and management of chronic kidney disease.
- Causes of scrotal swellings, groin lumps and penile abnormalities.

Emergency Presentations

Cardio-respiratory arrest

- Show knowledge of the causes of cardiorespiratory arrest in adults and children.
- Understand that deterioration can be halted by early recognition and intervention (e.g. by use of an Early Warning Scoring System)
- Be able to evaluate the cause of sudden deterioration in a patient's condition, choose appropriate investigations, and initiate immediate treatment.
- Be familiar with current cardiopulmonary resuscitation algorithms.
- Be able to demonstrate basic life support and the use of an automated external defibrillator.
- Understand the importance of clear communication within the arrest team, whether as leader or member.
- Outline indications for, and safe delivery of, drugs used in advanced life support algorithms.
- Evaluate the impact of public education in cardiopulmonary resuscitation and community-based 'first responder' schemes.

Shock & sepsis

- Define and understand the main categories of causes of shock (hypovolemic, septic, anaphylactic) and the main causes within each (dehydration/bleeding; acute myocardial infarction/tamponade/dysrhythmia/pulmonary embolism, etc.)
- To be able to use history, an ABC-based clinical assessment and electronic monitoring to distinguish between the categories and identify the cause of shock.
- To institute, and explain the principles of, basic treatment measures (intravenous access, oxygen therapy and fluid resuscitation) and initial investigations.
- To identify clinical situations where sepsis is more likely (neutropenia, surgical instrumentation) and recognise that typical signs may be absent in some patients.
- Be able to define sepsis and septic shock and grade it severity using the quick and standard Sequential Organ Failure Assessment score.
- Explain the seriousness of sepsis.
- Be able to recognise hypoxia in a patient.
- To be aware of different methods of oxygen delivery to patients and when to use them.
- Describe the typical clinical presentation, including signs, symptoms, vital signs, hemodynamic

measures, and laboratory tests, for SIRS, sepsis, severe sepsis and septic shock.

- To be able to recognise possible severe sepsis (temperature $>38^{\circ}\text{C}$ or $<36^{\circ}\text{C}$; raised heart and/or respiratory rates, hypotension)
- To know the 'Sepsis 6': give oxygen and fluids, take blood cultures and blood lactate, give antibiotics and measure urine output.

See also: Acid-base abnormalities, fever, renal failure, central chest pain, bleeding from the GI tract, breathlessness, haematological malignancy, dysuria, anaphylaxis, the postoperative patient, confusion.

The unconscious patient

- List the main categories and causes of unconsciousness (neurological, drug-induced, metabolic, endocrine etc.)
- Be able to differentiate between different causes of syncope including:
 - Peripheral causes- vasovagal, cough, micturition syncope
 - Cardiac syncope- arrhythmias and structural abnormalities
- Identify the key clinical features to distinguish between causes of transient loss of consciousness, including seizures and syncope.
- Describe a rapid, ABC-based assessment, including use of the Glasgow Coma Scale, with simultaneous immediate appropriate management (e.g. cervical collar, glucose)
- Outline the importance of clinical history from witnesses and paramedics.
- Assess and classify head injury in terms of the Glasgow Coma Scale and its three components (E,V,M)
- Outline the monitoring, management and complications of severe head injury.
- Advise on appropriate frequency and nature of observations and understand the importance of re-assessment of the patient with regard to earlier interventions.
- Outline the indications for hospital admission following head injury.
- List the interventions that may be required for head injury.
- Discuss the potential of, and indications for, organ donation and the difference between donation after circulatory death and after brain stem death.
- Identify the practical and legal requirements surrounding the time of death and how brain stem death testing is performed.
- Outline the indications for urgent CT scan of head (national guidelines)

See also: poisoning, fits (adult), fits (child), non-accidental injury, diabetic emergencies, multiple trauma, stroke

Multiple trauma

- Outline the principles of pre-hospital care and the role of paramedics.
- Discuss the concept and process of triage (this is routine triage rather than triage after a major incident).
- Relate the mechanism and energy of injury to expected findings.
- Describe how to start initial management of the patient with polytrauma, using an 'ABCDE' approach based on the ATLS framework, with simultaneous assessment and treatment, remembering cervical spine protection in suspected head injury.
- Be able to perform primary and secondary surveys.
- Explain the role of the 'trauma team' and the need for senior and anaesthetic support promptly in event of critical illness or decreased consciousness.
- Recall the indications for emergency intubation.
- Recall the assessment and treatment of a patient presenting with major burns.
- Explain the goals and principles of rehabilitation.

- Outline the potential psychological consequences of trauma and how these can be identified and managed.
- List the necessary requirements for an accurate medical report.
- Discuss issues of consent and confidentiality in cases involving substance misuse.

Anaphylaxis

- Describe the clinical manifestations of anaphylaxis (laryngeal oedema, bronchospasm and hypotension)
- Be able to institute treatment and investigations according to guidelines from the Resuscitation Council (UK)
- Know the dose and route of administration of epinephrine (adrenaline)
- Describe what further follow-up and testing is required after episode of anaphylaxis has resolved.
- Describe the management of a patient with life-threatening allergy (including the dose and route of administration of epinephrine, and referring to Resuscitation Council (UK) guidelines).
- Evaluate the 'Anaphylaxis Campaign' as an example of a patient-run self-help resource.
- Discuss the importance of distinguishing between true allergy and drug side effects/intolerance as part of the medication history in all patients.

See also: allergy (child) RC (UK) guidelines

Poisoning / Overdose

- Recognise critically ill overdose patient and resuscitate as appropriate.
- Take a full history of event, including a collateral history if possible.
- Interpret and act on initial investigations appropriately: biochemistry, arterial blood gas, glucose, ECG, and drug concentrations.
- Commence poison-specific treatments in accordance with information from BNF/Toxbase/other guidance and information sources where appropriate.
- Suicide and parasuicide; outline the risk factors for a suicidal attempt, assess the patient's mental capacity, outline the powers that enable assessment and treatment of patients following self-harm as defined in the Mental Health Act and its interface with the Mental Capacity Act.

See also: the patient posing a risk to themselves or others

Musculoskeletal emergencies

Understand the significance of and be able to recognise and perform initial management of:

- open fractures
- compartment syndrome
- limb threatening injury - dislocations; neurovascular compromise; crush injuries
- spinal injuries / cord compression / cauda equina syndrome
- septic arthritis

General

The patient in acute pain

- Outline the physiological and psychological effects of acute pain.
- Recognise that effective pain management can speed recovery and prevent development of long-term persistent pain.
- Be familiar with pain scoring systems used in adults and children and understand that pain assessment (both static and dynamic) is a part of routine observations in hospital.

- Recognise that psychological factors can worsen or improve the experience of pain.
- Recognise the importance of new, changed or unexplained pain as a sign of problems or complications.
- Tailor route of administration and doses of drugs used to type and severity of pain, in the stepwise approach typified by the WHO analgesic 'ladder' and recount modes of action, side effects and interactions.
- Outline specific pain management strategies for commonly-encountered conditions (see below) and special patient groups (children, the elderly, opioid-dependent).
- Understand that poorly managed acute pain can become persistent.
- Review different types of chronic pain (nociceptive, neuropathic, mixed).
- Describe a stepwise approach to treatment (as for acute pain) and outline the role of antidepressant and anticonvulsant drugs used in pain management.
- Describe the biopsychosocial effects of long-term pain and the potential therapeutic benefits of addressing these effectively.
- Discuss the possible benefits and drawbacks of using opioids long-term for non-malignant pain.

See also: the postoperative patient, chest pain, acute abdominal pain, headache, acute joint pain and swelling, back pain and sciatica, normal labour, fractures, soft tissue injury

The patient with cancer

- Understand the pathological basis of different types of cancer, including the genetic bases for different types and how this dictates clinical features and spread.
- Describe the principles of cancer staging with reference to common cancers.
- Describe the procedures used to obtain a biopsy specimen.
- Outline how imaging can help in the diagnosis, staging, treatment planning and response evaluation of patients with cancer.
- Recognise the role of the multi-disciplinary team and cancer networks in the management of cancer patients.
- Outline the management of common cancers e.g. breast, lung, prostate, colorectal cancers and lymphoma.
- Outline the principles and side-effects of radiotherapy, cytotoxic chemotherapy, hormone therapy and biologically targeted therapy in both potentially curative and palliative treatment.
- Consider the specific training requirements for the prescription and administration of cytotoxic drugs.
- Revision of Wilson and Junger criteria for screening.
- Awareness of the three cancer screening programmes in UK: bowel, breast, cervical including knowledge of the test itself, what the results may mean etc.
- Know common tumour markers and which cancers they are associated with.
- Read the latest NICE Guidance: Suspected Cancer: recognition and referral, demonstrate ability to apply this to clinical scenarios.
- Awareness of how cancers may present in general practice, knowing red flag signs/symptoms etc. and when to refer on 2ww pathway.
- Knowledge of signs/symptoms, investigations and management of oncological emergencies: spinal cord compression, hypercalcaemia, SVC obstruction, neutropenic sepsis.
- Be aware of the GSF register, pre-emptive conversations regarding PPC / PPD, DNAR, '4 core' medications, palliative care team (CNS, consultant, H@H, etc.), communication between ambulance service, primary and secondary care and out of hours services, religious / spiritual input.

See also 'palliative care'

The patient needing palliative care

- Define 'end of life care' and understand the terms 'life-limiting', 'palliative' and 'terminal'.
- Show an appreciation of the range of illnesses that palliative care patients and their families deal with: cancer, neurological disorders, organ failures, dementia.
- Recognise the holistic nature of palliative care including nursing, psychosocial and spiritual as well as physical needs.
- Describe the pharmacological and other management of troublesome symptoms in the palliative care patient; shortness of breath, pain, nausea, constipation, diarrhoea, bowel obstruction, headache, spinal cord compression, hypercalcaemia, malignant effusions and ascites etc.
- Show an awareness of the principles of care in the last days of life and the treatment of the five major symptoms during this time (pain, nausea/vomiting, agitation, bronchial secretions and shortness of breath).
- Show an understanding of 'just in case' drugs and how to prescribe them.
- Identify attitudes towards death and the dying in society at large, patients and relatives, palliative care team and medical profession in general.
- Outline the psychological consequences of life limiting illness for patients and their relatives.
- Outline the concept and operation of advance care planning and its components, the role of such decisions and how they are made.
- Describe objective measures for assessing quality of life, to include relevant 'outcome measures' for palliative care.
- Outline the history, contribution and current funding issues of the hospice movement.
- Understand the roles of the palliative care clinical nurse specialist, relatives/carers, 'supportive care' (e.g. Macmillan nurses and the many hospice services) and other members of the multidisciplinary team in end of life care.
- Be aware of national healthcare policy on end of life care.

See also 'the patient with cancer'

The pre-operative patient

- Describe a comprehensive preoperative assessment to identify surgical and anaesthetic risk factors, and recognise when further assessment and optimisation is required.
- Develop a preoperative patient education plan and explain relevant measures to decrease the risk of infection and prevent postoperative complications.
- Describe the pre-operative management of an acutely unwell patient who requires emergency surgery.
- Understand how to manage specific intercurrent conditions in the perioperative period (diabetes mellitus, obstructive sleep apnoea, anticoagulated patients)
- Understand the rationale for minimising preoperative fasting whilst still maintaining safety (national or Trust guidelines)
- Be aware of genetic conditions that may cause complications with anaesthesia and alter surgical outcomes e.g.. malignant hyperpyrexia, suxamethonium apnoea, Duchene muscular dystrophy, hyperkalemic periodic paralysis.
- Understand the potential for the long-term public health benefit of the peri-operative encounter (smoking cessation, alcohol moderation, weight reduction, medicines reconciliation etc.)

Consent to treatment

- Explain the need for informed consent.

- Apply the principles of informed consent.
- Describe the elements necessary for mental capacity to give informed consent.
- Check for mental capacity, and recognize when an individual does not have capacity to give consent.
- State the importance of written documentation, both for giving consent and documenting the information given to the patient and their supporters.
- List the exceptional circumstances when you can rely on oral consent, and the need to document this.
- Understand the importance of describing potential risks and benefits of procedures, and tailoring explanation to patient understanding.
- Discuss issues with consent in children, how to assess competence and what steps to take if the parents' wishes are not in the best interests of the child.
- Select and know how to complete the appropriate consent form for adults, children, patients lacking capacity and local anaesthetic cases.

The postoperative patient including wound healing

- Demonstrate the ability to follow a structured/ systematic approach to the post-operative assessment and management of a patient, including patient's airway, monitoring vital signs, surgical site, fluid balance, analgesia and mobilisation.
- Encourage preventative measures: thrombo-prophylaxis, physiotherapy, adequate analgesia, ensure nutrition and hydration.
- Recall the physiology of healing in skin and bone.
- Understand the usefulness of describing the skin surrounding the wound, measuring the wound and assessing pain in wound care.
- Explain extrinsic and intrinsic factors which impact on wound healing e.g. nutrition.
- State the basic principles of wound dressing.
- Identify patients at risk of pressure sore development using the Waterlow score and summarise pressure ulcer classification.
- Recall the common medical complications occurring in post-operative patients and how they present.
- Recall the investigations indicated in different scenarios: shortness of breath, chest pain, respiratory failure, drowsiness, fever, collapse, GI bleed, shock, oliguria.
- Understand the causes of perioperative hypoxia (related to surgery, comorbidities and drugs)
- Recognise the critically ill patient and instigate resuscitative measures.
- Understand the importance of admission to critical care unit adopting to Trust guidelines.

See also: the patient with acute pain, inadequate nutrition, fluid and electrolyte abnormalities, chest pain, sore throat, fever, breathlessness, swollen painful leg, abdominal distention, urinary retention, renal failure

Breast lump

- Understand the key clinical features of malignant and benign breast lumps, using the history and examination to distinguish between them (fibroadenoma, fibroadenosis/benign breast change, cysts, cancer).
- Explain oncogenes, suppressor genes and cell cycle control genes and genes associated with metastasis.
- Discuss how and when to take a family history and to request genetic tests, to discuss the significance of this and how this guides surveillance and gene testing.

- Describe the potential psychosocial consequences of undergoing treatment for cancer of the breast. Outline different coping styles and their relationship with prognosis.
- Explain the 'patient pathway' for breast screening and subsequent cancer management, including one-stop clinics, triple assessment and multidisciplinary team management.
- Identify staging in breast cancer and describe the principles of, and indications for, surgery, adjuvant/hormone therapy and radiotherapy.
- List the options available to patients undergoing mastectomy.
- Understand the causes and management of gynaecomastia in men (physiological, cannabis, anabolic steroids or medication side effect).

The febrile patient

- Recognise life-threatening infections needing immediate management: bacterial meningitis, urosepsis, 'toxic shock' etc.
- Describe features from the clinical history and examination that may help distinguish infective from non-infective causes of fever.
- Describe features in the history and examination that help identify a causative infective agent: patient factors, travel, drugs, occupation etc.
- Explain the collection of specimens for, and the indications of, the various laboratory tests used in the diagnosis of infectious disease (to include culture, sensitivity, serological tests, microscopy etc.)
- Describe a rational approach to antibiotic prescribing.
- Outline the principles of infection control and the need for hand hygiene.
- Describe management of fever in special circumstances: 'unknown origin', in the immunocompromised patient and developing post-procedure/operation.

Blood & Lymph

Anaemia

- Understand the interpretation and further investigation of abnormal blood counts (microcytic, macrocytic or normocytic); blood film, ESR, reticulocytes, 'haematinics', with further tests as indicated (e.g. endoscopy)
- Manage the anaemias arising from inadequate production – iron, B12, folate, chronic disease.
- Explain the common inherited disorders of red blood cells which lead to anaemia, and how these are managed (sickle cell disease, thalassaemias, spherocytosis etc.)
- Understand acquired haemolytic anaemias.
- Outline the features and management of bone marrow failure/aplastic anaemia.
- Describe the pathophysiology and management of acute blood loss.

Lymphadenopathy

- Outline the anatomy and physiology of the lymphatic system.
- Use history, examination and appropriate investigations to distinguish between causes of local and generalised lymphadenopathy (infective, malignant, reactive and infiltrative)
- Classify and outline the principles of management of lymphoma and lymphoproliferative disorders.
- Outline the investigations and management if tuberculosis is considered.
- Understand the association of inguinal lymphadenopathy and STDs, and be able to recognise and refer appropriately.
- Recognise patient concerns regarding possible causes of lymphadenopathy.

Haematological malignancy

- Understand the role of blood and bone marrow analysis in leukaemia diagnostics and explain how these relate to symptoms.
- Describe other forms of test and diagnostic methods.
- Outline the different types of leukaemia, and differentiate between the features of acute and chronic types.
- Provide an overview of the treatment and management of patients with leukaemia.
- Outline the physiology of immunoglobulin production and describe the features, presentation, symptoms and management of myeloma.
- Classify and describe the management of the myeloproliferative disorders: PRV – primary and secondary , thrombocytosis, chronic myeloid leukaemia, myelofibrosis.

Bleeding tendency and bruising

- Outline the management of common causes of easy bruising.
- Identify the pattern of bleeding associated with thrombocytopenia.
- Recognise that bruising may be a sign of critical illness, or of non-accidental injury, and make prompt referrals if so.
- Recall the physiology of blood vessels, platelets and the clotting cascade.
- Understand the laboratory assessment of platelet function and clotting.
- Explain the principles of management of disseminated intravascular coagulopathy.
- Describe the features, clinical course and management of the common inherited coagulopathies (haemophilia etc.)
- Outline the indications, contraindications, side effects, therapeutic monitoring and management of excess of anticoagulant medications.

The patient needing blood transfusion

- Weigh up the risks and benefits of transfusion, understanding that decisions should be based not only on laboratory tests or a universal ‘transfusion trigger’.
- Understand the principles of patient blood management for surgery: options to include antifibrinolytic drugs, iron and other stimulants (erythropoietin), cell salvage etc.
- Demonstrate and document discussion of the risks, benefits and alternatives to transfusion with the patient and gain their verbal consent.
- Understand the importance of timely action in major haemorrhage and show familiarity with a major haemorrhage protocol.
- Understand the possibilities for identification error and demonstrate appropriate checking and confirmation at each stage of the transfusion process.
- Understand the appropriate thresholds for transfusion of platelets, and the indications for fresh frozen plasma.
- Be aware of the many sources of information and guidance; consultant haematologist, laboratory staff and local and national guidelines and protocols.

Cardiovascular

Central chest pain

- Distinguish between the common causes for each category of chest pain and associated features: cardiorespiratory, musculoskeletal, upper GI.
- Know how to work out CVD risk using risk calculators, where suitable.

- Understand the difference between primary and secondary prevention of CVD.
- Have an awareness of cardiac risk factors.
- Describe strategies to reduce modifiable risk factors.
- Recognise the ECG changes associated with conduction problems, acute MI and LVH.
- Consider the challenges of differential diagnosis in primary care (with fewer investigations)
- Understand and interpret initial investigations such as ECG, blood gas analysis, blood tests, chest radiograph, cardiac biomarkers.
- Outline the indications for further investigations such as CT angiography and exercise testing.
- Describe the initial emergency management of coronary syndromes, pulmonary embolus and aortic dissection.
- Recommend appropriate secondary prevention interventions for cardiac and vascular diseases (pharmacological and lifestyle changes)

Limb claudication/gangrene

- Use features in the history and examination to distinguish limb claudication from other leg pains (bones, muscles, joints, nerves, veins)
- Discuss the link between vascular disease and lifestyle and other factors (smoking, diabetes, hypertension, hypercholesterolemia)
- Describe the investigations used in peripheral vascular disease, and the role of the ankle-brachial pressure index, especially in primary care.
- Describe how to manage the acutely ischaemic limb due to embolic occlusion or local thrombosis.
- Describe the management options in occlusive vascular disease (exercise training, watchful waiting, medical management, radiological/endovascular and surgical intervention)
- Describe the indications for amputation.
- Discuss the clinical management of the patient who needs to undergo amputation, including prosthesis, rehabilitation and phantom limb pain.
- Describe the symptoms and signs of acute limb ischaemia, and describe the emergency investigations and treatment, including anticoagulation, thrombolysis, angioplasty and embolectomy.

Palpitations/arrhythmia

- List common causes of palpitations.
- Recall the classification of arrhythmias.
- Describe how serious and benign palpitations can be distinguished in primary care.
- Understand the interpretation of initial investigations such as ECG and relevant blood tests.
- Know how to recognise and treat unstable and/or life-threatening arrhythmias (peri-arrest arrhythmias)
- Describe the management of atrial fibrillation.
- List the indications, contraindications and side effects of the most frequently used anti-arrhythmic drugs.
- Be able to classify cardiac pacemakers and understand their function.

Blood pressure problems

- Understand how to diagnose arterial hypertension and the factors that can make this problematic.
- Know how to diagnose hypertension, and categorise its severity.
- Be aware of the current hypertension guidelines regarding non-pharmacological management

and drug selection.

- Assess cardiovascular risk in hypertensive patients.
- List the causes of secondary hypertension and explain how to distinguish between them by examination and diagnostic tests.
- Understand the importance of lifestyle modification in the management of hypertension.
- Describe the actions and side effects of the main groups of anti-hypertensive drugs, and how these are tailored to individual patients.
- Describe the initial management of hypertensive crisis.

Swollen painful leg incl. varicose veins and ulcers

- Recall the causes of unilateral and bilateral limb swelling.
- Differentiate the features of limb pain and/or swelling due to cellulitis, varicose eczema, DVT and ischaemia, including in general practice, and safely initiate management (anticoagulation, antibiotics, diuretics)
- Recall the risk factors for the development of thrombosis and limb ischaemia.
- Perform a full and relevant examination including assessment of viability and perfusion of limb and differentiate pitting oedema; cellulitis; venous thrombosis; compartment syndrome.
- Interpret and act on initial investigations appropriately: blood tests, Doppler studies, urine protein.
- Safe prescribing of initial treatment as appropriate (anticoagulation therapy, antibiotics, diuretics)
- Outline the assessment and management of the patient with varicose veins.
- List the causes of chronic leg ulcers and describe differences in appearance, especially distinguishing between arterial and venous ulcers.
- Explain the principles of the treatment of leg ulcers.
- Varicose veins, assessment and treatment.

Heart murmurs

- Distinguish, and list the causes of, diastolic, mid-systolic and pansystolic murmurs.
- Distinguish murmurs from extra heart sounds and non-cardiac sounds.
- Outline the investigation and principles of management of valvular heart disease.
- Describe the symptoms, signs and management of mitral stenosis and aortic stenosis.
- Understand the mechanisms and investigation of aortic valvular disease.
- Understand the pathophysiology, diagnosis and management of atrial fibrillation and flutter.
- Describe the principles of cardiac catheterisation, percutaneous and open procedures to correct valvular lesions.
- Understand antibiotic prophylaxis of subacute bacterial endocarditis.
- Describe the principal causes, diagnosis, treatment and prevention of bacterial endocarditis.

Child Health

The Child as Patient

- Competent in taking a paediatric history, and able to list possible diagnosis, appropriate investigations and an initial management plan for common presenting symptoms/diseases in childhood.
- Perform a general paediatric examination on children, appropriate for the age, clinical context,

developmental stage and comfort of the child.

- Demonstrate a systems based approach to examining children, including respiratory, cardiovascular, gastrointestinal systems, neurological, musculoskeletal (PGALS) and ENT examination.
- Demonstrate a structured approach to the recognition, assessment and initial management of a sick child, specifying what clinical signs are useful.
- Understand how to assess dehydration in a child and the general principles for prescribing fluids for children.
- Understand the general principles of prescribing drugs for children.
- Show an understanding of the psychosocial impact of the diagnosis of chronic disease on the child and the family.
- Understand the need for a multi-disciplinary team approach when caring for a child with a chronic condition.
- Understand the role of community paediatricians and therapists.
- Know where to find guidelines and the legal considerations, when involving children in clinical research.
- Understands the issues surrounding child protection, types of abuse and what to do if they have any concerns.
- Revise the assessment of childhood development.
- Revise the causes of poor weight gain in childhood.

Premature Baby / Newborn

- Awareness of the common problems of the neonate, including sepsis, respiratory distress, hypoglycaemia, jaundice and birth asphyxia.
- Outline the problems associated with premature birth, including respiratory distress syndrome, intra-ventricular haemorrhage, periventricular leucomalacia, retinopathy of prematurity and necrotising enterocolitis.
- Outline the advantages and disadvantages of screening for genetic conditions pre-natally, ante-natally and post-natally.

Respiratory Problems

- Demonstrate competence in inhaler technique, with and without a spacer device.
- Identify causes, important points from the history, examination and appropriate investigations to help establish the diagnosis in a child with acute or chronic:
 - cough (including persistent/recurrent) and wheeze
 - stridor
 - neck swellings
- Explain the pathophysiology, genetic basis, common features and clinical course of cystic fibrosis.
- Aware of NICE guidance for the diagnosis and treatment of acute and chronic asthma in childhood.

Childhood with High Temperature

- Demonstrate competence in taking a child's temperature.
- Identify causes, important points from the history and examination and suggest appropriate investigations to help establish the diagnosis in a child with fever (with and without a rash) and persistent/recurrent fever.
- Explain the pathophysiology, common features, clinical course, investigations, management,

complications and prognosis for meningitis (including organisms involved) and meningococcal septicaemia.

- Outline which investigations are included in a septic screen, and discuss the interpretation of results of a lumbar puncture, urinalysis and blood tests.
- Outline the causes of lower respiratory tract infections in childhood, looking at the organisms, their microbiological properties and treatment.
- Aware of national guidance (NICE) to help with management of childhood infections.
- Aware of the disease notification process in the UK, and some of the common diseases that need to be notified.
- Revise the UK immunisation schedule for meningitis.
- Current immunisation schedule.
- Demonstrate knowledge of common childhood infections in general practice including recognition of rashes - measles, mumps, rubella, scarlet fever, slapped cheek disease, Roseola, chickenpox, Kawasaki's disease.

Gastrointestinal Problems

- Identify causes, important points from the history and examination and suggest appropriate investigations to help establish the diagnosis in a child with acute abdominal pain, acute diarrhoea, chronic diarrhoea, vomiting, recurrent abdominal pain and constipation.
- Know how to assess a child for dehydration and the principles of management.

Cardiovascular Problems

- Demonstrate competence in measuring and interpreting a child's blood pressure.
- Able to identify causes, important points from the history and examination and suggest appropriate investigations to help establish the diagnosis in a child with a heart murmur, palpitations/ arrhythmia and chest pain.

Neurological Problems

- Identify causes, important points from the history and examination, suggest appropriate investigations and treatment in a child with seizures with and without a fever.
- Identify causes, important points from the history and examination and suggest appropriate investigations to help establish the diagnosis in a child with fever (with and without a rash) and persistent/recurrent fever.
- Explain the pathophysiology, common features, clinical course, investigations, management, complications and prognosis for cerebral palsy.

The Child with Diabetes Mellitus

- Perform near-patient blood glucose (BM) testing and interpret the results.
- Explain the pathophysiology, common features, clinical course, investigations, management, complications and prognosis of diabetes in childhood.

Genitourinary Problems

- Demonstrate competence in collecting urine in different ages of child, in urinalysis and in interpretation of results.
- Read NICE Guidance relating to management of UTI in children, demonstrate an ability to apply these to clinical scenarios.
- Recognise symptoms and signs of UTI in children of varying ages.
- Be aware of causes of exclusion from school due to common childhood infections.

- Recognition and management of meningococcal disease.
- Use NICE 'traffic light' system to assess a child's risk of serious illness.

Musculoskeletal Problems

- Demonstrate competence in performing a paediatric GALS examination.
- Understand non-accidental injury and how to investigate potential causes.
- Identify causes, important points from the history and examination and suggest appropriate investigations to help establish the diagnosis in a child with acute and recurrent limp (both musculoskeletal and neurological causes) and joint swelling.
- Be familiar with congenital dislocation of the hip, Perthes' disease and slipped upper femoral epiphysis; talipes equinovarus, scoliosis, red flags in back symptoms; assessment and management of the 'irritable hip'.
- Explain the significance of referred pain.

Haematological Problems

- Identify causes, important points from the history and examination and suggest appropriate investigations to help establish the diagnosis in a child with:
 - anaemia/pallor
 - bruising
 - jaundice

Digestive

Acute abdominal pain

- Outline the importance of the history in localising pain; parietal and visceral peritoneum, anatomical site, associated features (gynaecological or urinary tract symptoms)
- To be familiar with the presentation and basic management of the following conditions:
 - Dyspepsia
 - Irritable Bowel Disease
 - Coeliac Disease
 - Inflammatory bowel disease
 - Diverticulosis/-itis
 - Acute abdomen
 - Colorectal & Upper GI malignancies
 - Gallstones
- To have a systematic approach to the following Symptoms (\pm covered by above):
 - Hematemesis/Melaena
 - Rectal bleeding
 - Jaundice, Diarrhoea/Constipation
 - Red Flag symptoms
 - GI - altered bowel habit
 - PR bleeding
 - Dysphagia & Systemic – weight loss
 - Anaemia
- To be able to interpret the following Investigations: Interpreting LFTs, FBC, U&E.
- To be aware of the use and significance of: Faecal calprotectin ; H pylori; Coeliac screening, FOB

testing, 2ry care – USS/Endoscopies/CT abdo/ Jejunal biopsies.

- Explain the need for hospital admission under certain conditions: 24 hours of unexplained pain; pain plus trauma/injury; dehydration or shock.
- Describe initial investigation and management of a patient who presents with abdominal pain in general practice, identifying the likely diagnosis and highlighting when a referral (urgent or routine) is required.
- Interpret and act on initial investigations appropriately: blood tests; x-rays; ECG; microbiology investigations.
- Initiate first line management: the diligent use of suitable analgesia; 'nil by mouth'; IV fluids; resuscitation.
- Discuss the difficulties with fluid management and electrolyte derangements, including oliguria and acute kidney injury.
- Define the indications for specialist investigation: ultrasound, CT, MRI, endoscopy.
- Elicit signs of dehydration and take steps to rectify.
- Recognise and treat suspected GI obstruction appropriately: nil by mouth, NG tube, IV fluids.
- Recall the principles of safe prescribing of anti-emetics and formulate an initial management plan in the patient presenting with vomiting, in primary and secondary care.
- State the essential pathology of: appendicitis, acute pancreatitis, acute cholecystitis, abdominal aortic aneurysm and diverticular disease.

Bleeding from the GI tract

- Specify the causes of upper and lower GI bleeding, with associated risk factors including coagulopathy and use of NSAIDs/Aspirin /anticoagulants.
- Define dyspepsia and recall principal causes. Recall the alarm symptoms of upper and lower GI malignancy.
- Revise investigative options: contrast studies, endoscopy, manometry, CT.
- Identify treatment options for oesophageal stricture and malignancy.
- Recall indications, contraindications and side effects of acid suppression and mucosal protective medications.
- Distinguish upper and lower GI bleeding, utilising history and examination findings, including performing rectal examination.
- Revise the signs of shock or impending shock, outline the need to resuscitate rapidly and assess need for higher level of care.
- Revise the pathology, presentation and treatment of inflammatory bowel disease.

Change in bowel habit

- Recognise the large variation in 'normal' bowel habit and the part played by diet, exercise, drugs and fluid/alcohol intake.
- Recognise the common causes of altered bowel habit, including irritable bowel syndrome, coeliac disease, colorectal cancer, inflammatory bowel disease, diverticular disease and bowel obstruction.
- Identify the associated clinical features which suggest a specific cause (colonic carcinoma, metabolic, neurological)
- Recall the common causes of constipation, including drugs, and the mode of action of commonly used laxatives, formulating an appropriate plan of management.
- Discuss the pros, cons and practicalities of screening for colonic cancer.
- Explain the common causes of rectal bleeding, list the relevant investigation and the indications

for surgery.

Chronic abdominal pain

- Identify the possible causes of chronic abdominal pain, depending on site, details of history etc.
- Describe initial management of a patient who presents with abdominal pain in primary care and outline indications for referral (urgent or routine).
- Recall the common causes of constipation, including drugs, and the mode of action of commonly used laxatives, formulating an appropriate plan of management.
- Describe the features of irritable bowel syndrome and how this is distinguished from more serious conditions.
- Recall the pathology, presentation and treatment of inflammatory bowel disease.
- Understand the clinical features and management of chronic pancreatitis, diverticular disease and relevant cancers.
- Define the indications for specialist investigation: ultrasound, CT, MRI, endoscopy.

See also 'change in bowel habit', 'GI bleeding', 'pelvic pain'

Jaundice

- Recall the pathophysiology of jaundice in terms of pre-hepatic, hepatic, and post-hepatic causes.
- Recall causes for each category of jaundice with associated risk factors.
- Recognise the presence of chronic liver disease or fulminant liver failure.
- Interpret results of basic investigations to establish aetiology; recognise complications of jaundice such as varices and encephalopathy; understand the role of more complex imaging and endoscopic procedures.
- Formulate the initial management plan of a patient presenting with jaundice.
- Recognise and initially manage complicating factors: coagulopathy, sepsis, GI bleeding, alcohol withdrawal, agitation, electrolyte disturbance.
- Preventing jaundice: avoiding hepatitis infection- education, vaccination, safe sexual practices; limiting alcohol; controlling cholesterol(preventing gallstones)

Swallowing difficulties

- Recall the physiology of swallowing.
- Distinguish between odynophagia (largely due to infectious causes) and true dysphagia.
- Use discriminating features in history to help identify cause of dysphagia e.g. solids which 'stick' (stricture and carcinoma), solids which do not 'stick' (pharyngeal pouch, globus hystericus) and liquids (neuromuscular)
- Explain 'red flag' signs in dysphagia.
- Describe the clinical features of the common diagnoses within these categories and understand the investigations (contrast studies, endoscopy and manometry) used to help identify them.
- Be able to evaluate whether a patient can safely eat or drink.
- Show an awareness of management options for oesophageal stricture and malignancy.

Diarrhoea

- Specify the causes of diarrhoea.
- Utilise clinical features to distinguish acute infection, inflammatory and neoplastic disease, malabsorption.
- Evaluate nutritional and hydration status of the patient.

- Describe the questions you would use to clarify the nature and extent of diarrhoea in a patient presenting in general practice.
- Initiate and interpret investigations: blood tests, stool examination, endoscopy and radiology as appropriate (AXR – intestinal obstruction, toxic dilatation), formulating an initial management plan.
- Recall the presentation, investigations, prevention and treatment of C. difficile, diarrhoea.
- Demonstrate knowledge of infection control procedures.

Abdominal mass and swelling including groin lump

- Recall the pathophysiology of ascites, ileus and bowel obstruction.
- Recall the causes of abdominal mass, especially hepatomegaly and splenomegaly.
- Elicit and interpret important clinical findings of mass/swelling (location, characteristics) to establish its likely nature.
- List differential diagnoses for small bowel obstruction and understand the complications that can result including ischaemia, perforation and biochemical derangement.
- Demonstrate and explain how to distinguish between common causes of groin lumps (hernia, aneurysm, lymph node and saphena varix) using appropriate features from the history and diagnostic tests. Explain non-surgical and surgical management options for these conditions as appropriate.
- Describe the differential diagnosis, investigation and management of a patient presenting with a left iliac fossa mass.
- Describe investigations and management of any specific conditions e.g. ascites, small bowel obstruction.
- Discuss the complications of hernia surgery.

See also 'change in bowel habit', 'lymphadenopathy'

ENT

Hoarseness & voice change

- Revise the anatomy of the larynx and the physiology of voice production.
- Explain how to perform a baseline assessment of voice.
- List the most common causes of dysphonia and outline their management (to include laryngeal cancer)
- State the 'red flag' symptoms in the head and neck.
- Describe basic tracheostomy care and the complications that can arise.

Painful ear

- Revise the anatomy of the ear and the physiology of hearing loss (conductive, sensorineural and mixed)
- List the common causes of otalgia, use features in the history, and be able to perform and use physical examination (including otoscopy) to distinguish them (external ear, middle ear, referred otalgia)
- Outline the treatment for otalgia.

Hearing loss

- List the common causes of hearing loss and use accompanying symptoms (vertigo, tinnitus, otalgia, facial nerve palsy) and basic pure tone audiometry to help make a diagnosis (Conditions

to include wax impaction, foreign body, presbycusis, cholesteatoma, chronic otitis media, noise-induced trauma and tumours)

- Perform and explain tuning fork testing.
- Describe the management of hearing loss and the mechanisms of hearing aids.

Nasal obstruction

- Revise the anatomy of the nose and relevant physiology including olfaction.
- List the common causes of nasal obstruction and use symptoms, physical examination and anterior rhinoscopy to distinguish between them (conditions to include septum deviation, rhinitis, nasal polyps, rhinosinusitis, masses on post nasal space)
- Outline the treatment options for these conditions (to include medical treatment of rhinitis, and surgery for others as appropriate)

Nosebleed

- List the most common causes of epistaxis.
- Explain how to perform an initial assessment.
- Describe treatment options (medical, silver nitrate cautery, nasal packing)

Sore throat

- Revise the anatomy of the oropharynx.
- List the most common causes of odynophagia (tonsillitis, peritonsillar abscess, malignancy) and use features from the history and examination to distinguish them.
- State the risk factors for head and neck cancers.
- Outline the treatment options for the above conditions and be aware of the current criteria for recommending tonsillectomy.
- Have a broad understanding of how to manage acute airway obstruction.

Fits, faints, funny turns and headaches

- Revise the anatomy of the vestibular apparatus and associated neuroanatomy and explore the physiology of balance.
- List the common causes of vertigo and be able to use history, examination and appropriate investigation to distinguish between them.
- Identify the key clinical features to distinguish between central and peripheral causes of vertigo.
- Know the history, examination, investigations and basic treatment of vestibular causes of: benign positional paroxysmal vertigo; meniere's disease; vestibular neuronitis; labyrinthitis.
- Understand the clinical presentations, management and prognosis of the following inner ear conditions: vestibular neuronitis, benign paroxysmal positional vertigo, Meniere's disease, vestibular schwannoma.

Eyes

Red eye

- Use clinical features and appropriate investigations to diagnose common causes of red eye, including eyelid disorders, foreign body, conjunctivitis, sub conjunctival haemorrhage, corneal abrasion, anterior uveitis, complications of contact lens wear and acute angle closure glaucoma.
- Outline the management of these conditions.

Visual loss

- Distinguish true visual loss from other visual disturbances (e.g. diplopia, migraine, conjunctivitis, aura)
- Use features in the history, associated symptoms physical examination, including ophthalmoscopy, to distinguish between the common causes of acute and chronic visual loss.
- Be able to assess basic visual acuity and understand basic types of refractive error (myopia, hypermetropia, presbyopia).
- Describe the features of macular degeneration and glaucoma.
- Define diplopia and recall common causes.
- Recall the different types of visual field defect, be able to perform basic visual field examination and list common causes of defects.
- Discuss the barriers faced by those with a sensory impairment in society (education, employment, relationships etc.)
- Describe implications for driving of reduced visual acuity and field loss.
- Understand the concept of low visual aids.

Eye trauma

- Understand the detection and management of blunt and penetrating trauma, non-accidental injury, chemical injury, foreign body and cellulitis.
- Be able to provide first aid to the eye.

The eye in systematic disease

- Describe the use of vital dyes, mydriatics and basic imaging to aid in diagnosis of ocular disease.
- Understand the ophthalmological complications seen in the following diseases and explain appropriate tests for screening, diagnosis and intervention:
 - diabetes mellitus
 - arterial hypertension
 - multiple sclerosis

Homeostatic

Fluid and electrolyte abnormalities

- Describe how to assess hydration status using clinical signs and laboratory tests, and understand how this may vary in children and the elderly.
- Describe the symptoms, signs and (where appropriate) ECG changes of derangements of sodium, potassium, magnesium calcium and phosphate.
- Understand the management of electrolyte abnormalities and their underlying conditions, and know how to initiate treatment for life-threatening hyperkalaemia.
- Demonstrate an understanding of the composition and use of commonly-used intravenous fluids for adults and children.
- Show how to calculate daily fluid and electrolyte requirements for adults and children.
- Write appropriate fluid and electrolyte prescriptions for treating hypo- and hypervolemia and disorders of sodium, potassium, phosphate and magnesium.

Long-term diabetic management

- Outline causes of hyperglycaemia.

- Recall diagnostic criteria for diabetes mellitus and how they differ in Types 1 and 2.
- Understand and explain the targets for blood glucose control.
- Assess the diabetic patient to detect long term complications: cardiovascular, neuropathy (including autonomic neuropathy), nephropathy, foot ulcers, amputations, autonomic neuropathy, non-alcoholic fatty liver disease, dermatopathy, psychological problems.
- Understand common insulin treatment regimens and the drugs used in Type 2 diabetes, including adverse effects.
- Understand the impact of chronic disease on an individual, using diabetes as one example.
- Be able to devise and deliver a management plan and patient education package including diet, weight management.
- Understand the roles of the other healthcare professionals in the management of people with diabetes.
- Understand how to manage diabetes in the presence of intercurrent illness and in the perioperative period.
- Describe the practical and ethical problems of driving and occupation in patients at risk of hypoglycaemia.
- Discuss the public health and societal impact of diabetes and describe strategies for prevention.
- To have a basic understanding of the costs of different treatments used in diabetes and the evidence underlying the control of blood glucose (UKPDS)

Diabetic emergencies

- Be able to diagnose and manage diabetic ketoacidosis- presentation, causes, investigation, diagnostic criteria, management, complications and follow-up.
- Be able to diagnose hypoglycaemia: causes, presentation, symptoms and signs, level of severity and management.
- Recognise hyperosmolar non-ketotic coma and understand the principles of management.

Hypercalcaemia, metabolic bone disease and other endocrine disorders

- Principles of endocrine investigation: suppression/stimulation tests.
- Basic overview of symptoms, investigations, pathophysiology and treatment of:
 - PCOS
 - Acromegaly
 - Cushing's syndrome/disease
 - Hyperthyroidism & hypothyroidism
 - Prolactinomas
 - Non-functioning pituitary tumours
 - Diabetes insipidus
 - Conn's syndrome
- Understand the importance of correct taking of venous sample, and correction for serum albumin, in interpreting serum calcium levels.
- Recall physiology of calcium metabolism.
- List common causes of hypercalcaemia and distinguish between them using appropriate tests (phosphate, alkaline phosphatase, parathyroid hormone, bone scan, urine proteins)
- Initiate symptomatic and specific management of hypercalcaemia.
- Understand the clinical features, investigations and treatment of Paget's disease.
- Understand the definition epidemiology diagnosis and treatment of osteoporosis.
- Know how osteoporosis is defined in terms of T scores. (+/- Z scores)
- Be able to demonstrate relevant history taking for risk factors / use risk assessment tools e.g.

FRAX

- Show awareness of risk with medication e.g. steroids, hormone depletion therapy in men with prostatic cancer.
- Know and distinguish other diagnoses which can present as an apparent 'osteoporotic' fracture e.g. myeloma, osteomalacia.
- Outline secondary prevention of osteoporosis – falls risk assessment, walking aids, dietary advice, bisphosphonates, calcium, vitamin D
- Discuss potential side effects of bisphosphonate therapy e.g. atypical fracture, GI symptoms.
- Recall the management of patients presenting, adrenal disease, dyslipidaemia, anterior and posterior pituitary disease (e.g. acromegaly, diabetes insipidus, prolactinoma)

Acid-base abnormalities

- Justify the low threshold needed for arterial blood gas analysis in sick patients, and list the indications for this test.
- List the common causes of metabolic acidosis, respiratory acidosis, metabolic alkalosis and respiratory alkalosis, and know how to start treatment of the main underlying causes.
- Explain how to calculate the anion gap and use it to determine the cause of a metabolic acidosis.
- Describe how to distinguish true hyperkalaemia from that related to acidosis.
- Discuss the indications for bicarbonate therapy.
- Recognise hypoxia in a patient.

Abnormal weight/inadequate nutrition

- Define and calculate body mass index and interpret the different bandings.
- List the causes of obesity and outline its current management.
- Discuss the current practice of bariatric surgery.
- Understand the benefits of physical exercise.
- Explore the health impact of obesity and describe public health strategies for tackling the problem.
- Recall the dietary requirements of water, energy (fat, carbohydrate, protein), electrolytes, fibre, minerals.
- Review the physiology of starvation.
- List the physical and psychosocial causes of weight loss, including malabsorption and use examination and screening tests to distinguish between them.
- Identify some results of specific malnutrition.
- Be aware of vitamin deficiencies – Vitamins D, C, B12, ferritin.
- Outline the features of malnutrition in developing countries.
- Perform a nutritional assessment in a hospital patient and recognize contributing causes (sepsis, critical illness, dementia, elderly etc.)
- Describe the indications, contraindications and ethical dilemmas of nasogastric feeding and PEG tubes, IV nutrition, and explain re-feeding syndrome.
- Understand how to insert, check and use a nasogastric tube.
- Initiate nutritional measures including enteral preparations when appropriate.
- Outline the possible causes of anorexia nervosa and current management practice.
- Recognise the abnormal blood results(electrolytes and lipid profiles) and complications associated with anorexia nervosa and mortality.

Lump in the neck /thyroid disease

- List the causes of midline/paramedian and lateral neck swellings and describe the features in the history and examination that distinguish these.
- Identify lumps which need referral (urgent and non-urgent) to ENT and those which can be left alone.
- Describe the common causes of salivary gland swellings and the features that suggest malignancy (dysphagia, voice change and throat/mouth/neck pain)
- Basic overview of symptoms, investigations, pathophysiology and treatment of:
 - PCOS
 - Acromegaly
 - Cushing's syndrome/disease
 - Hyperthyroidism & hypothyroidism
 - Prolactinomas
 - Non-functioning pituitary tumours
 - Diabetes insipidus
 - Conn's syndrome
- Describe the clinical features, biochemical findings, management and complications of hypothyroidism, hyperthyroidism (distinguish between Graves' disease, hyperthyroidism, and multinodular goitre)
- Describe the use of carbimazole /propylthiouracil in the management of hyperthyroidism.
- Recognise the place of radioiodine treatment in the management of multinodular goitre and multiple hyperthyroidism relapse.
- Discuss the place of surgery in the management of thyroid masses.

Mental Health

The patient who is a risk to themselves and/or others

- Understand the difference between 'deliberate self-harm' and 'suicidal intent'.
- Understand the principles of risk assessment, identifying risk factors in history and presentation.
- Describe the initial management of acute behavioural disturbance, including drug options.
- Outline the routine data sources available to illustrate the epidemiology of mental health problems and discuss their applications and limitations.
- Understand the important demographics in the context of risk assessment (age, gender, ethnicity etc.)
- Describe the initial management of deliberate self-harm and suicidal behaviour.
- Understand the major risk domains in terms of concepts, definitions, dimensions and basic epidemiology, and how they vary over time and context.
- Develop an ability to begin to formulate clinical risk assessments.
- Mental Health Act

Depression/Mood disorder

- Describe the clinical features of depression, including dysthymia and bipolar disorder.
- Formulate the aetiology of the patient's current illness in terms of biological, psychological and social factors.
- Consider the importance of predisposing, precipitating and perpetuating factors in a patient's illness.
- Describe the indications, contra-indications, major interactions, side-effects of, and any

monitoring requirements for, the major biological treatments for depression (TCAs, SSRIs, SNRIs, mixed reuptake inhibitors e.g. mirtazapine and awareness of MAOIs. Mood stabilisers (lithium, sodium valproate, carbamazepine, lamotrigine)

- Develop an awareness of the breadth of mental health services, both community and acute, and the range of health professionals involved.
- Describe the features of a Community Treatment Order.
- Outline the grounds for recalling a patient to hospital who is under a Community Treatment Order.
- Understand the multi-disciplinary nature of mental health teams and roles of all professionals, and the interface between primary care and specialist psychiatric services for the common mental disorders.
- Describe the indications for, and procedure of, electro-convulsive therapy.

Psychosis

- Understand the difference between illusion and hallucinations.
- Understand the difference between overvalued ideas and delusions.
- Describe the common types of delusions e.g. persecutory, nihilistic, grandiose, and delusions of reference.
- Elicit symptoms of thought passivity i.e. thought insertion, withdrawal and broadcasting.
- Describe the features of the mental state examination which are consistent with a psychotic presentation.
- Appreciate the importance of psychotic phenomena in the risk assessment e.g. command hallucinations, persecutory delusions.
- Explore the factors involved in treatment choice e.g. side effects of drugs, route of administration, likelihood of concordance, patient choice.
- Understand the appropriate physical investigations and examinations linked to the long term management of mental disorders.
- Explore the difficulties in conducting research in psychiatry and how these relate to the strength of evidence that can be obtained.
- Discuss the prejudice and discrimination associated with mental health problems, and the consequences that arise from such discrimination.
- Understand the relevant sections of the Mental Health Act and how they might apply to clinical situations within the mental health field, physical health and general practice.
- Describe the indications, contra-indications, major interactions, side-effects of, and monitoring requirements for, antipsychotics (both typical and atypical agents)
- Explore the differing clinical and legal terms and concepts of 'illness', 'mental disorder', 'insanity' and 'best interest' and when these definitions might be engaged.
- Understand when and why mental health law is used at different points in time and the nature of interventions this allows and does not allow.
- Describe pharmacological and non-pharmacological management of acute schizophrenia.
- Describe the neural circuits implicated in schizophrenia and neurotransmitters involved.

Substance misuse

- Recognise the key features of substance misuse disorders and how they can affect family relationships, occupation and mental health.
- Understand the effect of alcohol on the body through the range of intake quantities.
- Recognise alcohol problem drinking in an individual, know how to use audit C questionnaire &

know how to calculate alcohol units.

- Understand reasons behind alcohol dependency.
- Recognise the effect of excess alcohol has on the individual, their family & society.
- Be familiar with programs designed to reduce problematic alcohol intake in individuals.
- Be familiar with public health strategies to reduce alcohol problem drinking in society.
- Be familiar with the concept of prescription drug misuse & be able to name measures taken to limit its prevalence.
- Describe the variety of ways opiate dependency can impact upon an individual.
- Understand some of the factors behind opiate dependency.
- Describe the principles behind drug harm reduction measures available in the community.
- Be familiar with other commonly used street drugs – cocaine & crack cocaine, ketamine, LSD, ecstasy.
- Understand principals of analgesia in the opiate dependent patient.
- Describe the features of dependence and harmful use of drugs and alcohol, including withdrawal states.
- Medication management of benzodiazepine intoxication.
- Medication management of acute alcohol withdrawal.
- Describe the non-pharmacological and pharmacological management of substance misuse disorders.

Dementia & Cognitive Impairment

- Acute and chronic; dementia, delirium, Wernicke's encephalopathy and Korsakov's syndrome.
- Be familiar with how to take a hx from a patient with memory impairment.
- Awareness of what investigations should be carried out for such a patient.
- Knowledge of different types of dementia, how they presentation & management.
- Recall the physical and mental causes of forgetfulness.
- Describe the indications, contra-indications, major interactions, side-effects and of, and any monitoring requirements for, of cholinesterase inhibitors and other medication used in dementia, and anticholinergics used in the management of extrapyramidal side effects and acute dystonias.
- Describe the structure of mental health services and how they are delivered.

Personality disorder

- Recognise the key features of personality disorders.
- Recognise that many psychiatric disorders can coexist with personality disorder and substance misuse (dual diagnosis)
- This to specifically include antisocial and emotionally unstable types.
- Outline the framework for the classifications of mental disorders, explaining the criteria on which it is based.
- Describe pharmacological and non-pharmacological management of acute psychiatric emergencies.

Musculoskeletal

Acute joint pain and swelling

- Differentiate, using history and examination, between mono-, oligo-, and polyarthritis and recall principal causes for each.
- Be able to take a focused history and perform a competent clinical examination of the knee, hip,

- shoulder, hand and foot, and be able to recognise common disease processes on X ray.
- Be able to recognise septic arthritis, understand its epidemiology , risk factors and microbiology, and initiate prompt and appropriate management.
- Recall treatment options for acute arthritis including rheumatoid arthritis, ankylosing spondylitis, psoriatic arthritis, SLE, seronegative /seropositive arthritis, reactive arthritis e.g. analgesia, NSAIDs, steroids, physiotherapy etc.
- Perform a competent physical examination of the musculo-skeletal system, remembering extra-articular features.
- Interpret initial investigations appropriately: blood tests, radiographs, joint aspiration, cultures.
- Practise safe prescribing of analgesics and NSAIDs for joint disease, awareness of second line therapies and their complications.
- Understand the different clinical presentations of inflammatory (e.g., Psoriatic arthritis) vs degenerative arthropathy: - Peripheral-axial distribution; Oligo-/polyarthropathy; non-articular symptoms of systemic inflammatory disease.
- Construct a differential diagnosis of a patient with inflammatory arthropathy.
- Outline the role of DMARDs in systemic inflammatory disease.
- Describe the monitoring requirements (prior to and during) for the use of DMARDs, and their rationale.
- Explore the side effects and dose regimes of common DMARDs, (e.g., methotrexate, leflunomide)
- Outline the role of biologic treatments (TNF- α inhibitors), in systemic inflammatory disease.
- Describe the monitoring requirements (prior to and during) for the use of biologics, and their rationale.
- Explore the side effects and dose regimes of common TNF- α inhibitors, (e.g., etanercept)

Back pain and sciatica

- Recall the basic anatomy of the spine and nervous system.
- Recall the causes of back pain (mechanical/degenerative, trauma, disc prolapse, infection, tumour, inflammation, 'medical' causes) and outline abdominal pathology that may present with back pain.
- Perform a history and examination, including being able to assess restriction in movement in the cervical, thoracic and lumbar regions, and recognise signs of spinal cord / cauda equina compromise.
- Describe the use in primary care of the features that raise concerns as to a sinister cause ('the red flags') and lead to consideration of a chronic cause ('the yellow flags')
- Define the term 'spondylarthropathy' and outline its differentials.
- Safely prescribe analgesics and anxiolytics as appropriate.
- Revise the indications for an urgent MRI of spine.
- Identify when surgical/neurological referral is indicated.
- Identify what factors place a patient at risk of osteoporotic fracture and highlight when a patient should be referred for radiological or DEXA investigation.
- Discuss the public health and socioeconomic burden of chronic back pain and outline strategies for prevention and management.

Chronic joint pain

- Be able to differentiate osteoarthritis (degenerative pain) from inflammatory arthritis of long duration.
- Be able to recognise referred pain from joint disease (upper arm pain from shoulders, anterior thigh / knee pain referred from hip)
- Be able to distinguish between late-presenting inflammatory deformities (ulnar deviation /

subluxation / joint instability) from nodal osteoarthritis.

- Use safe escalation of analgesia, balancing need to maintain function with avoidance of abuse/overuse especially if psychological issues.
- Be aware of side effects of long-term disease-modifying drugs.
- Be aware of significant psychological and social impact of chronic pain and deformity, and role played by occupational therapists in managing.
- Understand indications for surgical referral (nocturnal pain, progressive loss of mobility, tendon rupture)
- Be able to assess a patient for total hip or knee replacement and understand the benefits and possible complications of such surgery.
- Be aware of alternative, non-pharmacological management strategies used by patients and the common side effects and interactions (cod liver oil, evening primrose oil, acupuncture, cannabis etc.)
- Accept patients' choice to live with pain rather than side effects of medication.

Fractured neck of femur (#NOF)

- Understand epidemiology of fractured neck of femur and its associated morbidity.
- Describe anatomy of the hip joint, its blood supply and how this impacts on the surgical treatment of fractures.
- Classify proximal femur fractures and understand the pathology of #NOF (including malignancy)
- Understand the initial presentation and management of hip fractures and co-morbidities and how this is facilitated by a multidisciplinary approach, including orthogeriatrics, allied health professionals and social care.
- Understand the surgical treatment options for #NOF and their indications.
- Understand # NOF pathways in NHS
- Understand psycho-social implications of #NOF
- Be able to classify #NOF-intra & extra-capsular fractures, and their treatments.
- Describe the clinical risk factors for #NOF - including osteoporosis – and their management.
- Revise what is involved in peri-operative care: anaesthetic pre-op assessment; thromboprophylaxis; post op review.

See also 'hypercalcaemia, metabolic bone disease and other endocrine disorders'

Soft tissue pain/fractures/other minor trauma

- Be able to evaluate hip, knee, wrist pain following a fall, and shoulder and neck pain.
- Be aware of non-traumatic causes of soft tissue pain: polymyalgia rheumatic.
- Understand mechanisms of injury and be able to take a relevant history and examination of a possible fractured bone.
- Be able to recognise and describe long bone fractures seen on x-ray.
- Have an understanding of how bones grow and how fractures heal.
- Understand the basic principles and initial steps of fracture management.
- Understand the indications for surgical fixation of common fractures.
- Describe the initial management of joint dislocation and understand the principles of safe sedation during reduction.
- Have a thorough understanding of the common musculoskeletal problems that present in primary care. To include but not be limited to:
 - Gout

- Simple mechanical low back pain & red flags
- Osteoarthritis
- Common inflammatory arthropathies
- Septic arthritis
- Polymyalgia rheumatica
- Temporal arteritis
- Fibromyalgia
- Knee: ACL tears, meniscal tear, Osgood-Schlatter's Baker's cyst
- Shoulder: Frozen shoulder, impingement syndrome & rotator cuff problems
- Elbow - golfers & tennis elbow, pulled elbow
- Neck - whiplash & cervical radiculopathy
- Hand - Dupuytren's contracture, trigger finger
- Foot - plantar fasciitis, flat feet, bunion
- Carpal tunnel syndrome
- Osteoporosis, osteopenia & osteomalacia rickets
- Osteomyelitis
- To be able to formulate a differential diagnosis of the following presentations; back pain, fatigue, knee pain, generalised aches & pains.
- Identify the nerve / nerve root involved in various presentations of radiculopathy & mononeuropathies. Median / ulnar / radial nerve, Sciatica, Cervical radiculopathy.
- Have an understanding of the pathology, presentation, symptoms, signs and investigations of common shoulder problems including instability, rotator cuff injury, calcific tendonitis, impingement, osteoarthritis including the ACJ, and adhesive capsulitis; to also understand possible treatments for these.
- Recall the indications for tetanus prophylaxis.
- Recognise possible stress fractures e.g. metatarsal fracture after walking / exercise.
- Recognise significance of fracture after minor trauma i.e. osteoporotic.
- Outline the criteria for the safe discharge of a patient with minor trauma from the Accident and Emergency department, especially psychosocial aspects.
- Explain the differences in symptoms and management between upper and lower motor nerve lesions, and describe the physical features of radial, ulnar, median, brachial plexus lesions, carpal and cubital tunnel syndromes and peroneal injuries.

Musculoskeletal deformities and connective tissue diseases

- Understand the pathological basis of the connective tissue diseases, the differences between them (SLE, scleroderma, myositis, MCTD and Sjogren's syndrome), recognise their antibody profiles and be familiar with the rudiments of treatment.
- Recognise and to have a basic understanding of the less common conditions which may inform a musculoskeletal differential diagnosis: Connective tissue diseases incl SLE & SS, Sjogren's syndrome, Vasculitis.
- Understand the classification and antibody profile of the vasculitides.
- Understand the significance of kyphosis with respect to possible fracture.
- Describe why varus / valgus deformities at the knees are problematic / relate to asymmetric OA
- Be able to recognise and describe chronic hand deformities, including ulnar deviation at hands, and functional and socioeconomic difficulties they cause.
- Describe the mechanism or treatment options for Dupuytren's contractures, carpal tunnel syndrome, ulnar nerve palsy, trigger finger, tendon ruptures, fractures, dislocations and mallet

finger.

- Recognise / discuss polydactyly, syndactyly and relevant surgery.
- Recognise common chronic/congenital foot conditions including hallux valgus, hallux rigidus, hammer toe, claw toe, talipes equinovarus, pes planus, pes cavus and Morton's neuroma.
- Describe safety aspects related to surgery in a patient with longstanding RA (neck / AA instability)

Neurological

- Fits/seizures
- Able to broadly distinguish different types of seizures including simple or complex partial, or simple with secondary generalisation; and generalised seizures- absence, tonic-clonic, myoclonic.
- Considered some of the wider issues facing patients with a diagnosis of epilepsy.
- Acute confusion/delirium
- How to assess and manage a patient with delirium including hx/exam/investigations.
- Differential diagnosis of delirium from case scenarios.
- Focal weakness
- Be able to systematically construct a list of differential diagnoses in a patient presenting with a headache.
- Of the following differentials have knowledge of common presenting symptoms, examination findings and possible investigations: meningitis, encephalitis, subarachnoid haemorrhage, traumatic head injury, sinusitis, migraine, cluster headache, trigeminal neuralgia, acute angle closure glaucoma, temporal arteritis, tension headache.
- Awareness of the principles of treatment of epilepsy, including potential teratogenicity of medication.

Renal Tract

Difficulty passing urine/urinary retention

- Distinguish between the causes of urinary incontinence, justifying the choice of appropriate diagnostic tests.
- Have a detailed understanding of the most common causes of obstructive urinary symptoms in men- benign prostatic hypertrophy & prostate cancer.
- Common presenting and differentiating symptoms of both diseases.
- Examination findings, investigation and basic knowledge regarding treatment of these conditions.
- Be able to use the International prostate symptom score tool & interpret results.
- Awareness of when it is appropriate to test for prostate specific antigen levels and interpret the results - ability to counsel patients on its use, particularly with regard to false negative and positive results.
- Awareness of local guidance to aid decision making in referring raised PSA levels for further investigation, based on previous BAUS age specific reference ranges.
- Knowledge of other factors which may cause raised prostate specific antigen levels.
- Describe the range of laboratory tests and imaging techniques used in the investigation of patients with urinary outflow obstruction.
- Distinguish between the symptoms of upper and lower urinary tract obstruction.
- State the presentation, classification and management options for prostatic carcinoma.
- Distinguish between acute and chronic urinary retention.
- List the causes of chronic urinary retention.

- Outline the management of acute urinary retention.

Loin pain/haematuria

- Distinguish between the causes of microscopic and macroscopic haematuria, justifying the choice of appropriate diagnostic tests, and list the common causes for each.
- Interpret the results of a urine dipstick test in a patient with haematuria.
- Apply the criteria for urological or nephrological referral (to include NICE urgent referral guidelines)
- Explain the pathology and management of glomerular diseases.
- Classify the glomerulopathies and understand the principles of treatment.
- Describe the symptoms and signs that can be used to distinguish between the different causes of loin pain.
- State the role of urine microscopy and bedside urinalysis in determining the cause of loin pain.
- Discuss the role of conservative management and interventions, including lithotripsy, in managing renal calculi.
- Describe the role of a CT KUB in identifying radio-opaque renal stones, and the role of ultrasound in identifying hydronephrosis.
- List the risk factors, aetiology, treatment and complications of acute pyelonephritis.

Renal failure

- Explain the significance of urine output and outline the principles of maintaining fluid balance in the oliguric or polyuric patient, with particular emphasis on planning and monitoring initial fluid resuscitation.
- Describe the common conditions that cause acute kidney injury (pre-renal, renal and post-renal) and chronic kidney disease, including drugs, and how to distinguish between acute and chronic failure.
- Describe the causes and management of nephrotic syndrome and acute nephritis.
- Describe the life-threatening complications of renal failure, in particular the identification and management of hyperkalaemia, and the indications for emergency renal replacement therapy.
- Describe acute metabolic complications, pre- and post-renal failure, management of fluid overload, assessment of need for dialysis, acute glomerular disease and management of polyuric recovery.
- Describe the principles of renal replacement therapy – haemofiltration, acute and chronic dialysis.
- Outline the long-term problems faced by renal transplant recipients.
- Distinguish between the causes of proteinuria, justifying the choice of appropriate diagnostic tests.
- Know the normal urine output expected of adult and child and recognise the difference between anuria and oliguria.
- Understand common problems with urinary catheters.

Scrotal swellings/pain

- Distinguish between common causes of scrotal swelling (hydrocele, varicocele, cyst, cancer) by history, examination and investigation.
- Demonstrate an understanding of the urgency of investigating suspected testicular torsion.
- Discuss the organisational and practical implications of life- and limb-threatening surgical conditions.

Respiratory

Recurrent Wheezy Breathlessness

- Specific knowledge regarding interstitial lung disease- presentation and common causes, including:
 - Inhaled substances- organic or inorganic
 - Drugs
 - Connective tissue disease
 - Post infection
 - Idiopathic
 - Malignancy
- Be aware of antibiotic stewardship in URTIs and ear infections - treating otitis media, otitis externa, sinusitis and using CENTOR criteria for sore throats.
- Be aware of assessing the severity of community acquired pneumonia using CURB65 Score.
- Describe the key clinical features of asthma and outline the most important differential diagnoses.
- Aware of presenting features, examination findings and investigations for each of the following conditions:
 - asthma
 - post nasal drip
 - gastro-oesophageal reflux disease
 - chronic obstructive pulmonary disease
 - ACE inhibitors
 - pneumonia
 - bordetella pertussis infection
 - lung cancer
 - bronchiectasis
 - sarcoidosis
 - interstitial pulmonary fibrosis
 - pulmonary embolism
 - pleural effusion
 - anaemia
- Explain the key principles behind national asthma management guidelines.
- Define the most important treatment goals in COPD, distinguishing interventions that improve prognosis from those which improve symptoms.
- Outline the different drug delivery systems for respiratory medications.
- Recall the pharmacology of the major drug classes used in respiratory disease: bronchodilators, inhaled corticosteroids, leukotriene receptor antagonists, immunosuppressants.

Acute pleuritic chest pain

- Recall the causes of pleuritic chest pain.
- Describe an approach to assessing the risk of pulmonary embolism in patients presenting with acute pleuritic chest pain, including the use of diagnostic imaging.
- Outline how the severity of acute pulmonary embolism guides management.
- Describe a treatment strategy for the management of pneumothorax.

- Describe strategies for preventing venous thromboembolism in hospital patients.
- Discuss potential difficulties in the assessment of the pregnant patient with suspected pulmonary embolism, justifying the choice of diagnostic tests.

Haemoptysis

- Recognise the common and potentially life threatening causes of haemoptysis: bronchiectasis, tuberculosis, pneumonia, pulmonary embolism and carcinoma.
- Demonstrate awareness of non-respiratory causes.
- Request, interpret and act on initial investigations appropriately: routine bloods, clotting screen, chest radiograph and ECG, sputum tests.
- Initiate treatment including indications for starting or withholding anticoagulants and antibiotics.
- Formulate a differential diagnosis for acute massive haemoptysis. What features of the clinical presentation would best guide emergency treatment?
- Distinguish between the types and stages of lung cancer and how these determine treatment options.
- Describe how the early diagnosis of, and therefore survival from, lung cancer might be improved.

Cough

- List the common and serious causes of cough and how the history and clinical findings differ between them.
- Identify risk factors relevant to each aetiology including precipitating drugs.
- Outline the different classes of cough and how the history and clinical findings differ between them.
- Outline the investigations used to distinguish between different classes of cough, including sputum culture, spirometry, blood tests etc.
- Describe how patients in the early stages of a cough might be managed in order to identify serious underlying disease; tuberculosis, lung cancer, bronchiectasis, COPD, pulmonary fibrosis.
- Outline effective methods of smoking cessation and be able to counsel patient on stopping smoking.
- Explain the choice of antibiotics for exacerbations of COPD and non-cystic fibrosis bronchiectasis, including the indications for preventative antibiotics.
- Describe the pathological basis of different types of lung cancer.
- Explain the choice and role of antibiotics in the management of lung conditions.

Obstructive sleep apnoea

- List risk factors for sleep apnoea in adults and be aware of the link between sleep apnoea, hypertension, cardiovascular disease and mortality.
- Describe and distinguish the physiological characteristics of apnoea and hypopnoea.
- Recount the symptoms and signs of obstructive sleep apnoea and narcolepsy.
- Understand how to grade the severity of obstructive sleep apnoea (degrees of hypoxaemia and sleep disturbance, arrhythmias and duration of respiratory events).
- Understand management options available for sleep apnoea e.g. weight loss, CPAP, surgery.
- Understand the medico-legal implications for driving and occupation.

Breathlessness

- Recall the common and/or important cardio-respiratory conditions that cause breathlessness.
- Provide a differential diagnosis of exertional dyspnoea.

- Students able to construct a differential diagnosis including history, examination findings and key clinical investigations for:
 - cough
 - shortness of breath
- Understand the pathophysiology, diagnosis and management of heart failure.
- Identify non cardio-respiratory factors that can contribute to or present with breathlessness e.g. acidosis.
- Describe the likely respiratory causes of hypoxaemia in the acute and chronic setting.
- List the common and serious causes for hoarseness and stridor and differentiate hoarseness, stridor and wheeze.
- Interpret history and clinical signs to list appropriate differential diagnoses.
- Assess severity: cyanosis, respiratory rate and effort.
- Explain the principles of lung function assessment and describe commonly used tests.
- Interpret and act on initial investigations appropriately: routine blood tests, oxygen saturation, arterial blood gases, chest x-rays, ECG, Peak flow test, spirometry.
- Be aware of different methods of oxygen delivery to patients, and when to use them.
- Initiate treatment in relation to diagnosis, including safe oxygen therapy, early antibiotics for pneumonia.
- Describe broad patterns of chest X-ray abnormalities and what they imply in terms of diagnosis.
- Be aware of occupational factors in respiratory disease.
- Be able to distinguish between important causes of pulmonary fibrosis.
- Counsel patients in smoking cessation appropriately.

Women's Health

CCT

- Take a gynaecological history and consider a differential diagnosis in common gynaecological scenarios.
- Understand causes of dyspareunia and how to identify between them.

Contraception

- Describe and explain reversible, irreversible and emergency contraception, including modes of action and efficacy, methods, indications, contraindications and complications (to include natural methods of family planning, barrier, chemical, hormonal, male and female sterilisation, intrauterine and postcoital methods)
- Demonstrate an awareness of psychosexual problems.
- Demonstrate an understanding of ethical and legal issues relating to fertility control.

Medical complications of pregnancy

- Identify the sick or deteriorating pregnant patient (including the significance of pain, bleeding, hypovolaemia, headache and fits)
- Gain an understanding of pre-existing medical conditions on pregnancy (especially diabetes mellitus, epilepsy and chronic hypertension) and the risks and modifications required to continuing drug treatment during pregnancy.
- Describe effect of pre-existing medical disorders on pregnancy and vice versa.
- Identify the use of multidisciplinary clinics in the management of medical conditions.
- Understand the usefulness of guidelines in promoting high quality maternity care in general, and in complex pregnancies in particular.

Abnormal fetal growth

- Describe the factors involved in abnormal fetal growth and development, and explain their mechanisms.
- Outline the investigations used to diagnose abnormal fetal growth emphasising the pathophysiological principles on which they are based.
- Take and present an history from a patient with suspected abnormal fetal growth.
- Measure fundal height and plot on customised growth chart to determine fetal growth, esp. polyhydramnios and 'large for gestational age'.

Fetal prematurity

- Discuss the diagnosis, clinical assessment and management of suspected pre-term labour and the implications for the neonate.
- Demonstrate an understanding, appropriate knowledge, skills and attitudes in relation to ethics and legal issues in preterm labour.
- Describe the appropriate modes of delivery available in the management of pre-term Labour.
- Describe the practical use of evidence based medicine in obstetric and neonatal medicine.

Normal and abnormal pregnancy

- Be able to counsel a woman in early pregnancy from a primary care perspective.
- To understand and demonstrate appropriate knowledge, skills and attitudes in relation to antenatal care in the low-risk pregnancy.
- Assess current principles/practice of safe prescribing in pregnancy.
- Take & present an obstetric history, examine the pregnant abdomen, auscultate the fetal heart, measure BP in pregnancy and perform & interpret urinalysis.
- Discuss the screening criteria in relation to routine antenatal care.
- Be able to describe lie, position, presentation in relation to normal pregnancy.
- Demonstrate an understanding of the determination, risks and monitoring of high-risk pregnancies.
- Understand common problems e.g. hyperemesis gravidarum, pelvic/abdominal pain in early pregnancy.
- List the implications of postmature pregnancy and the induction process.
- Describe methods of monitoring fetal well-being.
- Distinguish the difference between preterm/prelabour rupture of membranes and their management plans.
- Be able to describe lie, position, presentation in relation to abnormal pregnancy.
- Use of anti-D
- Understand the role of choice and expectation in pregnancy and labour.
- Understand the role of CEMACE in promoting high quality maternity care.
- Outline the investigations used to diagnose intra-uterine growth retardation.

Normal and abnormal labour

- Describe the mechanisms of normal labour and delivery.
- Compare monitoring methods of maternal and fetal wellbeing during labour including completion of partogram.
- Demonstrate an understanding of the normal stages of labour and their management.
- Describe the anatomy of the female pelvis in relation to the fetal skull and its implications for

delivery.

- Describe methods available for pain management in labour, their benefits and risks.
- Understand the significance of episiotomy, perineal trauma and their long-term consequences.
- Demonstrate an understanding of the aetiology, risk factor affecting labour and delivery, including intrapartum haemorrhage, shoulder dystocia and trauma.
- Describe methods of induction and augmentation of labour.
- Demonstrate the skills required in the immediate resuscitation of the collapsed obstetric patient.
- Compare modes of instrumental delivery and their indications.
- Observe and demonstrate an understanding of the indications and complications of both elective and emergency caesarean section.
- Describe the causes of stillbirth and management of pregnancy and labour following diagnosis.

Pelvic pain

- Describe the regional anatomy and histology relevant to the female pelvis.
- List the common gynaecological problems causing pelvic pain including, endometriosis, adhesions, pain from uncertain origin.
- Take and present an history from a patient with pelvic pain.

Pre-eclampsia

- Describe the classifications of hypertensive disorders of pregnancy.
- Describe the management of a woman suffering from pre-eclampsia in pregnancy.
- Describe severe pre-eclampsia and outline the treatment including the use of anti hypertensives and magnesium sulphate, and timing of delivery.
- Discuss timing and mode of delivery for women suffering from severe pre-eclampsia and eclampsia.
- Take and present an history from a women with suspected hypertensive disease.

Abnormal cervical smear

- Explain the significance of cervical smear testing programme and the result.
- Understand the epidemiology, aetiology, diagnosis and prognosis of gynaecological cancer.
- Demonstrate an understanding of the epidemiology, aetiology, diagnosis and prognosis of gynaecological cancer.
- Principles of screening in general.

Normal and abnormal puerperium

- Demonstrate an understanding of the normal postpartum period for women and the newborn.
- Undertake care of the woman and newborn in the early puerperium.
- Describe the importance of breastfeeding.
- Be aware of the key issues in the management of perineal care.
- Describe the common abnormalities of the postpartum period.
- Describe the techniques for prevention and management of postpartum haemorrhage.
- Identify and discuss postpartum sepsis.
- Demonstrate an understanding of postpartum psychiatric disorders and their management.

Pre-natal diagnosis

- Demonstrate an understanding or preconceptual counselling of women with pre-existing illness.
- Discuss preconceptual care and the use of lifestyle changes, folic acid and nutritional

requirements to positively influence pregnancy.

- Understand the ethical issues associated with preimplantation/prenatal testing and embryo selection, genetic testing and screening after birth.

Rectal and vaginal prolapse

- Understand and demonstrate appropriate knowledge skills and attitudes in relation to incontinence and prolapse.
- Demonstrate an understanding of the clinical features associated with disorders of urinary tract and pelvic floor, including utero-vaginal prolapse, detrusor overactivity, urodynamic stress incontinence and urinary tract infection.
- Be aware and able to explain investigations and treatment of urinary incontinence and genitourinary prolapse, including bladder retraining, pelvic floor exercises, pads, catheterisation etc, medical and surgical therapies.

Vaginal bleeding in pregnancy

- Describe the aetiology, risk factors and possible causes for bleeding in pregnancy.
- Describe the management of antepartum haemorrhage, including the use of USS
- Demonstrate an understanding of the prevention and management of rhesus haemolytic disease and the use of Anti-D
- Classify miscarriage and explain the significance of ectopic pregnancy and molar pregnancy.
- Take and present an history from women with pregnancy bleeding.

Subfertility

- Outline the common causes of subfertility (ovulatory dysfunction, tubal disease, endometriosis, coital dysfunction including dyspareunia) and investigations (semen analysis, endocrine evaluation, ultrasound and surgical evaluation)
- Describe the principles of ovulation induction and artificial reproduction techniques.
- Describe the legal and ethical issues relating to fertility control, including the Human Fertilization and Embryology Act, gamete donation and surrogacy.
- Understand the importance of psychological factors relating to subfertility.
- Demonstrate an understanding of the issues relating to the NHS funding and the rationing of treatment.
- Revise male and female reproductive systems.
- Describe the anatomical and endocrine abnormalities in both male and female that may lead to infertility.
- Discuss the genetic contribution to infertility.

Abnormal menstruation

- Describe the physiology of the menstrual cycle.
- Review causes of abnormal bleeding including their symptoms and management, esp. menarche, dysmenorrhoea, intermenstrual/postcoital bleeding, primary and secondary amenorrhoea, fibroids, endometriosis, ovarian cysts, PCOS

Menopausal disorders

- Describe the significance of benign gynaecological problems and their management in relation to the menopause.
- Identify the menopause and the appropriate treatments available.
- Abnormal bleeding/postmenopausal bleeding.
- Hormone replacement therapy.

Multiple pregnancy

- Discuss the risk factors and management of multiple pregnancies.
- Describe the mechanisms of twinning and the types of plantation involvement.
- Use routine data to describe population trends in multiple pregnancy.
- Explain the labour options for multiple pregnancy and mode of delivery.

Unwanted pregnancy and termination

- Understand the methods of TOP including medical and surgical, gestation appropriate, indications and complications.
- Be aware of the sexual healthcare needs of vulnerable groups, e.g. the young, commercial sex workers and drug abusers.
- Understand the need to respect cultural and religious beliefs.
- Demonstrate an understanding of the Abortion Act and the relative legal status of the fetus and the mother.