4) Cognitions of hopelessness and helplessness

5) Previous history of violence and/or impulsivity

6) Recent disposal of assets and preparation of a legal will

Key Objective

- Determine whether suicide or a self-harm attempt is likely by assessing risk factors for suicide and patient's mental state. Suicide prediction has a low degree of sensitivity and specificity.

General/Specific Objectives

- Through sensitive and comprehensive data gathering, which may include interviewing other informants:
  - Elicit history of risk factors, suicidal ideation and intent, content, duration, frequency, plan and rehearsal.
  - Determine current stress factors and recent life events.
  - Determine whether a support network is available and accessible.
  - Recognise that risk of self-harm is increased if the patient is depressed, psychotic or intoxicated and has established a plan with the means available.
- Interpret critical clinical and laboratory findings which were key in the processes of exclusion, differentiation, and diagnosis.
- Conduct an effective plan of management for a patient with suicidal ideation:
  - Outline immediate management of a patient at imminent risk for self-harm (e.g. local crisis psychiatric services, urgent or involuntary hospitalisation, specialist assessment). Patient safety is paramount and continuous observation is essential whilst arrangements are put in place.
  - Outline a contingency plan if a patient refuses to cooperate or demands to leave.
  - Outline management of a patient whose risk for suicide is chronic but not imminent.
  - Discuss appropriate medications for patients at risk of suicide who have a treatable psychiatric disorder.
  - Arrange for drug and alcohol counselling when appropriate.
  - Select patients in need of specialist assessment and treatment.
  - Inform and counsel family and friends.

109 Syncope / Pre-Syncope / Loss of Consciousness

Overview

Syncope is a transient, self-limiting loss of consciousness, usually leading to falling. Syncopal episodes are common, accounting for 3–5% of attendances at emergency departments and affecting 15–25% of the population over a 10-year period. The prevalence increases with age and syncope causes significant morbidity in the elderly. Clinicians are required to distinguish syncope from seizures; and to distinguish syncope caused by benign causes from syncope caused by serious underlying illness.

Causes

1) Neurally-medicated reflex syncopal syndromes

a) Vasovagal/Vasodepressor syncope

b) Carotid sinus syncope

- ❑ Carotid sinus syndrome (elderly subjects with vascular disease)
- ❑ Situational faint (serious consequences may follow when confined surroundings prevent falling)
- ❑ Acute haemorrhage
- ❑ Cough/Sneeze syncope
- ❑ Gastrointestinal stimulation (defaecation, visceral pain)
- ❑ Micturition
- ❑ Post-exercise
- ❑ Other (weightlifting, brass instrument playing, post-prandial)

c) Glossopharyngeal and trigeminal neuralgia

2) Orthostatic

a) Volume depletion

- ❑ Haemorrhage
- ❑ Diarrhoea
- ❑ Addison disease

b) Vasodilator drugs (nitrates, antihypertensives, diuretics, antidepressants)

c) Mechanical reduction of venous return

d) Autonomic failure

- ❑ Primary autonomic failure syndromes (pure autonomic failure, multiple system atrophy, Parkinson disease with autonomic failure)
- ❑ Secondary autonomic failure syndromes (diabetic autonomic neuropathy, amyloid neuropathy)

3) Cardiac arrhythmia

a) Sinus node dysfunction (including tachycardia/bradycardia syndrome)

b) Atrioventricular conduction system disease

c) Paroxysmal supraventricular tachycardia

d) Paroxysmal ventricular tachycardia

e) Inherited syndromes (long QT, Brugada syndromes)

f) Implanted device malfunction (pacemaker, implantable cardiac defibrillator (ICD))

g) Drug-induced (pro-arrhythmic drugs)

4) Structural cardiac or cardiopulmonary disease

a) Cardiac valvular disease (aortic stenosis, mitral stenosis, pulmonary stenosis)

b) Acute myocardial infarction (MI) / ischaemia

c) Obstructive cardiomyopathy (hypertrophic cardiomyopathy)

d) Atrial myxoma

e) Acute aortic dissection

f) Pericardial disease/tamponade

g) Pulmonary embolism

h) Pulmonary hypertension

i) Inflow obstruction (to systemic circulation)

5) Cerebrovascular causes

a) Vascular steal syndromes

Key Objectives

- Differentiate syncope from disturbances of cerebral function caused by a seizure.
- Determine the severity of the complaint and categorise syncope according to severity of underlying cause.

General/Specific Objectives

- Through efficient, focused data gathering:
  - Differentiate between cardiac and non-cardiac causes.
  - Determine volume status.

- Interpret critical clinical and laboratory findings which were key in the processes of exclusion, differentiation, and diagnosis:
  - Identify patients who require tilt table testing.
  - Diagnose disturbances of cardiac rhythm with the assistance of electrocardiography (ECG) and Holter monitoring.
  - Select laboratory investigations most useful in assessment of volume status and interpret the results.
- Conduct an effective plan of management for a patient with syncope / pre-syncope / loss of consciousness:
  - Outline the plan of initial management.
  - Select patients in need of specialised care and/or consultation.
  - List patients who may require cardiac pacing.
  - Evaluate patients for fitness to drive or work; be aware of Australian guidelines.
  - Conduct counselling for patients with syncope.

110 Tall Stature / Short Stature / Abnormal Stature

Overview

To define any growth point, children should be measured accurately and each point (height, weight, and head circumference) plotted. One of the more common causes of abnormal growth is mismeasurement or aberrant plotting.

Causes

1) Tall stature (children develop pituitary gigantism; adults are not taller, but have acromegaly)

a) **Excess growth hormone (GH)**
- ❑ Pituitary adenoma (98%)
- ❑ Extrapituitary tumour (very rare)

b) **Excess GH releasing hormone secretion / growth factor activity**

c) **Other (Klinefelter syndrome, precocious puberty)** – it should be remembered that children with precocious puberty are tall at an early age, but often finish up short due to premature bony fusion.

Acromegaly

2) Short stature

a) **Intrinsic shortness (familial, Turner syndrome)**

b) **Delayed growth (constitutional, under-nutrition, underlying disease)**

c) **Attenuated growth**
- ❑ Chronic renal failure / Metabolic acidosis
- ❑ Cancer / Chemotherapy / Glucocorticoid excess
- ❑ Pulmonary/Cardiac/Gastrointestinal disease
- ❑ Metabolic / Endocrine
  - Vitamin D deficiency/resistance
  - GH deficiency

- Hypothyroidism
- Cushing syndrome

❑ Intra-uterine growth retardation (IUGR) (see #123 Weight (Low) at Birth / Intra-uterine Growth Aberration)

d) Accelerated early growth, more accelerated epiphyseal closure (precocious puberty)

Key Objectives

- Determine whether growth progressively deviates from previously defined percentiles.
- Determine whether the child has dysmorphic features.

General/Specific Objectives

- Through efficient, focused data gathering:
  - Elicit history of uterine growth rate, intra-uterine infections, maternal exposure to toxins, smoking, alcohol, or systemic illness.
  - Determine the presence of underlying medical problems (e.g. rickets, hypothyroidism).
  - Calculate growth velocity, and relationship between chronological age, height age, and bone age.
  - In a patient with tall stature, determine the presence of soft tissue overgrowth (macrognathia, swollen hands and feet, nose, frontal ridges).
  - Elicit information about joint symptoms (hypertrophic arthropathy), headaches, visual problems.
  - Determine whether there is hypertension, left ventricular hypertrophy (LVH), cardiomyopathy, cancer (gastrointestinal).
- Interpret critical clinical and laboratory findings which were key in the processes of exclusion, differentiation, and diagnosis:
  - Select diagnostic imaging for bone age and for diagnosis of causes of altered growth.
  - Screen for hormone disorders (particularly GH, thyroxine, corticosteroid) and chromosomal abnormalities.
- Conduct an effective plan of management for a patient with abnormal growth:
  - Counsel families and children with abnormal stature.
  - Select patients in need of specialised care.

111 Tinnitus/Bruit

Overview

Although tinnitus is mostly harmless it is annoying and difficult to treat. The cause of tinnitus in the vast majority of patients is idiopathic; in some it may be indicative of a serious organic cause which may be reversible. A pulse-related auditory perception suggests a vascular cause.

Causes

1) Auditory

a) Associated with sensorineural hearing loss

- ❑ Presbycusis
- ❑ Noise-associated
- ❑ Ménière disease
- ❑ Neoplasms (acoustic neuroma, cerebellopontine tumour)

b) Drug-related

- ❑ Aspirin
- ❑ Aminoglycosides
- ❑ Other (chemotherapy, digitalis, quinidine)

c) Idiopathic

2) Para-auditory

a) Pulse-synchronous

- ❑ Vascular (carotid bruits, hyperdynamic states, aneurysm, venous hum)
- ❑ Glomus tumour

b) Non-pulse synchronous (temporomandibular joint (TMJ) dysfunction, palatal myoclonus)

3) Psychogenic (anxiety, depression)

Key Objective

- Recognise that any condition of the ear associated with the ear canal (wax, otitis media), cochlear hearing loss, or central nervous system (CNS) hearing loss can cause tinnitus and the underlying cause must be identified.

General/Specific Objectives

- Through efficient, focused data gathering:
  - Determine whether or not the tinnitus is related to an ear condition or hearing loss.
  - Determine whether the tinnitus is pulsatile or non-pulsatile (vascular causes tend to be pulsatile).
  - Determine whether tinnitus is unilateral or bilateral.
  - Differentiate between drug-related causes, disease-related causes, and tinnitus caused by noise.
- Interpret critical clinical and laboratory findings which were key in the processes of exclusion, differentiation, and diagnosis:
  - Select patients for further investigation based on clinical findings.
- Conduct an effective plan of management for a patient with tinnitus:
  - Select patients in need of specialised care.
  - Identify and counsel patients with causes of tinnitus which are benign.

112 Torticollis

(See #057 Involuntary Movement Disorders / Tic Disorders)

113 Trauma/Accidents/Prevention

Overview

Trauma is the third most common cause of death worldwide – after cardiovascular disease and cancer. Trauma is the leading cause of death in the age group under 45 years. Deaths from road accidents account for half of all trauma deaths in Australia. Factors involved in motor vehicle deaths include speeding and alcohol; young males contribute most significantly to this mortality. Additional costly morbidity results from non-fatal road crash trauma.

Intense public awareness campaigns aim to decrease the hazards caused from alcohol and other drugs, speeding fatigue and lack of restraints.

Management principles in traumatised patients are to:

- Check and rapidly restore vital functions (primary survey).
- Diagnose and manage the type and severity of specific injuries (secondary survey).
- Complete rehabilitation after injury.

The level of care is matched to the patient's needs by effective triage.

Causes

Wounds and injuries range from trivial to catastrophic and wounding may be accidental or intentional.

Major categories are:

1) Blunt trauma

a) Vehicle crash injuries

b) Closed bony and soft-tissue trauma from domestic, occupational, sporting and other injuries

Hamstring tear – MRI

2) Penetrating trauma

a) **Knives**

b) **Bullets**

c) **Lacerations and wounds from other causes**

Key Objectives

- Match management to type and degree of trauma injury by efficient triage.
- Conduct an efficient primary and secondary survey of all traumatised patients in accord with emergency management of severe trauma (EMST) guidelines.

General/Specific Objectives

- Recognise and conduct an effective initial management plan for the acutely traumatised patient.
- Conduct an effective and rapid primary survey ('ABCDE'):
  - ***A**irway* – establish patency and adequacy.
  - ***B**reathing* – check and evaluate breathing (look, feel, listen).
  - ***C**irculation* – assess for shock, control external bleeding, establish intravenous access.
  - ***D**isability* – assess neurologic status, record Glasgow Coma Scale.
  - ***E**xposure* with temperature control – complete exposure and examination which leads into secondary survey.
- Conduct an effective and rapid secondary survey through appropriately focused data collection, while maintaining observations and imaging relevant to primary survey:
  - Head and scalp.
  - Neck.
  - Thorax.
  - Abdomen and perineum.
  - Spine and extremities.
- Use appropriate diagnostic and management aids and adjuncts to primary and secondary surveys appropriate to the type and degree of injury, including:
  - Cardiopulmonary resuscitation (CPR), oxygenation, chin-lift and jaw thrust, endotracheal intubation, cricothyroidotomy, needle and tube thoracentesis, pericardiocentesis, tetanus prophylaxis, blood and urine testing including blood cross match, intravenous access, urinary catheterisation, pulse oximetry, plain X-ray, computed tomography (CT) scan, contrast radiology.

113A Abdominal Injuries

Overview

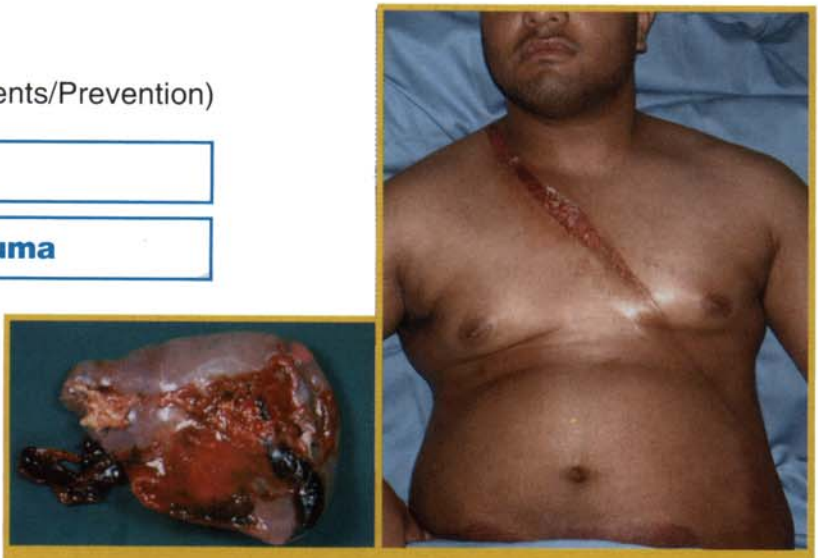
Most abdominal injuries in Australia are blunt injuries associated with road crash trauma. Penetrating injuries (e.g. knives, handguns) will usually require surgical intervention. High velocity gunshot wounds are relatively uncommon but carry a higher mortality and morbidity.

Causes

(see #113 Trauma/Accidents/Prevention)

1) **Blunt trauma**

2) **Penetrating trauma**



Traumatic laceration of spleen

Key Objective

- Determine which injuries require surgical intervention and active resuscitation.

General/Specific Objectives

- Through efficient, focused data gathering:
  - See #113 Trauma/Accidents/Prevention for initial assessment and resuscitative measures.
  - Determine whether significant blunt or penetrating abdominal injury exists.
- Be aware of further investigations which may be required in management (e.g. computed tomography (CT) scan).
- Interpret critical clinical and laboratory findings which were key in the processes of exclusion, differentiation, and diagnosis.
- Conduct an effective initial plan of management for a patient with abdominal trauma:
  - Outline the principles of management of abdominal trauma.
  - List indications for surgical consultation.

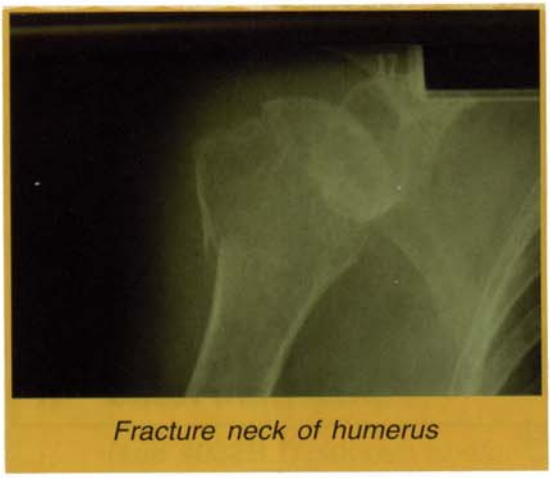
113B Bone and Joint Injuries

(See also #041 Fractures / Dislocations)

Overview

Major fractures are often associated with other injuries, and priorities must be set for each patient. Control of internal haemorrhage from a ruptured spleen takes precedence over fracture management, but severely injured patients with open fractures should have their fractures dealt with as soon as possible after admission to hospital, if necessary by a combined specialty team. Management of many soft-tissue injuries is facilitated by initial stabilisation of the bone or joint injuries.

Healing of fractures can be expected if the fragments have an adequate blood supply, if the bone surfaces are apposed without soft tissue interposition and if immobilisation of the fracture is adequate. Defective local conditions are far more potent sources of delayed union than are systemic or host factors.



Fracture neck of humerus

Intertrochanteric fracture right femur

Causes

1) Varieties of bony injuries

a) Complete/Incomplete ('greenstick') fractures

b) Open/Closed injuries

c) Displaced/Undisplaced/Stable/Unstable fractures

2) Mechanisms of injury

a) **Direct violence (transverse, oblique, 'butterfly', comminuted fractures)**

b) **Indirect violence (spiral, compression, avulsion fractures)**

Fracture clavicle

Colles fracture

Key Objectives

- Recognise principles of management as fracture/dislocation **reduction** with restoration of normal alignment and length, **retention** until healing occurs, rapid **restoration** of function, and effective **rehabilitation**.
- Recognition that methods of management used vary according to circumstances between: no immobilisation except a supportive sling, closed reduction and plaster cast immobilisation; closed reduction and continuous traction; external skeletal fixation devices; operative reduction and internal fixation.

113C Burn Injuries

(See #018 Burns)

Superficial burns of back (healing eschar)

113 Trauma/Accidents/Prevention

113D Chest Injuries

Overview

Injury to the chest may be blunt (e.g. motor vehicle trauma, falls, blast and crush injuries) or sharp (knife or bullet). Management of open sucking wounds and of pneumothorax will often need urgent intervention to maintain breathing and adequate oxygenation. Imaging and other diagnostic investigations may need to be delayed until the patient has been resuscitated and stabilised.

Causes

1) Chest wall / Lung

(see #032B Dyspnoea and/or Cough / Prevention of Cancers and Chronic Respiratory Disese: With Pleural Chest X-Ray Abnormality)

a) **Flail chest**

b) **Haemothorax**

c) **Pneumothorax (open, closed)**

d) **Rib fracture**

2) Heart injury

a) **Pericardial trauma (pericarditis, acute/delayed tamponade, constrictive pericarditis)**

b) **Myocardial trauma (contusion, coronary vessel injury, traumatic valve injury)**

c) **Aortic rupture**

Key Objective

- Appreciate that patients with chest injuries frequently present with shock or with respiratory compromise. Diagnosis and appropriate emergency treatment depends on suspicion and diagnostic acumen.

General/Specific Objectives

- Through efficient, focused data gathering:
  - Differentiate between hypotension / shock from bleeding and from tamponade.
  - Appreciate that aortic rupture may be present (chest or mid-scapular pain, dyspnoea, hoarseness, dysphagia) although it may be asymptomatic.
  - In patients with lung contusion after blunt injury to the chest, or massive traumatic tissue injury, examine lungs for oedema from acute respiratory distress syndrome.
- Interpret critical clinical and laboratory findings which were key in the processes of exclusion, differentiation, and diagnosis:
  - Select diagnostic imaging of the chest as indispensable for accurate diagnosis.
- Conduct an effective initial plan of management for a patient with chest trauma:
  - Select patients in need of specialised care in an intensive care unit (ICU).

113E Cold Injuries

(See #040D Hypothermia)

113 Trauma/Accidents/Prevention

113F Eye Injuries

(See also #120 Visual Disturbance/Loss)

Overview

Eye injuries are common. Fortunately the blink reflex and Bell reflex (turning the eyes upward when the lids close) usually protect the globe from blunt trauma. Emergency assessment should check systematically vision, orbital surrounds, lids and eyebrows, and ocular movements. The globe is assessed for lacerating/abrading injury and foreign bodies inspecting sclera/conjunctiva, cornea, pupil size, shape and reaction, iris, and anterior and posterior chambers by direct ophthalmoscopy. Chemical eye burns will require immediate and copious aqueous irrigation. Most uncomplicated 'black eye' injuries will resolve spontaneously with cold compresses. Restricted eye mobility may indicate entrapment of extraocular muscles in a blowout fracture requiring surgery. Penetrating eye injuries require immediate specialist referral.

Causes

1) **Blunt trauma**

2) **Burn injuries**

3) **Penetrating trauma**

Key Objectives

- Ability to assess from history and examination the result of injury, checking systematically vision, orbital surrounds, lids and eyebrows, and ocular movements.
- Ability to recognise serious injuries threatening sight.

113G Facial Injuries

Overview

Facial injuries are potentially life-threatening because of possible damage to the airway and central nervous system (CNS).

Causes

1) **Blunt injuries**

2) **Penetrating (open) injuries**

Key Objective

- Assess and control vital functions and give management priority to life-threatening injuries. Definitive treatment of the facial injury is relatively less urgent, but of major cosmetic importance.

General/Specific Objectives

- Through efficient, focused data gathering:
  - Elicit a history about the nature of the injury.
  - Evaluate airway, cardiopulmonary and neurologic status.
- Interpret critical clinical and laboratory findings which were key in the processes of exclusion, differentiation, and diagnosis:
  - List the most appropriate investigations used to determine the nature and severity of facial injuries.
- Conduct an effective initial plan of management for a patient with facial injury:
  - Outline the priorities in the management of a patient with a facial injury.
  - Outline and provide the initial management of patients with facial injuries.
  - List indications for specialised care.

113H Hand/Wrist Injuries

Overview

Hand and wrist injuries are common problems presenting to emergency departments. The ultimate function of the hand depends upon the quality of the initial care and the severity of the original injury.

Scaphoid fracture

Causes

Hand injuries commonly follow injuries associated with occupational, domestic, sporting and other recreational activities.

Key Objective

- Demonstrate the assessment of the nature and extent of hand injuries.

General/Specific Objectives

- Through efficient, focused data gathering:
  - Appreciate the differing mechanisms of injury.
  - Appreciate the distinction between 'tidy' and 'untidy' hand injuries.
  - Elicit history of antecedent trauma and type, and assess the nature and extent of injury. Diagnose damage to tendons, nerves, bones and joints, skin and soft tissues.
  - Determine active and passive range of motion, inspect and palpate joints for deformity, and differentiate between radial, ulnar, and median nerve sensory and motor deficit.
- Interpret critical clinical and laboratory findings which were key in the processes of exclusion, differentiation, and diagnosis:
  - Select patients whose trauma suggests risk of fractures for radiographs of the affected bones and joints.
- Conduct an effective initial plan of management for a patient with a hand injury:
  - Outline initial management for injuries of the hand/wrist.
  - Select patients in need of splints, conservative management, referral for occupational or physiotherapy, or surgery.

113I Head Injuries

(See #045 Head Injuries / Brain Death / Transplant Donation and #104 Spinal Injuries)

113 Trauma/Accidents/Prevention

113J Nerve Injuries

Overview

As a component of major injury, damage to peripheral nerves may go unrecognised. Accurate assessment of motor and sensory function of a limb involved in injury is essential.

Causes

1) **Compression/Stretch**
2) **Contusion**
3) **Laceration/Division**

Key Objective

- Identify the peripheral nerve involved, the level and type of involvement.

General/Specific Objectives

- Through efficient, focused data gathering:
  - Elicit and interpret information from the history and physical examination to distinguish a peripheral nerve injury from other non-traumatic neuropathies or central lesions.
- Interpret critical clinical and laboratory findings which were key in the processes of exclusion, differentiation, and diagnosis:
  - Differentiate between injuries causing neurapraxia, axonotmesis, and neurotmesis.
  - Outline the methods used to diagnose the presence of a traumatic peripheral neuropathy.
- Conduct an effective initial plan of management for a patient with nerve injury:
  - List indications for specialised care.

113K Skin Injuries

Overview

Wounds are open injuries of tissue. The morbidity associated with skin wounds is determined by the severity and site of the injury and the overall state of health of the patient. Severity of skin wounds depends on the extent of penetrating and disrupting skin and soft tissue injury, and of the degree and duration of bacterial contamination prior to treatment. Many skin and subcutaneous wounds are superficial and can be repaired under local anaesthesia. Differentiation between 'tidy' and 'untidy' wounds is crucial to management.

Causes

1) **'Tidy' wounds (e.g. sharply-incised and penetrating wounds, damage restricted to wound path, contamination minimal and brief)**

2) **'Untidy' wounds (e.g. lacerations, high-velocity missile wounds, widespread tissue damage, contamination severe and prolonged). Examples include avulsions, bites and crush injuries as well as gunshot and missile wounds**

Key Objectives

- Prior to wound closure, examine all patients thoroughly for evidence for injuries involving important underlying structures (tendon, nerve, vessel).
- Appreciate principles of adequate wound debridement for traumatic wounds.
- Appreciate principles of infection prophylaxis, including recognition and treatment of tetanus-prone wounds.

General/Specific Objectives

- Through efficient, focused data gathering:
  - Elicit and interpret information from history and physical examination to determine the nature and severity of the skin wound, time since injury (more than 24 hours or less than 24 hours), presence of infection.
  - In all cases of human bites, elicit information about HIV status, hepatitis status.
- Interpret critical clinical and laboratory findings which were key in the processes of exclusion, differentiation, and diagnosis:
  - Select patients whose HIV and hepatitis status requires investigation.

- Conduct an effective initial plan of management for a patient with skin injury:
  - Provide definitive care of superficial wounds involving the skin and subcutaneous tissues.
  - Identify wounds that require specialised care; list indications for specialised care.
  - Discuss prophylaxis to prevent infection.
  - Outline principles of wound management.
  - List indications and contraindications of primary versus delayed closure.
  - Select the appropriate suture material and closure technique.
  - Outline management of a human bite if the assailant is HIV/hepatitis positive; if the puncture is caused by a syringe needle or contaminated knife.

113L Spinal Injuries

(See #104 Spinal Injuries)

113 Trauma/Accidents/Prevention

113M Urinary Tract Injuries

Overview

Closed injuries of the urinary tract are more common than penetrating injuries. Injuries are classified into kidney injuries, ureteric injuries, and bladder and urethral injuries.

Pelvic fractures – possible bladder/urethral injury

Causes

1) **Kidney injuries – associated rib fractures are common from motor vehicle injuries, falls, sporting injuries and blows**

2) **Ureteric injuries (surgical division or injury)**

3) **Bladder and urethra**

   a) **Bladder and posterior (prostatomembranous) urethra – associated with pelvic fracture or abdominal injury. Full bladder at time of injury increases risk of intraperitoneal or extraperitoneal bladder rupture**

   b) **Anterior urethra – associated with falls astride, kicks to perineum and instrumental damage**

Key Objectives

- Early recognition and treatment of kidney injuries aided by urine examination and imaging.

- Rupture of bladder or posterior urethra must always be suspected in patients with pelvic fractures.
- Recognition that bleeding occurring at the external urethral meatus after injury is the cardinal sign of urethral injury and requires urgent ascending urethrography.
    - Select computed tomography (CT) scanning with intravenous contrast as appropriate investigation for renal injury.
    - Identify patients with renal injury requiring early angiography imaging.
    - Select ascending urethrogram as appropriate initial investigation for urethral injury.
    - Outline diagnostic and management plans for suspected urinary injury.

General/Specific Objectives

- Through efficient, focused data gathering:
    - Recognise urinary injuries early and categorise into renal, ureteric or urethral injuries.
    - Recognise haematuria (macroscopic or microscopic), bleeding from urethral meatus and inability to void as important diagnostic features.
- Interpret critical clinical and laboratory findings which were key in the processes of exclusion, differentiation, and diagnosis:
- Select computed tomography (CT) scanning with intravenous contrast as appropriate investigation for renal injury.
    - Identify patients with renal injury requiring early angiography imaging.
    - Select ascending urethrogram as appropriate initial investigation for urethral injury.
    - Outline diagnostic and management plans for suspected urinary injury.

113N Vascular Injuries

Overview

Vascular injuries of blunt trauma often involve vessels near joints (e.g. knee, elbow) where vessels are relatively fixed and vulnerable to the shearing forces of fractures and dislocations. Complete or partial transection of the vessel can result in significant local haematoma; alternatively, thrombosis may be due to intimal rupture and elastic recoil without significant blood loss. Penetrating vascular injuries result usually from stab, gunshot or other missile wounds and are more likely to involve segmental loss of artery and vein, especially with high-velocity missile injuries. Although haemorrhage, haematoma, a pulse deficit and distal ischaemia are cardinal signs of vascular injury, a high index of suspicion is required as, in nearly one-third of patients with penetrating arterial injuries of limbs, signs of distal ischaemia are absent and distal pulses are palpable.

Common Causes of Vascular Injury

1) Closed injury (e.g. motor vehicle accidents (MVA))

a) Head and neck injuries (epidural haemorrhage, carotid occlusion)

b) Supracondylar humeral fracture, fracture/dislocation of the elbow (brachial artery occlusion)

c) Fractured pelvis (major iliac venous and arterial bleeding)

d) Closed chest injuries (aortic tear)

e) Supracondylar femoral fracture, dislocated knee (popliteal artery occlusion)

f) Hyperextension lumbar spine injuries (renal arteries)

2) Open injury (penetrating knife or gunshot wounds of neck, abdomen, groin, iatrogenic injury)

Key Objectives

- Diagnose major vascular injuries early by appropriate assessment and high index of suspicion.
- Provide initial management and obtain consultation when indicated.
- Classify whether injury is occlusive or haemorrhagic with open vessel.

General/Specific Objectives

- Through efficient, focused data gathering:
  - Elicit and interpret information from the history and physical examination to diagnose an arterial injury.
  - Elicit and interpret information from the history and physical examination to diagnose compartment syndromes.
- Interpret critical clinical and laboratory findings (ultrasound, imaging with and without contrast, haematology and biochemistry) which were key in the processes of exclusion, differentiation, and diagnosis:
  - List the most appropriate investigations used in the diagnosis of vascular injury.
- Conduct an effective and rapid initial plan of management for a patient with vascular injury:
  - List risks in the use of tourniquets and clamps.
  - Outline the initial management of arterial injuries.
  - List indications for specialised care.

114A Urinary Frequency: Associated with 'Dysuria and/or Pyuria / Urethral Discharge'

Overview

Patients with urinary tract infections (UTIs), especially the very young and the very old, may present in an atypical manner. Appropriate diagnosis and management may prevent significant morbidity. Dysuria can mean either pain on micturition or difficulty with micturition. Pain usually implies infection and difficulty is usually related to mechanical obstruction at some point distal to the bladder neck, most commonly from prostatic enlargement.

Causes

1) Urinary frequency (volume greater than 2 ml/minute)

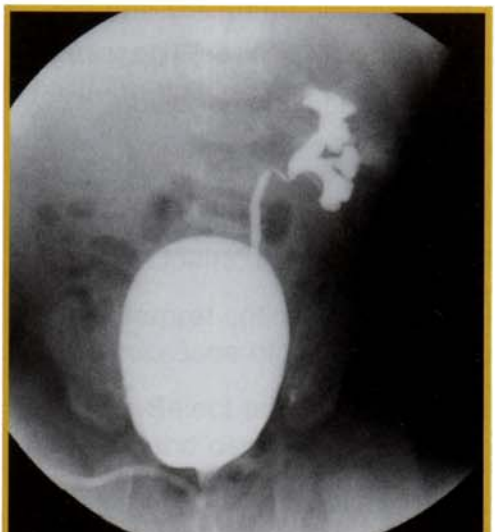
2) Urinary frequency (normal or decreased volume) associated with dysuria and/or pyuria

a) Externai to urinary tract (infectious vulvovaginitis, colovesical fistula)

b) Irritable bladder (psychogenic)

c) Urinary tract involved

- ❑ Urethritis (e.g. gonococci, acute urethra syndrome, *Trichomonas*)
- ❑ Prostatitis
- ❑ UTIs
  - Cystitis
  - Pyelonephritis



Ureteric reflux – MCU

Duplex system

Key Objectives

- Differentiate between UTIs and conditions outside the urinary tract with similar presentation; determine which infections require treatment, and select the appropriate treatment.
- Consider factors predisposing to infection in patient with recurring UTIs (obstruction and stasis, calculi, reflux).

General/Specific Objectives

- Through efficient, focused data gathering:
  - Interpret urinalysis and clinical findings in order to diagnose problems external to urinary tract.
  - Evaluate examination findings so that problems involving the urethra or prostate are identified.
  - Determine whether cystitis or pyelonephritis is the more likely diagnosis.
- Interpret critical clinical and laboratory findings which were key in the processes of exclusion, differentiation, and diagnosis:
  - Outline significance of patient's age, gender, and lifestyle on diagnostic possibilities.
  - State or select findings which are best for differentiating cystitis from pyelonephritis.
  - Describe the collection of samples to be sent for culture and sensitivity; state their interpretation.
- Conduct an effective plan of management for a patient with urinary frequency associated with dysuria and/or pyuria:
  - Determine which patients require additional investigation and/or referral.
  - Determine which patients require hospitalisation.
  - Determine which patients should be on prophylactic treatment and the type of treatment.
  - Select the most appropriate treatment for the underlying condition.
  - List conditions which predispose to UTIs.
  - Outline strategies for prevention of recurrent UTIs.

114B Urinary Frequency: Associated with 'Polyuria/ Polydipsia'

Overview

Urinary frequency, a common complaint, can be confused with polyuria, a less common, but important complaint. Diabetes mellitus is a common disorder with morbidity and mortality that can be reduced by preventive measures. Intensive glycaemic control during pregnancy will reduce neonatal complications.

Causes

1) Urinary frequency (volume greater than 2 ml/minute)

a) Water diuresis

- ❑ Polydipsia
- ❑ Diabetes insipidus (central or nephrogenic)

b) Osmotic diuresis

- ❑ Diabetes mellitus
- ❑ Chronic renal disease

2) Urinary frequency (normal or decreased volume) associated with dysuria and/or pyuria

Note: Decreased bladder capacity may produce no symptoms apart from urinary frequency.

Key Objective

- Evaluate diabetic patients and determine whether diabetic ketoacidosis or hypoglycaemia is present; formulate a management plan for diabetic emergencies.

General/Specific Objectives

(see #053 Hyperglycaemia / Diabetes Mellitus)

- Through efficient, focused data gathering:
  - Differentiate urinary frequency from polyuria.
  - Contrast water diuresis and osmotic diuresis.
- Interpret critical clinical and laboratory findings which were key in the processes of exclusion, differentiation, and diagnosis:
  - Select and interpret laboratory tests which distinguish between water and osmotic diuresis.
- Conduct an effective plan of management for a patient with polyuria/ polydipsia:
  - Select patients in need of specialised care.

115A Urinary Incontinence, Paediatric Enuresis

Overview

Enuresis is the involuntary passage of urine into bedclothes or undergarments. At least 90% of presenting children will have primary nocturnal enuresis. Diurnal and secondary enuresis is much less common, but requires differentiating between underlying organic diseases and stress-related conditions.

Causes

1) Primary enuresis

a) **Idiopathic/Familial**
b) **Anatomic abnormality**

2) Secondary enuresis

a) **Urinary tract infection (UTI)**
b) **Diabetes mellitus/insipidus / Primary polydipsia**
c) **Neurologic disorder**
d) **Psychogenic / Stress**

Key Objective

- In a child five years of age or older, determine whether a physical abnormality is causing the involuntary passage of urine.

General/Specific Objectives

- Through efficient, focused, data gathering:
  - Determine whether medical reasons underlie the enuresis.
  - Determine whether a stressful event preceded the occurrence of enuresis.
- Interpret critical clinical and laboratory findings which were key in the processes of exclusion, differentiation, and diagnosis:
  - Select patients who require investigation.
- Conduct an effective plan of management for a patient with acute enuresis:
  - Counsel, educate and reassure the parents of a child with primary nocturnal enuresis.
  - In a child with primary enuresis, discuss treatment options including family education and observation of the problem, reward systems, behavioural strategies, conditioning alarm system, medication (1-desamino-8D-arginine vasopressin (DDAVP), imipramine).
  - In a child with secondary enuresis, outline a management plan to treat the underlying cause.

115B Urinary Incontinence, Elderly

Overview

Because there is increasing incidence of involuntary micturition with age, incontinence will increase in frequency as our population continues to age.

Causes

1) Stress incontinence

a) Women after the menopause when oestrogen deficient (especially multiparae)

b) Post hysterectomy / Prostatectomy

c) Bladder tumour

2) Urgency incontinence

a) Cystitis, urethritis

b) Vesical polyps, carcinoma, stones

c) Psychogenic

d) Dementia

3) Reflex incontinence

a) Spinal transverse paralysis above T12

b) Spinal tumour

c) Syringomyelia

4) Overflow incontinence

a) Prostatic obstruction

b) Urethral stricture

c) Diabetes mellitus

d) Multiple sclerosis

5) True incontinence – urinary fistulas (including postoperative)

Key Objective

- Contrast between the two most common causes of incontinence, **stress incontinence** and **urgency incontinence** (insufficient sphincter closure in stress incontinence versus excessive detrusor contraction with urgency).

General/Specific Objectives

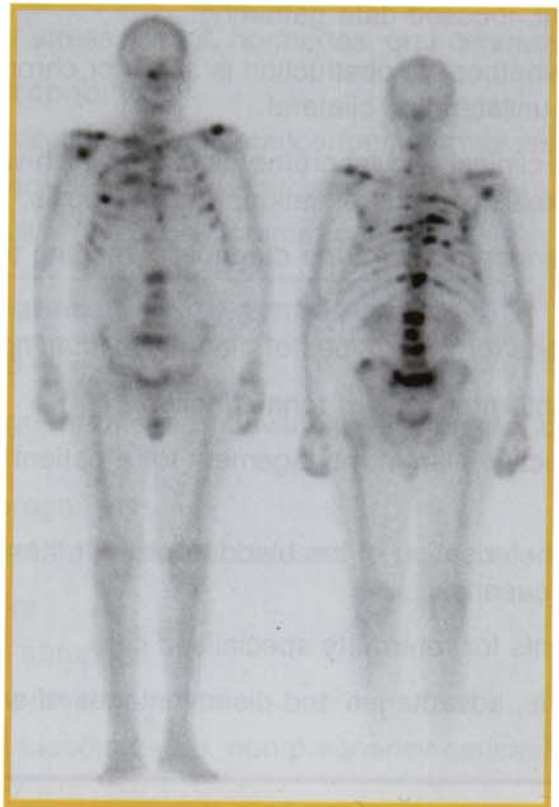
- Through efficient, focused data gathering:
  - Differentiate between stress, urgency, reflex, and overflow and true incontinence, especially in the female.
  - Perform a pelvic examination and rectal examination for prostate size in the male.
- Interpret critical clinical and laboratory findings which were key in the processes of exclusion, differentiation, and diagnosis:
  - Perform urinalysis.
  - Select patients in need of cystoscopy and other specialised tests such as urodynamic studies.
- Conduct an effective plan of management for an elderly patient with urinary incontinence:
  - Outline a plan of management for cystitis and urethritis.
  - Counsel patients with stress incontinence / urge incontinence.
  - Select patients in need of referral for urodynamic studies, physiotherapy or surgical treatment.

116 Urinary Obstruction / Hesitancy / Prostatic Cancer / Screening

Overview

Urinary tract obstruction, either upper or lower tract, is a relatively common problem. The obstruction may be complete or incomplete. The most common cause in an elderly male is prostatomegalic. Obstruction may be unilateral in the upper tract and asymptomatic. The consequences of the obstruction depend on its onset, nature and overall renal function.

Prostate cancer is usually found in older men (median age at diagnosis is 71 years). One in ten Australian males may develop prostatic cancer at some stage of life; as the growth pattern is usually slow, perhaps one in 50 males will die from, rather than with, prostatic cancer.



Metastatic prostate cancer

Causes

1) Child (anatomic abnormalities)

a) Urethra (stricture, valve)

b) Junctions (ureterovesical, ureteropelvic)

2) Adult (calculi)

3) Elderly

a) **Prostatomegaly (benign hyperplasia, cancer)**

b) **Calculi**

c) **Retroperitoneal neoplasm**

d) **Pelvic neoplasm**

Key Objectives

- Determine the site and duration of the obstruction.
- Determine when acute obstruction requires urgent management.

General/Specific Objectives

- Through efficient, focused data gathering:
  - Determine whether the obstruction is acute or chronic, complete or partial, and unilateral or bilateral.
- Interpret critical clinical and laboratory findings which were key in the processes of exclusion, differentiation, and diagnosis:
  - Select ultrasonography as the diagnostic imaging tool to diagnose obstruction.
  - List indications for other types of diagnostic imaging.
  - Select and interpret tests of renal function.
- Conduct an effective plan of management for a patient with urinary tract obstruction:
  - Perform catheterisation of the bladder for both therapeutic and diagnostic reasons.
  - Select patients for referral to specialised care.
- Discuss methods, advantages and disadvantages of screening for prostatic cancer.

117 Vaginal Bleeding, Excessive in Amount or Irregular in Timing

Overview

Vaginal bleeding is considered abnormal when it occurs at an unexpected time (before menarche or after menopause) or when it varies from the norm in amount or pattern.

Causes

1) Not related to pregnancy – gynaecologic

a) Hypothalamic-pituitary-ovarian dysfunction

- ❑ Anovulatory/Ovulatory
- ❑ Functioning ovarian cysts/tumours
- ❑ Emotional stress, drugs, hormones, oral contraceptives

b) Outflow tract conditions

- ❑ Uterus (infection, trauma, cancer/benign masses)
- ❑ Cervix (cervicitis, trauma, carcinoma)
- ❑ Vagina/Vulva (infection, trauma, cancer)

2) Related to pregnancy – non-gynaecologic

a) Less than 20 weeks

- ❑ Miscarriage-threatened, inevitable, incomplete, complete, missed, septic
- ❑ Ectopic pregnancy
- ❑ Gestational trophoblastic disease

b) Twenty weeks

- ❑ Placental abruption
- ❑ Placenta praevia
- ❑ Incidental bleeding – i.e. non-pregnancy causes which occur in pregnancy
- ❑ Bleeding from a vasa praevia – fetal bleeding

Key Objectives

- Determine whether the patient is haemodynamically stable prior to any other task.
- State that history is important, but diagnosis depends on hormonal/cytologic studies.
- Determine the difference between pregnancy related and non-pregnancy related causes.

General/Specific Objectives

- Through efficient, focused data gathering:
  - First differentiate between bleeding related to or unrelated to pregnancy.
  - If age or clinical information makes pregnancy unlikely, differentiate between causes of gynaecologic bleeding.
  - State that pelvic examination is not indicated in a woman more than 20 weeks pregnant with bleeding until ultrasound has been performed and excluded placenta praevia.
  - Perform pelvic and rectal examination.
- Interpret critical clinical and laboratory findings which were key in the processes of exclusion, differentiation, and diagnosis:
  - List indications for hormonal studies, and select tests.
  - List indications for ultrasonography.
  - List indications for cytologic/biopsy studies and select patients to be referred for investigation.
- Conduct an effective plan of management for a patient with vaginal bleeding:
  - Select patients in need of specialised care.
  - Outline management of patient with threatened and other forms of miscarriage.
  - Outline followup of patient after treatment of ectopic pregnancy; gestational trophoblastic disease.
  - Where sexual abuse is suspected, outline legal implications and requirement for support.
  - Discuss the use of oral contraceptives for regulating hypothalamic-pituitary-ovarian dysfunction.

118 Vaginal Discharge / Urinary Symptoms, Vulvar Lesions, Sexually Transmitted Diseases (STDs)

Overview

Vaginal discharge, with or without pruritus, is one of the most common problems seen in the clinician's office.

Causes

1) Physiologic discharge, and cervical mucus production

2) Genital tract infections – vulvovaginitis – infectious

a) Polymicrobial superficial infection

b) Moniliasis (candidiasis)

c) Trichomoniasis

d) Bacterial vaginosis

e) Human papilloma virus (HPV)

f) Herpes genitalis

Leukoplakia vulva

Anovulval warts

3) Genital tract inflammations – vulvovaginitis – noninfectious

a) **Bubble baths, chemical irritants, douches, sprays**

b) **Foreign body**

c) **Atrophic vaginitis / Atrophic or hypertrophic vulvar dystrophy**

d) **Vulvar intraepithelial neoplasia / Vaginal, genital neoplasia**

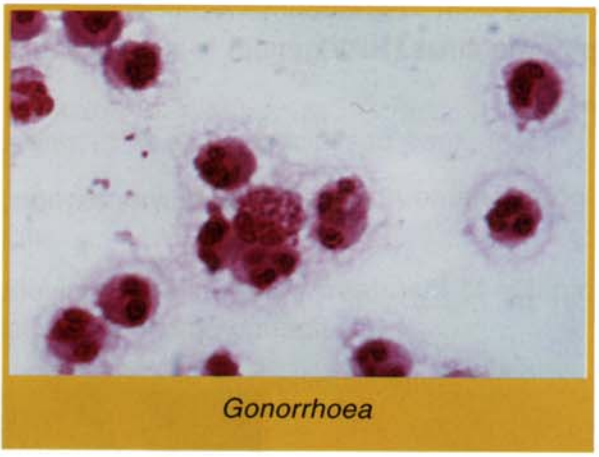
e) **Systemic process (toxic shock syndrome)**

4) Other genital tract causes – uterine and tubal

a) **Infections**

- ❑ Gonorrhoea and *Chlamydia*
- ❑ Intra-uterine device
- ❑ Pyosalpinx
- ❑ Salpingitis

b) **Vulval, cervical, endometrial and tubal neoplasia**



Gonorrhoea

5) Desquamative inflammatory vaginitis / Focal vulvitis

Key Objectives

- Determine the appearance of the discharge, but state that appearance may be misleading, and up to 20% of patients may have two coexistent infections.
- Differentiate between urinary tract infections (UTIs) and vaginal infections (dysuria is a symptom of both, so determine whether vaginal discharge is present).
- Define the cause of the discharge – whether inflammatory or neoplastic, and site within the genital tract.

General/Specific Objectives

- Through efficient, focused data gathering:
  - Differentiate between 'external' and 'internal' dysuria.
  - Elicit information about precipitating or aggravating factors (oral contraceptives, antibiotics, pregnancy, sexual activity, diabetes, genital hygiene, chemical irritants, etc.).
  - Perform genital and pelvic examination; determine whether pelvic inflammatory disease is present.
- Interpret critical clinical and laboratory findings which were key in the processes of exclusion, differentiation, and diagnosis:
  - Contrast pH and wet or potassium hydroxide smear findings in vaginitis of yeast, bacterial, *Trichomonas*, or atrophic type.
  - Select patients with purulent discharge for a Gram stain and cervical culture.
  - Perform Papanicolaou (Pap) smear to evaluate cervix (may also pick up carcinoma of the endometrium or tube).
- Conduct an effective plan of management for a patient with vaginal discharge:
  - List screening of populations at high risk for sexually transmitted diseases (STDs).
  - List types of vulvovaginitis associated with sexual activity and discuss risk reduction.
  - Outline preventive measures for STDs (e.g. limiting number of sexual partners, barrier contraceptives, especially condoms); for prevention of noninfectious vaginitis.
  - Outline a management plan for moniliasis, trichomoniasis, and for vaginitis due to gonorrhoea and/or *Chlamydia* including role of local hygiene in prevention.

119 Violence/Aggression and Mental Illness

Overview

Aggression is any form of behaviour intended to harm or injure other people against their wishes. Violence is a deliberate attempt to inflict physical harm. Dangerousness refers to the likelihood of whether individuals present a risk of harming themselves or others. Clinicians are confronted with the direct and indirect consequences of violent behaviour and will be increasingly expected to make risk assessments of future dangerousness. Although comorbidity of some mental illnesses increases the risk of violence, most episodes of violence are not committed by mentally ill people. The best predictor of future violence is past violence, but violent behaviour is usually the result of the interaction of many factors.

Predisposing Causal Factors

1) Pre-existing vulnerabilities (gender, age, personality, impulsivity, intellectual functioning, neurobiology, individual sensitivity, conduct disorder, family and cultural influences)

2) Psychiatric disorders

a) Schizophrenia (with active paranoid, or grandiose ideation or command hallucinations, treatment resistance and impaired insight)

b) Delusional disorder (particularly morbid jealousy)

c) Substance abuse (intoxication, withdrawal)

d) Major depression with delusions

e) Personality disorder (antisocial, borderline, conduct disorder)

f) Intermittent explosive disorder

g) Bipolar affective disorder (manic phase)

h) Cognitive disorders (delirium, dementia)

3) Situational triggers (loss, actual or threatened; confrontation; availability of weapons and presence of a potential victim)

Key Objectives

- List risk factors for dangerousness.
- Recognise signs of imminent violence: threats, paranoid ideas, shouting and pacing, agitated behaviour.

General/Specific Objectives

- Through efficient, focused and tactful data gathering:
  - Elicit a history of violence in the distant and recent past, violence against animals and property, forensic history, current thoughts or threats of violence against named victims; degree of insight and ability to maintain control.
  - Assess and document mental state for cognitive, intellectual and psychotic features and degree of intoxication.
  - Determine presence of support systems and recent stressors.
  - Determine the ability and willingness to cooperate with management.
- Conduct an effective plan of management for a patient who may be violent:
  - Outline how to conduct the initial interview with an agitated and potentially violent patient.
  - Outline a safe psychopharmacological management strategy for treating a violent patient.
  - Understand clinician's responsibility to warn police or potential victims in contrast to strict doctor-patient confidentiality.
  - Select patients in need of specialist referral and treatment.
  - Provide counselling and debriefing to victims and onlookers in the aftermath of an episode of violence.

119A Child Abuse

Overview

Child abuse is part of the spectrum of family dysfunction and leads to significant morbidity and mortality (recently, sexual attacks on children by groups of other children have increased). Abuse causes physical and emotional trauma, and may present as **neglect**. The possibility of abuse must be in the mind of all those involved in the care of children who have suffered traumatic injury or have psychological or social disturbances (e.g. aggressive behaviour, stress disorder, depressive disorder, substance abuse).

Causes

(see #119 Violence/Aggression and Mental Illness)

Types of Abuse:

1) **Physical abuse (pushing, hitting, biting, burning, locking out of home, abandoning in an unsafe place)**

2) **Sexual abuse (forced unwanted sexual activity: rape, sex with objects, friends, animals, mimic pornography, wear more provocative clothes, etc.)**

3) **Emotional or psychological abuse (constant criticism; threats to hurt, kill; extreme jealousy; denying friendships, outside interests or activities; time accounting, etc.)**

4) **Economic (not allowing money, deny improvement in earning capacity, accounting of every cent, etc.)**

5) **Other**

   a) **Münchausen syndrome by proxy**

   b) **By nurses, medical practitioners, social workers**

Key Objective

- Identify the characteristics of families at risk of abusing their children (physical, sexual or emotional abuse) and screen.

General/Specific Objectives

- Through efficient, focused, data gathering:
  - Determine the family dynamics, and parental characteristics.
  - Differentiate abuse by commission from abuse by omission.
  - Determine social correlation.
  - Determine whether the child has signs of physical, sexual, or other abuse (e.g. cutaneous markings, burns), or emotional and behavioural signs of abuse.
- Interpret critical clinical and laboratory findings which were key in the processes of exclusion, differentiation, and diagnosis:
  - List investigation for a child with sexual abuse.
- Conduct an effective initial plan of management for a child who may have been abused:
  - Outline strategies for securing the child's safety.
  - List indications for reporting to appropriate social service department or referral to child welfare.
  - List potential physical and psychological sequelae of physical and sexual abuse.
  - Outline treatment options for victims and perpetrators and outline outcomes of treatment.
  - Outline strategies for prevention of child abuse.

119B Elder Abuse

Overview

The American Medical Association defines elder abuse ('granny battering') as:

> 'an act or omission that results in harm or threatened harm to the health or welfare of an elderly person. Abuse includes intentional infliction of physical or medical injury; sexual abuse; or the withholding of necessary food, clothing and medical care to meet the physical and mental needs of an elderly person by one having the care, custody or responsibility for an elderly person'.

There are no reliable estimates on the incidence or prevalence of elder abuse in Australia, but international experience suggests that about 1 in every 25 elderly may be victims, with only one in five cases reported. The typical victim is an increasingly dependent, cognitively impaired woman, over 75 years, with problem behaviours including shouting and wandering. The typical abuser is a close relative in a long term relationship (spouse or child), who is under increasing stress, socially isolated and abusing alcohol or drugs. There is no provision for mandatory reporting of elder abuse in Australia.

Causes (Frequently in Combination)

1) **Physical dependency**
2) **Caregiver stress**
3) **Pattern of family violence**
4) **Pathological alcohol/drug abuse**

Types of Abuse:

1) **Physical/Sexual**
2) **Emotional/Psychological**
3) **Medical**
4) **Economic exploitation**
5) **Neglect**

Key Objective

- Identify both abused elderly patients and those at risk of abuse; and differentiate abuse from organic brain disorders and dementia.

General/Specific Objectives

- Through efficient, focused data gathering which involves talking to both the alleged victim and the caregiver separately:
  - Determine whether the explanations for illnesses or injuries are consistent or implausible. Denial may be the initial response.
  - Conduct a thorough physical examination of the patient and document bruises, bites, burns, lacerations and other injuries present, especially in areas usually covered by clothing and on the scalp.
  - Determine the period of time between the injury and accessing the medical system, since long delays are usual with elder abuse.
- Interpret critical clinical and laboratory findings which were key in the processes of exclusion, differentiation, and diagnosis.
- Develop an effective initial plan of management for an elderly person who may have been abused, which may involve initial hospitalisation, respite care or long term alternative accommodation if there is concern for the patient's physical health or safety:
  - Understand the legal implications of elder abuse.
  - Counsel and help caregiver by providing information and education and accessing community options.
  - Outline the multidisciplinary approach to intervention and become aware of local resources.

119C Violence: Domestic/Family

Overview

Domestic and family violence are major public health concerns which affect about three percent of the Australian population annually. They can affect anyone irrespective of economic, social, geographic or racial background, resulting in significant morbidity and mortality. From a health perspective, domestic violence is a chronic syndrome characterised not only by physical violence, but also by emotional and psychological abuse. It is the abuse of power in a relationship involving domination, coercion, intimidation and the victimisation of one person by another, typically a male partner. Women are eight times more likely to be victims than males. The perpetrators are often young, troubled, unemployed men with low self-esteem, who have been abused themselves. Shame and isolation militate against disclosure, but health professionals have responsibility to break the silence. Depression and post–traumatic stress disorder are common sequelae for victims, as are alcohol and drug abuse, self-harm and suicide. Barriers to disclosure often lie with the clinician and not the victim. Programmes for stopping domestic violence can be effective for those who are motivated to change their behaviour.

Classification of Domestic/Family Violence

1) **Physical: resulting in pain, injury, denial of sleep, warmth or nutrition, denial of medical care, violence to animals and property, disablement and murder: dowry and honour killings**

2) **Sexual: coerced sex, rape, harassment, incest, pornography**

3) **Verbal: designed to humiliate, degrade, demean, intimidate, subjugate, including the threat of physical violence**

4) **Economic: deprivation of basic necessities, seizure of income or assets, unreasonable denial of the means to participate in social life**

5) **Social: isolation, control of social activity, deprivation of liberty or the deliberate creation of unreasonable dependence**

Key Objectives

- Recognise the typical symptoms and signs, both physical and psychological, which may indicate domestic violence.
- Assess immediate and short term risks to the victim.
- Know the common myths about domestic violence, namely that it is rare, and only involves physical violence; that the perpetrators are mentally ill and cannot control their anger and are always provoked by their victims; that it is a problem only amongst the disadvantaged and minority groups and that it is a private matter between individuals.

General/Specific Objectives

- Through efficient, sensitive and focused data gathering:
  - Include enquiries about possible domestic violence when patients present with obvious physical injuries and bruising in multiple areas or the head and neck; with chronic pain syndromes; insomnia, depression, suicidal ideation; panic/anxiety; eating disorders; drug and alcohol abuse, somatoform disorders; and also during pregnancy and childbirth associated with unwanted pregnancy, miscarriage; antepartum haemorrhage; avoidance of antenatal care or low infant birthweight.
  - Consider the possibility in women with a past history of child abuse or a child who is currently being abused; who have recently undergone separation or divorce; who are socially isolated; who present frequently or with an overly attentive partner; who delay in seeking treatment for injuries or who do not comply with treatment.
  - Be aware that women who have been abused want to be asked about domestic violence and are more likely to disclose if asked. Most women do not openly admit they are victims of abuse unless asked: out of fear, shame, denial, loyalty to their partner and family, or that they will not be believed.
  - Document history, extent and type of abuse and injuries in detail and provide appropriate treatment.
  - Assess the victim's immediate and short term safety and establish if the perpetrator has a gun or other weapon at home.
  - Implement an effective plan of management for a victim of domestic violence which may include supportive and educational counselling and the provision of information about support services and resources and sexual assault centres.

- Assist in devising a safety plan in advance for a worst-case scenario.
- Establish presence and attitudes of other potential support persons towards the victim.
- Refer patients for legal and police advice if necessary.
- Select patients in need of specialist referral for social work, psychological or psychiatric counselling.
- If the victim and perpetrator are both your patients, issues of confidentiality and disclosure arise.
- Respect the patient's autonomy and right to remain in an abusive relationship, even if you do not agree.
- Remember that doctors are obliged to report situations where children are at risk of violence or abuse.

119 Violence/Aggression and Mental Illness

119D Rape / Violence Against Women

(See #119C Violence: Domestic/Family)

120 Visual Disturbance/Loss

Overview

Loss of vision is a frightening symptom that demands immediate attention, particularly if acute. However, patients with neurological lesions may not be aware of visual loss; and patients with a pituitary adenoma rarely present with symptoms of visual loss.

Causes

Acute:

1) Corneal (oedema)

2) Glaucoma (acute angle closure)

3) Vitreous haemorrhage (may be traumatic, penetrating, hyphaema)

4) Retinal / Macular / Optic disc problems

a) Acute macular lesion

b) Retinal detachment (may be traumatic)

c) Retinal artery occlusion

d) Optic neuritis

e) Amaurosis fugax

f) Anterior ischaemic optic neuropathy

5) Nervous system

a) Occipital infarction/haemorrhage

b) Functional visual loss

6) Migraine

(see #046 Headache)

Chronic:

1) Corneal disorders (dystrophy, scarring, oedema)

Cataract left eye

2) Lens disorders (age related, traumatic, steroid-induced, ultra violet light exposure)

3) Glaucoma (primary, secondary)

4) Retinal dysfunction

a) Diabetic (retinal oedema, retinopathy)

b) Vascular insufficiency

c) Tumours

d) Macular degeneration or dystrophy

Retinoblastoma

5) Optic nerve lesions

a) Compressive optic neuropathy

- ❑ Intracranial (masses)
- ❑ Orbital (thyroid disease)

b) Toxic/Nutritional (nutritional deficiencies, tobacco-alcohol amblyopia, methanol)

c) Hereditary optic neuropathies

6) Pituitary adenoma

Pituitary adenoma

Key Objectives

- Determine whether the loss of vision is acute or chronic (at times, the loss of monocular vision is noted incidentally when the other eye is covered so that a chronic loss presents acutely).
- Perform direct ophthalmoscope examination of the eye.

General/Specific Objectives

- Through efficient, focused data gathering:
  - Determine whether the visual loss is monocular or binocular.
  - Differentiate causes of visual loss by examination of cornea, lens, retina, and optic disc.
  - Determine the presence of a foreign body, abnormal extraocular musculature or pupillary reflex.
- Interpret critical clinical and laboratory findings which were key in the processes of exclusion, differentiation, and diagnosis:
  - Perform visual acuity and field testing.
  - List indications for fluorescein angiography.
- Conduct an effective plan of management for a patient with chronic loss of vision:
  - Select patients in need of specialised care.

121 Vomiting, Nausea

Overview

Nausea may occur alone or along with vomiting (powerful ejection of gastric contents), dyspepsia (see #003C Chronic Recurrent Abdominal Pain), and other gastrointestinal complaints. Vomiting may be a manifestation of a systemic, central or local problem. There is a continuum of severity from a minor inconvenience (and accompaniment to a systemic illness) to a major life-threatening symptom in conditions such as gastric obstruction. When prolonged or severe, vomiting may be associated with disturbances of volume, water and electrolyte metabolism that may require correction prior to other specific treatment.

Causes

1) Gastrointestinal system

a) Stomach

- ❑ Gastroenteritis
- ❑ Postoperative
- ❑ Acid peptic disease
- ❑ Gastroparesis / Obstruction
- ❑ Gastro-oesophageal reflux, pyloric or duodenal stenosis

b) Small bowel / Colon

- ❑ Obstruction
- ❑ Acid peptic disease
- ❑ Appendicitis

c) Hepato-biliary disease

d) Pancreatic disease

e) Peritoneal irritation

2) Central nervous system (CNS)

a) Infections

b) Tumours

c) Multiple sclerosis

d) Vestibular nerve lesions

e) Brain stem lesions

f) Migraine

g) Psychiatric/Psychologic problems

h) Travel sickness

3) Endocrine-metabolic (diabetes, uraemia, hypercalcaemia, pregnancy)

4) Cancer (paraneoplastic syndromes, ovarian, hypernephroma, gastric)

5) Systemic

a) **Sepsis (pyelonephritis, pneumonia, any infection in childhood)**

b) **Drugs (chemotherapy)**

c) **Food poisoning**

d) **Alcohol intoxication**

Key Objectives

- Contrast vomiting and regurgitation, which is return of oesophageal contents into the hypo-pharynx with little effort, such as with gastro-oesophageal reflux.
- Determine severity of volume and electrolyte abnormalities in a patient with vomiting.

General/Specific Objectives

- Through efficient, focused data gathering:
  - Determine whether there is a secondary cause for the vomiting, delayed gastric emptying is present, or the vomiting is in response to other agents.
- Interpret critical clinical and laboratory findings which were key in the processes of exclusion, differentiation, and diagnosis:
  - Select patients requiring investigation since laboratory testing may be unnecessary in many.
  - Select patients in need of endoscopic examination.
- Conduct an effective plan of management for a patient with vomiting and nausea:
  - Outline management plan for patients with vomiting caused by documented diseases, as contrasted to delayed gastric emptying, or other causes (e.g. chemotherapeutic drugs).
  - Calculate volume and electrolyte deficit and outline management (see #005B Metabolic Alkalosis and #008A Hypokalaemia).

Overview

Many patients who complain of weakness are not objectively weak when muscle strength is formally tested. A careful history and physical examination will permit the distinction between functional disease and true muscle weakness.

Causes

(see #038 Fatigue)

1) Myopathies

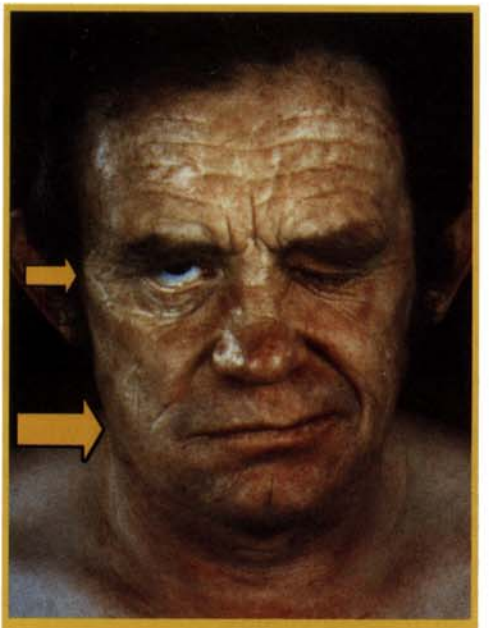
- a) Genetic (e.g. muscular dystrophy)
- b) Inflammatory (e.g. polymyositis, vasculitis, collagen-vascular)
- c) Infectious (e.g. HIV, influenza, cytomegalovirus (CMV))
- d) Neoplastic (e.g. malignancy-associated myositis)
- e) Toxic/Drug (e.g. steroids, 3-hydroxy-3-methylglutaryl coenzyme A (HMG-CoA) reductase inhibitors, alcohol)
- f) Metabolic/Endocrine (e.g. hypothyroidism, Cushing syndrome, electrolyte disorders)

2) Neuromuscular junction

- a) Genetic (e.g. myasthenia gravis)
- b) Inflammatory (e.g. myasthenia gravis)
- c) Infectious (e.g. botulism)
- d) Neoplastic (e.g. Eaton-Lambert syndrome)
- e) Toxic/Drug (e.g. organophosphate poisoning)

3) Peripheral neuropathies

- a) Genetic (e.g. peroneal muscular atrophy)
- b) Inflammatory (e.g. Guillain-Barré syndrome)
- c) Infectious (e.g. leprosy)
- d) Neoplastic (e.g. myeloma/amyloid)
- e) Toxic/Drug (e.g. lead)
- f) Metabolic/Endocrine (e.g. diabetes mellitus)
- g) Idiopathic (e.g. Bell palsy)



Bell palsy – lower motor neurone

4) Anterior horn cell

a) Genetic (e.g. spinal muscular atrophy)

b) Inflammatory (e.g. amyotrophic lateral sclerosis)

c) Infectious (e.g. poliomyelitis)

d) Neoplastic (e.g. paraneoplastic syndromes)

e) Toxic/Drugs (e.g. lead)

5) Upper motor neuron

a) Genetic (e.g. leucodystrophy)

b) Inflammatory (e.g. vasculitis)

c) Infectious (e.g. brain abscess)

d) Neoplastic (e.g. brain tumour)

e) Toxic/Drug (e.g. radiation)

f) Metabolic/Endocrine (e.g. vitamin B_{12} deficiency)

6) Functional

Key Objectives

- Differentiate between patients who complain of generalised weakness (usually functional) compared to patients who complain of inability to perform specific tasks.
- Differentiate between weakness due to an upper motor neuron lesion and weakness due to a disturbance affecting the lower motor neuron or motor unit.
- Determine the cause of the lesion.

General/Specific Objectives

- Through efficient, focused data gathering:
  - Determine whether the weakness is localised or generalised, assess muscle strength, tone, bulk/atrophy, fasciculation, tremor, myoclonus, tendon reflexes, and plantar reflexes.
  - Determine whether the weakness occurred as a result of an abnormality in the cerebral cortex, descending motor pathways, brain stem, spinal cord, anterior horn cells, nerve roots and plexuses, peripheral nerves, neuromuscular junction, or skeletal muscle.
- Interpret critical clinical and laboratory findings which were key in the processes of exclusion, differentiation, and diagnosis:
  - List the physiologic principles and indications for electromyelography (EMG), muscle enzymes.
  - List indications for muscle biopsy.
- Conduct an effective plan of management for a patient with weakness, paresis, or paralysis:
  - Outline an initial plan of management for Guillain-Barré syndrome.
  - Outline an initial plan of management for myasthenia gravis.
  - Outline an initial plan for rehabilitation of patients with hemiplegia and paraplegia.

123 Weight (Low) at Birth / Intra-uterine Growth Aberration

Overview

Intra-uterine growth restriction (IUGR) is often a manifestation of congenital infections, poor maternal nutrition or maternal illness. In other patients, the infant may be large for the gestational age. There may be long term sequelae for both.

Causes

1) Newborn infant small for gestational age (growth restricted)

a) Maternal

- ❑ Social and/or economic status
- ❑ Drugs (cigarettes, alcohol, narcotics, cocaine)
- ❑ Illness (pregnancy-induced hypertension / 'HELLP' (***H***aemolysis, ***E***levated ***L***iver enzymes, ***L***ow ***P***latelets) syndrome, diabetes, malnutrition, systemic lupus erythematosus (SLE), lupus anticoagulant)

b) Fetal

- ❑ Multiple gestation
- ❑ Intra-uterine infections ('TORCH' – ***T***oxoplasmosis, ***O***ther, ***R***ubella, ***C***ytomegalovirus, ***H***erpes simplex virus)
- ❑ Chromosomal abnormality

c) Placental insufficiency – infarction, previous placental abruption

2) Newborn infant large for gestational age

a) Maternal (familial, diabetes)

b) Fetal (e.g. Beckwith syndrome, transposition of great vessels)

Key Objective

- Determine the most probable diagnosis by clinical means.

General/Specific Objectives

- Interpret critical clinical and laboratory findings which were key in the processes of exclusion, differentiation, and diagnosis:
  - List indications for investigations such as fetal ultrasound, and blood biochemistry.

- Conduct an effective initial plan of management for an infant with intra-uterine growth aberration:
  - Discuss the complications associated with IUGR and outline the management of such an infant.
  - Outline management and complications that can occur in large-for-gestational-age infants.
  - Outline preventive strategies of large-for-gestational-age infants.
- Outline the management in late pregnancy when IUGR or fetal macrosomia has been diagnosed; including fetal assessment, mode of delivery and potential problems in labour and at delivery.

Overview

Obesity is a chronic condition that is increasing in prevalence. It is contributed to by lifestyle changes including inactivity and dietary changes, and may result in diabetes, hypertension, atherosclerosis and sleep-apnoea.

Causes

1) Increased energy intake

a) Dietary (progressive hyperphagic, frequent eating, high-fat diet, overeating)

b) Social and behavioural (socio-economic, ethnicity, psychological)

c) Iatrogenic (drugs, hormones, hypothalamic surgery)

2) Decreased energy expenditure (sedentary lifestyle, smoking cessation)

3) Neuroendocrine

a) Hypothyroidism

b) Cushing syndrome

c) Hypothalamic syndrome

d) Polycystic ovary syndrome

e) Hypogonadism

f) Growth hormone (GH) deficiency

Cushing syndrome

4) Genetic (dysmorphic)

Key Objectives

- Recognise that the sequelae of obesity may be life-threatening.
- Determine whether obesity is the result of lifestyle changes or neuroendocrine disorder.

General/Specific Objectives

- Through efficient, focused data gathering:
  - Determine the degree and type of obesity.
  - Determine whether a treatable cause of obesity (secondary or neuroendocrine) is present.
  - Describe the risk of morbidity and mortality.
  - Perform a measurement of waist-to-hip ratio and determine body-mass index (BMI).
  - Determine whether comorbid conditions are present (hypertension, diabetes mellitus, dyslipidaemia, sleep-apnoea, etc.).
- Interpret critical clinical and laboratory findings which were key in the processes of exclusion, differentiation, and diagnosis:
  - Select patients who require investigation for a neuroendocrine cause of obesity.
- Conduct an effective plan of management for a patient with weight gain / obesity:
  - Formulate a plan of management consistent with the reality that the great majority of patients require chronic long term treatment since obesity cannot be cured.
  - List the modalities of treatment for obesity including increased energy expenditure through exercise, decreased energy intake through healthy diets, and behaviour modification.
  - Contrast advantages and disadvantages of anorectic drugs and surgery for the treatment of obesity.

125 Weight Loss / Eating Disorders / Anorexia / Nutritional Disorders

125A Weight Loss / Eating Disorders / Anorexia

Overview

Involuntary weight loss is nearly always a sign of serious medical or psychiatric illness and should be investigated.

Causes

1) Involuntary weight loss

a) Decreased energy intake

- ❑ Malignancy decreasing appetite
- ❑ HIV
- ❑ Endocrinopathies (adrenal insufficiency, hypercalcaemia, diabetes mellitus)
- ❑ Chronic illness (chronic obstructive pulmonary disease (COPD), congestive cardiac failure (CCF))
- ❑ Gastrointestinal disease (obstruction and malabsorption)
- ❑ Intercurrent illness (hepatitis, glandular fever, chronic fatigue syndrome)
- ❑ Psychiatric disease (bipolar disorder, personality disorder, paranoia/ delusion)
- ❑ Drugs (alcohol, opiates, cocaine, amphetamines, anticancer)

b) Increased energy expenditure

- ❑ Hyperthyroidism
- ❑ Phaeochromocytoma
- ❑ Chronic illness (COPD, CCF)
- ❑ Malignancy (hypercatabolic)
- ❑ Infection (presence of fever indicative of hypercatabolic state)

c) Energy loss

- ❑ Urine (uncontrolled diabetes mellitus)
- ❑ Stool (malabsorption)

2) Voluntary weight loss

a) Decreased intake

- ❑ Diet for treatment of obesity
- ❑ Anorexic drugs
- ❑ Anorexia / Bulimia
- ❑ Psychological

b) Increased energy expenditure (distance runners, models, ballet dancers, gymnasts)

Key Objectives

- Determine extent of weight loss in relation to previous weight, whether voluntary or involuntary, whether with increased appetite or decreased appetite, and if fluctuations in weight are usual or unusual.

General/Specific Objectives

- Through efficient, focused data gathering:
  - Differentiate involuntary weight loss from voluntary.
  - Contrast weight loss associated with increased appetite from that with decreased appetite.
- Interpret critical clinical and laboratory findings which were key in the processes of exclusion, differentiation, and diagnosis:
  - Conduct an investigation of involuntary weight loss, whether appetite is decreased or increased.
- Conduct an effective plan of management for a patient with weight loss / eating disorder / anorexia:
  - State that management is dependent on the underlying condition.
  - Counsel patients with voluntary weight loss on healthy diets and lifestyle changes.
  - Select patients in need of specialised care.

125B Nutritional Disorders and Deficiencies

Overview

No clinical assessment is entirely complete without an assessment of the patient's nutritional status. Nutritional disorders present from infancy through to old age. They may involve disorders of energy-yielding macronutrients (carbohydrate/fat/protein) or of essential organic/inorganic micronutrients (vitamins / trace elements).

Serious illness, prolonged hospitalisation and inanition are likely to be associated with varying degrees of protein-energy malnutrition (PEM) from negative energy balance, particularly in the presence of uncontrolled chronic sepsis.

Vitamin and trace element deficiencies cause syndromes relating to their specific metabolic effects. For example zinc, a predominantly intracellular cation, is a component of important enzyme systems involved in active cellular proliferation and repair. Zinc deficiency gives clinical manifestations which include an exanthematous rash, gastrointestinal symptoms, and problems with wound healing.

Causes of Nutritional Deficiencies

1) Energy-yielding macronutrients

a) **PEM (undernutrition, starvation, marasmus/kwashiorkor)**

2) Inorganic nutrients

a) **Calcium and phosphorous**
(see also #004 Abnormal Serum Calcium/Phosphate, #064 Menopause and #077 Periodic Health Examination / Growth and Development)

b) **Iron**
(see also #012 Anaemia and Pallor)

c) **Iodine**
(see also #068 Neck or Facial Mass / Goitre / Thyroid Disease)

d) **Zinc and other trace elements (zinc, manganese, beryllium, boron, selenium, cobalt, etc.)**

Zinc deficiency – replacement therapy

3) Organic nutrients

a) **Fat-soluble vitamins (A, D, E, K)**

b) **Water-soluble vitamins (B complex, C)**

Rickets

Key Objectives

- Identify those patients liable to develop syndromes of nutritional deficiencies.
- Recognise clinical features of major deficiencies.

General/Specific Objectives

- Through efficient, focused data gathering:
  - Conduct a clinical assessment of nutritional status from history, physical examination and appropriate office tests.
  - Diagnose syndromes of PEM; compare and contrast features applicable to children and to adults.
  - Appreciate principles of normal energy balance and of dietary requirements of major energy sources.
  - Appreciate principles of micronutrient requirements.
  - Appreciate risk factors for nutritional depletions and institute preventive measures where appropriate.
  - Diagnose trace element and vitamin deficiencies in patients at risk.
- Select appropriate investigations which were key in the processes of exclusion, differentiation and diagnosis, recognising that serum or urinary measurements of vitamins and trace elements are not routinely done and may not be available or diagnostically helpful at short notice.
- Outline effective plans of management for patients with PEM, vitamin deficiency or trace element deficiencies:
  - Outline basal requirements of energy intake and expenditure (kilojoules/calories) and daily requirements and proportions of macronutrients and essential micronutrients.
  - Outline methods and principles of formulation of enteral and parenteral nutrition regimens.
  - Discuss complications and hazards of parenteral nutrition.

126A Upper Respiratory Tract Disorders

Overview

Wheezing, a whistling sound, is produced by vibration of opposing walls of an airway that is narrowed almost to the point of closure. It can originate from airways of any size, from upper airways to intrathoracic small airways. Stridor is an even more strident, urgent, harsh noise indicating extreme difficulty with breathing.

Causes

1) Extrathoracic upper airway obstruction

a) Sleep-apnoea syndrome / Obesity

b) Goitre

c) Postnasal drip

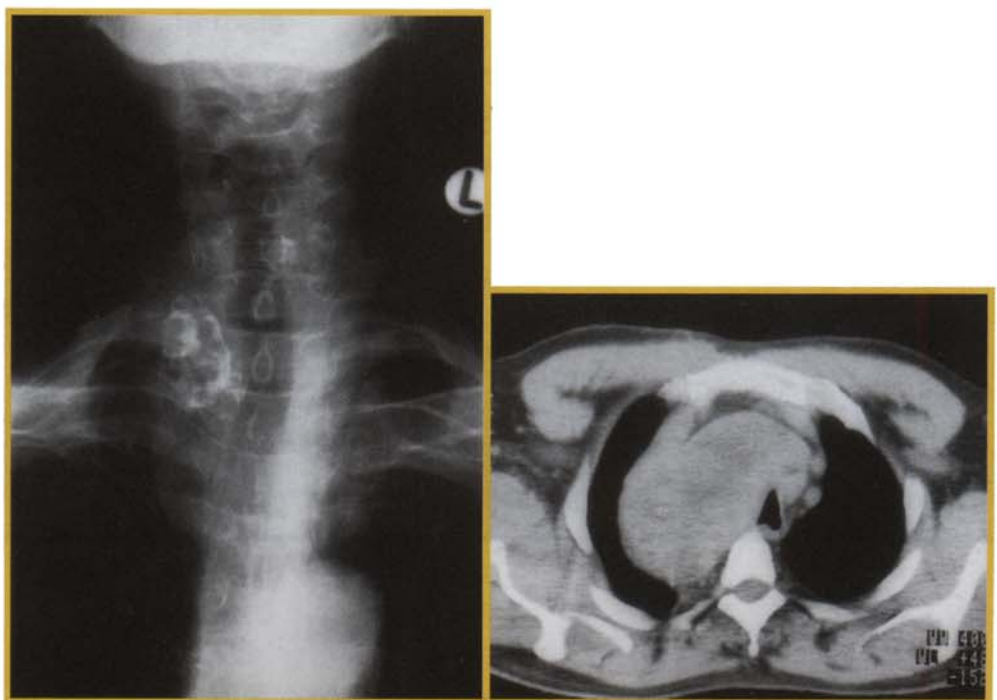
d) Vocal cord dysfunction (nodule, paresis)

e) Epiglottitis

f) Laryngeal oedema/stenosis

g) Anaphylaxis

h) Retropharyngeal mass (abscess, neoplasm)



Retrosternal goitre extension causing stridor

2) Intrathoracic upper airway obstruction

a) **Tracheobronchitis**

b) **Tracheal obstruction (stenosis, compression, e.g. retrosternal thyroid mass)**

c) **Foreign body aspiration**

d) **Tracheal or bronchial tumours (benign, malignant)**

Key Objectives

- Determine whether the wheezing is associated with chronic dyspnoea and cough, because this triad is highly suggestive of asthma.
- Appreciate that asthma is **not** the sole or most common cause of wheezing; identify extrathoracic/intrathoracic upper airway obstruction (e.g. from thyroid).

General/Specific Objectives

- Through efficient, focused, data gathering:
  - Determine whether the wheezing is polyphonic, since if so it is more likely to originate from more central airways.
  - Determine if wheezing is maximum in inspiration or expiration, and whether accompanied by stridor.
  - Determine the most likely site of obstruction, whether large or small intrathoracic airway or extrathoracic airway.
  - From history and clinical examination, determine the most likely cause and the urgency of management.
- Interpret critical clinical and laboratory findings which are key in the processes of exclusion, differentiation, and diagnosis:
  - List indications for diagnostic imaging.
  - Select pulmonary function studies as one means to differentiate between causes once diagnostic possibilities have been narrowed by clinical means.
- Conduct an effective plan of management for a patient with upper respiratory tract disorders:
  - Outline the use of bronchodilator therapy for diagnostic purposes.
  - Select patients in need of specialised care.

126B Lower Respiratory Tract Disorders

Overview

Individuals with episodes of wheezing, breathlessness, chest tightness, and cough usually have limitation of airflow. The most common cause of airflow limitation is **asthma** which is reversible with treatment. Without treatment it may be lethal.

While the prevalence of asthma is rising (asthma affects an estimated 2,000,000 Australians), the mortality from asthma has fallen dramatically – deaths in Australia yearly have decreased from around 1,200 a decade ago to around 400 currently.

Causes

1) Obstructive lung disease

a) Asthma

b) Chronic obstructive pulmonary disease (COPD)

c) Bronchiectasis

d) Cystic fibrosis

2) Small airway disorder

a) Aspiration

b) Bronchiolitis

c) Cystic fibrosis

3) Cardiovascular

a) Pulmonary oedema

b) Pulmonary embolism

Key Objectives

- Determine the severity of the airway obstruction and use this to guide therapy.
- Distinguish respiratory and cardiac causes of respiratory symptoms.

General/Specific Objectives

- Through efficient, focused, data gathering:
  - Elicit information about intermittency, seasonal waxing and waning, nocturnal episodes, exacerbation on exposure to exercise, cold air, allergens, air pollutants, or upper respiratory tract infections (URTIs) (suggestive of asthma, but also found in COPD and bronchiectasis).
  - Determine whether the wheezing is polyphasic (multiple pitches, start and stop at various points in respiratory cycle).
- Interpret critical clinical and laboratory findings which are key in the processes of exclusion, differentiation, and diagnosis:
  - Examine and discuss evaluation of sputum.
  - Understand that pulmonary function tests are key to diagnosis and management of asthma. Select spirometry and FEV_1 (forced expiratory vital capacity in one second) before and after bronchodilator inhalation, to quantify severity of airway narrowing and to define reversibility.
  - Discuss the use of provocative testing for diagnosis of asthma if lung function is normal.
  - Select diagnostic imaging to detect complications of asthma and to exclude alternative diagnoses.
  - List indications for allergy testing for asthma.
- Conduct an effective plan of management for a patient with lower respiratory tract disorders:
  - Outline an initial plan of management for a patient with asthma.
  - Select patients in need of specialised care.

Overview

Allergic reactions are common in all age groups. They exhibit a variety of clinical responses and are considered individually elsewhere under the appropriate presentation. The rationale for considering them together is that in some patients with one response (e.g. atopic dermatitis), other atopic disorders such as asthma or allergic rhinitis may occur at other times. Moreover, 50% of patients with atopic dermatitis report a family history of respiratory atopy. The child of a mother with atopy is at high risk for atopic diseases.

Clinical Presentations

1) Allergic rhinitis, rhinorrhoea, hay fever

(see #092 Rhinorrhoea / Sore Throat)

2) Eye redness

(see #035 Eye Redness)

3) Anaphylaxis

(see #098A Anaphylaxis)

4) Skin rash / Dermatitis

(see #102A Skin Rash / Dermatitis and/or Fever, Urticaria/Angio-Oedema)

Allergic rash

5) Urticaria/Angio-oedema

(see #102A Skin Rash / Dermatitis and/or Fever, Urticaria/Angio-Oedema)

Allergic periorbital oedema

6) Atopic dermatitis

(see #102A Skin Rash / Dermatitis and/or Fever, Urticaria/Angio-Oedema)

Flexural atopic dermatitis

7) Wheezing / Respiratory difficulty

(see #126A Upper Respiratory Tract Disorders and #126B Lower Respiratory Tract Disorders)

Key Objectives

- Recognise allergy as the probable basis of a variety of clinical presentations.
- Familiarity with common allergens.
- Diagnose potentially lethal anaphylaxis and initiate immediate treatment.

General/Specific Objectives

- Through efficient, focused data gathering:
  - Elicit a history or identify the possible causes of an anaphylactic reaction.
  - Differentiate between food intolerance and food allergy.
  - Identify common allergens and their possible effects on susceptible individuals.
- Interpret critical clinical and laboratory findings which were key in the processes of exclusion, differentiation, and diagnosis:
  - List cost-effective use of tests designed to identify allergens.
  - Interpret results so as to differentiate the allergic from the non-allergic individual.
- Conduct an effective plan of management for a patient with allergies:
  - Outline emergency management of anaphylaxis, with and without shock.
  - Discuss skin testing in allergic patients.
  - Outline the immediate and long term management of the child with allergies including education and counselling for the child, parents, school and the community.
  - Identify the social and psychologic impact of allergic disease on the child and its family.

Overview

Bites and stings in Australia from land, air and marine creatures are commonplace but serious and fatal bites are uncommon. Knowledge of first aid measures and early treatment is required for all clinicians; effective first aid using the pressure-immobilisation technique lowers risks of envenomation and can be life-saving. Polyvalent and specific anti-venoms are available for most snake, spider and marine bites and stings and have significantly reduced mortality and morbidity.

Fatalities from predators such as crocodiles and sharks are horrifying and invoke headlines, but are rare compared to other causes of death. In a 10-year period between 1980 and 1990, in rounded figures there were 5 fatal crocodile and 10 fatal shark attacks in Australia. In the same period, 20 people died from bee stings, 20 people were fatally struck by lightning, 3,000 people drowned and 30,000 people died in accidents involving motor vehicles.

Causes

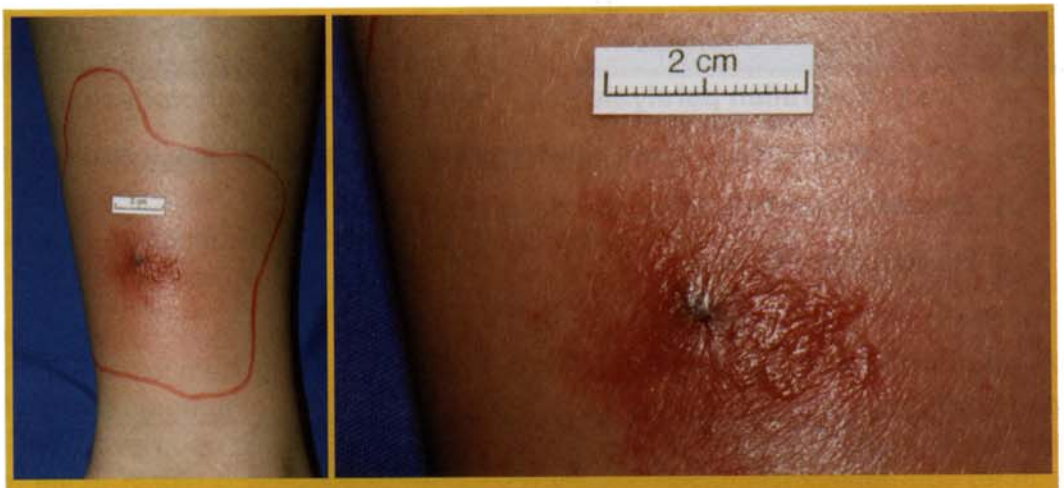
1) Snake bites

Venomous Australian snakes include taipan and small-scaled snake, tiger snake, brown and black snakes, copperhead, death adder and others. The comparative lethal effects in mice of small-scaled snake ('fierce snake') venom is 50 times greater than Indian king cobra venom and 1,000 times greater than American rattlesnake venom.

Tiger snake

2) Spider bites

Toxins of a few species (funnel-web, red-back) can cause severe systemic and local symptoms, and deaths from envenomation can occur. Painful necrotising arachnidism is a feature of some species (white-tailed spider, wolf spider). Most species evoke local pain and inflammation only.



White-tailed spider bite

3) Marine bites, stings and attacks

a) **Sandfly bites:**

These are the most common beach irritant.

b) **Blue-ringed octopus and cone shell venoms:**

These can cause respiratory paralysis.

c) **Stonefish, scorpion fish and stingray:**

These have venomous spines and injuries can cause intense pain.

d) **Box jellyfish (*Chironex fleckeri* – 'seawasp'):**

Stings can occur in northern coast areas in summer and are intensely painful; occasional fatalities have occurred.

e) **Other northern jellyfish carybdeid species ('Irukandji' syndrome: *Carukia barnesi*):**

These can cause severe systemic effects and hypertension.

f) **'Bluebottle', and other jellyfish species**

g) **Attacks by estuarine crocodiles and sharks:**

These can cause gross wounding and death.

Leech bite

4) Other Bites and Stings

a) Ticks (Australian paralysis tick – 'bush tick': *Ixodes holocyclus*)

b) Ants, bees, wasps, mosquitoes, scorpions, caterpillars, leeches

c) Domestic animals (dog and cat bites, etc.)

d) Human bite injuries

Infected human bite wound

Key Objectives

- Appreciate principles of first aid management for bites and stings by pressure-immobilisation, and of local management of the wound for specific causes.
- Recognise symptoms of envenomation and institute treatment.

General/Specific Objectives

- Construct an algorithm for management of a bite from an unidentified snake.
- Describe principles of local and general treatment of stings from:
  - A bee.
  - A wasp.
  - A box jellyfish.
  - A funnel-web spider.
  - An unidentified spider bite.
- Demonstrate the technique of effective pressure-immobilisation for a snake bite to a limb.

129A Congenital Malformations

(See also #043 Genetic Concerns, Dysmorphic Features)

Overview

Management of malformations is a very important component of paediatric care. Some of the more common conditions encountered in Australia are summarised here. Many will also have been discussed in relation to specific conditions. No system is exempt from either single or multiple malformation. Causes include exogenous teratogens, chromosomal abnormalities, and an abnormal dominant or recessive gene; but in most instances the cause is unknown. Incidence of inguinal hernia in liveborn children is approximately 1:70; of more serious lesions such as tracheo-oesophageal fistula approximately 1:5,000.

Predisposing Causal Factors

These include parental age, consanguinity, race, maternal diseases, birth rank and sex of child.

Common Malformations:

1) **Cleft lip and palate**
2) **Umbilical or inguinal hernia**
3) **Club foot (talipes)**
4) **Developmental dysplasia of hip (DDH, CDH)**

Bilateral developmental dysplasia of hips

5) Scoliosis

6) Syndactyly, polydactyly, camptodactyly

7) Phocomelia

8) Thyroglossal cyst, branchial cyst/sinus, lymphatic malformation

Lymphatic malformation

9) Congenital heart disease

10) Tracheo-oesophageal fistula

Tracheo-oesophageal fistula

11) Diaphragmatic hernia

12) Myelomeningocele

13) **Hydrocephalus**

14) **Urinary tract anomalies**

15) **Anal atresia**

16) **Exomphalos**

Exomphalos

17) **Hypospadias**

18) **Ambiguous genitalia**

Precipitating Teratogens:

1) **Physical (ionising radiation)**

2) **Chemical/Pharmacological (thalidomide, folic acid antagonists, etc.)**

3) **Infections (rubella, etc.)**

4) **Dietary deficiency (goitre)**

Key Objectives

- Be able to advise about known preventive factors, especially periconceptual folate in prevention of neural tube defects.
- As well as preventive measures:
  - Diagnose malformations as early as possible after birth.
- Provide empathetic counselling and appropriate referral.

129B Hand Deformities

Overview

Structural abnormalities and deformities in adults are common consequences of disease of bones or soft tissues; many are described with the relevant causative condition. The more common hand deformities are grouped as an illustrative example.

Causes

1) Congenital contractures

a) **Congenital contracture of little finger (camptodactyly, clinodactyly – approximately 1:200 incidence)**

Camptodactyly

2) Dupuytren disease (nodule, contractures – palmar fasciae)

3) Muscle contracture

a) **Long flexor forearm muscles (Volkmann ischaemic contracture)**

b) **Short hand muscles ('intrinsic plus' deformity – rheumatoid arthritis (RA), cerebral palsy hypertonicity)**

4) Tendon deformities

a) **Trigger finger (stenosing tenosynovitis)**

b) **Mallet finger**

c) **Boutonnière deformity**

d) **Swan neck deformity**

e) **Spontaneous tendon rupture (dropped finger, thumb)**

Dupuytren contracture

5) Bone and joint deformities

a) Osteoarthritis

- ❑ Distal interphalangeal joints (Heberden nodes)
- ❑ Proximal interphalangeal joints (Bouchard nodes)
- ❑ Carpo-metacarpal joint of thumb

b) RA

- ❑ Wrist deformity, metacarpo-phalangeal joint subluxations, ulnar deviation fingers, Z-thumb deformity, etc.

c) Gout – tophaceous arthropathy

Heberden nodes

6) Neurological deformities

a) **Radial or posterior interosseous nerve – wrist and finger drop**

b) **Ulnar nerve palsy – ulnar claw hand**

c) **Median nerve palsy – 'simian' hand, 'accoucheur' hand, pseudo-opposition**

d) **Upper brachial plexus lesion (C5, C6 nerve roots – Erb paralysis)**

e) **Lower brachial plexus lesion (T1 nerve root – Klumpke paralysis (complete claw hand))**

f) **Others (syringomyelia, leprosy, motor neurone disease, poliomyelitis – variants of claw hand)**

Ulnar nerve palsy – ulnar claw hand

Ulnar nerve palsy – thenar adductor wasting

Key Objective

- Diagnose individual deformities and causative conditions from careful history and physical examination.

General/Specific Objectives

- Through efficient, focused data gathering:
  - Appreciate mechanisms of deformity resulting from individual causes.
  - Differentiate fixed from mobile deformities.
  - Conduct focused examination of hand status, and assess effect of deformities on hand function.
  - Discuss appropriate medical and surgical methods for correcting/coping with individual deformities.

130 Travel Medicine and Tropical Infections

Overview

A number of tropical infections is prevalent in the Australian Far North.

Additionally, international air travel and tourism have facilitated the spread of infectious diseases worldwide; and the potential spectre of bio-terrorism is relevant to all countries. All medical practitioners require basic knowledge of diseases not normally native to their own country, including those likely to cause fatal epidemics.

Travellers are exposed to the ubiquitous risks of traveller's diarrhoea, to diseases prevalent in the visited countries, and to sexually transmitted diseases (STDs) including AIDS.

Causes

1) Tropical and specific fevers

a) Brucellosis (*Brucella abortus*)

b) Q fever (*Coxiella burnetii*)

c) Malaria (*Plasmodium falciparum*, etc.)

d) Dengue (arbovirus)

e) Amoebiasis (*Entamoeba histolytica*)

f) Melioidosis (*Pseudomonas pseudomallei*)

g) Leptospirosis (*Leptospira pomona*)

h) Ross River fever (arbovirus)

i) Murray Valley encephalitis (arbovirus)

j) Listeriosis (*Listeria monocytogenes*)

2) Zoonoses/Ornithoses (infections transmitted between animals or birds and humans)

a) Bovine tuberculosis (TB), brucellosis, listeriosis, Lyme disease, plague, psittacosis, rabies, typhus, etc.

b) Schistosomiasis (bilharziasis) / Trypanosomiasis

3) Biological agents as weapons

a) Anthrax (*Bacillus anthracis*)

b) Plague (*Yersinia pestis*)

Key Objectives

- Ability to advise on risks and precautions of overseas travel.
- Awareness of endemic Australian infectious diseases and fevers.
- Awareness of potential for exotic illness and epidemics.

General/Specific Objective

- Outline reference sources and recommended immunisations and precautions for overseas travellers visiting Asian, European, North and South American countries.

131A Life-Threatening Emergencies

(See also #019 Cardiac Arrest / Respiratory Arrest)

Overview

Life-threatening medical emergencies require early recognition and prompt treatment to avert death. Treatment and diagnostic plans must proceed simultaneously and rapidly if success is to be achieved. Competence in dealing with primary care of each of the following emergencies is a basic clinical skills requirement for all medical practitioners. Most are also dealt with under headings of the causal conditions. Some of the most seriously life-threatening causes of medical emergencies are grouped below.

Causes

1) Cardiac emergencies

- **a) Cardiac arrest**
- **b) Cardiac dysrhythmias**
- **c) Acute cardiac failure**
- **d) Acute pericardial tamponade**

2) Ventilatory/Respiratory emergencies

- **a) Respiratory arrest**
- **b) Airway obstruction / Asphyxiation**
- **c) Tension pneumothorax**
- **d) Flail chest**

3) Circulatory emergencies

- **a) Haemorrhage**
  - ❑ Overt/Concealed
  - ❑ Primary / Reactionary / Secondary
  - ❑ Arterial/Venous/Capillary
- **b) Shock**
  - ❑ Hypovolaemic
  - ❑ Cardiac
  - ❑ Obstructive (thromboembolism, air embolism, tamponade)
  - ❑ Septic
  - ❑ Anaphylactic

4) Overwhelming sepsis (e.g. meningococcal septicaemia)

Meningococcal septicaemia

5) Cerebral emergencies

a) Disturbed consciousness

- ❑ Coma/Stupor (meningitis/encephalitis, traumatic cerebral compression)
- ❑ Acute brain syndrome (delirium)

b) Convulsions/Seizures

6) Multisystem/Organ failure

a) Acute renal failure (ARF) (oliguric/nonoliguric) with severe hyperkalaemia

b) Acute haematologic failure (disseminated intravascular coagulation (DIC)) with massive bleeding

c) Acute gastrointestinal failure (stress ulcer syndrome/necrotising enteritis) with massive bleeding or peritonitis

d) Acute metabolic emergencies (acid-base disequilibrium, water-electrolyte disturbance)

7) Drowning/Electrocution

Key Objectives

- Demonstrate competence in primary care of medical emergencies.
- Recognise life-threatening medical emergencies and their causes as early as possible.
- Appreciate principles and practice of combined therapeutic and diagnostic plans for initial management of such emergencies.

General/Specific Objectives

- Appreciate the specific treatment and diagnostic plans for individual emergencies.
- Construct algorithms to deal efficaciously with each emergency, including specific diagnostic tests.