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Preface

This companion is a summary of the content of the major text *General Practice*. It was written in response to requests from several hundred practitioners who considered that it would be very useful to have a pocket-sized condensation of *General Practice* which could be carried around during work hours. The companion gives an alphabetical presentation of the vast majority of problems—especially nitty-gritty problems—presenting in routine practice.

It focuses on management so that detailed information about clinical features, investigation and whole person management will be lacking. Such details can be found in *General Practice*. Detailed references are also found in *General Practice*. The main references used for this companion are the *Drug Guideline* series published by Therapeutic Guidelines Limited.

About the author

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John Murtagh was a science master teaching chemistry, biology and physics in Victorian secondary schools when he was admitted to the first intake of the newly established medical school at Monash University. He practised in partnership with his medical wife, Dr Jill Rosenblatt, for ten years in the rural community of Neerim South, Victoria.

He was appointed Senior Lecturer (part-time) in the Department of Community Medicine at Monash University and eventually returned to Melbourne as a full-time Senior Lecturer. He was appointed to a professorial chair in Community Medicine at Box Hill Hospital in 1988 and subsequently as chairman of the extended department and Professor of General Practice in 1993. He was medical editor of *Australian Family Physician* from 1986 until 1995. He was appointed Executive Director, Education of the Royal Australian College of General Practitioners in 2000.

In 1995 Professor Murtagh was awarded the member of the Order of Australia for his service to medicine, particularly in the areas of medical education, research and publishing.

Laboratory Reference Values

These reference values and ranges are given in the system of international units (SI) and may vary from laboratory to laboratory. An asterisk (*) indicates that paediatric reference ranges differ from the adult range given.

Electrolytes/renal

Sodium	(135–145 mmol/L)
*Potassium	(3.5–5.0 mmol/L)
Chloride	(95–107 mmol/L)
Bicarbonate	(23–32 mmol/L)
Urea	(2.5–8.0 mmol/L)
Creatinine	(M 0.04–0.13. F 0.04–0.11 mmol/L)
*Calcium	(2.10–2.60 mmol/L)
Phosphate	(0.90–1.35 mmol/L)
*Magnesium	(0.65–1.30 mmol/L)
*Uric Acid	(M 0.15–0.48. F 0.12–0.48 mmol/L)

Liver function/pancreas

*Bilirubin (total)	(< 19 µmol/L)
(direct)	(< 3 µmol/L)
*AST	(< 40 U/L)
*GGT	(F < 45; M < 65 U/L)
*Alkaline phos (ALP)	(< 120 U/L)
Total protein	(60–80 g/L)
Albumin	(38–50 g/L)
Amylase	(30–110 U/L)

Therapeutic drugs

*Digoxin	(Ther. 1.3–2.6 nmol/L)
*Phenytoin	(Ther. 40–80 µmol/L)
*Valproate	(Ther. 300–700 µmol/L)
*Carbamazepine	(Ther. 10–50 µmol/L)
Gentamicin (pre)	(< 2.0 µg/mL)
(post)	(< 12.0 µg/mL)
Lithium	(Ther. 0.5–1.0 mmol/L)

C

Cancer

Cancer (malignancy) accounts for 1 in 8 deaths of people under 35 years and 1 in every 4 of those over 45 years.

The six most common causes of death from cancer in Australia are cancer of the lung, bowel, breast, prostate, lymphoma and pancreas. Neoplasia, especially malignancy of the silent areas (ovary, kidney, caecum and ascending colon, liver and haematological tissue) can present as undifferentiated illness and be a real 'masquerade'.

The clinical manifestations of malignancy are due to

- pressure effect of the growth, e.g. abdominal pain
- infiltration or metastases in various organs
- systemic symptoms
 - tiredness, malaise, weakness
 - anorexia and nausea
 - weight loss
- paraneoplastic effects, e.g.
 - hypercalcaemia
 - hyponatraemia
 - fever and sweats
 - ectopic hormone production
 - haematological disorders, e.g. coagulopathy
 - neuropathies

Metastatic tumours

The big three metastasising primaries are lung, colon and breast. Common target sites are lymph nodes, liver, lung, mediastinum and bone. Important sites followed by likely primary sources are

- Liver : colon, pancreas, liver, stomach, breast, lung, melanoma
- Lung and mediastinum: breast, lung, colon, kidney, testes, cervix/uterus, lymphoma, melanoma
- Bone: breast, prostate, lung, kidney, thyroid, melanoma, Hodgkins L.
- Brain: breast, lung, colon, lymphoma, kidney, melanoma, prostate

Cannabis (marijuana)

The effects of smoking cannabis vary from person to person. The effects of a small to moderate amount (after 20–180 minutes) include:

- feeling of well-being and relaxation
- decreased inhibitions
- woozy, floating feeling
- lethargy and sleepiness
- talkativeness and laughing a lot
- red nose, gritty eyes and dry mouth
- unusual perception of sounds and colour
- nausea and dizziness
- loss of concentration
- looking ‘spaced out’ or drunk
- lack of co-ordination

Long-term use and dependence

The influence of ‘pot’ has a severe effect on the personality and drive of the users. They lose their energy, initiative and enterprise. They become bored, inert, apathetic and careless. A serious effect of smoking pot is loss of memory. Some serious problems include:

- crime—scant respect for others and their property
- respiratory disease (more potent than nicotine)
- often prelude to taking hard drugs
- becoming psychotic (resembling schizophrenia): the drug appears to unmask an underlying psychosis
- paranoia especially with a new form called ‘mad weed’

Withdrawal

Sudden withdrawal produces insomnia, nausea, depression, night sweats, myalgia, irritability, maybe anger and aggression. Treat with supportive therapy and diazepam if problematic.

Management

The best treatment is prevention. People should either not use it or limit it to experimentation. If it is used, people should be prepared to ‘sleep it off’ and not drive.

Cardiopulmonary resuscitation (CPR)

The ABC basic life support for cardiac arrest should be followed, but ideally DABC is best (defibrillation first if a defibrillator is available).

Basic life support

The following represents a logical ABC plan for the adult patient who collapses or is found apparently unconscious.

1. Shake and shout at the patient.
2. Check breathing.
3. Check pulse (feel carotid adjacent to thyroid cartilage).
4. Call for help (if no pulse).
5. Finger sweep oropharynx (clear it).
6. Place victim on back on firm surface.
7. Thump precordium (if arrest witnessed).
8. Tilt head back (to maximum).
9. Lift chin (use airway if available).
10. Commence basic life support:
 - Expired air resuscitation (EAR)—5 quick breaths
 - External chest compression
 - One rescuer: 15:2 (compressions/breaths)
80 beats/min
 - Two rescuers: 5:1
60 beats/min

Advanced life support

Optimal initial support involves:

- endotracheal intubation (otherwise bag and oxygen)
- ECG monitoring
- intravenous access (large peripheral or central vein)

Optimal initial therapy involves:

- defibrillation
- oxygen
- cardioactive drugs, especially adrenaline

If an ECG recording is unavailable the best course of action is:

- Defibrillate 200 J 'paddles mode'
- Defibrillate 200 J at 10 secs (if no response)
- Defibrillate 360 J
- Adrenaline 1:10 000, 10 mL IV

'Cellulite'

The best way to overcome 'cellulite' is to keep to ideal weight. If overweight, lose it slowly and exercise to improve the muscle tone in the buttocks and thighs.

Cellulitis

A spreading infection of the skin involving subcutaneous fat (compare with erysipelas (page 200) which involves upper dermis). Mainly caused by GABS and *S. aureus*. Commonly

affects legs of elderly (see page 286). A special mutant variety is 'flesh eating' GABS that causes localised destruction of tissue.

Treatment

Penicillin for GABS and di(flu)cloxacillin for *S. aureus*. Attend to underlying cause, e.g. skin ulcer.

Cervical cancer and Pap smears

Facts and figures

- Carcinoma of the cervix is the most common malignancy in women world-wide.
- There are two small peaks of incidence, in the late 30s and late 60s.
- On average, cervical cancer takes at least a decade to develop from a focus of cervical intraepithelial neoplasia.
- SCC of the cervix occurs almost exclusively in women who have had coitus.
- The earlier the age of first intercourse the greater the chance of developing cervical cancer.
- Invasive cervical cancer is a disease for which definite curable premalignant lesions can be identified using a Papanicolaou's (Pap) smear as a screening test.
- The incidence of cervical cancer has been decreased significantly through the screening procedures of the Pap smear, colposcopy and colposcopically directed cervical biopsy.
- Poor Pap smear technique is a common cause of a false negative result.

Clinical presentation

Many patients with cervical cancer are asymptomatic and when early symptoms do arise they are often dismissed as of little consequence.

Symptoms, if present, may be:

- vaginal bleeding, especially postcoital bleeding
- vaginal discharge
- symptoms of advanced disease, e.g. vaginal urine or flatus, weakness

Screening recommendations

Routine Pap smears:

- Perform every two years for women with no clinical evidence of cervical pathology (some recommend annual smears).
- Perform from beginning of sexual activity up to 70 years.
- Begin Pap smears at 18–20 years or 1–2 years after first sexual intercourse (whichever is later).

- Cease at 70 years in those who have had two normal Pap smears within the last five years.

Taking a Pap smear

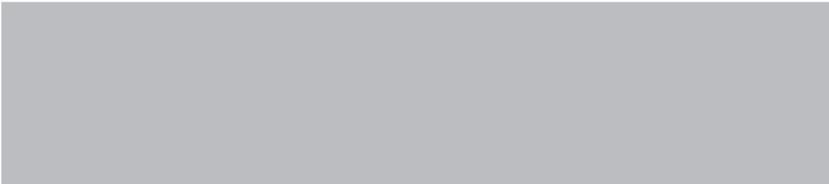
The importance of a good specimen

The optimal Pap smear contains:

- sufficient mature and metaplastic squamous cells to indicate adequate sampling from the whole of the transformation zone
- sufficient endocervical cells to indicate that the upper limit of the transformation zone was sampled; and to provide a sample for screening of adenocarcinoma and its precursors

Optimal timing of specimens

- The best time is any time after the cessation of the period.
- Avoid smear-taking during menstruation.
- Avoid in the presence of obvious vaginal infection.
- Avoid within 24 hours of use of vaginal creams or pessaries or douching.



The transformation zone in menopausal women: it is vital that Pap smears take cells from this zone. Use blunt end of spatula for reproductive age

Chest pain

Checkpoints and golden rules

- Chest pain represents myocardial infarction until proved otherwise.
- Immediate life-threatening causes of spontaneous chest pain are (1) myocardial infarction, (2) pulmonary embolism, (3) dissecting aneurysm of the aorta, and (4) tension pneumothorax.
- The main differential diagnoses of myocardial infarction include angina, dissecting aneurysm, pericarditis, oesophageal reflux and spasm and hyperventilation with anxiety.
- The history remains the most important clinical factor in the diagnosis of ischaemic heart disease. With angina a vital clue is the reproducibility of the symptom.

Table 14 *Chest pain: diagnostic strategy model*

Q. Probability diagnosis

- A. Musculoskeletal (chest wall)
 Psychogenic
 Angina

Q. Serious disorders not to be missed

- A. Cardiovascular
- myocardial infarction/unstable angina
 - dissecting aneurysm
 - pulmonary embolism
- Neoplasia
- carcinoma lung
 - tumours of spinal cord and meningitis
- Severe infections
- pneumonia-pleurisy
 - mediastinitis
 - pericarditis
- Pneumothorax

Q. Pitfalls (often missed)

- A. Mitral valve prolapse
 Oesophageal spasm
 Gastro-oesophageal reflux
 Herpes zoster
 Fractured rib, e.g. cough fracture
 Spinal dysfunction
- Rarities**
- Bornholm disease (pleurodynia)
 - cocaine inhalation
 - hypertrophic cardiomyopathy

Q. Seven masquerades checklist

- | | |
|--------------------|------------|
| A. Depression | ✓ possible |
| Diabetes | — |
| Drugs | — |
| Anaemia | ✓ indirect |
| Thyroid disease | — |
| Spinal dysfunction | ✓ |
| UTI | — |

Q. Is the patient trying to tell me something?

- A. Consider functional causes, especially anxiety with hyperventilation

Note Chest pain is myocardial ischaemia until proved otherwise.

Site, radiation and features of chest pain syndromes

Myocardial infarction and angina

The typical retrosternal distribution is shown in the figure below. Retrosternal pain or pain situated across the chest anteriorly should be regarded as cardiac until proved otherwise.



Pain of myocardial ischaemia: typical site

The wide variation of sites of pain, e.g. jaw, neck, inside of arms, epigastrium and interscapular, should always be kept in mind. Pain is referred into the left arm twenty times more commonly than into the right arm.

The quality of the pain is usually typical. The patient often uses the clenched fist sign to illustrate a sense of constriction.

The main types of myocardial ischaemia are summarised in Table 15.

Table 15 *Types of myocardial ischaemia*

	Duration of pain	Precipitating factors	Other features
Angina pectoris			
Stable	3–10 minutes	Physical or emotional stress	Relieved by rest and glyceryl trinitrate
Unstable	5–15+ minutes	Not defined; rest or effort	New onset, worsening pattern Slow or no relief from glyceryl trinitrate
Myocardial infarction	> 15–20 minutes	Any time	Nausea, vomiting, hypotension, Not relieved by glyceryl trinitrate

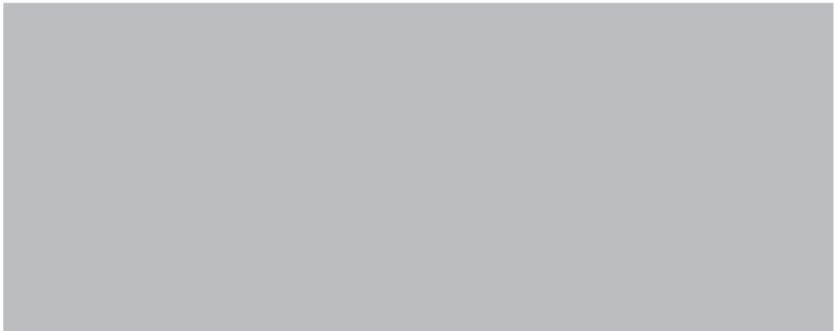
Dissecting aneurysm

The pain, which is usually sudden, severe and midline, has a tearing sensation and is usually situated retrosternally and between the scapulae (see figure overleaf). It radiates to the abdomen, flank and legs. An important diagnostic feature is the inequality in the pulses, e.g. carotid, radial and femoral. Control of associated hypertension is the basis of treatment while emergency surgery may be needed especially for type A aneurysms (arising in ascending aorta).

Pulmonary embolism

This has a dramatic onset following occlusion of the pulmonary artery or a major branch, especially if more than 50% of the cross-sectional area of the pulmonary trunk is occluded.

The diagnosis can present clinical difficulties, especially when dyspnoea is present without pain. Embolism usually presents with retrosternal chest pain (see figure overleaf) and may be associated with syncope and breathlessness. Treatment is by urgent anticoagulation (heparin then warfarin) or thrombolytic therapy or sometimes surgical embolectomy.



Pain of pulmonary embolism

Acute pericarditis

Pericarditis which has several causes can lead to three distinct types of pain (see figure opposite):

1. pleuritic (the commonest) aggravated by cough and deep inspiration, sometimes brought on by swallowing;
2. steady, crushing, retrosternal pain that mimics myocardial infarction;
3. steady, crushing, retrosternal pain that mimics myocardial infarction;

Treatment mainly involves pain control with aspirin or indomethacin.

Prader-Willi syndrome

This uncommon disorder (1 in 10 000 to 15 000) has classical features, especially a bizarre appetite and eating habits, of which a GP should be aware. The most common cause is deletion in the short arm of chromosome 15.

Features

- hypotonic infants with failure to thrive, then
- voracious appetite causing morbid obesity
- mental retardation
- narrow forehead and turned-down mouth
- small hands and feet
- hypogonadism

Management

- early diagnosis and referral
- multidisciplinary approach
- expert dietetic control

Williams syndrome

Williams syndrome (idiopathic hypercalcaemia or elfin face syndrome) is of unknown cause. The children have a distinctive elfin appearance, mild pre- and postnatal growth retardation, mild microcephaly and mild to moderate development delay. In the first 2 years of life feeding problems, vomiting, irritability, hyperacusis, constipation and failure to thrive may lead to presentation, but the children are rarely diagnosed at this stage.

Specific learning disabilities

A specific learning disability is an unexpected and unexplained condition, occurring in a child of average or above intelligence, with significant delay in one or more areas of learning. These areas include reading, spelling, writing, arithmetic, language (comprehension and expression), attention and organisation, co-ordination and social and emotional development. An SLD can vary from very mild to quite severe. It may, in turn, cause a general learning disability. The primary cause is unknown.

Diagnosis

If undetected by parents, any undisclosed SLD will soon be detected in the classroom. Sometimes the disability is not detected until later (8 years or more) when more demanding schoolwork is required. Speech delays, reading difficulties and calculation problems are among the first signs. It is important to check hearing and vision. These children may also present

with a behaviour disorder as they are often subject to ridicule by other children and tend to develop a poor self-image and low self-esteem.

Management

Children with SLDs are usually referred to an experienced professional or to a clinic (e.g. a dyslexia clinic) for assessment. Management may involve a clinical psychologist, an audiologist, an optometrist or a speech pathologist. A specific method of correcting the problem and promoting learning will be devised. It is also worthwhile seeking the help of a support organisation.

Dyslexia

Dyslexic children have a normal IQ and no physical problems, but their reading skills are below average. Other SLDs may also be present, particularly in spelling, writing and clear speaking.

The two main features are reading and spelling difficulties because dyslexic children confuse certain letters whose shape is similar, perhaps a mirror image of each other, e.g. confusing b with d and p with q. This means that affected children cannot properly use and interpret the knowledge they have acquired.

Characteristics include:

- a reluctance to read aloud
- a monotonous voice when reading
- following the text with the finger when reading
- difficulty repeating long words

These features, of course, are seen in all or most learners but, if they persist in a bright child, dyslexia should be considered. The most important factor in management is to recognise the problem and the earlier the better. The problem usually responds to special tuition.

Autism

Autism, described first by Kanner in 1943, is a pervasive development disorder commencing early in childhood; it affects at least four children in 10 000, boys four times as commonly as girls.

Many autistic children appear physically healthy and well developed although there is an association with a range of other disorders such as Tourette's disorder and epilepsy. Most have intellectual disability but about 20% function in the normal range.

Autistic children show many disturbed behaviours such as tantrums, hyperactivity and destructiveness, and impairment in communication.

The earliest signs of autism in infancy include:

- excessive crying
- no response to cuddling if crying
- failure to mould the body in anticipation of being picked up
- stiffening the body or resisting when being held
- failing to respond or overreacting to sensory stimuli
- persistent failure to imitate, such as waving goodbye

The diagnosis of autism remains difficult before the age of two years.

Assessment

If a child has delayed and deviant development and autism is suspected, a comprehensive multi-disciplinary assessment is necessary. Referral to professionals with experience of autism is essential.

Neonatal leg and foot abnormalities

Developmental dysplasia of hip (congenital dislocation of hip)

(see page 255)

- Detected by clinical examination (Ortolani and Barlow tests) and ultrasound examination (ideally 6 weeks).
- Most cases are treated successfully by abduction bracing with a Pavlik harness.
- Open reduction may be required.

Bow legs (genu varum)

- Most are physiological (which are symmetrical and improve with age).
- Toddlers are usually bow-legged until 3 years of age.
- Monitor intercondyler separation (ICS): distance between medial femoral condyles.
- Refer when ICS > 6 cm, not improving or asymmetric.

Knock knees (genu valgum)

- Most are physiological and children are usually knock-kneed from 3–8 years.
- Monitor intermalleolar separation (IMS): distance between medial malleoli.
- Refer when IMS > 8 cm.

Postural variance of lower limbs FROM D. EFRON, PAEDIATRIC HANDBOOK, BLACKWELL SCIENCE, MELBOURNE, 1996, WITH PERMISSION

In-toeing

The 3 main causes of in-toeing stem from problems at 3 levels i.e. the foot, the tibia and femur.

Metatarsus varus: presents at birth with sole of foot bean shaped. Advise against prone nursing. Associated with DDH so check hips. Refer 3 months after presentation if not resolved. Internal tibial torsion: presents as toddler 1–3 years. Observe and measure. Refer 6 months after presentation if problematic but usually resolves spontaneously.

Medial femoral torsion: Presents later (3–10 years) as 'inset' hips. Some children like to sit in 'W' position. Rarely need surgery. Refer after 8 years if concerned.

Out-toeing

Infants

- have restricted internal rotation of hip due to an external rotation contracture
- exhibit a 'Charlie Chaplin' posture between 3 and 12 months
- child weight bears and walks normally
- no treatment required as spontaneous resolution occurs. Discourage the prone sleeping position.

Surgery may be necessary in older children.

Club foot (congenital talipes equinovarus)

Most abnormal-looking feet in infants are not a true club foot deformity; the majority have postural problems such as talipes calcaneovalgus, metatarsus varus and postural talipes equinovarus. Such conditions are usually quite mobile and mild, and all resolve spontaneously without treatment. True club foot deformity is usually stiff and severe, and requires orthopaedic correction.

Flat feet (pes plano valgus)

The majority are physiological. All newborns have flat feet but 80% develop a medial arch by their sixth birthday. Perform the 'tip-toe' test when the arch usually appears indicating flexibility. No treatment is required unless painful and stiff.

Special senses

Visual problems

Vision is present at birth (focal depth of only 20 cm) maturing to normal 'adult' vision at about 12 months following maturation of the macula, fovea and retina at about 3 months. Visual perception gradually matures until about 7 years but will be affected by problems such as strabismus and may lead to loss of vision (amblyopia).

If best vision is reduced to 6/18 or worse learning problems can occur at school.

Amblyopia

- loss of vision in a healthy eye
- can only be treated up to 6 years of age
- main predisposing factor is strabismus

Strabismus (squint)

- most are sensory with normal muscles
- 75% are convergent
- affect normal development of binocular vision

Types

- transient: common in neonates, not a problem
- manifest or constant: always present—a serious problem
- alternating: less serious but requires referral
- latent: evidence under stress, e.g. fatigue, provocative testing
- pseudo: apparent due to wide epicanthal folds and nasal bridge

Refractive errors

- anisometropia: significant difference in refractive error of 2 eyes
- astigmatism: variations in corneal curvature, e.g. conical cornea affects normal focussing of light. Needs a corrective lens
- myopia (short sightedness): uncommon in infants and children but progressive in teens. Needs glasses with a concave lens or contact lenses
- hypermetropia (long sightedness): mild cases usual in infancy and early childhood. May be associated with convergent squint. Correction with convex lens

Children's emergencies

Common important childhood emergencies include respiratory distress, poisoning, severe infections including severe gastroenteritis, seizures and SIDS/ALTE.

Meningitis or encephalitis

Clinical features

Infancy:

- fever, pallor, vomiting, altered conscious state
- lethargy and other signs

Children over three years:

- meningeal irritation more obvious, e.g. headache, fever, vomiting, neck stiffness
- later: delirium, altered conscious state

Management

If bacterial meningitis suspected consider IV cefotaxime or ceftriaxone 5 IV benzylpenicillin and admit to hospital for lumbar puncture (ASAP) and ongoing management.

Meningococcaemia

Note: Treatment is urgent once suspected e.g. petechial or purpuric rash on trunk and limbs.

- take blood culture if time and facilities permit, then
- benzylpenicillin 60 mg/kg IV statim and four hourly 5–7 days or ceftriaxone 100 mg/kg IV (max. 4 g) statim (drug of choice)
- admit to hospital
- supportive therapy, e.g. oxygen, IV fluids

Treat significant contacts with rifampicin.

Acute epiglottitis

Epiglottitis is characterised by the sudden onset of a toxic febrile illness, a soft voice, lack of a harsh cough, a preference to sit quietly (rather than lie down) and especially by a soft stridor with a sonorous expiratory component.

Management

- DO NOT EXAMINE THE THROAT.
- Escort the child to hospital—almost all require nasotracheal intubation.
- Keep the child calm—allow mother to nurse child.
- If obstruction, gently bag and mask with 100% oxygen.

Method of emergency cricothyroidotomy (last resort)

- Lay the child across your knees with neck fully extended.
- Insert a number 14 needle or angiocath through the cricothyroid membrane.

Always try to intubate once before resorting to cricothyroidotomy.

Hospital treatment

- Intubation: in theatre suck away profuse secretions and perform nasotracheal intubation
- Antibiotics: chloramphenicol 75 mg/kg/day IV (max. 3 g in three divided doses) five days (only if severe penicillin hypersensitivity) or (preferable) cefotaxime 50 mg/kg IV (max. 2 g) 8 hourly or ceftriaxone 50 mg/kg to max. 2 g/day IV as single daily dose

Note: Continue therapy for five days. Early transfer to oral therapy, e.g. amoxicillin/clavulanate, is desirable.

Poisoning

Dangerous drugs for accidental poisoning include all cardiac drugs, antidepressants and anxiolytics, iron tablets, Lomotil, analgesics, alcohol and potassium.

Principles of treatment

- support vital functions A,B,C,D
- dilute the poison—with milk or water (one cup)
- delay absorption—activated charcoal (the preferred method) 1 g/kg oral or via fine bore nasogastric tube (best) or as 'black jelly' (charcoal 1 glycerine)
- administer antidote (if available) early, e.g. bicarbonate for tricyclics, N-acetyl-cysteine for paracetamol
- treat any complications, e.g. cardiac arrhythmias

Swallowed foreign objects

A golden rule

The natural passage of most objects entering the stomach can be expected, but very large coins need to be watched carefully.