Section Two

SIGNS

DOCTOR’S COMPANION

Dr. Warwick Carter
SECTION TWO

SIGNS

Clinical Signs and their Interpretation

SIGN: Objective evidence of disease or deformity
Butterworths Medical Dictionary

FORMAT

Sign (Alternate Name) [Abbreviation]
Exp: An explanation of the sign, with its methodology described in sufficient detail to enable the practitioner to perform the test.
Int: The interpretation of the sign.
 (+) The diseases, syndromes etc. that should be considered if the test is positive
 (+++) The interpretation of an exaggerated or grossly positive test
 (−) Ditto for a negative test result
 (AB) Ditto for an abnormal test result
Phys: The pathophysiology of the sign to enable its significance to be better understood

See also Other Signs of Significance

Alternate Name
See Sign Name

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EXAMINATION

Abdominal Mass
Exp: Palpation of an abnormal structure in or around the abdominal cavity
Int: (+ Superficial) - Lipoma, sebaceous cyst, umbilical hernia, inguinal hernia, incisional hernia, post-traumatic scarring, rectus sheath haematoma, divarication of the recti
(+ Deep) - Carcinoma of bowel or stomach, Crohn's disease, Hodgkin's disease, other lymphomas, metastatic carcinoma, appendiceal abscess, pancreatic tumour, aortic aneurysm, pregnancy, uterine fibroid or tumour, ovarian tumour or cyst, hydatid cyst, distended gall bladder, enlarged liver (see Hepatomegaly), enlarged spleen (see Splenomegaly), enlarged kidney (see Kidney, Large), pyloric stenosis, bladder carcinoma, vertebral tumours, neuroblastoma
Phys: Any organ in the abdominal cavity may become diseased and distended

Abdominal Rigidity
Exp: Unrelaxable firmness of the abdominal wall on palpation
Int: (+) Appendicitis, pancreatitis, perforated viscus (eg. peptic ulcer), acute Crohn's disease, intraperitoneal haemorrhage, ectopic pregnancy, ruptured ovarian cyst, peritonitis, pelvic inflammatory disease
Phys: Involuntary muscular spasm due to irritation of the peritoneum by blood, pus, acid, enzymes or inflamed tissue
See also Carnett's Test

Adie's pupil
See Anisocoria
See also Holmes-Aide Syndrome in Syndromes section 6

Adson's Test
Exp: Patient is seated with hands on thighs, and takes and holds a very deep breath. The neck is then hyperextended, and the head turned from side to side. Positive if radial pulse on one side is obliterated
Int: (+) Cervical rib syn., thoracic outlet syn., scalenus anticus syn.
Phys: Compression of subclavian artery against abnormal cervical rib or scalenus anticus

Adventitious Sounds
Amphoric Breathing
Exp: High pitched, metallic toned, bronchial breathing heard on auscultation
Int: (+) Open pneumothorax, tuberculous cavities
Phys: Named after Greek amphora (pottery vessel), as breath sounds similar to blowing over the top of a bottle

Anaesthesia
See Symptoms section 1: Anaesthesia

Anal Examination
See Rectal Mass

Anisocoria
Exp: Pupils are different sizes
Int: (+) Physiological (20% of population), raised intracranial pressure, abnormal migraine, third nerve palsy, Adie’s pupil (ciliary muscle paresis), Horner syndrome, Pancoast tumour, penetrating trauma, medications (eg. atropine)
Phys: Causes may be physiological, structural, pharmacological or neurological

Ankle-Brachial Index
Exp: The ankle-Brachial index is measured as:
\[
\text{Systolic BP ankle (higher of dorsalis pedis and posterior tibial arteries)} \div \text{Systolic BP arm}
\]
Int: >1.2 Abnormal. Peripheral vascular disease. Intervention necessary
1.0-1.2 Normal
0.9-1.0 Acceptable
0.8-0.9 Minor arterial disease. Risk factors should be managed.
0.5-0.8 Moderate arterial disease. Intervention necessary.
<0.5 Severe arterial disease. Urgent treatment essential.

Ankle Clonus
Exp: Sharp dorsiflexion of foot causes repeated spasm of calf muscles and plantar flexion of foot
Int: (+) Upper motor neurone lesions and disease, functional nervous
disorders, epilepsy, tuberous sclerosis, Wilson's disease, uraemia, encephalitis, multiple sclerosis, CVA, cirrhosis, Creutzfeldt-Jakob disease, encephalitis lethargica, alcohol withdrawal, drugs, benign idiopathic

Phys: With an upper motor neurone lesion there is no inhibition of the tendon stretch reflex

See also Ankle Jerk

Ankle Jerk

Exp: With patient kneeling on a chair, or supine, the Achilles tendon is struck firmly, causing spasm of the calf musculature

Int: (-) Peripheral neuropathies, polio, tabes dorsalis, posterior root tumour, spinal tumours, subacute combined degeneration of the cord, syringomyelia, multiple sclerosis, hypothyroidism, diabetes mellitus, beriberi, often absent in elderly

(++) Upper motor neurone lesions, encephalitis, anxiety, tetanus, hyperthyroidism, cord transection

Phys: Reflex absence due to interruption of the reflex arc or muscular disease

Exaggeration due to lack of suppression of reflex by cortical centres. Acts at L2, L3, L4

See also other signs listed under Reflexes

Ankle Oedema

Exp: Swelling of the ankle due to excess fluid accumulation

Int: (+) Congestive cardiac failure, venous valve incompetence, venous thrombosis, hypoproteinaemia, malnutrition, cirrhosis, glomerulonephritis, nephrotic syn., secondary hyperaldosteronism, intra-abdominal tumour, filariasis, cellulitis, gout, SLE, pregnancy, pre-eclampsia, prolonged sitting or rest, heat, drugs (eg. felodipine, nifedipine)

Phys: Reduced venous return from the legs, excess body fluid load or localised inflammation

See also Pitting Oedema

See also Symptoms section 1: Oedema

Apex Beat

Exp: Palpation of the cardiac apex beat and assessing its duration, force, site (see Apex Beat Displacement below) and area covered. Felt with patient supine, or erect and leaning forwards

Int: Forceful, displaced laterally, slightly prolonged – Hypertension

Displaced laterally, rapid rise and fall, brief duration – Aortic or mitral regurgitation

Powerful, prolonged, not displaced – Aortic stenosis
Apex Beat Displacement
Exp: Palpation of chest wall with flat of finger tips to detect point of maximal cardiac pulsation. Normally 7 to 10 cm to left of midline in 5th intercostal space
Int: Displaced to left – Cardiomegaly (eg. valvular disease, hypertension, pulmonary disease, cardiomyopathies, congenital heart disease, aneurysm, rheumatic fever), pulmonary fibrosis, scoliosis, pectus excavatum, elevated diaphragm, bronchiectasis, Keshan disease
Displaced to right – Pneumothorax, pleural effusion, dextrocardia
Phys: Commonly due to cardiac or pulmonary disease

Apley's Grind Test
Exp: With the patient prone, flex the knee to be tested to 90°. Apply pressure to the bottom of the heel in order to force the tibia into femoral articulation, then twist the tibia. If pain is felt at the knee, the test is positive
Int: (+) Cartilage damage in knee joint, septic arthritis

Arcus Senilis
Exp: An opaque ring in the peripheral cornea with a clear zone separating it from the limbus
Int: (+) Occurs invariably with advancing age, hypercholesterolaemia
Phys: Deposition of lipids in periphery of cornea
See also Xanthomatoses

Areolar Pigmentation
Exp: Darkening of areola and nipple
Int: (+) Present or past pregnancy, hormone therapy, familial, racial
Phys: Enlargement of Montgomery's follicles in areola should also be noted in current pregnancy or hormone therapy

Argyll Robertson Pupil
Exp: Small, irregular, unequal pupils that do not react to light, but do react to convergence
Int: (+) Neurosyphilis, tabes dorsalis, diabetes
Phys: Damage to the midbrain section of the optic tract

Arlt's Line
Exp: Cicatricial scarring of upper eyelid causing entropion
Int: (+) Chronic trachoma
Phys: Chronic inflammation of subepithelial tissue of the tarsus
See also Entropion

**Arrhythmias, Cardiac**
See Bradycardia; Dicrotic Pulse; Extrasystolic Beats; Gallop Rhythm; Tachycardia; Investigations section 3: Arrhythmias, Cardiac
See also signs listed under Heart; Pulse

**Arteriovenous Nipping, Retinal**
Exp: Ophthalmoscopic or slit lamp examination of the retina reveals narrowing of venules where they are crossed by arterioles
Int: (+) Hypertension, arteriosclerosis
Phys: Increased pressure on the venule in the shared adventitial sheath where vessels cross

**Ascites**
See Shifting Dullness; Thrill, Fluid;
See also Symptoms section 1: Ascites

**Asterixis**
See Tremor, Flapping

**Ataxia**
Exp: Lack of proper coordination. An unsteady, uncontrolled gait and/or a clumsy nose-finger test
Phys: Sensory (posterior column) and motor (cerebellar) forms. Former may be compensated for by ocular impressions (poorer coordination with eyes shut)
See also Heel-Knee Test; Nose-Finger Test; Romberg's Sign
See also Investigations section 3: Achilles Tendon Rupture
Athetosis (Torsion Dystonia)

Exp: Involuntary, slow, writhing movements; particularly of hands and arms
Int: (+) Infantile hemiplegia, extrapyramidal lesions, basal ganglia lesions, cerebral palsy, encephalitis lethargica, Wilson's disease, juvenile Huntington's chorea, Lesch-Nyhan disease, kernicterus, Hallervorden-Spatz disease, idiopathic and paroxysmal dystonias, drugs (eg. phenothiazines, diazoxide)
Phys: Release mechanism associated with various forms of damage to basal ganglia and related motor pathways, particularly in children with birth trauma or anoxia

See also Choreaiform Movements

Atrial Fibrillation

Exp: On an ECG, numerous disorganised waves (f waves) can be seen circulating rapidly and randomly through the atria at a rate between 300 and 600 per minute
Int: (+) Ischaemic heart disease, myocardial infarct, mitral valve disease, rheumatic valve disease, congestive cardiac failure, cardiomyopathies, myocarditis, pericarditis, pulmonary embolism, hyperthyroidism, severe hypertension, phaeochromocytoma, cardiac amyloidosis, Wolff-Parkinson-White syn., cardiac trauma, thoracic tumours, thoracic surgery, familial. Predisposing factors: Alcohol, caffeine, obesity, sleep apnoea.
Phys: AV node receives f waves at a rate higher than it can conduct. A random minority of these pulses are transmitted to the ventricles, giving the irregular pattern of beats

See also Irregularly Irregular Pulse

Atrophy, Muscular

Exp: Wasting of musculature in one or more limbs. Careful comparative measurements of limbs advisable
Int: (+) Lower motor neurone lesions, muscular dystrophies, rheumatoid arthritis, dystrophia myotonica, peroneal muscular atrophy, polio, motor neurone disease, prolonged immobilisation
Phys: Interruption to muscular nerve supply or disuse due to pain causes wasting

Auspicz's Sign

Exp: When white scale is removed from a plaque of scale covered dermatitis on the shins, a bleeding area results
Int: (+) Psoriasis
Phys: In psoriasis, the plaque has a microcapillary circulation that is disrupted by
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its removal

**Austin-Flint Murmur**

*Exp:* When listening to the cardiac apex, a murmur is heard that has its onset associated with a 3rd heart sound, is loudest at mid-diastole and may have some presystolic accentuation

*Int:* (+) Aortic regurgitation

*Phys:* The full opening of the mitral valve is prevented by the regurgitant jet from the aortic valve defect and the more rapid rise in the left ventricular than the left atrial diastolic pressure. Inadequate function of the mitral valve subsequent to the aortic regurgitation produces the characteristic murmur

**Babinski's Sign (Plantar Reflex)**

*Exp:* Normally, slow plantar flexion of the great toe and fanning of the other toes occurs when the lateral side of the sole is stroked firmly with a pointed object, from the heel towards the toes. Positive with extension of great toe

*Int:* (+) Corticospinal tract lesions, coma, post epileptic seizure, upper motor neurone lesions, multiple sclerosis, CVA, subacute combined degeneration of cord, paraplegia, normal infants

*Phys:* Acts at S1, S2 level

**Barford Test**

*Exp:* Place both legs of the patient in mirror-image positions. A stethoscope is placed over the symphysis pubis, and a comparison is made between the sound heard from a vibrating 128Hz tuning fork placed on each medial femoral condyle or patella in turn. Positive if reduced conduction of sound occurs on the injured side

*Int:* (+) Fracture of neck of femur

*Phys:* Fracture disrupts conduction of sound from distal femur to pelvis

**Barlow Test**

*Exp:* With the infant supine, the hips are adducted with the examiner’s thumb over the medial aspect of the femoral head. Pressure is applied forwards and laterally by the thumb in an attempt to dislocate the hip. The hip is then abducted, and a clunk will be felt if the hip joint has been displaced. Test should be done without any significant force being applied

*Int:* (+) Unstable hip that has the potential for dislocation

See also Ortolani Test

Signs - 8
Barrel Chest
Exp: Chest fixed in inspiration. Increased anteroposterior diameter to give impression of a cylindrical chest
Int: (+) Emphysema, asthma
Phys: Permanent overinflation of distal air spaces due to chronic infections or expiratory airway obstruction
See also Pink Puffer

Battle's Sign
Exp: Retromastoid bruising behind the ear
Int: (+) Fracture of the petrous bone
Phys: Blood tracks to this subcutaneous point from fracture site
See also Racoon Sign

Beau's Line
See Nail Ridging

Beighton Score
See Joint Hypermobility

Biceps Jerk
Exp: With elbow flexed and forearm slightly pronated, a finger placed on the biceps tendon is struck firmly. Normal reaction is flexion of the elbow
Int: (–) Polio, peripheral neuropathy (eg. diabetes, alcoholism), tabes dorsalis, posterior root and cord tumours, syringomyelia, subacute combined degeneration of cord, cord trauma, muscular dystrophy, coma, peripheral nerve lesions, elderly
(++) Upper motor neurone lesions, tetanus, encephalitis
Phys: Acts at C5, C6 level
See also other signs listed under Reflexes

Black Eyes, Bilateral
Exp: Both eyelids spontaneously blackened after trauma excluded. May be precipitated by sigmoidoscopy
Int: (+) Amyloidosis
Phys: The Valsalva manoeuvre of sigmoidoscopy may be a precipitant
Black Urine
See Urine, Abnormal Colour

Blood Pressure
See Hypertension; Hypotension

Blue Bloater
Exp:  Oedematosus patient with cyanosis at rest, warm extremities, generalised plethora, shortness of breath, productive cough, polycythaemia and a large heart
Int:  (+) Bronchitic chronic obstructive airways disease
Phys: Greatly increased airways resistance and cardiac failure
See also Pink Puffer

Blue Cervix and Vagina
Exp:  Vagina and cervix are a dark blue to purple colour on speculum examination
Int:  (+) Pregnancy
Phys: Increased progesterone levels cause venous dilatation
See also Hegar's Sign; Areolar Pigmentation

Blue Line on Gums
See Gums, Blue Line on

Blue Sclera
See Sclera, Blue

Blue Skin
See Symptoms section 1: Cyanosis, Central; Cyanosis, Peripheral

Borborygmus
Exp:  Greatly exaggerated, high pitched, tinkling abdominal sounds
Int:  (+) Intestinal obstruction or infection, food poisoning, toxic enteritis
Phys: Sound due to compression of air-fluid mixture by excessive peristaltic movements of gut attempting to overcome obstruction or being irritated by infection
**Bossing**
See Frontal Bossing

**Bouchard's Nodes**
Exp: Bony prominences at the dorsal margins of proximal interphalangeal joints
Int: (+) Severe osteoarthritis
*See also Heberden's Nodes*

**Bounding Pulse**
Exp: Full, exaggerated arterial pulsation
Int: (+) Thyrotoxicosis, fever, pregnancy, anaemia, other hyperkinetic circulatory states, drugs (eg. adrenaline)
Phys: Vasodilatation and increased cardiac output exaggerates peripheral pulsations

**Boutonnière (Button Hole) Deformity**
Exp: Painful, fixed flexion of proximal interphalangeal finger joint with marked prominence of distal end of proximal phalanx and swelling of joint
Int: (+) Disruption of central slip of extensor digitorum tendon allows joint to protrude between medial and lateral slips of extensor tendon, rheumatoid arthritis
Phys: May be associated with a fracture avulsion of central slip which will require surgical repair if displaced

**Bradycardia**
Exp: Slow heart (pulse) rate, generally below 60 per minute
Int: (+) Healthy athlete, elderly, fright, hypothermia, postinfective states, increased intracranial pressure, serious liver disease, cerebral tumours, hypothyroidism, electrolyte imbalances, syncope, anaphylaxis, myocardial infarct, heart block, sick sinus syn., congestive cardiac failure, Stokes-Adams syn., Romano-Ward syn., vasovagal syn., septicaemia, drugs (eg. digitalis, beta-blockers, narcotics, verapamil,diltiazem, amiodarone)
Phys: Normal heart rate maintained by cardiac sinus and appropriate conduction by bundle of His to ventricles. Vagal centres in medulla slow heart rate with increased cerebral pressure

**Breathing**
See Barrel Chest; Blue Bloater; Bronchial Breathing; Cavernous Breathing;
Cheyne-Stokes Respiration; Crepitations, Pulmonary; Hyperventilation; Hypoventilation; Kussmaul's Breathing; Rhonchi; Pink Puffer; Pleural Effusion

**Bronchial Breathing**
Exp: Harsh, clear, breath sound that is equal in inspiration and expiration
Int: (+) Pneumonia, pulmonary tumours, TB, pulmonary consolidation
Phys: Suppression of vesicular component of breath sound when alveoli not working results in bronchial breathing

**Brudzinski's Sign**
Exp: The head is flexed on the chest, causing the lower limbs to be drawn up
Int: (+) Meningeal irritation, meningitis, cerebral abscess, subdural empyema, subarachnoid haemorrhage, other cerebral haemorrhages, typhus, leptospirosis
Phys: Traction of the inflamed meninges on spinal nerves causes a protective flexor reflex
*See also Neck Stiffness; Kernig's Sign*

**Bruit**
See Thrill, Cardiac
*See also signs listed under Murmur, Cardiac*

**Buffalo Hump**
Exp: Excess deposition of fatty tissue over upper thoracic vertebrae
Int: (+) Cushing's disease, steroid medication

**Buphthalmos**
See Exophthalmos

**Burn’s Test**
Exp: A patient with sciatica is asked to kneel sideways on a chair, bend forwards and touch the floor with the finger tips
Int: (+) Patients with sciatica can usually achieve this task
(-) Patients who are malingering are unable to reach the floor or overbalance
Butterfly Rash
Exp: Erythematous, scaly rash spreading across both cheeks and meeting on the nasal bridge
Int: (+) SLE, photodermatitis, discoid lupus, atopic dermatitis, serum sickness
Phys: Occurs in 45% of patients with SLE

Button Hole Deformity
See Boutonnière (Button Hole) Deformity

Cachexia
Exp: Widespread muscular wasting, grey pallor, dry and wrinkled skin
Int: (+) Malignant diseases (eg. carcinoma of lung, stomach, ovary), Hodgkin's disease, leukaemia, anorexia nervosa, chronic renal or hepatic disease, advanced diabetes, chronic TB, malnutrition, chronic cardiac failure, chronic malaria, ancylostomiasis, sprue, scurvy, Addison's disease, fluorosis, thyrotoxicosis, Simmonds' disease, lead or mercury poisoning
Phys: Many serious diseases, particularly when chronic, cause the loss of protein and ketones through the urine. A loss of muscle tissue and anaemia results
See also Symptoms section 1: Weight Loss

Café-au-Lait Spots
Exp: Light brown spots on skin
Int: (+) Von Recklinghausen's disease of multiple neurofibromata, pityriasis versicolor, tuberous sclerosis
See also Symptoms section 1: Pigmentation of Skin, Excess

Calf Squeeze Test (Simmond's Test, Thompson Test)
Exp: Lie patient prone with both feet extending beyond the end of the couch by 10 cm. With one hand, grip the sides of the gastrocnemius/soleus and squeeze. Foot should plantar flex. Compare with other side
Int: (+) Normal Achilles tendon
(−) Ruptured Achilles tendon
Phys: A complete rupture of the Achilles tendon may be missed because the foot may be plantar flexed using the deep long flexors. This test specifically demonstrates the integrity of the Achilles tendon

Caloric Stimulation
Exp: Irrigation of the external auditory canal with ice-cold water while the head
is at 30° to the horizontal and the eyes looking at a fixed object, causes the gaze to turn laterally towards the side of the irrigated ear

Int: 
(+) Brain stem intact  
(+ nystagmus and vertigo) Vestibular disease  
(−) Brain stem damage

Phys: Used for assessing comatose patients. Check that there is no excess wax in ear canal and that tympanic membrane is intact before proceeding

**Cardiac Displacement**
See Apex Beat Displacement

**Cardiomegaly**
See Apex Beat Displacement; Cor Pulmonale

**Carnett’s Test**
Exp: In cases of abdominal tenderness, locate point of maximal tenderness, ask patient to cross arms and sit half way forward, and palpate area again. Positive if tenderness increases

Int: (+) Abdominal wall tenderness, not visceral pain

Phys: Differentiates intra-abdominal source of pain from abdominal wall pain in cases of acute abdomen

See also Abdominal Rigidity

**Carpal Spasm**
See Obstetric Hand

**Cat Cry**
See Cri-du-Chat

**Cataract**
See Lens Opacity

**Cavernous Breathing**
Exp: Hollow quality, low toned breath sound that is equal in inspiration and expiration

Int: (+) Open pneumothorax, lung cavities (eg. TB, bronchiectasis, pulmonary abscess)
Phys: Due to lung cavity surrounded by partially consolidated lung tissue

**Central Venous Pressure**
See Jugular Venous Pressure

**Cervical Fleche**
Exp: With heels and back placed against wall, patient tries to touch wall with back of head without raising chin above horizontal. Positive if unable to do so
Int: (+) Ankylosing spondylitis, cervical vertebral trauma
Phys: Indicates involvement of cervical vertebrae in disease

**Cervix, Tender**
Exp: Pain on movement of cervix by examining doctor's fingers
Int: (+) Pelvic inflammatory disease, ectopic pregnancy, ovarian cysts, advanced carcinoma of cervix, endometriosis, salpingitis, pelvic abscess

**Charcot's Joints**
Exp: A totally disorganised and apparently severely arthritic major joint which remains completely pain free
Int: (+) Tabes dorsalis, syringomyelia, diabetic neuropathy, myelomeningocele, leprosy
Phys: Impairment of pain and proprioceptive sensation deprives the joint of the normal protective reflexes when exposed to stress

**Chaussier's Sign**
Exp: Epigastric pain in a pregnant woman with pre-eclampsia
Int: (+) Imminent eclampsia

**Cheyne-Stokes Respiration**
Exp: Respirations that gradually decrease in frequency until a temporary cessation occurs. Respiration then restarts and the frequency builds to a maximum before the cycle repeats itself
Int: (+) CVA, meningitis, uraemia, narcotic or barbiturate overdose, advanced cardiac disease (eg. left ventricular failure), terminal stage of many chronic diseases, cerebral tumours, raised intracranial pressure
Phys: Damage to cerebral respiratory centre. One full cycle equates to twice the circulation time
See also Papilloedema

**Chip Sign**
Exp: Skin blotches covered with fine, nonadherent scabs that are easily removed by a fingernail or blunt edge
Int: (+) Pityriasis versicolor
Phys: Superficial fungal infection

**Chloasma**
Exp: Yellow-brown spotty skin pigmentation, often on upper cheeks and forehead
Int: (+) Pregnancy, oral contraceptives, sun exposure, syphilis, malaria, TB, cirrhosis, chronic trauma, some drugs
Phys: Melanocyte stimulation

**Choreiform Movements**
Exp: Irregular, spontaneous, rapid, random, purposeless movements of the larger joints. Increased by voluntary effort and emotion
Int: (+) Sydenham's chorea, Huntington's chorea (slower movements), encephalitis, rheumatic fever, hyperthyroidism, SLE, cerebral tumours, CO poisoning, basal ganglia disease, senility, chorea gravidarum, oral contraceptive sensitivity, polycythaemia rubra vera, neuroleptic or phenytoin overdose, kernicterus, hemiballismus
Phys: Damage in the area of the caudate nucleus and putamen

**Chvostek's Sign**
Exp: A light tap on the facial nerve as it emerges from the stylomastoid foramen causes contraction of the facial muscles on that side
Int: (+) Hypoparathyroidism, hypocalcaemia, rickets, alkalosis, magnesium deficit, some normal people
Phys: Low serum calcium or magnesium causes muscular hyperexcitability and may lead to tetany
See also Trousseau's Sign

**Circumoral Pallor**
Exp: Relatively white area around mouth
Int: (+) Fever of any cause (eg. scarlet fever)
Phys: Dilatation of superficial blood vessels in looser skin further away from mouth causes darkening and reddening of that area (rather than blanching)
Clasp-Knife Rigidity
Exp: When a limb joint is flexed by an examiner, there is considerable initial resistance which, once overcome, results in relative ease of movement
Int: (+) Upper motor neurone lesion, spasticity
Phys: A lengthening reaction due to hyperactivity or sensitivity of alpha or gamma motor neurones
See also Cogwheel Rigidity

Claw Hand (Main–en–Griffe)
Exp: Chronic spasmodic hand position characterised by flexion of wrist and interphalangeal joints and extension of metacarpophalangeal joints
Int: (+) Lower motor neurone lesions, progressive muscular dystrophy, ulnar and median nerve paralysis, gargoylism, carpal tunnel syn.
Phys: Due to wasting of small hand muscles and overactivity of long muscles with interruption to peripheral motor nerve supply

Clay Stool
See Faeces, Abnormal Colour

Clenched Fist Sign
See Levine Sign

Clonus
See Ankle Clonus

Clubbing of Fingers
Exp: Soft terminal part of fingers and/or toes immediately proximal to nail is bulbous, and nail is excessively curved in lateral and longitudinal planes
Int: (+) Chronic diseases of heart, lungs or alimentary system (eg. lung carcinoma, pneumoconioses, bacterial endocarditis, TB, bronchiectasis, sarcoidosis, cirrhosis, lung abscess, regional enteritis, tetralogy of Fallot), congenital, in association with hypertrophic pulmonary osteoarthropathy, subphrenic abscess, cystic fibrosis, fibrosing alveolitis, asbestosis, arteriovenous fistula, atrial myxoma, Crohn's disease, benign intrathoracic tumours, thoracic empyema, mesothelioma, familial
Phys: Due to overgrowth of soft tissues and subjacent periosteum. Exact cause
unknown but may be due to increase in peripheral blood flow and reduced pO2

See also Schamroth's Sign

Coffee-Grounds Vomitus
Exp: Dark brown granular vomitus
Int: (+) Peptic ulcer, stomach carcinoma, oesophageal varices, portal cirrhosis, yellow fever
Phys: Alteration of blood due to action of gastric acid

Cogwheel Rigidity
Exp: Resistance to passive movement diminishes in jerky steps
Int: (+) Extrapyramidal lesions, athetosis, paralysis agitans (parkinsonism), cerebral palsy
Phys: Static tremor masked by rigidity
See also Lead-Pipe Rigidity; Clasp-Knife Rigidity
See also Festination under Gait, Abnormal

Coilonychia
See Koilonychia

Coin Test
Exp: When a coin on the chest wall is struck by another coin, a metallic noise is heard through a stethoscope placed on the chest wall at a distance from the coin. Two sides of chest should be compared
Int: (+) Pneumothorax
Phys: Conduction of sound is altered by the partial collapse of a lung

Collapsing Pulse
See Water-Hammer Pulse

Consensual Reflex
Exp: Light shone into one eye causes the pupils of both eyes to contract
Int: (–) (only opposite eye contracts) Retrobulbar neuritis, multiple sclerosis
Phys: Afferent path of reflex arc is interrupted, but efferent path remains intact
Consolidation of Lung
See Dull Percussion Note, Thoracic

Convulsions
See Symptoms section 1: Convulsions

Cor Pulmonale
Exp: Pulmonary arterial hypertension and right ventricular enlargement. Confirmed by ECG and chest X-ray
Int: (+) Chronic obstructive airways disease, pulmonary vascular disease, multiple pulmonary emboli, diffuse interstitial pulmonary disease, SLEep apnoea, kyphoscoliosis, neuromuscular diseases of chest wall, Pickwickian syn., high altitude sickness
Phys: Primarily a sign of obstructed circulation of blood through the lungs, and not cardiac disease. Congenital heart disease and left heart disease must be excluded

Corneal Anaesthesia
Exp: Loss of corneal sensation to light touch
Int: (+) Riley-Day syn.

Corneal Reflex
Exp: Lightly touching one cornea with a piece of cotton wool produces blinking in both eyes
Int: (− bilateral) Coma, general anaesthesia, death
(− unilateral) Lesion of 7th or ophthalmic division of 5th nerve
Phys: Tests for anaesthesia of cornea, or interruption of reflex arc

Corrigan’s Sign
Exp: Vigorous, jerky pulsation of major arteries causing ears to move or head to nod
Int: (+) Aortic regurgitation, patent ductus arteriosus, ventricular septal defect
See also Water-Hammer Pulse

Cough
See Symptoms section 1: Cough
Courvoisier's Law
Exp: A distended gall bladder (found by palpation) in the presence of jaundice is due to some cause other than gallstones
Int: (+) Carcinoma of head of pancreas, choledolithiasis not absolutely excluded
Phys: Chronic gallstones cause fibrosis of the gall bladder, thus preventing its later expansion
See also Hepatomegaly

Cremasteric Reflex
Exp: Retraction of the testicle by the cremaster muscle when the inner side of the thigh is gently stroked, or pressure is applied to the subsartorial canal
Int: (– bilateral) Old age
(– unilateral) Corticospinal lesions
Phys: Acts at L1 level. Do not confuse with Dartos reflex where scrotum contracts with cold

Crepitations, Pulmonary (Moist Rales)
Exp: Moist sounds on chest auscultation that vary from bubbling (coarse) to crackling (medium) and inspiratory tinkling (fine)
Int: (Coarse +) bronchiectasis, bronchitis, chronic obstructive pulmonary disease (COPD)
(Fine +) Pneumonia, TB, pulmonary collapse, pulmonary oedema, pulmonary embolism, trachitis, elderly
Phys: Due to passage of air through fluid (mucus, pus, oedema fluid, exudate, etc.)

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Crepitations, Tissue
Exp: Spongy crackling sensation and/or sound when affected tissue is palpated

Signs - 20
Int: (+) Subcutaneous emphysema (eg. lung trauma, surgery, fractured rib),
gas gangrene, crepitant cellulitis, gross tissue trauma, laryngeal or
tracheal trauma
Phys: Due to gas (air) in subcutaneous tissues

**Cri-du-Chat**
Exp: Cat-like cry in newborn infant
Int: (+) Cri-du-chat syn. (see Syndromes section 6)
Phys: Temporary maldevelopment of larynx that corrects with age. Due to
deletion of short arm of 5th chromosome

**Cullen's Sign**
Exp: Spontaneous umbilical bruising
Int: (+) Ruptured ectopic pregnancy, carcinoma of pancreas, haemorrhagic
pancreatitis, other causes of haemoperitoneum
Phys: Tracking of free intraperitoneal blood to umbilicus

**Cyanosis**
See Symptoms section 1: Cyanosis, Central; Cyanosis, Peripheral

**Dance's Sign**
Exp: Palpable right iliac fossa depression in a distressed infant
Int: (+) Intussusception
Phys: Intussusception causes large bowel (normally present in right iliac fossa)
to be drawn into centre of abdomen

**Darier’s Sign**
Exp: Rubbing a finger or blunt object firmly over a skin lesion causes oedema
and erythema around the lesion
Int: (+) Mastocytosis
Phys: Pressure releases histamine from increased number of mast cells in lesion

**Dartos Reflex**
See Cremasteric Reflex

**Dehydration**
Exp: <5% – Thirst, dry mucous membranes, normal pulse, depressed fontanelle
in infant
5-10% – Loss of skin turgor, sunken eyes, tachycardia, oliguria, markedly depressed fontanelle in infant
> 10% – Altered mood or consciousness (irritable or drowsy), weak pulse, poor peripheral circulation, marked loss of skin turgor
Int: (+) Dehydrated because of excess fluid loss (eg. diarrhoea, excess sweating, diabetes insipidus, diuretic abuse), or reduced fluid intake (eg. fluid deprivation)

See also Symptoms section 1: Diarrhoea; Sweating, Excessive and Abnormal

Diarrhoea
See Symptoms section 1: Diarrhoea

Diastolic Murmur
Exp: Auscultation reveals a murmur between the 2nd and 1st heart sounds
Int: (+) Mitral stenosis, aortic incompetence, ventricular septal defects, hyperdynamic conditions (eg. anaemias, thyrotoxicosis), pulmonary incompetence, patent ductus arteriosus, tricuspid stenosis, carcinoid syn.
Phys: Damaged valve or increase in flow rate causes turbulence

Dicrotic Pulse
Exp: Arterial palpation reveals a double pulsation, the latter being lesser in strength, for each heart beat
Int: (+) Acute infections (eg. typhoid fever)
Phys: Small stroke volume causes brief pulsation, and subsequent closure of aortic valve causes further pulsation. Normally the two are merged

Displacement of Heart
See Apex Beat Displacement

Dix-Hallpike Test
See Hallpike Test

Doll's Head Manoeuvre
Exp: In a comatose patient, rolling the head to one side causes counter-rolling of the eyes to the other side
Int: (+) Brain stem intact
(−) Brain stem damage
Phys: Used in assessment of comatose patient. Should not be used if there is any possibility of neck injury

**Dowager's Hump**

Exp: Hump caused by crush fractures of the upper thoracic vertebrae
Int: (+) Osteoporosis

**Dull Percussion Note, Thoracic**

Exp: One index finger is laid flat on the chest wall and is struck firmly with the other index finger. Lower than normal pitch of percussion is dullness
Int: (+) Pneumonia, fibrosis, consolidation, TB, pleural effusion, extensive carcinoma
Phys: Solid lung tissue does not reflect sound as readily as aerated lung
See also Tympany, Thoracic; Pectoriloquy, Whispering; Pleural Effusion

**Dysdiadochokinesia**

Exp: With the arms are extended in front, patient pronates and supinates the forearms rapidly. Positive if action is uncoordinated
Int: (+) Cerebellar lesions (eg. tumours, abscess, CVA), other extrapyramidal motor lesions
Phys: Agonist and antagonist muscle bundles cannot be coordinated due to hypotonia secondary to the central lesion
See also Tremor, Intention; Ataxia

**Dyskinesia, Tardive**

Exp: Impairment of voluntary movement causing incomplete or partial actions
Int: (+) Side effects of drugs used for psychoses (eg. phenothiazines, tricyclics, droperidol, haloperidol, pimozide, thioxanthenes) and Parkinson's disease (eg. biperiden, benzhexol) and other drugs (eg. phenytoin, antihistamines)
Phys: iatrogenic
See also Investigations section 3: Dyskinesia, Tardive

**Dysmetria**

See Tremor, Intention

**Dystonia, Torsion**

See Athetosis
Ear Lobe Crease
Exp: Diagonal crease across ear lobe
Int: (+) Increased risk of aortic and coronary atherosclerosis
Phys: Statistically significant correlation. Reason unknown

Ectopic Beats
See Extrasystolic Beats

Edema
See Pulmonary Oedema; Pitting Oedema;
Symptoms section 1: Oedema

Ely's Sign
Exp: With patient prone, flexion of knee causes pelvic elevation and hip abduction
Int: (+) Sacroiliac disease, contracture of lateral fascia of thigh

Emphysema, Subcutaneous
See Crepitations, Tissue

Engorgement, Venous
See Jugular Venous Pressure

Enophthalmos (Enophthalmia)
Exp: Recession of eyeballs within sockets
Int: (+) Dehydration, cachexia, malnutrition, advanced carcinoma, other wasting diseases, lacrimal gland tumour, Horner syn.
Phys: Take care to avoid confusion with ptosis. Due to loss of turgor of tissue supporting eyeball

Entropion
Exp: Inversion of eyelid edge that may result in eyelashes rubbing on eye surface to cause irritation
Int: (+) Chronic conjunctivitis, chronic trachoma, blepharitis, iritis, eyelid trauma, congenital, obesity, elderly
See also Arlt's Line; Trichiasis

**Erythema, Joint**
See Joint Erythema

**Exophthalmos (Proptosis)**
Exp: Protrusion of eyeballs within sockets. Marked amount of sclera visible above iris in normal forward vision
Phys: Increase in the volume of orbital contents

**Extrasystolic Beats**
Exp: Occasional irregularities noted when feeling pulse or listening to heart. May disappear when heart rate increases
Int: (+) Idiopathic, stress, anoxia, drugs (eg. tobacco, caffeine, alcohol, sympathomimetics, digoxin), exercise, myocardial infarct, hypertension, cardiomyopathy, anaphylaxis, rheumatic heart disease, valve prostheses, hypokalaemia, hyperthyroidism, may be associated with all forms of heart disease
Phys: Premature beating of heart or missed beat due to failure of normal pacemaker and/or conduction mechanisms

**Exudates, Retinal**
See Retinal Exudates

**Eye Signs**
See Arcus Senilis; Arlt's Line; Consensual Reflex; Corneal Reflex; Enophthalmos; Entropion; Exophthalmos; Foster Kennedy Sign; Kayser-Fleischer Ring; Lens Opacity; Miosis; Mydriasis; Nystagmus; Optic Atrophy; Papilloedema; Paralysis of Upward Gaze; Pupil, Irregular; Pupil, White; Retinal Exudates; Retinal Haemorrhages; Retinal Pigmentation; Roth’s Spots; Sclera, Blue; Third Eyelid of Morgan-Denny; Trichiasis; Xanthelasma
See also Symptoms section 1: Amaurosis Fugax; Blindness, Partial or Total; Cataract; Diplopia; Eye Discharge; Eye, Dry; Eye, Inflamed or Red; Eye Pain; Eye, Watery; Eyelids, Abnormal; Eyelid Disease; Flashes, Visual; Hemianopia; Iris Abnormality Associated Syndromes; Lacrimation, Abnormal; Microphthalmia; Optic Paralysis; Photophobia; Ptosis; Squint; Vision, Black Spots in Field of; Vision, Blurred

Facies
See Parkinsonian Facies; Moon Face; Risus Sardonicus

Faeces, Abnormal Colour
Int:  Dark – Red wine, certain fruits, iron or bismuth medications
     Green/yellow (excess bile) – Intestinal hurry, bowel infections, starvation
     Canary yellow – Diet primarily of dairy products
     Clay – Lack of bile from biliary obstruction
     Pale yellow – Steatorrhoea (excess fat)
     Red – Blood from lower intestine (eg. haemorrhoids, cancer, polyps)
     Black – Melaena, excess iron
See also Symptoms section 1: Melaena and Rectal Bleeding

Fasciculation, Muscular (Twitching)
Exp:  Fibrillar twitching of voluntary muscles visible through the skin.
     Exacerbated by tapping muscle bundles
Int:  (+) Depolarising drugs, muscular dystrophies, amyotrophic lateral sclerosis, lower motor neurone lesions, motor neurone disease, poliomyelitis, Guillain-Barré syn., syringomyelia, hypocalcaemia, severe viral diseases, thyrotoxicosis, polymyositis
Phys:  May occur without neurological cause. Due to uncoordinated depolarisation of muscle fibres
See also Tremor, Intention; Tremor, Postural; Tremor, Resting; Myotonia

Feces
See Faeces

Festination
See Gait, Abnormal; Cogwheel Rigidity
DOCTOR’S COMPANION
Section Two - Signs

Fetal Growth, Reduced
See Intrauterine Growth Retardation

Fever
See Symptoms section 1: Fever

Finger Clubbing
See Clubbing of Fingers

Finkelstein's Test
Exp: The patient folds the thumb into the palm, with the fingers folded over the thumb. The doctor rotates the wrist medially (towards the ulnar) to stretch the involved tendons. Positive if pain worsened or reproduced
Int: (+) De Quervain's disease of stenosing tenosynovitis
Phys: Abductor pollicus longus and/or extensor pollicus brevis are tendons involved. Caused by repetitive wrist action

Flaccid Paralysis
See Paralysis, Flaccid

Flapping Tremor (Asterixis)
See Tremor, Flapping

Flint-Austin Murmur
See Austin-Flint Murmur

Fluid Thrills
See Thrill, Fluid

Flush
See Symptoms section 1: Flush

Foot Lesions
See Pes Cavus
Foster Kennedy Sign
Exp: Unilateral papilloedema with contralateral optic atrophy
Int: (+) Cerebral tumour adjacent to optic nerve of atrophied eye
Phys: Pressure on one optic nerve causes optic atrophy while increasing intracranial pressure to cause papilloedema of the other eye

Fremitus
See Vocal Fremitus

Friction Rub, Pericardial
Exp: Cardiac auscultation reveals a localised or generalised grating sound associated with each contraction
Int: (+) Pericarditis, pleurisy, rheumatic fever, pneumonia, TB, myocardial infarct, uraemia, dissecting aortic aneurysm
Phys: Friction between the two pericardial layers in the presence of an exudate

Friction Rub, Pleural
Exp: Chest auscultation reveals a grating sound associated with each breath
Int: (+) Pleurisy, pulmonary thrombosis, lung cancer, empyema
Phys: Friction between the two inflamed layers of pleura

Froment's Sign
Exp: Patient holds a piece of thin cardboard with both hands with thumbs on top of cardboard and closed hands under cardboard so that each thumb presses down through the cardboard onto the side of index finger proximal interphalangeal joint. Doctor holds opposite side of cardboard in same way. Doctor and patient both try to pull cardboard towards themselves. Sign positive if the interphalangeal joint of the patient's thumb flexes to hump upwards

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Int: (+) Ulnar nerve paralysis
Phys: Ulnar nerve may be compressed at the olecranon or Guyton's canal. Alternatively, the nerve roots in the neck may be compressed
Frontal Bossing  
Exp: Protruberant enlargement of the frontal bones  
Int: (+) Rickets, congenital syphilis, bruising

Gaenslen's Sign  
Exp: Patient lies on side on firm couch. Bottom leg is hyperflexed onto abdomen. Upper leg is hyperextended. Positive if sacroiliac pain  
Int: (+) Sacroiliac joint involved in disease (eg. ankylosing spondylitis, ligamentous tear)

Gag Reflex  
See Pharyngeal Reflex

Gait, Abnormal  
Exp: Ataxic gait – Unsteady, unbalanced, lack of confidence  
Extrapyramidal gait – Slow, rigid gait, no arm swinging  
Festination – Quick, shuffling, trunk bent  
`Marche-a-petit-pas’ – `Gait of little steps’, jerky, unbalanced, muscle spasm, feet `stick' to floor on turning or starting, asymmetrical brisk reflexes  
Scissors gait – Legs cross left to right and vice versa when walking  
Spastic ataxic gait – Muscle spasm, jerky, unsteady, unbalanced  
Waddling gait – Exaggerated elevation of the hip on the stepping side and abnormal yielding of the hip on the grounded side, giving excessive lateral movement to the trunk  
Int: Ataxic gait – (+) Drug induced cerebellar ataxia, alcoholic cerebellar degeneration, hypothyroidism, transient ischaemic attack, Gerstmann-Straussler-Scheinker syn., other cerebellar disease  
Extrapyramidal gait – (+) Parkinson's disease, drug induced parkinsonism (eg. prochlorperazine, metoclopramide)  
Festination – (+) Parkinson's disease, extrapyramidal lesions  
`Marche-a-petit-pas’ – (+) Multiple lacunar strokes  
Scissors gait – (+) Cerebral diplegia, diseases of hip joint, spastic paraplegia  
Spastic ataxic gait – (+) Multiple strokes, transient ischaemic attacks, cerebral palsy, vitamin B12 deficiency, cervical myelopathy, spinocerebellar degeneration  
Waddling gait – (+) Progressive muscular dystrophy, congenital dislocation of hips, Huntington's chorea, pseudohypertrophic muscular paralysis, inclusion body myositis

Signs - 29
Phys: Ataxic gait – Midline or vermian cerebellar degeneration
Festination – Muscular rigidity
`Marche-a-petit-pas' – Pseudobulbar lesion. Commonly confused with parkinsonian gaits
Scissors gait – Acute adduction of both hips from hip joint disease or adductor muscle contracture
Spastic ataxic gait – May be associated with incontinence and cognitive disturbances in elderly
Waddling gait – Weakness of gluteal muscles
See also Cogwheel Rigidity; Parkinsonism

**Galeazzi Sign**
Exp: With the child (6 to 18 months old) lying on their back, the hips are flexed to 90 degrees and the feet are placed flat on the examination couch. Positive if one knee appears lower than the other.
Int: (+) Congenital dislocation of hip on lower knee side
Phys: Leg is shortened slightly by dislocated hip. There is also usually limited abduction on affected side in this position.

**Gallop Rhythm (Triple Rhythm)**
Exp: Cardiac auscultation reveals a triple rhythm with a 3rd or 4th heart sound
Int: Protodiastolic 3rd sound – Distended heart, mitral incompetence or stenosis, left ventricular failure, alveolitis, constrictive pericarditis, physiological
Presystolic 4th sound – Left ventricular failure, aortic stenosis, atrial hypertrophy, prolonged PR interval
Phys: Various flow and valve movement abnormalities

**Geographic Tongue**
Exp: Smooth red patches with greyish margin scattered on tongue
Int: (+) Filiform papillae desquamation (benign condition), TB, allergies
See also Strawberry Tongue

**Glaucoma**
See Horizontal Light Test; Swinging Torch Sign

**Goitre**
See Symptoms section 1: Goitre
Golden's Sign
Exp: Pallor of cervix
Int: (+) Ectopic pregnancy, cervical infections or infiltrations

Gottron's Sign
Exp: Scaly patches over dorsum of proximal interphalangeal and metacarpophalangeal joints, subungual erythema and cuticular telangiectasiae
Int: (+) Polymyositis, dermatomyositis

Gower's Manoeuvre
Exp: Child attempts to rise by walking hands up legs
Int: (+) Duchenne muscular dystrophy
Phys: Muscular weakness prevents rising to standing position in normal manner

Graham Steell Murmur
Exp: Soft, high pitched murmur heard in the 2nd left intercostal space on early diastole
Int: (+) Pulmonary hypertension or pulmonary artery dilatation in association with severe mitral stenosis or septal defects
Phys: Pulmonary vascular regurgitation

Grasp Reflex
Exp: Automatic grasping of objects placed against palm of hand
Int: (+) Normal neonate, upper prefrontal lobe lesions and tumours
Phys: Prefrontal lobes concerned with intellect and the origination of motor movements. Patient is unable to prevent a primitive reflex with lesions to this area

Green Urine
See Urine, Abnormal Colour

Gums, Blue Line on
Exp: Blue line that cannot be cleaned away noted at gum margins
Int: (+) Lead poisoning
Phys: Deposit of lead sulfide in gums
Haematuria
See Symptoms section 1: Haematuria and Red Urine
See Pathology section 4: Haematuria

Haemorrhages
See Retinal Haemorrhages; Splinter Haemorrhages; Hess Test
See also Symptoms section 1: Purpura and Petechiae; Bleeding, Excessive

Hair, Transverse Depigmentation
Exp: Band across hair of different (usually lighter) colour from rest of hair
Int: (+) Protein deficiency, copper deficiency

Halitosis
See Symptoms section 1: Halitosis

Hallpike Test
(Dix-Hallpike Test)
Exp: The patient is carefully seated on an examination couch with legs on the couch. There should be no pillow and no wall or other obstruction for 50 cm beyond the head of the couch.

The patient's head is turned at 45° to one side. The patient is then quickly lowered, with the support of the examiner, so that the head is hanging over the edge of the table and extended to 30° still in a 45° orientation. The test is then repeated with the head turned 45° in the opposite direction, and with the head in the direct anteroposterior position. Immediately after each test, any vertigo is recorded and the patient's eyes are checked for nystagmus, its character and duration being noted

Int: (+) marked vertigo, delayed nystagmus with rapid movement away from lower ear that fatigues easily - Benign positional vertigo, common in elderly
(+ mild vertigo, immediate nystagmus with variable direction, and
prolonged) - Central positional nystagmus, cerebellopontine or brain stem lesions
See also Head Impulse Test, Nystagmus

Halo
See Rainbow Halo

Hand
See Obstetric Hand; Waiter's Hand; Claw Hand

Hanging Curtain Sign
Exp: When the skin is stretched across the long axis of a medallion lesion, the scale being finer and lighter and attached at one end tends to fold across the line of stretch.
Int: (+) Pityriasis rosea

Harrison's Sulcus
Exp: Diagonal groove on anterior and lateral side of chest along line of attachment of diaphragm
Int: (+) Asthma, rickets
Phys: Chest deformity from over exertion of diaphragmatic muscle

Head Impulse Test
Exp: With the patient sitting facing the examiner, the patient stares at the examiner’s nose. The examiner holds either side of the patient’s head and rotates it quickly to the left and then right by only 10° to 20°.
Int: (+ unable to remain focussed on examiner’s nose) Semicircular canal dysfunction, vestibulitis
See also Hallpike test

Headlight Sign
Exp: Perinasal and periorbital pallor
Int: (+) Atopic individuals.

Heaf Test
See Pathology section 4: Tuberculin Skin Test
Heart
See Apex Beat Displacement; Atrial Fibrillation; Bradycardia; Extrasystolic Beats; Gallop Rhythm; Heart Sounds; Jugular Venous Pressure; Split Heart Sounds; Tachycardia; Thrill, Cardiac
See also signs listed under Murmur, Cardiac; Pulse

Heart Sounds
Phys: First sound – Closure of mitral and tricuspid valves at beginning of systole
Second sound – Closure of aortic and pulmonary valves at end of systole
Third sound – Rapid ventricular filling in early diastole
Fourth sound – Atrial contraction in late diastole

Heberden's Nodes
Exp: Bony prominence at the dorsal margins of distal interphalangeal joints
Int: (+) Osteoarthritis, osteoarthrosis
Phys: More common in women. May be due to a single autosomal gene
See also Bouchard's Nodes

Heel-Knee Test
Exp: While supine, the patient is told to touch one knee with the opposite heel, and then to run the heel down the shin
Int: (+) Ataxia (eg. tabes dorsalis, posterior column lesions, cerebellar lesions, Friedreich's ataxia), poliomyelitis
Phys: Loss of integrity of sensory pathway along posterior columns to cerebellum
See also Ataxia; Romberg's Sign; Nose-Finger Test

Hegar's Sign
Exp: On bimanual examination of vagina an empty softened area can be palpated between the firmer cervix and globular uterus
Int: (+) Pregnancy between 6th and 10th weeks
Phys: Hormones of pregnancy cause softening of uterus, but fetus occupies only upper pole in early stages
See also Areolar Pigmentation; Blue Cervix

Henoch-Schönlein Purpura
Exp: Extensive elevated purpuric or ecchymotic lesions on extensor surfaces of arms and legs. May be recurrent and can occur on the face, in the gut (causing haemorrhage and colic), and in the kidney (causing haematuria)
Int: (+) Idiopathic, after sensitising foods, poststreptococcal infection, drugs
Phys: Immunological reaction, more common in children

See also Syndromes section 6: Henoch-Schönlein Syndrome

Heliotrope Sign
Exp: A reddish purple erythema involving the eyelids
Int: (+) Dermatomyositis

Hepatomegaly
Exp: Palpation of abdominal RUQ reveals a mass that may extend below the umbilicus, may be hard or soft, and may be tender
Phys: Liver enlargement may be due to vascular, biliary tract, infiltrative, inflammatory or tumorous causes

See also Courvoisier's Law

Herald Patch
Exp: Oval, discoid or annular, solitary, reddish, slightly raised and scaly patch on the trunk. Followed by multiple smaller lesions
Int: (+) Pityriasis rosea, drug eruptions
Phys: Pityriasis rosea is a self-limiting inflammatory condition

Hering-Breuer Reflexes
Exp: The desire to inspire when the breath is held in expiration, and vice versa
Int: No clinical significance
Phys: Activated through receptors sensitive to stretch and deflation
Hertoghe Sign
Exp: Lack of the outer one third of the eyebrow
Int: (+) Atopic dermatitis, neurodermatitis, hypothyroidism and systemic sclerosis.

Hess Test
Exp: A sphygmomanometer cuff inflated to 80 mmHg (10.6 kPa) around the upper arm for five minutes causes purpuric spots to appear below the cuff
Int: (+) Diseases associated with purpura (eg. thrombocytopenia, diseases of vascular endothelium, thromboasthenia, uraemia)
Phys: Tests the resistance of capillaries to increased venous pressure. Obsolete test that should not be performed if more sophisticated tests for vascular disease available
See also Symptoms section 1: Purpura and Petechiae; Investigations section 3: Bleeding, Excessive

Hirsutism
See Precocious Puberty
See also Symptoms section 1: Puberty, Early

Hoagland’s Sign
Exp: Eyelid oedema
Int: (+) Infectious mononucleosis

Homans’ Sign or Reflex
Exp: Dorsiflexion of the foot produces calf muscle spasm and/or pain
Int: (+) Thrombophlebitis of deep vein of calf, cellulitis of calf, musculoskeletal trauma
Phys: Tensing of muscle bundle puts pressure on thrombosed and inflamed vein. Now superceded by more sophisticated and reliable tests

Hoover's Sign
Exp: With the patient lying, the doctor cups both heels in his or her hands, and asks the patient to push down with the heel on the affected side. Normally, the heel on the unaffected side becomes lighter in the examiner's hand as counterpressure is exerted. Positive if this does not occur
Int: (+) Muscular power in affected leg is limited by pain, malingering, or hysterical reaction
**Horizontal Light Test**

Exp: Shine a bright narrow beam of light horizontally onto the eye from its temporal aspect. Observe the iris shadow pattern

Int: Iris evenly illuminated or shadow on temporal side – Deep anterior chamber (glaucoma unlikely)

Shadow on nasal side – Shallow anterior chamber (potential for acute angle closure glaucoma)

Phys: The iris is normally concave, but when convex it narrows the anterior chamber and casts a shadow on the nasal side

*See also Swinging Torch Sign*

**Hutchinson Nail Sign**

Exp: The periungual extension of brown-black pigmentation from longitudinal melanonychia onto the proximal and lateral nail folds.

Int: Important indicator of subungual melanoma.

**Hydrocephalus**

Exp: Accumulation of excess CSF under pressure to cause skull enlargement in children and cerebral damage in adults

Int: (+) Congenital malformations, ventricular colloid cyst, pineal tumours, intraventricular haemorrhage, aqueduct stenosis, pituitary tumours, craniopharyngioma, ependymoma, choroid plexus disease or tumour, astrocytoma of cerebellum, medulloblastoma, Arnold-Chiari malformation

Phys: Any obstruction of the CSF circulation will lead to hydrocephalus

**Hydrophobia**

Exp: Patient asks for water, but when offered, there is spasm of inspiratory muscles and inexplicable terror

Int: (+) Rabies

**Hydrothorax**

Exp: Fluid transudate in pleural cavity proven by pleural tap

Int: (+) Nephrotic syn., Meigs syn., congestive cardiac failure, obstruction of thoracic veins and lymphatics, other renal diseases

**Hypermobility, Joint**

See Joint Hypermobility
Hypertension
Exp: Blood pressure above 145 mmHg systolic and/or 85 mmHg diastolic. 
Significant variations for age, sex and circumstances
Int: (+) Anxiety, exertion, essential hypertension, renal artery stenosis, acute 
and chronic glomerulonephritis, polycystic kidneys, nephrotic syn., other renal 
diseases, phaeochromocytoma, aortic coarctation, pre-eclampsia of 
pregnancy, hyperthyroidism, raised intracranial pressure (tumour or trauma), 
overdistended neurogenic bladder, polyarteritis nodosa, SLE, scleroderma, Conn syn., malignant hypertension, Cushing syn., porphyria, 
ovarian tumours, lead poisoning, diabetes mellitus, pseu odohermaphroditism, adrenogenital syn., Liddle syn., Irukandji syn., 
Riley-Day syn., alcoholism, drug and food interactions (eg. MAOIs and 
cheese), drugs (eg. analgesics, anorectics, antidepressants, cyclosporin, 
carbenoxolone, liquorice, MAOIs, NSAIDs, oral contraceptives, steroids)
Phys: 85% essential form. Generally due to increased peripheral resistance, 
abnormalities of the renin-angiotensi n-aldosterone system, increased 
levels of adrenaline or noradrenaline, or increased cardiac output (eg. thyrotoxicosis)

Hyperthermia
See Symptoms section 1: Fever (Pyrexia)

Hypertonicity
Exp: Involuntary resistance is encountered when limb is passively moved. 
Muscles are firm to touch
Int: (+) Upper motor neurone lesions, extrapyramidal system lesions, CVA, 
parkinsonism, cord transection, postasphyxia, kernicterus, premature 
infant, encephalitis, cerebral oedema, trauma, meningitis, hydrocephalus, 
cerebral space occupying lesion, cerebral palsy
Phys: Disinhibition of the stretch reflex
See also Myotonia

Hypertrophy, Cardiac
See Apex Beat Displacement

Hyperventilation
Exp: Rapid respiratory rate (generally above 35 breaths per minute in adult) 
Int: (+) Anxiety, pain, fever, hysteria, pulmonary embolism, metabolic acidosis 
(diabetic ketoacidosis, renal disease), most infections, cerebral
haemorrhage, pneumothorax, anoxia, congenital heart lesions, drugs (eg. adrenaline), Rett syn.

Phys: Due to low pO2, high pCO2, or direct cerebral action

See also Kussmaul's Breathing

Hypotension
Exp: Blood pressure below 100 mmHg (13.3 kPa) systolic and/or 50 mmHg (6.6 kPa) diastolic
Int: (+) Cardiac failure, cardiogenic shock, acute blood loss, orthostatic hypotension, fright, familial, myocardial infarct, anaphylaxis, acute major pulmonary embolus, coma, haemorrhagic nephrostonephritis, carcinoid syn., dehydration, sympathectomy, Addison's disease, diabetes mellitus, autonomic degeneration, amyloidosis, alcoholism, prolonged rest or standing, excess heat or humidity, fever, septicaemia, micturition syncope, postprandial, electrolyte imbalance, pregnancy, anaemia, gastrectomy, malnutrition, constrictive pericarditis, heart block, carcinomatosis, bradycardia, hypothyroidism, hypopituitarism, porphyria, Conn syn., Riley-Day syn., Sheehan syn., Shy-Drager syn., toxic shock syn., vasovagal syn., neurological trauma, autonomic disease or trauma, drugs (eg. diuretics, antianginal nitrates, hypnotics, tranquilizers, tricyclic antidepressants, levodopa, antipsychotics, insulin excess)

Phys: Overdilatation of peripheral blood vessels, loss of blood volume or low cardiac output

Hypothermia
Exp: Core body temperature below 35°C
Int: (+) Exposure, immersion, newborn infant, very elderly, severe sepsis, severe trauma, cerebrovascular accident, congestive cardiac failure, diabetic ketoacidosis, hypoglycaemia, uraemia, hypothyroidism, major transfusion, alcohol abuse, drug overdose (eg. barbiturates)

Phys: Medical emergency requiring slow and steady warming. Ventricular fibrillation a risk

See also Treatment, Section Five

Hypotonia
Exp: Passive limb movement freely accomplished with greater range than usual. Muscles are soft and flabby
Int: (+) Lower motor neurone lesion, cerebellar lesions, grossly debilitating diseases, poliomyelitis, tabes dorsalis, spinal shock, myopathies, muscular dystrophies, Sydenham's chorea, premature infant

Phys: Loss, or blocking, of motor innervation of muscles
Hypoventilation
Exp: Low respiratory rate (generally below 10 breaths per minute)
Int: (+) Raised intracranial pressure (eg. tumour, abscess, haemorrhage),
drugs (eg. sedatives), pleural effusion, pulmonary collapse, asthma,
pneumonia, pneumothorax, bronchiectasis, neuromuscular disease,
kyphoscoliosis
Phys: Direct action on respiratory centre, or physical limitation of lung expansion

Incoordination
See Dysdiadochokinesia

Intention Tremor
See Tremor, Intention

Intrauterine Growth Retardation
Exp: Failure of fetus to achieve its full growth potential antenatally. Assessed
clinically and by ultrasound
Int: (+) Maternal hypertension, congenital abnormalities, genetic and
chromosomal abnormalities, cerebral palsy, rubella, toxoplasmosis,
Herpes infection, cytomegalovirus, other fetal infections, cytotoxics,
irradiation, twins, alcoholism, heavy smoker, high altitude, abruptio
placentae, diabetes, chronic renal disease, malnutrition, anaemia, family
history, drug abuse
Phys: Due to fetal, maternal or placental factors
See also Investigations section 3: Failure to Thrive

Irregularly Irregular Pulse
Exp: Pulse that is totally random in its rate and volume
Int: (+) Atrial fibrillation, multiple extrasystoles, thyrotoxicosis
Phys: Atrial rate of 400–600 per minute (due to ischaemia, pressure or metabolic
influences) is transmitted randomly via the AV node to the ventricles.
Pulse deficit notable
See also Atrial Fibrillation

Itard-Cholewa's Sign
Exp: Anaesthesia of tympanic membrane, anaesthesia of external auditory
meatus, deafness
Int: (+) Otosclerosis
**Jacobsen-Holdsnedt Phenomenon**

Exp: Expiratory and inspiratory chest X-rays taken. Positive if mediastinum displaced away from affected side on expiration

Int: (+) Unilateral obstructive emphysema

Phys: Valve-like mechanism allows air to enter lung but not escape. May be due to foreign body or tumour

**Janeway Lesion**

Exp: Small purplish/red nodule on palms or soles

Int: (+) Infective endocarditis

Phys: Infected embolic lesion

*See also Osler’s Nodes; Splinter Haemorrhages*

**Jaundice**

See Symptoms section 1: Jaundice

**Jaw Jerk**

Exp: With the jaw relaxed and the mouth hanging open, a finger is placed across the front of the jaw and struck with a rubber hammer. Contraction of masseters may result

Int: (+) Lesion of both corticospinal tracts

Phys: Acts at the level of the pons

**Jerk**

See Ankle Jerk; Biceps Jerk; Jaw Jerk; Knee Jerk; Triceps Jerk

*See also signs listed under Reflexes*

**Joint Erythema**

Exp: Redness and inflammation of tissue overlying a joint

Int: (+) Septic arthritis, cellulitis, gout, pseudogout, rheumatoid arthritis, reactive arthropathy, Reiter syn. (see Syndromes section 6), Heberden’s node, Bouchard’s node, erythema nodosum, inflammatory osteoarthritis, rheumatic fever

**Joint Hypermobility**

Exp: Beighton Score:
Little finger extension > 90° (1 point each finger)
Extend thumb parallel to forearm (1 point each thumb)
Extend elbow > 10° (1 point each elbow)
Extend knee > 10° (1 point each knee)
Touch floor with palms while keeping knees straight (1 point)
Score of 6 or more positive for joint hypermobility
Int: (+) Increased incidence of dislocation, enthesopathy, Marfan syn., Ehlers-Danlos syn., acromegaly
Phys: Often familial

**Jugular Venous Pressure [JVP]**
Exp: With patient reclining at 30°, the distance that a distended jugular vein rises vertically above the horizontal level of the sternal angle is noted. Normally veins are collapsed above this level
Int: High – Congestive cardiac failure, constrictive pericarditis, tricuspid stenosis, pulmonary stenosis, cardiomyopathies, superior mediastinal tumour, enlarged thymus, obstructed superior vena cava, increased intrathoracic or intra-abdominal pressure
Low – Shock, dehydration, severe infections
Phys: Increased back pressure due to obstructed flow through the right side of the heart causes an increase in systemic venous pressure. Blood loss or vasodilatation causes it to drop

**Kanavel Sign**
Exp: Four characteristics:-
- affected finger held in slight flexion
- pain over volar aspect of affected finger tendon on palpation
- swelling of affected finger
- pain on passive extension of affected finger
Int: Positive – Tenosynovitis of finger flexor tendon

**Kayser-Fleischer Ring**
Exp: Greenish-brown ring at the outer edge of the cornea
Int: (+) Wilson's disease
Phys: Deposition of copper compounds in cornea (diagnostic sign)

**Kehr's Sign**
Exp: Left shoulder tip pain, acute abdomen
Int: (+) Ruptured spleen
Phys: Referred pain via phrenic nerve, caused by irritation of diaphragm
See also Shoulder Tip Pain
Kerley B Lines
Exp: A plain AP X-ray of the chest shows fine horizontal lines in the lower zones of the lungs, lateral to the down curve of the diaphragm
Int: (+) Interstitial pulmonary oedema
Phys: Perilymphatic oedema

Kernig's Sign
Exp: One hip of supine patient is fully flexed. Any subsequent attempt to straighten the knee results in painful spasm of the hamstrings when positive
Int: (+) Meningeal irritation, bacterial and aseptic meningitis, cerebral or spinal cord abscess, subdural empyema, subarachnoid haemorrhage, encephalitis, typhus, leptospirosis, other cerebral haemorrhages
Phys: Activation of protective flexor reflexes which shorten and immobilise the spine
See also Neck Stiffness; Brudzinski's Sign

Kidney, Large
Exp: Large kidney(s) noted on abdominal palpation or X-ray
Int: (+) Unilateral – Acute or chronic obstruction, ureteric or renal stone, acute pyelonephritis, duplicate pelvicalyceal system, subcapsular renal haematoma, renal cyst, renal vein thrombosis, renal neoplasm, compensatory hypertrophy, hydronephrosis
(+)- Bilateral – SLE, polyarteritis nodosa, allergic angiitis, diabetes, Wegener's granulomatosis, acute glomerulonephritis, multiple myeloma, leukaemia, lymphoma, amyloidosis, acromegaly, polycystic kidneys, acute tubular necrosis
Phys: Depends on individual disease process

Kidney, Small
Exp: Abnormally small kidney(s) noted on abdominal X-ray or ultrasound
Int: (+) Unilateral – Infarction or ischaemia, renal artery stenosis, reflux pyelitis, postobstructive atrophy, postinflammatory atrophy, partial nephrectomy, irradiation atrophy, congenital
(+)- Bilateral – Amyloidosis, chronic glomerulonephritis, papillary necrosis, bilateral ischaemia, medullary cystic disease, urate nephropathy
Knee Jerk
Exp: With the patient seated and one knee crossed over the other, the patellar tendon is tapped firmly. Quadriceps contraction and knee extension occurs
Int: Sustained – Chorea
Pendular – Acute cerebellar disease
(++) Hyperthyroidism, encephalitis, upper motor neurone lesion, anxiety, tetanus, cord transection
(--) Peripheral neuropathies, polio, tabes dorsalis, posterior root tumours, cord tumours, subacute combined degeneration of cord, syringomyelia, cord shock, coma, muscular dystrophies, hypothyroidism, beriberi
Phys: Acts at L2, L3, L4 level
See also signs listed under Reflexes

Koebner Phenomenon
Exp: Following trauma, lesions appear in the traumatised but otherwise normal skin.
Int: Psoriasis

Koilonychia
Exp: Spooning of nails
Int: (+) Iron deficiency anaemias, Plummer-Vinson syn.

Kussmaul's Breathing
Exp: An increased depth and frequency of respirations associated with increased respiratory effort. Often described as hissing respiration
Int: (+) Diabetic acidosis, uraemia, other causes of acidosis, neurogenic hyperpnoea, midbrain and upper pontine brain lesions

Kussmaul's Sign
Exp: JVP increases with inspiration, which is opposite to the normal pattern
Int: (+) Right ventricular failure, constrictive pericarditis

Labyrinth Tests
Exp: Each ear is irrigated with hot or cold water to produce vertigo and/or nystagmus. The response from both ears should be equal
Int: Unequal – Inner ear dysfunction (nonspecific)
Lachman's Test  
Exp: With the knee in nearly full extension, the femur is held firmly in one hand and the tibia is moved forward on the femoral condyle. Positive test if significant forward movement elicited  
Int: (+) Anterior cruciate ligament laxity  
Phys: Rupture or stretching of the anterior cruciate ligament allows excess tibial movement

Lasegue's Sign  
Exp: With patient supine, the extended leg is lifted from the bed. The presence of pain and amount of passive elevation possible is noted and compared to other leg and normal person  
Int: (+) Radiculopathy (eg. disc herniation), other musculoskeletal disorders of the back  
Phys: Elevating extended leg stretches nerve roots and causes pain if they are inflamed

Lead-Pipe Rigidity  
Exp: Heavy passive stiffness of limb throughout range  
Int: (+) Extrapyramidal lesions, parkinsonism, basal ganglia disease  
Phys: Chronic overactive lengthening reaction  
See also Cogwheel Rigidity; Clasp-Knife Rigidity

Lens Opacity  
Exp: White opacity within pupil  
Int: (+) Cataract, diabetes, interstitial keratitis, galactosaemia, congenital syphilis, hypoparathyroidism, hypocalcaemia, drugs (eg. chlorpromazine, steroids)  
Phys: Inflammation, senile degeneration, radiation or disordered metabolism  
See also Symptoms section 1: Blindness, Partial or Total; Cataract

Leser-Trelat Sign  
Exp: Abrupt appearance, and rapid increase in size, of many seborrhoeic keratoses  
Int: (+) Underlying carcinoma (eg. adenocarcinoma)  
Phys: May also occur during lysis of tumour with cytotoxics

Leucocoria  
See Pupil, White
Leuconychia
See Nail Discolouration

Levine Sign
Exp: Patient clenches fist over upper left chest when describing nature of chest pain.
Int: (+) Increased likelihood that chest pain is due to a myocardial infarct.

Lip Papules
Exp: Papules at angles of upper and lower lips
Int: Syphilis

Liver, Enlarged
See Hepatomegaly

Lung Consolidation
See Dull Percussion Note, Thoracic; Tracheal Displacement

Lymphoedema
Exp: Chronic accumulation of lymphatic fluid in a limb, the breast or head
Int: (+) Congenital lymph malformation, trauma to lymphatic drainage (eg. surgery to lymph nodes, venous stripping), irradiation of lymph nodes, filariasis (elephantiasis), chronic lymphadenitis, burns, severe obesity
Phys: Caused by disruption to lymphatic drainage. Definitive diagnosis involves lymphoscintigraphy.
See also Stemmer’s Sign

Machinery Murmur
Exp: Continuous cardiac murmur that waxes and wanes
Int: (+) Patent ductus arteriosus (maximal in aortic and pulmonary areas), arteriovenous fistula, aortic coarctation, aortopulmonary septal defect

Macroglossia
See Tongue, Enlarged
Main d'Accoucheur
See Obstetric Hand

Main-en-Griffe
See Claw Hand

Malnutrition
See Symptoms section 1: Weight Loss; Failure to Thrive

Mass Reflex
Exp: Various stimulations to a point below the level of the neurological lesion causes sudden drawing up of the legs, evacuation of the bladder and sweating below lesion level
Int: (+) Severe spinal cord lesions, paraplegia

McMurray Sign
Exp: One hand grasps ankle firmly, other hand rests on patient's knee. The knee is fully flexed and the tibia is fully laterally rotated. The knee is then extended while rotation is maintained. A `click' or `clunk' felt by the hand on the knee is a positive sign. The test is repeated from varying angles of knee flexion
Int: (+) Torn knee meniscus
Phys: Manoeuvre attempts to catch torn tag of meniscus between bone ends to cause a `click'

Mediastinal Mass
Exp: Mass detected in mediastinum by X-ray or CT scan
Int: (+) Superior mediastinum – Bronchogenic cyst, retrosternal goitre, ectopic thyroid tissue, oesophageal enterogenous cyst
(+ ) Inferior mediastinum – Hiatus hernia, abscess, pericardial cyst
(+ ) Posterior mediastinum – Neurogenic tumours, neurofibroma, neuroblastoma, paravertebral abscess, aortic aneurysm
(+ ) Anterior mediastinum – Thymic tissue, thymoma, ectopic thyroid tissue, germ cell tumour, teratoma, dermoid cyst, aortic aneurysm
(+ ) Varied position in mediastinum – Sarcoidosis, TB, lymphoma, Hodgkin's disease, metastatic carcinoma
Phys: Any of the structures of the mediastinum may become enlarged, infected or neoplastic. CT scans and MRI can accurately position mass and
sometimes determine its structure

**Melaena**
See Symptoms section 1: Melaena and Rectal Bleeding

**Meningism**
See Neck Stiffness; Kernig’s Sign; Brudzinski’s Sign; Opisthotonos

**Miosis**
Exp: Abnormally contracted pupils (diameter <2mm)
Int: (+) Bright light, convergence, syphilis (tabes dorsalis), sympathetic nerve paralysis, pontine lesions, congenital, hysteria, Horner syn., Holmes-Adie syn., insecticide poisoning, drugs (eg. pilocarpine, physostigmine, narcotics, beta-blockers)

**Moon Face**
Exp: Fat, rounded face with loss of skin wrinkles
Int: (+) Cushing syn. and disease
Phys: Excess intrinsic or extrinsic cortisol causes deposition of fat in face and trunk, but loss from limbs
See also Buffalo Hump

**Morgan-Denny Eyelid**
See Third Eyelid of Morgan-Denny

**Moro Reflex (Startle Reflex)**
Exp: While supporting an infant prone, allow the head to fall back sharply for a short distance. Results in extension of trunk and extension and abduction of limbs, followed by flexion and adduction of limbs
Int: (+) Normal infant up to 4 months
(–) Over 4 months age, severe brain damage, premature infant
(–) Unilateral – Limb fracture, peripheral neuropathy, Erb's palsy

**Movement, Abnormal**
See Athetosis; Chorea; Choreiform Movements; Dyskinesia, Tardive; Gait, Abnormal; Tremor, Flapping; Tremor, Intention; Tremor, Postural; Tremor, Resting
See also Symptoms section 1: Chorea; Tremor
Murmur, Cardiac
See Diastolic Murmur; Graham Steell Murmur; Gallop Rhythm; Machinery Murmur; Split Heart Sounds; Still’s Murmur; Systolic Murmur; Thrill, Cardiac

Murphy's Law
Exp: Jaundice due to cholelithiasis is preceded by colic. Jaundice due to neoplasm or external obstruction of the biliary tract has no history of colic

Murphy's Sign
Exp: With the examiner's fingers pressed firmly over the patient's abdominal RUQ, the patient inhales slowly and deeply. A momentary interruption of inhalation occurs due to pain
Int: (+) Cholecystitis
Phys: The inflamed gall bladder is pressed against the examiner's fingers by the descending diaphragm

Muscular Spasm
See Myotonia

Muscular Weakness
See Hypotonia; Paralysis, Flaccid

Mydriasis
Exp: Abnormal dilatation of pupils
Int: (+) Dark room, hyperthyroidism, anxiety, iritis, traumatic or inflammatory adhesions, iris sphincter paralysis, iris dilator muscle spasm, syphilis, lead or carbon monoxide poisoning, post-seizure, botulism, diphtheria, syringomyelia, midbrain lesions, third nerve palsy, Parinaud syn., Tolosa-Hunt syn., Holmes-Adie syn., coma, drugs (eg. atropine, cocaine, amphetamines, cannabis)
Phys: Damage to or inhibition of the iris and its musculature or innervation

Myoclonus
See Ankle Clonus
Myosis
See Miosis

Myotonia
Exp: Delayed muscular relaxation following forceful muscular contraction (eg. repeated muscular fasciculation after tap with rubber hammer)
Int: (+) Myotonic dystrophy, myotonia congenita, hyperkalaemia, Talma's disease
Phys: Usually reduced by repeated activity. Often worse in cold
See also Hypertonicity; Fasciculation, Muscular

Naevi
See Spider Naevi

Nail Banding
Exp: Transverse white bands across nails
Int: (+) Hypoalbuminaemia (see Albumin, Serum in Pathology section 4), steroid therapy, cytotoxics, arsenic
Phys: Return to normal after serum albumin corrected
See also Beau's line in Nail Ridging

Nail Changes
See Clubbing of Fingers; Koilonychia; Nail Banding; Nail Discolouration; Nail Pitting; Nail Ridging; Nail, Brittle; Nail, Hypoplastic; Nail, Thickened; Onychogryphosis; Onycholysis; Splinter Haemorrhages; Subungal Hyperkeratosis

Nail Discolouration
Exp: Nail or subungual tissue colour change
Int: Black – Haematoma, melanoma, naevi, pseudomonas infection, fungal infection, chronic paronychia
Brown – Uraemia, psoriasis, nicotine, Addison's disease, mercury poisoning, silver poisoning, chemical stains
Yellow – Tinea, jaundice, yellow nail syn., slow growth, lymphoedema, tetracyclines
Blue – Cyanosis, mepacrine, chloroquine, Wilson's disease, argyria, amodiaquine
White (Leuconychia) – Trauma, cardiac disease, renal disease, psoriasis,
dermatophyte infection, hypoalbuminaemia, cytotoxics, arsenic, liver disease
Red – Haemorrhage, congestive cardiac failure (half moons red), cold exposure
Green – Pseudomonas, aspergillus or candida infections

**Nail Pain**
See Symptoms section 1: Nail Pain

**Nail Pitting**
Exp: Small isolated or confluent pits on the nail plate
Int: (+) Psoriasis, chronic paronychia, digital eczema, alopecia areata, familial
Phys: Inflammatory damage to nail matrix

**Nail Ridging**
Exp: Longitudinal or transverse ridging of nail plate
Int: (+) Longitudinal – Elderly, nail matrix tumours, lichen planus, alopecia areata, rheumatoid arthritis, Darier's disease, mucous cyst of matrix, peripheral vascular disease, nail dystrophy
 (+) Multiple transverse – Eczema, chronic paronychia, habit tics, chronic inflammation of digit, chronically wet nails (eg. housework), severe dysmenorrhoea, Raynaud's disease, severe carpal tunnel syn., protein deficiency
(+) Single transverse ‘Beau's line’ – Occurs after severe physical or emotional illness of any cause
Phys: Transverse ridging due to temporary cessation of nail formation. When cause removed, nail growth resumes, and the ridge moves forward with the nail plate growth
See also Splinter Haemorrhages

**Nail, Brittle**
Exp: Nails that break and split very easily
Int: Trauma, excessive dampness, chemicals (eg: detergents), lichen planus, psoriasis, iron deficiency, circulatory deficiency (eg. diabetes), vitamin deficiency (eg. vitamin A, B6 or C), arsenic poisoning, oral retinoids, excessive use of nail polish remover
Phys: Caused by damage to keratin filaments
Nail, Hypoplastic
Exp: Underdeveloped nails

Nail, Separation from Bed
See Onycholysis; Subungal Hyperkeratosis

Nail, Thickened
Exp: Thicker than usual nail plate
Int: (+) Onychogryphosis, psoriasis, lichen planus, chronic fungal infection, chronic paronychia, congenital

Necklace of Casal
Exp: Hyperpigmentation on the neck
Int: Pellagra.

Neck Stiffness
Exp: Passive flexion of the neck causes undue tautness of neck muscles
Int: (+) Meningeal irritation (eg. aseptic or bacterial meningitis, encephalitis, cerebral abscess, subdural empyema, typhus, leptospirosis, subarachnoid or other cerebral haemorrhage, migraine), cervical arthritis, torticollis and other neck muscular spasms and strains, adenitis
Phys: Traction of inflamed meninges on spinal nerves activates a protective reflex which shortens and immobilises spine
See also Brudzinski's Sign; Kernig's Sign; Opisthotonus

Neck Webbing
See Webbing of Neck

Nikolsky Sign
Exp: Gentle lateral pressure with a finger to apparently normal skin causes epidermis to immediately slough off leaving a raw area
Int: (+) Pemphigus, toxic epidermal naevus

Nipping, Arteriovenous, Retinal
See Arteriovenous Nipping, Retinal
Nipple Pigmentation
See Areolar Pigmentation

Nose-Finger Test
Exp: Using the index finger, patient touches own nose then examiner's finger, back and forth as rapidly as possible. Examiner changes position of finger between touches. Positive if clumsy
Int: See Ataxia
Phys: See Ataxia
See also Heel-Knee Test

Nuchal Rigidity
See Neck Stiffness

Nystagmus
Exp: Involuntary rhythmic movement of eyeball. Two types:
   Pendular (oscillating) – with regular movements
   Jerk (rhythmic) – with movement faster in one direction than the other
Int: (+) Normal with acute lateral vision and watching a moving object, barbiturates, labyrinthe and vestibular disease, brain stem lesions (often vertical nystagmus), demyelinating diseases (eg. multiple sclerosis), during epileptic fit (eg. petit mal), brain tumours, syringobulbia, Dandy-Walker syn., Parinaud syn., diencephalic syn., pinealoma, central vision loss (eg. albinism, retinal disease), other visual disturbances, cerebral abscess, coma, Friedreich’s ataxia, congenital, alcohol, some normal infants
Phys: Jerk form more common and is neurological in aetiology. Pendular is due to a visual defect. Direction of nystagmus can give further clue to localise lesion
See also Hall Pike Test

Obstetric Hand (Main d'Accoucheur, Carpal Spasm, Tetany)
Exp: The fingers and wrist are in painful spasm. The fingers are tightly apposed, the thumb is opposed across the palm, the terminal phalanges hyperextended and the wrist flexed
Int: (+) Tetany from hypocalcaemia or alkalosis (eg. renal insufficiency, hypoparathyroidism, hyperventilation, gastrointestinal diseases, calcium or magnesium deficiency)
Phys: Low levels of blood calcium cause neuromuscular hyperexcitability
See also Chvostek's Sign; Trousseau's Sign

Oculogyric Crisis
Exp: Varies from mild cases with abnormal uncontrolled random eye movements, to severe cases with fixed elevated gaze associated with painful extension of the neck which may be so severe that the occiput nearly touches the thoracic vertebrae and the airway may be compromised
Int: (+) Rare side effect of prochlorperazine, encephalitis or Parkinson's disease
Phys: Effect rapidly reversed by IV benztropine

Oedema, Pitting
See Pitting Oedema
See also Symptoms section 1: Oedema

Oedema, Pulmonary
See Pulmonary Oedema

Oliguria
See Symptoms section 1: Oliguria and Anuria

Onychogryphosis
Exp: Gross thickening of the nail plate
Int: (+) Chronic trauma from poorly fitting shoes, subungual tinea, psoriasis, subungual hyperkeratosis, old age
Phys: Chronic inflammation of nail bed

Onycholysis
Exp: Distal separation of nail plate from nail bed
Int: (+) Trauma, chemicals, fungal infections, psoriasis, eczema, lichen planus, pemphigus, Raynaud's phenomenon, diabetes mellitus, other causes of impaired peripheral circulation, hypothyroidism, hyperthyroidism, SLE, iron deficiency, yellow nail syn., drugs (eg. tetracycline)
Phys: Impaired viability of distal nail bed
See also Subungal Hyperkeratosis
Opacity of Lens
See Lens Opacity

Opisthotonos
Exp: Acute rigid arching of the body due to spasm of the back muscles
Int: (+) Tetanus, spinal meningitis, infantile meningitis, cerebellar lesions, other causes of meningeal irritation
Phys: Overactivation of protective flexor reflexes designed to shorten and immobilise spine
See also Neck Stiffness; Kernig's Sign

Optic Atrophy
Exp: On ophthalmoscopic examination of retina, a pale optic disc with blurred margins is noted. Disc cupping may also occur, and patient complains of reduced visual acuity. Field defects may be found
Int: (+) Glaucoma, arteriosclerosis, retinal ischaemia, optic neuritis, Paget's disease, tumour pressing on optic nerve, retinitis pigmentosa, vitamin B deficiency, methanol poisoning
Phys: Ischaemia or chronic inflammation of optic disc

Optic Cup/Disc Ratio
Exp: Ratio of the vertical diameter of the optic cup to that of the optic disc, measured on ophthalmoscopic or slit lamp examination of the retina

![Measurement of Optic Cup/Disc Ratio](image)

Int: Normal Optic Cup/Disc Ratio = 0.2
<0.5 – Probably normal
>0.5 – Suspicious of glaucoma
>0.8 – Usually diagnostic of glaucoma
Phys: The optic cup is a depression within the pale optic disc on the inferomedial
part of the retina caused by the optic nerve. Rising pressure of intraocular contents flattens and enlarges the optic cup

**Optic Disc, Abnormal**

**Exp:** Characteristics noted during ophthalmoscopic examination of retina  

**Int:** 

- (+) Extra vascularity – Optic neuritis  
- (+) Papilloedema (bulging of disc) – Increased intracranial pressure  
- (+) Atrophy (reduced vascularity) – Optic nerve disease (see Optic Atrophy)  
- (+) Pale disc – Central retinal artery occlusion  
- (+) Haemorrhages – Central retinal vein occlusion

*See also Optic Cup/Disc Ratio*

**Orange Urine**

See Urine, Abnormal Colour

**Ortolani Test**

**Exp:** Child is placed on its back a firm surface with the knees and hips flexed up onto the abdomen. The legs are grasped by the examiner so that the knee is in the palm, the finger tips are behind the greater trochanters and the thumb rests on the anteromedial surface of the thigh. The hips are then abducted to 90°. When resistance is felt, forward pressure is applied by the fingertips to the back of the greater trochanters. Test is positive if a distinct clunk is felt as the head of the femur slips forward into the acetabulum

**Int:** (+) Congenital dislocation of the hip

**Osler's Manoeuvre**

**Exp:** Inflate sphygmanometer to level that obliterates radial pulse. Positive if a sclerotic radial artery can be palpated against the underlying radius

**Int:** (+) Arteriosclerosis

**Phys:** May result in significant overestimation of systolic blood pressure

*See also Ear Lobe Crease; Arteriovenous Nipping, Retinal*

**Osler’s Nodes**

**Exp:** Small, tender, raised, red, transient patch on tips of fingers or toes  

**Int:** (+) Bacterial endocarditis

**Phys:** Caused by infected cutaneous embolus

*See also Janeway Lesion; Splinter Haemorrhages*
Osler’s Sign
Exp: Pretibial myxoedema
Int: Hypothyroidism.

Ovarian Mass
Exp: Enlarged ovary found on bimanual examination or ultrasound scan
Int: (+) Simple cyst, follicular cyst, cystadenoma, polycystic ovarian syn., adenocarcinoma, teratoma, tubal abscess, stromal tumour
See also Pelvic Mass

Pallor
See Symptoms section 1: Pallor

Pallor, Circumoral
See Circumoral Pallor

Papanicolaou Smear (Smear Test)
Exp: Using a vaginal speculum, the cervix is exposed, and a wooden or plastic spatula is used to scrape cells from the cervical os and body. The scraping is then smeared onto a glass slide which is immediately fixed in alcohol. The slide is later stained and examined for abnormal cells, bacteria, fungi, trichomonads, etc.
Int: Reported as showing no malignant cells, dysplasia, atypical cells or carcinoma. Inflammatory or infected elements are also reported
Phys: Screening test that should be performed at regular intervals to exclude pre-cancerous changes of the cervix

Papilloedema
Exp: On ophthalmoscopic or slit lamp examination, the optic disc is noted to be flattened, swollen or protruberant bilaterally with blurred edges. Absent venous pulsation, dilated retinal veins, and flame shaped haemorrhages may also be noted
Int: (+) Increased intracranial pressure (eg. haemorrhage, tumour, meningitis, cerebral abscess, emphysema, hypoparathyroidism), optic neuritis, hypertension, multiple sclerosis, Guillain-Barré syn.
Phys: Increased CSF pressure, due to an increase in CSF volume (caused by haemorrhage or increased protein content) or blocked CSF circulation,
transmitted along the sheath of the optic nerve to the optic disc. Vision remains unimpaired in early stages

*See also Cheyne-Stokes Respiration*

**Paralysis of Upward Gaze**
Exp: Unable to look upwards
Int: (+) Pinealoma

**Paralysis, Flaccid**
Exp: Relaxed and flabby muscles that cannot be moved voluntarily
Int: (+) Poliomyelitis, infantile muscular atrophy, cerebral atonic diplegia, amyotonia congenita, glycogen storage diseases (weak rather than paralysed muscles), plexus palsies, multiple sclerosis, hyperkalaemia, Conn syn., spinal cord shock, botulism, poisons (eg. organophosphates), neuropathies, motor neurone disease, encephalitis, other lower motor neurone lesions, Guillain-Barré syn., myasthenia gravis, hysteria, drugs (eg. curare derivatives)
Phys: Inflammation, interruption or disease of motor nerve supplying a muscle prevents the voluntary contraction of that muscle. Reflexes usually absent

**Paralysis, Spastic**
Exp: Involuntary spasm of muscles
Int: (+) Spinal cord transection, cerebral palsy, cerebral or cord tumours, vascular accidents of cerebrum or cord, cerebral or cord infections, upper motor neurone lesions, multiple sclerosis
Phys: Loss of inhibition of reflex arc by pyramidal centres causes hyperreflexia and recurrent muscular spasm

**Paraplegia**
See Paralysis, Flaccid; Paralysis, Spastic
*See also Symptoms section 1: Paraplegia and Quadriplegia*

**Parkinsonian Facies**
Exp: Rigidity of facial muscles that gives a characteristic loss of facial expressiveness
Int: (+) Parkinson's disease (paralysis agitans), encephalitis lethargica, cerebral arteriosclerosis, Wilson's disease, phenothiazines, manganese poisoning
Phys: Degeneration of or damage to the basal ganglia results in muscular
hypertonicity

**Parkinsonism**

*Exp:* Hypokinesia, tremor and rigidity  
*Int:* (+) Parkinson's disease, familial, encephalitis lethargica, syphilitic menencephalitis, tuberculoma, brain stem tumours, drugs (e.g. phenothiazines, butyrophenones, tetrabenazine, rauwolfia alkaloids)  
*Phys:* Parkinson's disease and iatrogenic causes most common. Caused by degeneration of the substantia nigra and locus ceruleus  
*See also* Cogwheel R rigidity; Festination; Lead-Pipe Rigidity; Parkinsonian Facies; Tremor, Resting  
*See also* Festination under Gait, Abnormal

**Patellar Tap**

*Exp:* One hand is used to apply pressure to the suprapatellar pouch forcing fluid out of this and under the patella. The middle and index fingers of the other hand are used to push down sharply on the patella. A tap is felt when the patella hits the femoral condyles  
*Int:* (+) Knee effusion from trauma, arthritis or other cause of inflammation  
*Phys:* Any inflammatory process causes the production of an exudate (excess synovial fluid) within the knee joint

**Patrick's Sign**

*Exp:* In supine patient, heel of leg being tested is placed on opposite knee. Knee of leg being tested is then pushed down to the couch by the examiner. Positive if pain and involuntary muscular spasm occur  
*Int:* (+) Hip joint disease, musculoskeletal trauma  
(–) Sciatic cause of hip pain

**Pectoriloquy, Whispering**

*Exp:* Auscultation of the chest while the patient whispers (often the phrase 'ninety-nine' is repeated). If intense broncophony is present, individual syllables can be identified  
*Int:* (+) Lung consolidation or cavitation, TB, pneumonia  
*Phys:* Solid lung tissue conducts sound better than normally aerated tissue

**Pel-Ebstein Phenomenon**

*Exp:* Temperature chart over several weeks shows a remittent fever that occurs daily, reaches a peak level after about a week, then gradually subsides, to
recycle again
Int: (+) Hodgkin's disease, other lymphadenomas, undulant fever \((Brucella abortus, B. melitensis)\)
Phys: Malaria, relapsing fever, etc. cause a more rapid alternation

**Pelvic Mass**
Exp: Abnormal mass felt in pelvis on vaginal and/or abdominal palpation
Int: (+) Pregnancy, faecal impaction, uterine fibroids, congenital uterine abnormality, lymphoma, endometriosis, pelvic malignancy, pelvic inflammatory disease, ovarian cyst or malignancy, teratoma, ectopic pregnancy, hydrosalpinx, pelvic abscess, rectal carcinoma, bladder carcinoma, pelvic kidney
See also Ovarian Mass

**Pemberton's Sign**
Exp: When patient raises both hands above head, dyspnoea, vertigo, facial flushing, dysphagia and syncope occur
Int: (+) Large intrathoracic goitre
Phys: Superior mediastinal pressure on the trachea, oesophagus and surrounding veins and arteries

**Percussion**
See Dull Percussion Note, Thoracic; Tympany, Thoracic

**Pericardial Friction Rub**
See Friction Rub, Pericardial

**Peristalsis, Visible**
Exp: Observation of abdomen in relaxed patient reveals peristaltic waves moving vaguely across an often distended abdomen
Int: (+) Pyloric stenosis, acute gastrointestinal obstruction at any level, congenital adrenal insufficiency, thin children
Phys: Blockage of the intestine causes dilatation of the gut above the blockage and increased peristaltic activity by the gut in an attempt to overcome the obstruction. Ileus results from prolonged blockage

**Pes Cavus**
Exp: Excessive concave curvature of sole (foot)
DOCTOR’S COMPANION
Section Two - Signs

Int: (+) Friedreich's ataxia, peroneal muscular atrophy, familial, spina bifida, sacral dermoid, cerebral palsy, poliomyelitis
Phys: Progressive wasting of extensor muscles of foot and/or spasm of flexor muscles of foot; idiopathic

Phalen's Sign
Exp: Tingling or sudden pain in hand within one minute of acute wrist flexion
Int: (+) Carpal tunnel syn.
Phys: Median nerve compression. The faster the test is positive, the more likely surgery will be required
See also Tinel's Sign

Pharyngeal Reflex
Exp: A spatula lightly touched against pharynx causes contraction of pharyngeal muscles and gagging
Int: (−) 9th cranial nerve lesions, hysteria, anaesthesia
Phys: Innervation of the pharynx is via a reflex arc involving the glossopharyngeal (9th) nerve

Phlebitis
Exp: Inflammation of a vein
Int: (+) Venous thrombosis, trauma (eg. IV cannula), infection, syphilis, TB, typhoid, pulmonary embolism, antiphospholipid syn., gout, puerperal phlebitis

Pigmentation
See Areolar Pigmentation; Nail Discolouration
See also Symptoms section 1: Pigmentation of Mouth; Pigmentation of Skin, Excess

Pink Puffer
Exp: Underweight patient who is very breathless on exertion, has markedly pink mucous membranes and an overinflated chest. Narrow heart on X-ray
Int: (+) Emphysematous chronic obstructive airways disease
Phys: Overinflation and underperfusion of lungs
See also Blue Bloater; Barrel Chest
**Pitting Oedema**

Exp: Persistent indentation of skin following pressure

Int: (+) Congestive cardiac failure, nephrotic syn., acute glomerulonephritis, cirrhosis, cellulitis, hypoproteinaemia (anorexia nervosa, marasmus, kwashiorkor), beriberi, thrombophlebitis, lymphangitis, filariasis, operative disruption of lymphatic or venous drainage, pregnancy and eclampsia, premenstrual

Phys: Movement of fluid from vascular to extravascular tissue occurs with increases in interstitial colloid osmotic pressure or intravascular hydrostatic pressure

See also Ankle Oedema
See also Symptoms section 1: Oedema

**Plantar Reflex**

See Babinski's Sign

**Plateau Pulse**

Exp: Prolonged duration of pulse summit on palpation

Int: (+) Aortic stenosis, aortic coarctation

Phys: Systole sustained due to slowing of blood flow

**Pleural Effusion**

Exp: Restricted chest wall movement, reduced vocal fremitus, dullness on percussion, and decreased breath sounds may be noted. May be found by chest X-ray

Int: (+) Transudate – Cardiac failure, hepatic cirrhosis, nephrotic syn., Meigs syn., constrictive pericarditis

(+ Exudate – Primary or metastatic pleural malignancy, lymphoma, TB, pulmonary infarct, infection, subphrenic abscess, pancreatitis, SLE, rheumatoid disease, trauma, hypothyroidism, postmyocardial infarct, drugs (eg. methysergide)

Phys: Exudate and transudate distinguished biochemically after thoracocentesis

See also Vocal Fremitus; Dull Percussion Note, Thoracic

**Pleural Friction Rub**

See Friction Rub, Pleural

**Pneumothorax**

Exp: Presence of gas in pleural space, detected clinically or radiologically
Int: (+) Spontaneous, traumatic, asthma, bacterial pneumonia, whooping cough, cystic fibrosis, emphysema, chronic bronchitis, congenital bullae, positive pressure assisted ventilation, TB, oesophageal rupture, pleural malignancy, subphrenic abscess, tuberous sclerosis, histiocytosis X, sarcoidosis, iatrogenic (eg. biopsy of lung, aspiration cannula, external cardiac massage)

See also Investigations section 3: Pneumothorax, Spontaneous

**Prayer Sign**

Exp: Palms cannot be pressed together when the hands are in the prayer position with wrists extended.

Int: Chronic diabetes mellitus.

**Precocious Puberty (Sexual Precocity)**

Exp: Premature genital, axillary and facial hair; breast, clitoris or penis enlargement; voice changes; or menstruation

Int: (+) Adrenal cortical hyperplasia, cerebral or pineal tumours, Albright’s syn., hypothalamic cysts or tumours, gonadal tumours, postencephalitic or postmeningitic lesions, hypothyroidism, constitutional

Phys: Premature release of gonadotrophic hormones from the hypothalamus occurs with various forms of stimulation of that part of the cerebrum

**Pronator Sign**

Exp: The patient holds arms outstretched with the palms facing up. Positive if one arm starts to pronate within 15 seconds. Elbow may also flex.

Int: (+) Pyramidal tract disorder, mild hemiparesis

Phys: Early sign of pyramidal tract disorder from slightly increased tone of pronators compared to supinators

**Proprioceptive Sense, Loss of**

Exp: Inability to detect vibration or joint movement

Int: (+) Posterior column lesions, tabes dorsalis, subacute combined degeneration of cord, medullary lesions, spinal tumours

Phys: Proprioceptive fibres run independent of pain, temperature and some touch fibres, not decussating until the medial lemniscus

See also Ataxia; Heel-Knee Test; Romberg’s Sign

**Proptosis**

See Exophthalmos
**Prostatomegaly**
Exp: Rectal digital examination reveals an enlarged prostate gland
Int: (+) Benign hyperplasia, adenocarcinoma, prostatitis
Phys: Benign hyperplasia very common over 50 years due to hyperplasia of fibromuscular stroma. Cause unknown. Carcinomas often involve posterior lobe and present late due to minimal urethral obstruction

**Ptosis**
See Symptoms section 1: Ptosis

**Puberty**
See Precocious Puberty

**Puff Reflex**
See Santmyer Swallow

**Pulmonary Nodule**
Exp: Pulmonary nodule seen on chest X-ray
Int: (+) Lung cancer, metastatic carcinoma, lymphoma, mesothelioma, tuberculosis, abscess, localised pneumonia, benign tumour (eg. haemangioma, chondroma, carcinoid), bronchogenic cyst, hydatid cyst, Wegner’s granulomatosis, arteriovenous malformation, pulmonary infarct, rheumatoid nodule

**Pulmonary Oedema**
Exp: Fluid detected in the lungs by auscultation (see Crepitations, Pulmonary) or characteristic X-ray appearance
Int: (+) Left ventricular failure, atrial fibrillation, mitral stenosis, hypertensive heart disease, fluid overload, severe asthma, smoke inhalation, lymphatic blockage, diffuse pulmonary infections, aspiration pneumonia, shock, adult respiratory distress syn., various neurogenic causes, organophosphate poisoning, snake bite, heroin toxicity, head injury, high altitude
Phys: Physiology dependent upon cause. Primarily due to an imbalance in Starling’s forces as related to capillary pressure gradients
Pulse
See Bounding Pulse; Bradycardia; Corrigan's Sign; Dicrotic Pulse; Extrasystolic Beats; Irregularly Irregular Pulse; Plateau Pulse; Pulse, Absent; Pulsus Alternans; Pulsus Paradoxus; Tachycardia; Water-Hammer Pulse
See also signs listed under Heart

Pulse, Absent
Exp: Distal pulse absent or diminished
Int: (+) Arteriosclerosis, diabetes mellitus, thrombosis, Leriche syn., embolism

Pulsus Alternans
Exp: Alternate variation in size of pulse wave, often detected by sphygmomanometry
Int: (+) Paroxysmal tachycardia, left ventricular failure, cardiomyopathy, hypertension, ischaemic heart disease
Phys: Not all fibres of myocardium able to contract with each beat due to disease

Pulsus Paradoxus
Exp: Pulse volume decreases with inspiration, the reverse of normal
Int: (+) Thoracic respiration, certain postures, pericardial effusion, constrictive pericarditis, pericardial tamponade
Phys: Due to distension of right atrium and ventricle with venous return in inspiration, compressing the left side of the heart and reducing its output; or due to reduction in pressure gradient between pulmonary veins and left atrium

Pupil Changes
See Anisocoria; Miosis; Mydriasis; Lens Opacity; Pupil, Irregular; Pupil, White

Pupil, Dilated
See Anisocoria

Pupil, Irregular
Exp: Pupil of eye is irregular in outline
Int: (+) Iritis, surgery, trauma, pupillary membrane, congenital

Pupil, White (Leucocoria)
DOCTOR’S COMPANION
Section Two - Signs

Exp: Pupil of eye is white and reflects light
Int: (+) Cataract, retinoblastoma, retinal fibroplasia, corneal scarring, persistent tunica vasculosa lentis
See also Lens Opacity

Purpura
See Hess Test
See also Symptoms section 1: Purpura and Petechiae

Queckenstedt’s Test
Exp: Pressure on either or both jugular veins during lumbar puncture normally produces a rise in the CSF manometric pressure, and then a drop when pressure on veins released
Int: (–) Block of spinal subarachnoid space or blocking of CSF escape from cerebral cavity (eg. vertebral fracture, TB, tumours of cord or vertebrae, haematomas)
Phys: Physical block of fluid connection via jugular veins, cerebral CSF and spinal CSF causes test to be negative

Racoon Sign
Exp: Periorbital ecchymosis (dark bruise rings around eyes)
Int: (+) Fracture at base of skull
Phys: X-rays may be negative despite positive sign. Caused by tracking of blood through tissue planes from fracture site
See also Battle’s Sign

Radial Jerk
Exp: With the elbow flexed at 90° and the forearm in neutral position, the styloid process of the radius is tapped with a rubber hammer. Normal result is flexion of elbow and supination of forearm
Int: (–) Lower motor neurone lesion, peripheral neuropathy, polio, tabes dorsalis, posterior root tumours, syringomyelia, muscular dystrophies, subacute combined degeneration of cord, coma
(++) Upper motor neurone lesion, tetanus, CVA
Phys: Due to contraction of brachioradialis. Acts at C7, C8 level
See also other signs listed under Reflexes

Rainbow Halo
Exp: Rainbow coloured halo seen around lights, particularly at night
DOCTOR’S COMPANION
Section Two - Signs

Int: (+) Acute angle closure glaucoma, corneal oedema, incipient cataract, allergic conjunctivitis
Phys: Distortion of light, as in a prism, by unequal alignment of inner and outer surfaces of cornea

Rales
See Crepitations, Pulmonary; Rhonchi

Rash
See Butterfly Rash; Café-au-Lait Spots; Chloasma; Spider Naevi
See also Symptoms section 1: Rash

Rash, Butterfly
See Butterfly Rash

Reaction Time
See Ruler Drop Test

Rebound Tenderness, Abdominal
Exp: Gentle pressure on the abdomen followed by rapid removal of pressure causes sudden, acute pain
Int: (+) Peritonitis, peritonism due to any inflamed intra-abdominal viscus (eg. appendicitis, pancreatitis, perforated ulcer, cholecystitis, Crohn's disease, diverticulitis, cystitis, adenitis), intraperitoneal haemorrhage (eg. ectopic pregnancy, leaking aneurysm, endometriosis)
Phys: The sudden release of pressure causes movement of the viscus within an inflamed peritoneum, and thus pain
See also Symptoms section 1: Abdominal Pain

Rectal Mass
Exp: Palpable mass on digital examination of the rectum
Int: (+) Thrombosed internal pile, rectal polyp, rectal carcinoma, metastatic carcinoma, prostatomegaly, prostate carcinoma, ovarian cyst or carcinoma, uterine fibroids, pelvic malignancy, mesorectal lymph nodes, endometriosis, enlarged or cancerous uterine cervix, bone cyst of sacrum, tampon or other object in vagina, foreign body in rectum, impacted faeces
Red Urine
See Urine, Abnormal Colour
See also Pathology section 4: Haematuria

Reflexes
See Ankle Jerk; Babinski's Sign; Biceps Jerk; Consensual Reflex; Corneal Reflex; Cremasteric Reflex; Grasp Reflex; Hering-Breuer Reflexes; Knee Jerk; Mass Reflex; Moro Reflex; Pharyngeal Reflex; Radial Jerk; Santmyer Swallow; Triceps Jerk

Renal
See Kidney, Large; Kidney, Small

Retinal Arteriovenous Nipping
See Arteriovenous Nipping, Retinal

Retinal Exudates
Exp: Ophthalmoscopic examination of retina reveals white fluffy patches
Int: (+) Diabetes mellitus, hypertension, increased intracranial pressure, massive blood loss
Phys: Occlusion of retinal capillaries

Retinal Haemorrhages
Exp: Red spots and patches adjacent to blood vessels are noted on ophthalmoscopic examination of the retina. Various types described as punctate, splinter and flame
Int: (+) Pernicious anaemia, leukaemia, aplastic anaemia, hypertension, diabetes mellitus, bacterial endocarditis, anticoagulants, haemorrhagic disease
Phys: Damaged retinal capillaries
See also Roth’s Spots

Retinal Pigmentation (Retinitis Pigmentosa)
Exp: Cells filled with epithelial pigment congregate beside retinal blood vessels
Int: (+) Bassen-Kornzweig syn., Laurence-Moon-Biedl syn., other genetic conditions
Phys: Night blindness and tunnel vision early symptoms
Rhonchi (Dry Rales)
Exp: Musical wheezing sounds caused by air flow through narrowed or congested bronchi, heard on chest auscultation. Deeper pitched sonorous rhonchi originate in large bronchi. Higher pitched sibilant rhonchi originate in smaller bronchi
Int: (+) Bronchitis, tracheobronchitis, asthma, pulmonary tumours, bronchial oedema or spasm
Phys: Air passing through the narrowed part of a tube becomes turbulent and produces a sound
See also Crepitations, Pulmonary

Rib Notching
Exp: A plain AP X-ray of the chest shows notching on the lower surface of the 4th to 8th ribs posteriorly. Usually bilateral
Int: Congenital coarctation of aorta

Rigidity
See Abdominal Rigidity; Clasp-Knife Rigidity; Cogwheel Rigidity; Lead-Pipe Rigidity; Neck Stiffness; Opisthotonos

Rinne's Test
Exp: A vibrating tuning fork (512 cps) is placed on the mastoid process. When it becomes inaudible to the patient, the vibrating end is placed near the external auditory meatus. If heard at the external auditory meatus, air conduction is greater than bone conduction (i.e. Rinne positive). In reverse situation, if heard on mastoid process after air conduction lost, the test is Rinne negative
Int: (+) Air conduction < bone conduction – Conductive deafness (eg. wax, perforated tympanum, otosclerosis, glue ear, otitis media, foreign body, dislocated ossicles, tumours, meatal stenosis, exostoses, barotrauma)
(+ ) Air conduction > bone conduction – Normal hearing
(+ ) Reduced time – Perceptive deafness (eg. presbycusis, vascular causes, measles, mumps, influenza, meningitis, labyrinthitis, congenital causes [maternal rubella], trauma [blast], prolonged noise exposure, drugs (eg. streptomycin, aspirin, quinine), Menière's disease, late otosclerosis, CNS tumours, haemorrhage, leukaemia, multiple sclerosis, vitamin B deficit), psychogenic
See also Weber's Test
Risus Sardonicus
Exp: Fixed, immobile grin
Int: (+) Tetanus
Phys: Excess tension of facial musculature

Rogoff's Sign
Exp: Costovertebral angle pain and tenderness
Int: (+) Adrenal crisis
Phys: Adrenal inflammation due to steroid withdrawal; or adrenal infection or destruction

Romana's Sign
Exp: Unilateral persistent oedema of upper and lower eyelids
Int: (+) Chagas' disease
Phys: Occurs when conjunctiva is portal of trypanosome entry

Romberg's Sign
Exp: Patient stands at attention with heels close together and then shuts eyes. Positive when severe swaying or falling occurs
Int: (+) Tabes dorsalis, posterior column lesion, subacute combined degeneration of cord, intoxication
Phys: Due to loss of proprioceptive sensation. Negative in cerebellar disease
See also Ataxia; Proprioceptive Sense, Loss of; Heel-Knee Test; Tandem Romberg Test

Rope Sign
Exp: Linear cords extending from the upper back to the axilla
Int: Rheumatoid arthritis
Phys: Histological granulomas

Rosary, Thoracic
Exp: Nodular swelling of costochondral junctions of the ribs bilateral to the sternum in a child
Int: (+) Rickets
Phys: Calcium deficient diet

Roth's Spots
Exp: Superficial retinal haemorrhages with pale or white centres
Int: (+) Retinal infarct, leukaemia, retinal haemorrhage with central resolution
Phys: In leukaemia, due to extravasation of excess white corpuscles from a retinal haemorrhage
See also Retinal Haemorrhages

Rubin Test
Exp: A cannula of sufficient diameter to make the os cervix airtight is introduced through the cervix into the uterus. Carbon dioxide is passed through the tube into the uterus, while a side arm to a manometer measures the pressure, which should not exceed 200 mmHg. A stethoscope is used to listen to gas bubbling through tubular ostia. Any abdominal or shoulder tip pain is also noted
Int: (– no gas heard) Nonpatent fallopian tubes
Phys: Test of tubal patency in infertility. May help clear mildly blocked tubes. Should be performed immediately after menstruation, before ovulation

Ruler Drop Test
Exp: While seated, the patient rests their dominant forearm on a table with their hand protruding over the edge and held open. A standard 30cm. ruler is held between the patient’s thumb and index finger with the zero between the patient’s thumb and index finger. The examiner drops the ruler and the measurement at the point where the ruler is caught by the patient is noted. The results of three tests should be averaged to give a fair reading.
Int: 15 to 20 cm. normal for a young person, 20 to 25 cm. normal in older people > 25 to 30 cm poor result. > 30cm (inability to catch the ruler) too slow for safe driving.
Phys: Simple way in which to measure reaction time, particularly in older people whose slow reaction time may make it unsafe for them to drive.

Rumpel-Leede Sign
Exp: Distal shower of petechiae that occurs immediately after the release of pressure from a tourniquet or sphygmomanometer applied to an arm or leg.
Int: Sign of disorders associated with capillary fragility.

Saddle Nose
Exp: Characteristic ‘saddle' or dip at junction of bony and cartilaginous parts of dorsum of nose
Int: (+) Wegener's granulomatosis, congenital syphilis
**Santmyer Swallow (Puff Reflex)**
Exp: Blowing gently on the face of an infant induces a reflex swallow
Int: Useful procedure for easing the passage of a nasogastric tube or medication. Developmental assessment test – should have disappeared by 24 months of age

**Scanning Speech (Staccato Speech)**
Exp: A speech form in which there are marked, and sometimes rhythmic, pauses between syllables and/or words
Int: (+) Cerebellar ataxia, multiple sclerosis
*See also Slurred Speech*

**Schamroth's Sign**
Exp: Same fingers of both hands are held with nails touching. In normal nails, there is a gap between the nails at their bases. If fingers are clubbed, gap between nails occurs at tips of nails
Int: (+) Clubbing present
Phys: Used to note presence of clubbing
*See also Clubbing of Fingers*

**Schiller Test**
Exp: The cervix is painted with aqueous iodine solution. Normal areas stain dark brown
Int: (+) Nonstained areas – Cervical carcinoma, erosion, eversion, scars, leucoplakia, cystic mucous glands
Phys: Normal cells take up stain because they contain glycogen. Test shows abnormal areas, but is not specific for any cause

**Schirmer's Test**
Exp: A strip of filter paper 5 mm x 35 mm is folded 5 mm from one end. The short flap is inserted under the lower lid of each eye and the eye is closed lightly. After 5 minutes, length of strip from ciliary margin that has been dampened by tears is measured. Normal > 5 mm
Int: (<5 mm) Xerophthalmia
*See also Symptoms section 1: Xerophthalmia*
Schober's Test
Exp: With patient erect, mark skin over L5 level and a point 10 cm above. Patient bends forward maximally and distance between marks is measured
Int: (+) Increase <5 cm – Lumbar ankylosing spondylitis, other degenerative lumbar vertebral disease

Scissors Gait
See Gait, Abnormal

Sclera, Blue
Exp: Markedly blue sclera (not iris) noted
Int: (+) Fragilitas ossium (osteogenesis imperfecta)
Phys: Congenital disease transmitted by a dominant mutant gene

Sexual Precocity
See Precocious Puberty

Shifting Dullness
Exp: Percussion of an abdomen with patient lying on one side reveals a dullness on the side nearest the bed, and a tympanic note on the high side, regardless of which side the patient is lying
Int: (+) Free intraperitoneal fluid (ascites) (eg. cirrhosis, intraperitoneal neoplasms, TB, peritonitis, congestive cardiac failure, nephrosis, hepatoma, constrictive pericarditis, hepatic vein obstruction, myxoedema, Meigs syn.).
Phys: Fluid flows from one side of abdomen to other as patient turns
See also Thrill, Fluid
See also Symptoms section 1: Ascites

Shock
Exp: Hypotension, oliguria, tachycardia, reduced mental acuity, peripheral hypoperfusion, peripheral vasoconstriction, (metabolic acidosis)
Int: (+) Severe diarrhoea and/or vomiting, dehydration, excessive sweating, severe injury, haemorrhage (internal or external), cardiac arrhythmia, cardiac failure (eg. infarct, myopathy), cardiac valve failure or stenosis, tension pneumothorax, pericardial tamponade, pulmonary embolus, severe burns, diabetic ketoacidosis, pancreatitis, ascites, bowel obstruction, septicaemia, toxic shock syndrome, anaphylaxis, acute
adrenal insufficiency, drugs (eg. vasodilators, narcotics, phenothiazines)
Phys: Caused by inadequate circulation of arterial blood
See also Hypotension

Shoulder Tip Pain
Exp: Pain at tip of shoulder
Int: (+) Blood, pus or air under diaphragm, inflammation of subphrenic organs (eg. liver, spleen), after abdominal operations in which air may have been introduced (eg. laparoscopy)
Phys: Referred pain via phrenic nerve, caused by irritation of diaphragm.
Exclude local causes
See also Kehr's Sign

Simmond's Test
See Calf Squeeze Test

Sister Mary Joseph's Nodule
Exp: Raised umbilical nodule, often erythematous and painless
Int: (+) Disseminated intra–abdominal malignancy (eg. ovarian or gastric carcinoma)
Phys: Retrograde lymphatic spread of carcinoma to form an umbilical deposit

Skin, Abnormal
See Areolar Pigmentation; Butterfly Rash; Café-au-Lait Spots; Chip Sign; Chloasma; Dermographia; Gottron's Sign; Leser-Trelat Sign; Nikolsky Sign; Spider Naevi; Xanthomatosis
See also Symptoms section 1: Skin Disorders

Slurred Speech
Exp: Marked difficulty or trembling in attempts to pronounce words of several syllables
Int: (+) Drugs (eg. alcohol, sedatives), general paralysis of insane, Friedreich's ataxia, bulbar palsy
See also Scanning Speech

Small for Dates
See Intrauterine Growth Retardation
Smear Test
See Papanicolaou Smear

Sounds, Heart
See Murmur, Cardiac

Spalding's Sign
Exp: Overlapping of cranial bones seen on X-ray examination of intrauterine fetus
Int: (+) Intrauterine fetal death, labour
Phys: Loss of tissue turgor in death

Spasm, Muscular
See Myotonia; Hypertonicity

Spastic Paralysis
See Paralysis, Spastic

Speech
See Scanning Speech; Slurred Speech

Spider Naevi (Telangiectasia)
Exp: Skin area where several capillaries can be seen radiating from a central point

Spleen, Enlarged
See Splenomegaly

Splenomegaly
Exp: Enlarged spleen found on bimanual palpation of abdominal LUQ
Int: (+) Systemic infection (eg. infectious mononucleosis, hepatitis, AIDS,
septicaemia, subacute bacterial endocarditis, malaria, TB, brucellosis, typhoid fever), portal hypertension (due to cirrhosis, portal or splenic vein thrombosis or obstruction), Gaucher’s disease, Niemann-Pick disease, congestive cardiac failure, Letterer-Siwe disease, sarcoidosis, leukaemias, lymphoma, various haemoglobinopathies, thalassaemia major, myelofibrosis, kala-azar, SLE, polyarteritis nodosa, polycythaemia vera, spherocytosis, thrombocytopenia, haemolytic anaemias, splenic cysts or neoplasms, Hand-Schüller-Christian disease, amyloidosis, Budd-Chiari syn., Felty syn., Hunter syn., Hurler syn., Plummer-Vinson syn., Pompe syn., Sanfilippo syn., Schiefl syn., Sly syn., protein deficiency, starvation

Phys: Deposition of matter in the spleen, venous outlet obstruction or increased red blood cell production

**Splinter Haemorrhages**

Exp: Linear haemorrhages of the nail bed

Int: (+) Subacute bacterial endocarditis, blood dyscrasias, psoriasis, eczema, rheumatoid arthritis, tinea, trauma

Phys: Due to microemboli in subacute bacterial endocarditis

*See also Janeway Lesion; Osler’s Nodes*

**Split Heart Sounds**

Exp: Double heart sound in which the two elements are very close together

Int: (+) 1st sound – Not pathological

(+ ) 2nd sound – Normal in inspiration, left bundle branch block, atrial septal defect, aortic valve stenosis, patent ductus arteriosus, left ventricular failure due to hypertension or ischaemia

Phys: Asynchronous closure of mitral and tricuspid valves (1st sound) or pulmonary and aortic valves (2nd sound)

**Spooning Nails**

See Koilonychia

**Squint**

See Symptoms section 1: Squint

**Staccato Speech**

See Scanning Speech
Startle Reflex
See Moro Reflex

Steatorrhoea
See Pathology section 4: Fat, Faecal

Steell Murmur
See Graham Steell Murmur

Steinberg Thumb Sign
Exp: Thumb projects beyond the surface of the hand when held across the palm of the same hand.
Int: Marfan syndrome

Stemmer’s Sign
Exp: Thickened lump of skin at the base of the second toe or middle finger
Int: (+) Chronic peripheral lymphoedema
See also Lymphoedema

Still’s Murmur
Exp: Musical or vibrating soft early to mid-systolic murmur in a child heard maximally over third left intercostal space, that becomes more noticeable with a fever
Int: (+) Innocent murmur of no clinical significance
Phys: Left ventricular outflow murmur
See also Systolic Murmur

Stool, Abnormal Colour
See Faeces, Abnormal Colour

Strawberry Tongue
Exp: Red glazed tongue with prominent papillae
Int: (+) Scarlet fever (may have thick white fur between papillae for first 2 days)
See also Geographic Tongue
Striae
See Symptoms section 1: Striae

Subcutaneous Emphysema
See Crepitations, Tissue

Subungal Hyperkeratosis
Exp: Deposition of keratin under nail.
Int: (+) Psoriasis, fungal infection (onychomycosis), recurrent trauma, chronic eczema, chronic paronychia, lichen planus, pityriasis rubra pilaris, Norwegian scabies
Phys: Chronic inflammation of the nail bed results in keratin deposition
See also Onycholysis

Swinging Torch Sign
Exp: In a darkened room, shine a torch in normal eye and there is immediate bilateral constriction of pupils. Swinging torch to affected eye causes initial bilateral dilatation with subsequent constriction. Swinging torch back to normal eye results in immediate pupil constriction again
Int: (+) Glaucoma (more advanced in affected eye), optic nerve demyelination, tumour or disease
Phys: As the light shifts from the less to the more diseased eye, the direct afferent stimulus passes along the more damaged optic nerve; it is now no longer sufficient in intensity to keep the pupils as small as they had been when the better eye was illuminated, both pupils thus dilate

Systolic Murmur
Exp: Cardiac auscultation reveals a murmur between 1st and 2nd heart sounds
Int: (+) Physiological, exercise, mitral valve incompetence, atrial and ventricular septal defect, patent ductus arteriosus, gross anaemia, aortic stenosis, dilatation of base of aorta, high fever, hyperthyroidism, pulmonary stenosis, aortic coarctation, tricuspid incompetence, carcinoid syn., cardiomyopathies
Phys: Due to flow disturbances within the heart. Mitral incompetence and associated states tend to be heard at the apex; aortic valve disease is heard maximally at right sternal margin in 2nd intercostal space
See also Still’s Murmur
Tachycardia
Exp: Heart (pulse) rate significantly higher than average (generally > 100 per minute)
Int: (+) Exercise, emotion, pain, shock, infections, sarcoidosis, thyrotoxicosis and other hypermetabolic diseases, endocarditis, hypotension, cardiac failure, atrial flutter and fibrillation, paroxysmal tachycardia, pacemaker and conductive anomalies, nodal tachycardia, sick sinus syn., anaphylaxis, pulmonary oedema, phaeochromocytoma, venous hypertension, mitral valve disease, coronary artery disease, pulmonary thromboembolism, polyarteritis nodosa, other connective tissue diseases, dumping syn., Irukandji syn., serotonin syn., drugs (eg. alcohol, adrenaline, atropine, amphetamines, cocaine)
Phys: Due to metabolic or mechanical influences on the cardiac pacemaker, or the occurrence of a more rapidly depolarising ectopic pacemaker
See also Torsades de Pointes

Tachypnoea
See Hyperventilation

Tandem Romberg Test
Exp: Patient stands with one foot in front of the other (toe to heel in tandem), then closes eyes. Positive if patient sways or is unsteady within 60 seconds
Int: (+) Labyrinth, posterior column lesions, tabes dorsalis, subacute combined degeneration of cord, intoxication
Phys: More sensitive than standard Romberg's sign
See also Romberg's Sign

Tardive Dyskinesia
See Dyskinesia, Tardive

Target Lesions
Exp: Round, erythematous macule that becomes papular, enlarges and develops concentric rings of colour to resemble a target. Centre of lesion may blister, erode and crust. May become pigmented during resolution
Int: (+) Erythema multiforme
Phys: Precursor target lesion often not identified as erythema multiforme until widespread lesions erupt
Telangiectasia
See Spider Naevi

Temperature, Reduced
See Hypothermia

Terry Nails
Exp: 1 to 2 mm from the distal edge of the nail white discolouration stops leaving a pink-brown area
Int: Associated with cirrhosis, CHF and type II diabetes.

Tetany
See Obstetric Hand

Third Eyelid of Morgan-Denny
Exp: Extra fold of skin above upper eyelid
Int: (+) Atopic eczema of eyelid, allergic conjunctivitis, other chronic irritating conditions of eye
Phys: Caused by chronic rubbing of eye. More common in children

Thompson Test
See Calf Squeeze Test

Thorn's Sign
Exp: Stiffness of cartilage in ear
Int: (+) Addison's disease

Thrill, Cardiac
Exp: Vibration that emanates from the heart or great vessels felt by the palpating hand. Analogous to murmur
Int: (+ systolic) Aortic stenosis, aortic aneurysm, pulmonary stenosis, infundibular stenosis, ventricular septal defect, mitral regurgitation, patent ductus arteriosus, other arteriovenous aneurysms
(+ diastolic) Mitral stenosis, patent ductus arteriosus, pulmonary incompetence
Phys: Rapid movement of blood through abnormally narrowed or dilated passage
Thrill, Fluid
Exp: The patient or a third person places his or her hand vertically on edge along the linea alba. Examiner places flat of hand on one side of abdomen and sharply taps opposite flank. A sudden change in abdominal pressure is noted by the palpating hand.
Int: (+) Intraperitoneal fluid (ascites) (due to cirrhosis, cardiac failure, hepatitis, carcinoma of liver, pericarditis, nephrotic syn., etc.)
Phys: Fluid thrill may be felt due to subcutaneous fat transmission of impulse unless this is obstructed by hand on linea alba.
See also Shifting Dullness
See also Symptoms section 1: Ascites

Thrombophlebitis
See Phlebitis

Thyroid Glitter
Exp: `Glitter' of light in the eyes
Int: (+) Thyrotoxicosis
Phys: Conjunctival oedema

Tinel's Sign
Exp: Tingling or sudden pain on volar wrist percussion
Int: (+) Carpal tunnel syn.
Phys: Median nerve compression
See also Phalen's Sign

Tin Tack Sign
Exp: Appearance of small horny plugs attached to the undersurface of the scale removed from the affected site.
Int: Important clinical feature in discoid lupus erythematosus.

Tone, Decreased Muscular
See Hypotonia
Tone, Increased Muscular
See Hypertonicity

Tongue, Abnormal
See Fasciculation, Muscular; Geographic Tongue; Strawberry Tongue; Tongue, Discoloured; Tongue, Enlarged; Tongue, Fissured
See also Symptoms section one

Tongue, Discoloured
Exp: Abnormal tongue colour
Int: White – Thrush (fungal infection), leucoplakia, lichen planus, erythema multiforme, pemphigus vulgaris, squamous cell carcinoma, Reiter's syn., milk curds, burns
Black – Filiform papillae hypertrophy, tobacco, penicillin, chromogenic bacteria, antiarthritic drugs, melanoma
Red – Scarlet fever, poststreptococcal infection, pernicious anaemia, erythema multiforme, ariboflavinosis, pellagra, sprue, vitamin B deficit, Reiter syn., vascular hamartoma
Blue – Central cyanosis from heart or lung disease
Patchy – Geographic tongue

Tongue, Enlarged (Macroglossia)
Exp: Oversize tongue for mouth
Int: (+) Down syn. (see Syndromes section 6), haemangioma, lymphangioma, primary amyloidosis, acromegaly, cretinism

Tongue, Fissured
Exp: Deep fissures on tongue surface
Int: (+) Niacin deficiency, congenital

Torsades de Pointes (Twisting of the Points)
Exp: Variant of ventricular tachycardia characterised by bursts of ventricular tachycardia complicating a junctional bradycardia. On an ECG, the bradycardia element shows a long QT interval, and the ventricular tachycardia shows a swinging axis ('twisting of the points') in a series of ectopic QRS complexes that vary in their form. Abnormal T waves may be present in bradycardia phase
Int: (+) Complete heart block, acute myocardial infarction, myocarditis, hypokalaemia, congenital, drugs (eg. phenothiazines, tricyclics, some
antiarrhythmics)
Phys: Abnormality in ventricular repolarisation. Normally self-terminating condition, but may terminate in syncope or sudden death

**Torsion Dystonia**
See Athetosis

**Torticollis**
Exp: Spasm of the muscles in one side of the neck which causes the head to twist to that side. Straightening of the head usually causes pain
Int: (+) Muscle trauma, hysteria, rheumatoid arthritis, corpus striatum disease, adenitis of neck glands, neck abscess, ocular diseases, 11th cranial nerve disease, fibrositis, thermal trauma to neck, habitual tic, labyrinthine disease, tissue scarring, congenital
Phys: Sternomastoid muscle most commonly involved

**Tracheal Displacement**
Exp: Deviation of the trachea from the midline to the suprasternal notch
Int: (+ towards lesion) Pulmonary fibrosis, TB, pulmonary collapse
     (+ away from lesion) Pleural effusion, pneumothorax
Phys: Base of trachea moved laterally by variations in the normal volume of the chest contents
*See also Dull Percussion Note, Thoracic*

**Tremor, Flapping (Asterixis)**
Exp: With arms, hands and fingers outstretched, the patient dorsiflexes the wrists and spreads the fingers. An irregular but synchronous tremor of a flapping nature is seen, with maximum activity at the wrist and metacarpophalangeal joints. May also involve feet and tongue
Int: (+) Encephalopathy, liver failure, metabolic diseases, subdural haematomas, cerebral infarcts in diencephalon region
Phys: Distortion of proprioceptive cerebral pathways and inappropriate motor stimulation

**Tremor, Intention (Dysmetria)**
Exp: Attempt to touch nose with finger or perform any other definite movement causes increasing shaking of hand until movement is completed. Precision movement lost
Int: (+) Cerebellar lesions (eg. tumours, CVA, abscess), multiple sclerosis,
brain stem disease, Friedreich's ataxia, spinocerebellar degenerations, mercury poisoning

Phys: Loss of appreciation of the force and rate of muscular contraction necessary for a movement

*See also Dysdiadochokinesia*

**Tremor, Postural**

Exp: Tremor obvious in certain postures such as outstretched hands

Int: (+) Anxiety, thyrotoxicosis, alcohol, drugs (e.g. bronchodilators, tricyclics), heavy metal poisoning, Wilson's disease, neurosyphilis, cerebellar lesions, familial

Phys: Loss of fine control of flexor/extensor reflex

**Tremor, Resting**

Exp: Rhythmic sinusoidal movement of limbs and/or head at rest

Int: (+) Parkinson's disease (paralysis agitans), postencephalitic, cerebral tumours, drugs (e.g. reserpine, phenothiazines)

Phys: Degeneration of substantia nigra and associated pathways

*See also Festination under Gait, Abnormal*

*See also Cogwheel Rigidity*

**Trendelenburg Test**

Exp: Observe patient from behind while each leg in turn is lifted from the ground and the hip flexed forward. Positive if pelvis tilts towards side on which leg is lifted

Int: (−) Normal

(+) Lesion of contralateral gluteal nerve supply at radicular level, congenital dislocation of hip, muscular dystrophy

Phys: Superior gluteal nerve separates from the sciatic distribution of the L4–5 nerve roots at lumbar plexus level

**Triceps Jerk**

Exp: With the elbows at 90° and relaxed, the triceps tendon is tapped just above the point of the elbow. This results in extension of the elbow

Int: (−) Poliomyelitis, peripheral neuropathies, posterior root disease, tabes dorsalis, spinal cord tumours or degenerations, spinal shock, syringomyelia, muscle dystrophies, coma

(++) Upper motor neurone lesion, tetanus, hyperthyroidism, anxiety, cord transection

Phys: Acts at C6, C7, C8 level. Due to contraction of triceps brachii muscle

*See also other signs listed under Reflexes*
Trichiasis
Exp: Ingrown eyelash causes irritation of conjunctiva
Int: (+) Trachoma, eyelid trauma
See also Entropion

Tripe Palms
Exp: Wrinkled thickening of the palms
Int: Associated with internal malignancy.

Triple Rhythm
See Gallop Rhythm

Trousseau's Sign
Exp: Circumferential pressure (eg. by sphygmonanometer cuff) on a limb causes carpopedal spasm
Int: (+) Hypoparathyroidism, hypocalcaemia, rickets, alkalosis, Bartter syn. (see Syndromes section 6)
Phys: Low serum calcium causes hyperexcitability of muscles that may lead to tetany
See also Chvostek's Sign

Twitching
See Fasciculation, Muscular

Tympany, Thoracic
Exp: One index finger is laid flat on the chest and is struck firmly with the other index finger. Higher than normal pitch of percussion note is tympany
Int: (+) Pneumothorax, overinflation of lungs (eg. asthma, emphysema), cavitation of lungs
Phys: Large air masses reflect sound more readily

Ugly Duckling Sign
Exp: A naevus that doesn’t resemble its brother naevi.
Int: Likely to be malignant melanoma.
Umbilical Bruising
See Cullen's Sign

Unterberger’s Test
Exp: Patient is asked to walk on the spot with eyes closed for one minute while holding arms out horizontally in front and counting aloud with each step. The knees must be raised as high as possible while stepping. A positive test occurs if the patient turns about his axis in a particular direction by more than 45°.
Int: (+) Unilateral vestibular disorder

Urine, Abnormal Colour
Int: White – Gross excess protein, gross excess white cells, chyle
Red – Blood (see Haematuria), porphyria, myoglobin, beetroot and other red foods, drugs (eg. phenytoin, phenindione, rifampicin, desferrioxamine, phenothiazines)
Brown/black – Porphyria, alkaptonuria, old blood, melanin, drugs (eg. nitrofurantoin, methyldopa, cascara), foods (eg. rhubarb, fava beans)
Orange – Dehydration, jaundice, drugs (eg. primaquine, riboflavine, sulfasalazine)
Blue/green – Biliverdin, drugs (eg. amitriptyline, triamterene, phenol, indigo)

Urine, Smelly
Int: Fishy smell – E.coli infection, tyrosinaemia
Ammonia - Common in infants, occurs in urine that has been left standing
Mousy - Phenylketonuria
Maple syrup - Maple syrup urine disease
Cabbage - Methionine malabsorption

Uterus, Enlarged
See Pelvic Mass

Venous Engorgement and Pressure
See Jugular Venous Pressure

Vipond’s Sign
Exp: Generalised adenopathy occurring during the period of incubation of
various of the exanthemas of childhood.

Int: Early diagnostic sign in a case of known exposure to childhood infectious illness.

**Vocal Fremitus**

Exp: Ulnar border of hand is used to detect variations in the vibrations transmitted from the larynx through the airways and lungs to the chest wall when a patient repeats a phrase (eg. `ninety-nine')

Int: (−) Feeble voice, blocked bronchus from foreign body, bronchial tumour, pleural effusion, pneumothorax, collapsed lung

(++) Pneumonia, consolidation around major bronchus, TB

Phys: Variations depend on the degree of interference of vibration conduction through lung tissue

*See also Pleural Effusion*

**Vomit**

See Symptoms section 1: Nausea and Vomiting

**V Sign**

Exp: Photosensitivity is prominent in the ‘V’ of the neck and chest.

Int: Dermatomyositis

**Waddling Gait**

See Gait, Abnormal

**Waiter's Hand**

Exp: The arm is adducted and extended at the elbow and the forearm is pronated, with the palm facing backwards as though accepting a surreptitious tip

Int: (+) Erb-Duchenne paralysis

Phys: Damage (usually at birth) to the 5th cervical anterior nerve root and subsequent paralysis of deltid, brachioradialis and biceps

**Walk, Abnormal**

See Gait, Abnormal
Wasting, Muscular
Exp: Reduction in muscle bulk
Int: Localised – Paralysis of muscle bundle (eg. paraplegia, motor neurone disease, plexus palsy), congenital
Generalised – Diabetes mellitus, thyrotoxicosis, Addison’s disease, phaeochromocytoma, occult carcinoma, hypopituitarism, anorexia nervosa, fad diets

Water-Hammer Pulse (Collapsing Pulse)
Exp: With patient's hand raised as high as possible above head, a pulse is felt that appears to hammer at the examiner's fingers and then suddenly collapse
Int: (+) Aortic incompetence, arteriovenous fistula (eg. patent ductus arteriosus), severe anaemia, ventricular septal defect, complete heart block, fever, thyrotoxicosis, vasodilatory drugs
Phys: Low diastolic pressure and subsequent flaccidity of arterial walls
See also Corrigan's Sign

Weakness, Muscular
See Paralysis, Flaccid; Hypotonia

Webbing of Neck
Exp: Anterior aspect of neck is broadened due to an exaggerated skin fold from the mastoid process to the shoulder
Int: (+) Noonan syn., Turner syn.

Weber's Test
Exp: Vibrating tuning fork placed on midline of forehead or a central incisor, is normally heard at midline
Int: In conductive deafness sound is referred to deafer ear. In perceptive deafness sound is referred to the better ear
Phys: Often unreliable. In conductive deafness the cochlear is undisturbed by extraneous noises encountered by the better ear
See also Rinne's Test

Wheeze
See Symptoms section 1: Wheeze
Whispering Pectoriloquy
See Pectoriloquy, Whispering

White Pupil (Leucocoria)
See Pupil, White

Windlass Test
Exp: Passive hyperextension of the hallux (great toe) causes the plantar medial longitudinal arch of the foot to reform in a flat-footed patient
Int: (+) Physiological flat foot
(–) Pathological flat foot
Phys: Physiological flat foot due to ligamentous laxity is asymptomatic, common and requires no treatment

Wodak Sign
Exp: The patient is seated with back and elbows unsupported. With the arms slightly extended, the patient points the index fingers while keeping the other fingers in a fist. The examiner sits opposite the patient and points his or her index fingers close to those of the patient, but has his or her elbows supported on the arms of a chair. The patient closes his or her eyes. Positive test if patient's fingers drift away from those of the examiner
Int: (+) Labyrinth disease
Phys: If nystagmus of labyrinthine origin is present, the fingers will drift in the direction of the slow phase when the patient's eyes are closed

Wrist Drop
Exp: Inability to extend wrist
Int: (+) Radial nerve lesion, peripheral neuropathy, muscular dystrophy, lead poisoning
Phys: Lower motor neurone lesion of wrist extensors

Xanthelasma (Xantheloma Palpebrarum)
Exp: Yellow-brown nodules in soft tissues around eye
Int: (+) Primary biliary cirrhosis, elderly, hyperlipidaemia, cholestasis
See also Xanthomatosis

Xanthomatosis
Exp: Cluster of pale yellow papules on a red patch of skin, often on buttocks
Int: (+) Hypertriglyceridaemia, other hyperlipidaemias, diabetes mellitus, biliary cirrhosis, cholestasis
Phys: Deposition of excess circulating lipids in skin
See also Arcus senilis