

Clinical Examination

© *Dr T Everett Julyan*
MBChB Bsc DGM DRCOG MRCGP

University of Glasgow 1999
(last updated 2004)

Cardiovascular examination

Check bedside cabinet
Position patient at 45°
“Have you any pain anywhere?”

General

Cyanosis, pallor, dyspnoea

Hands and arms

Wasting, cyanosis, clubbing, splinter haemorrhages, pallor, Osler’s nodes, Janeway lesions
Pulse (bilateral radial, rate, rhythm, character, radio-femoral delay, collapsing)
Blood pressure

Eyes, ears, mouth and neck

Xanthelasma, corneal arcus, icterus, pallor
Diagonal ear crease
Central cyanosis, sublingual veins, high arched palate
JVP (inspect, time, occlude, reflux)

Praecordium

Inspection - scars, visible pulsations, visible apex beat
Palpation - palpable thrill, apex beat
Auscultation - S1, S2, added sounds

Bell at mitral area (lean to left, relocate apex beat, exhale) (MS)
Diaphragm at mitral, tricuspid, pulmonary and aortic areas, carotids for bruit (AS)
Sit up, exhale, tricuspid area (AI)

Other

Lung bases, sacral oedema
Hepatomegaly if ↑JVP, tricuspid regurgitation
Abdominal aneurysm, bruits → femorals
Peripheral pulses (femoral, popliteal, posterior tibial, dorsalis pedis)
Peripheral oedema

Respiratory examination

Check bedside cabinet
Position patient at 45°
“Have you any pain anywhere?”

General

Cyanosis, pallor, dyspnoea, tachypnoea, stridor, wheeze, lip pursing, chest shape, use of accessory muscles

Hands and arms

Wasting, cyanosis, clubbing, tar staining, pallor, asterixis
Pulse (rate, rhythm, character, collapsing)

Eyes, mouth and neck

Pallor
Central cyanosis
Central trachea, crico-sternal distance
[JVP (inspect, time, occlude, reflux), then apex beat]

Chest (front and back)

Inspection - scars, asymmetry, paradoxical breathing
Palpation - chest expansion, tactile vocal fremitus
Percussion - asymmetry (dullness, hyperresonance)
Auscultation - breath sounds, added sounds (rhonchi, wheeze, stridor, crepitations), vocal resonance

Examine front, then back, then neck for lymphadenopathy

Gastrointestinal examination

Check bedside cabinet
Position patient flat on bed
“Have you any pain anywhere?”

General

Icterus, cachexia, pallor

Hands and arms

Wasting, clubbing, leuconychia, koilonychia, pallor, Dupuytren’s contracture, palmar erythema, asterixis
Pulse (rate, rhythm, character)
Spider naevi

Eyes, mouth, neck and trunk

Xanthelasma, corneal arcus, Kaiser-Fleischer rings, icterus, pallor
Angular cheilitis, Peutz-Jegher, stomatitis, glossitis, ulcers, leukoplakia, candidiasis
[JVP (inspect, time, occlude, reflux)]
Supraclavicular lymphadenopathy
Gynaecomastia, loss of hair

Abdomen

Inspection - scars, moves on respiration, masses, visible pulsations, shape, herniae (lift head and cough)
Palpation - tenderness, masses, organomegaly (liver, spleen, kidneys), pulsations, ascites (shifting dullness, fluid thrill)
Auscultation - bowel sounds, bruits (organs, blood vessels)

Per rectal examination

Other

Peripheral oedema
Genitalia (testicular atrophy, loss of hair)

Neurological examination

General

Posture

Limbs

Inspection - asymmetry (wasting, position, fasciculation, tremor), pronator drift
Palpation - tone - increased (clasp-knife, lead-pipe, cogwheel) or decreased
- power - isometric
- reflexes - x2, then reinforce
- co-ordination
- sensation - proprioception, light touch, pain, temperature, vibration
- does it feel normal (compare with forehead), asymmetry

Upper limb

Tone - feel over tendons, move wrist

Power

- shoulder shrug	- trapezius	- C3,4
- shoulder abduction	- deltoid	- C5
- elbow flexion	- biceps	- C5,6
- elbow extension (radial n.)	- triceps	- C7
- wrist extension (radial n.)	- ext. carpi radialis	- C6,7,8
- median nerve	- power grip	- C8, T1
	- thumb/pinky opp	- C8, T1
	- thumb abduction	- C8, T1
- ulnar nerve	- abduct/adduct fingers	- C8, T1

Reflexes

- biceps	- C5,6
- triceps	- C7
- supinator	- C5,6
- Hoffman's	- hyperflex DIP joint, thumb flexes

Co-ordination

- dysdiadochokinesis
- dysmetria, dyssynergia
- rebound overshoot

Sensation

- proprioception	- MCP joint
- light touch	- cotton wool
- pain	- pin-prick
- temperature	- cold object (metal)
- vibration	- Hz

Lower limb

Tone	<ul style="list-style-type: none">- roll leg, watch big toe- lift knee quickly- move foot, test for clonus		
Power	<ul style="list-style-type: none">- hip flexion (femoral n.)- hip extension- knee extension (femoral n.)- knee flexion (sciatic n.)- dorsiflexion (sciatic n.)- plantarflexion (sciatic n.)	<ul style="list-style-type: none">- ilio-psoas- gluteus maximus- quadriceps- hamstrings- tibialis anterior- gastrocnemius/soleus	<ul style="list-style-type: none">- L1,2,3- L5, S1,2- L2,3,4- L4,5, S1,2- L4,5- S1,2
Reflexes	<ul style="list-style-type: none">- quadriceps- ankle- Babinski- crossed adductor	<ul style="list-style-type: none">- L2,3,4- S1,2	<ul style="list-style-type: none">- tap vastus medialis, contralateral limb adducts
Co-ordination	<ul style="list-style-type: none">- heel-shin- pendulum reflex		
Sensation	<ul style="list-style-type: none">- proprioception- light touch- pain- temperature- vibration	<ul style="list-style-type: none">- MTP joint- cotton wool- pin-prick- cold object (metal)- Hz	
Romberg's test	<ul style="list-style-type: none">- stand up, feet together, hands outstretched, eyes closed- if worsens there is proprioceptive defect		
Gait			

Examination of cranial nerves

Inspect face

- I** - ask about recent change in smell, test nostrils individually

- II** - AFRO (acuity, fields, reflexes, ophthalmoscopy)
 - test acuity in each eye
 - test visual fields
 - test pupillary reflexes (direct, consensual, accommodation)
 - fundoscopy

- III** - strabismus, ptosis, dilation of pupil, downward/lateral displacement, no accommodation
- IV** - extorsion, weakness of downwards gaze, head tilted away from affected side
- VI** - strabismus, failure of lateral gaze

Also eye movements, diplopia, nystagmus

- V** - clench teeth
 - hold mouth open, hold mouth closed
 - jaw jerk
 - sensation (including corneal reflex)

- VII** - raise eyebrows, screw up eyes
 - puff out cheeks, smile, whistle

- VIII** - hearing (free-field testing)

- IX, X** - uvula and soft palate elevate without deviation, gag reflex
 - deviate away from affected (weaker) side

- XI** - hold head still against resistance, shrug shoulders

- XII** - tongue fasciculation, stick it out, move from side to side
 - deviates towards affected (weaker) side

Assessment of thyroid status

General

Hyper - restless, sweaty, weight loss, gynaecomastia, palpitations, heart failure, hepato- or splenomegaly, lymph nodes (esp. axillae), osteoporosis

Hypo - lethargic, slow, weight gain, hoarse voice, deafness, dry skin, myxoedema

Hands and arms

Hyper - hot, sweaty, tremor, acropachy, onycholysis (4th finger), palmar erythema
- pulse (rate, rhythm, character, collapsing) tachycardia, atrial fibrillation
- systolic hypertension with wide pulse pressure, spider naevi

Hypo - cold, dry, pallor
- bradycardia

Hair, face, eyes and neck

Hyper - fine thin hair
- exophthalmos/lid retraction, lid lag, ophthalmoplegia, diplopia
- goitre, bruit, percuss sternum

Hypo - dry brittle hair, loss of eyebrows and hair
- 'peaches and cream'
- periorbital oedema, pallor

Lower limbs

Hyper - proximal myopathy
- pretibial myxoedema (deposition of mucopolysaccharide)
- hyperreflexia

Hypo - proximal myopathy
- slow-relaxing ankle reflexes
- oedema, cold peripheries

Signs of other autoimmune diseases

Vascular examination

- Inspection - skin colour, dry skin, diminished sweating, loss of hair, venous guttering, ulcers (pressure areas, between toes)
- Palpation - temperature, capillary/vein filling time, Buerger's angle, pulses
- Auscultation - bruits

Other

Sensation, power

Thyroid examination

General

Signs of hyper- or hypothyroidism

Neck

- Inspection - swelling, moves on swallowing, stick out tongue
- Palpation - palpable?, define margins/character/etc., swallow, trachea
- Percussion - retrosternal goitre
- Auscultation - bruit

Varicose veins

Ask patient to stand up

Inspection - site, extent, size, skin - chronic venous hypertension (brown pigmentation, eczema, ulceration)

Palpation - skin texture, pitting oedema/thickening/redness/tenderness – lipodermatosclerosis, cough impulse in groin
- tourniquet, Trendelenburg and Perthes tests
- elevate leg, empty veins, tourniquet, stand

Percussion - full veins transmit impulse

Auscultation- bruits

Other

Abdominal examination - obstructing masses

Testes