

# Medical Student Teaching

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# Clinical Examinations

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## and the "Top 5"

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In response to student feedback on preparation for finals, the Medical School is distributing this booklet to all Year 5 students. We will be seeking your opinion on the value of this booklet in relation to exam revision. Please note that the information provided in this document is a study aid which has been compiled independently of the Medical School.



## Clinical Examinations and the Top 5

Topic.....	Page
Finals Cardiology Examination.....	5
The Cardiology “Top 5” .....	6
Finals Respiratory Examination Scheme.....	12
The Respiratory “Top 5” .....	14
Finals Neurological Examination.....	18
The Neurological “Top 5” .....	20
Finals Cranial Nerve Examination.....	26
Functions of Cranial Nerves.....	28
The Cranial Nerve “Top 5” .....	29
Finals Thyroid Examination.....	33
The Thyroid “Top 5” .....	34
Finals Musculoskeletal Examination (GALS).....	37
The GALS “Top 5” .....	39
Finals Abdominal Examination Scheme.....	41
The Abdominal “Top 5” .....	43
Finals Peripheral Vascular Examination.....	46
The Peripheral Vascular “Top 5” .....	47
Finals Breast Examination.....	49
The Breast “Top 5” .....	50
Finals Eye Examination.....	51
Eyes “Top 5” .....	52
Suggested reading/references/Acknowledgements.....	53

It should go without saying that you should act politely, with respect and always remembering to wash your hands before and after examining patients.

This displays professionalism and safety at work, two areas being continuously assessed at all levels including the finals.

## Clinical Examinations and the Top 5

Introducing yourself to the intimidating world of clinical medicine can be a very daunting experience. It can be almost impossible to know what is expected of you, and what your current supervisor or consultant will accept as the correct answer.

I began to make this guide during my final year as an undergraduate at Glasgow University, and completed the first edition during my house officer year.

This book was designed with students in mind.

There is a huge variation of abilities and knowledge between students, most of which depends on previous experience, senior encouragement and personal interest.

This book is intended to point out those topics/facts that are essential for any undergraduate in medicine to have a firm grasp of, and should be prepared to reiterate at any time – on the wards or in exams.

It is impossible to include every detail that I feel students should know without filling the book with esoteric statements. However, I've included the absolute essentials and fully expect the reader to add to these as they progress through their career and discover areas they are asked time and time again/didn't know before.

The lay-out of each chapter is designed to provide the reader with a "model" marking scheme for each body system – outlining the essential points that should be checked/commented on during a professional exam - followed by a selection of Top 5's to allow the examining student to interpret the clinical findings they have discovered.

At times, a top 5 will include some rarer answers – these have been outlined in italics as they are NOT essential, but useful nonetheless. However, I stress that you don't start your reply with these – you will impress neither an examiner nor your consultant if your first answer for "name the causes of atrial fibrillation" is "phaeochromocytoma".

I make no apology for the poor acronyms – most of which I must take the credit/blame for (the better ones I can't) – they are simply a method I found useful when asked to recite back lists during my time as a student.

This is not a definitive collection; you must add more to these and formulate your own top 5's.

This is simply your stepping stone into clinical medicine.

Good Luck.

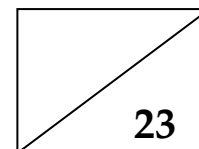
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**Abbreviations used within the text**

<b>AAA</b>	Abdominal Aortic Aneurysm	<b>ETOH</b>	Ethanol (alcohol)
<b>ABC</b>	Airway, Breathing, Circulation	<b>FNA</b>	Fine Needle Aspirate
<b>ABG</b>	Arterial Blood Gas	<b>GBS</b>	Guillain-Barré Syndrome
<b>AF</b>	Atrial Fibrillation	<b>GI</b>	Gastrointestinal
<b>AIDS</b>	Acquired Immunodeficiency Syndrome	<b>HA</b>	Haemolytic Anaemia
<b>AIHA</b>	Autoimmune Haemolytic Anaemia	<b>HAV</b>	Hepatitis A Virus
<b>ALD</b>	Alcoholic Liver Disease	<b>HBP</b>	High Blood Pressure
<b>AS</b>	Aortic Stenosis	<b>HBV</b>	Hepatitis B Virus
<b>Ao</b>	Aorta/Aortic area	<b>HCC</b>	Hepatocellular Carcinoma
<b>AVM</b>	Arteriovenous Malformation	<b>H(O)CM</b>	Hypertrophic (Obstructive) Cardiomyopathy
<b>BP</b>	Blood Pressure	<b>HCV</b>	Hepatitis C Virus
<b>Ca</b>	Carcinoma	<b>HPOA</b>	Hypertrophic Pulmonary Osteoarthropathy
<b>CCF</b>	Congestive Cardiac Failure	<b>HT</b>	Hypertension
<b>cf.</b>	compare with	<b>I<sup>131</sup></b>	Iodine 131 (radio-labelled)
<b>CF</b>	Cystic Fibrosis	<b>ICP</b>	Intracranial Pressure
<b>CIDP</b>	Chronic Inflammatory Demyelinating polyneuropathy	<b>IE</b>	Infective Endocarditis
<b>CLL</b>	Chronic Lymphocytic Leukaemia	<b>INF</b>	Interferon
<b>CML</b>	Chronic Myeloid Leukaemia	<b>Inh</b>	Inhaler/Inhaled
<b>CMT</b>	Charcot-Marie Tooth disease	<b>INO</b>	Internuclear Ophthalmoplegia
<b>CMV</b>	Cytomegalovirus	<b>ITP</b>	Idiopathic Thrombocytopaenic Purpura
<b>CN</b>	Cranial Nerve	<b>IVDA</b>	Intravenous Drugs Abuser
<b>CNS</b>	Central Nervous System	<b>JVP</b>	Jugular Venous Pressure
<b>CO</b>	Carbon Monoxide	<b>LLSE</b>	Lower Left Sternal Edge
<b>CO<sub>2</sub></b>	Carbon Dioxide	<b>LMN</b>	Lower Motor Neuron
<b>Coag.</b>	Coagulation studies	<b>LP</b>	Lumbar Puncture
<b>COPD</b>	Chronic Obstructive Pulmonary Disease	<b>LR<sup>6</sup>SO<sup>4</sup>R<sup>3</sup></b>	Lateral Rectus 6 <sup>th</sup> (nerve), Superior Oblique 4 <sup>th</sup> , Rest 3 <sup>rd</sup> .
<b>CPA</b>	Cerebellar-Pontine Angle	<b>M=W</b>	Men equal to Women
<b>CTA</b>	Computed Tomography Angiography	<b>M&gt;W</b>	Men more than women
<b>CTB</b>	Computed Tomography of the Brain	<b>MC</b>	Most Common
<b>CVA</b>	Cerebro-vascular accident	<b>MEN</b>	Multiple Endocrine Neoplasia
<b>CXR</b>	Chest X-ray	<b>Mets</b>	Metastases
<b>DC</b>	Dorsal Columns	<b>MG</b>	Myasthenia Gravis
<b>DKA</b>	Diabetic Ketoacidosis	<b>MI</b>	Myocardial Infarction
<b>DM</b>	Diabetes Mellitus	<b>MM</b>	Multiple Myeloma
<b>DMARD</b>	Disease Modifying Anti- Rheumatic Drugs	<b>MND</b>	Motor Neuron Disease
<b>DVT</b>	Deep Venous Thrombosis	<b>MR</b>	Mitral Regurgitation
<b>ECG</b>	Electrocardiogram	<b>MRI</b>	Magnetic Resonance Imaging
<b>ECHO</b>	Echocardiogram	<b>MS</b>	Multiple Sclerosis
<b>EEG</b>	Electro-encephalogram	<b>MTX</b>	Methotrexate
<b>EMG</b>	Electromyogram	<b>NASH</b>	Non-alcoholic Steatohepatitis
<b>EBV</b>	Epstein Barr Virus	<b>Neb</b>	Nebuliser/Nebules
<b>ESR</b>	Erythrocyte Sedimentation Rate	<b>NSAIDs</b>	Non-steroidal anti inflammatory drugs
		<b>O<sub>2</sub></b>	Oxygen
		<b>OA</b>	Osteoarthritis
		<b>OCP</b>	Oral Contraceptive Pill
		<b>OD</b>	Overdose

<b>PBC</b>	Primary Biliary Cirrhosis	<b>SNHL</b>	Sensory Neural Hearing Loss
<b>PCRV</b>	Polycythaemia Rubra Vera	<b>SOL</b>	Space Occupying Lesion
<b>PEFR</b>	Peak Expiratory Flow Rate	<b>SR</b>	Sinus Rhythm
<b>PICA</b>	Posterior Inferior Cerebellar Artery	<b>ST</b>	Spinothalamic
<b>PS</b>	Parasympathetic	<b>SVCO</b>	Superior Vena Caval Obstruction
<b>PTU</b>	Propylthiouracil	<b>TB</b>	Tuberculosis
<b>PUO</b>	Pyrexia of Unknown Origin	<b>TCA</b>	Tricyclic Antidepressants
<b>PVD</b>	Peripheral Vascular Disease	<b>TFTs</b>	Thyroid Function Tests
<b>RA</b>	Rheumatoid Arthritis	<b>TV</b>	Tricuspid Valve
<b>RAPD</b>	Relative Afferent Pupillary Defect	<b>UMN</b>	Upper Motor Neuron
<b>RHF</b>	Right Heart Failure	<b>URTI</b>	Upper Respiratory tract Infection
<b>S<sup>1</sup></b>	The first heart Sound	<b>USS</b>	Ultrasound Scan
<b>S<sup>2</sup></b>	The second heart Sound	<b>V<sup>1</sup></b>	Ophthalmic branch (1 <sup>st</sup> ) of the trigeminal nerve
<b>S<sup>3</sup></b>	The third heart Sound	<b>V<sup>2</sup></b>	Maxillary branch (2 <sup>nd</sup> ) of the trigeminal nerve
<b>S<sup>4</sup></b>	The fourth heart Sound	<b>V<sup>3</sup></b>	Mandibular branch (3 <sup>rd</sup> ) of the trigeminal nerve
<b>SAH</b>	Subarachnoid haemorrhage	<b>W&gt;M</b>	Women more than Men
<b>SALT</b>	Speech and language therapy		
<b>SBE</b>	Subacute Bacterial Endocarditis		
<b>SLE</b>	Systemic Lupus Erythematosus		

# Finals Cardiology Examination.



## *AS/MR/Dysrhythmias/Heart Failure/Dextrocardia*

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Introduces self/obtains consent	1
<b>Inspection</b>	
General inspection	1
Splinter Haemorrhages/Osler Nodes/Janeway lesions	1
Clubbing	1
Anaemia/Palmar erythema	1
Mucous membranes	1
Comment on colour	1
Looks for JVP/hepatojugular reflux	1
<b>Palpation</b>	
Pulse – character, rate, rhythm; absence of a radial pulse	1
Femoral pulses; radio-femoral delay	1
Palpates for apex/heaves/thrills	1
Assess for peripheral oedema	1
Peripheral Pulses	1
Hepatomegaly	1
<b>Auscultation</b>	
Auscultates all four sites	1
Listens to carotids/axillae for radiation	1
Listens to lung bases/between shoulder blades	1
Left lateral for MR, Lent forward on expiration for AS	1
Interprets findings	1
<b>Summary</b>	1
BP, ECG, CXR, ECHO.	1
<b>Differential diagnosis</b>	1
<b>Diagnosis</b>	1

## CARDIOLOGY - THE TOP 5's

### INSPECTION

#### Name 5 causes of finger clubbing

1. Cardiac – see below
2. Respiratory – see respiratory *page 14*
3. Gastrointestinal – see abdominal *page 42*
4. Endocrine – thyroid acropachy
5. Other – see thyroid *page 34*

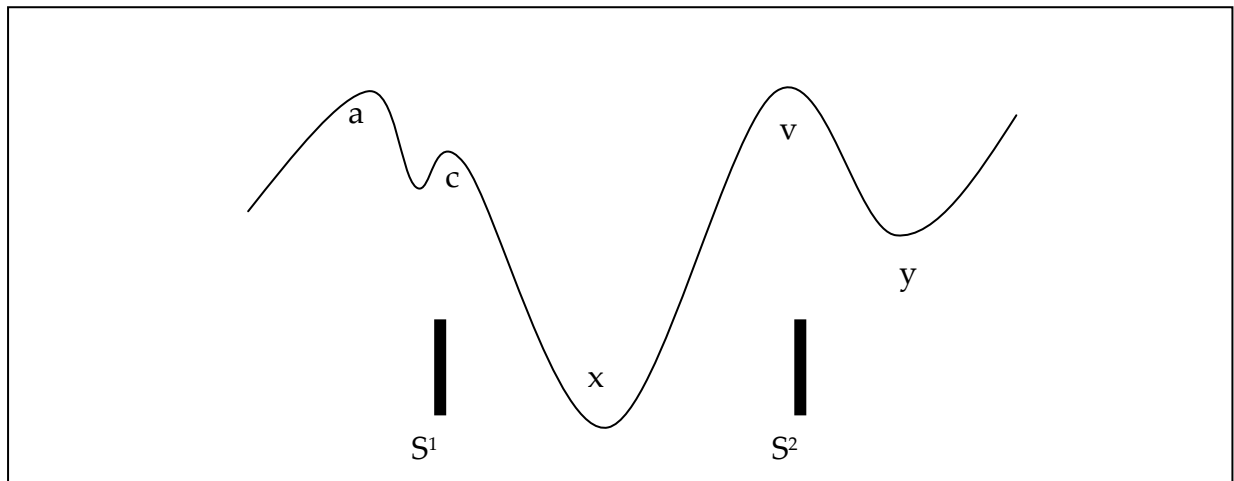
#### Name 5 CARDIAC causes of finger clubbing

1. Congenital cyanotic heart disease
2. Infective endocarditis
3. Atrial Myxoma

CardIAc Clubbing

THERE ARE ONLY 3

#### Describe the 5 phases of the JVP



1. a wave – atrial contraction, increase in pressure occurs at approx. S1
2. c wave – closure TV, upward bulge from ventricular systole (not visible)
3. v wave – atrial filling against closed TV (close to S2)
4. x descent – atrial relaxation, ventricular systole
5. y descent – atrial emptying and TV opening.

**Remember this represents the pressure inside the right atrium.**

A – atria contract

C – closed TV/Contracted ventricle

V – alve shut/Volume increase in atrium

X – atria relax

Y – atria empty

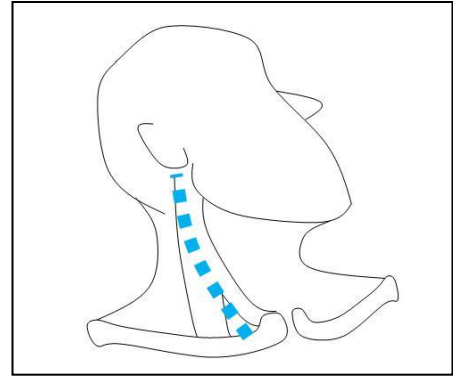
#### Name 5 causes of a raised JVP

1. Congestive cardiac failure
2. Cor pulmonale
3. Tricuspid regurgitation (PROMINENT V WAVES)
4. Constrictive pericarditis/pericardial effusion (Kussmaul's sign)
5. SVCO (NON-PULSATILE)

*Complete heart block causes an intermittently raised JVP the so called "Cannon A waves"*

**Name 5 characteristics of the JVP (that allow one to distinguish it from an arterial pulse)**

1. Not palpable
2. Obliterated by finger pressure
3. Biphasic (with each arterial pulse)
4. Rises with pressure on abdomen (hepatojugular reflux/abdomino-jugular reflux)
5. Alters with change in posture/respiration



**PALPATION**

**Name the 5 findings that should be discussed regarding a pulse**

1. Presence – i.e. is it even there? think surgery/PVD/aortic dissection
2. Rate – tachycardic or bradycardic
3. Rhythm – regular/irregular.
4. Character
  - a. Bounding – CO<sub>2</sub> retention, liver failure, sepsis
  - b. Slow rising – Aortic stenosis (use CAROTID)
  - c. Collapsing – Aortic regurgitation
  - d. Pulsus paradoxus (drop in “strength” with inspiration) asthma, pericardial effusion/constriction (soft sign)
  - e. Bisferiens - combined aortic disease
5. Variation
  - a. Absence of a radial pulse
    - i. Thoracic aortic dissection
    - ii. Intervention or surgery
  - b. Radial-femoral delay
    - i. Coarctation of the aorta

**Name 5 causes of an irregular pulse**

1. Atrial Fibrillation
2. Multiple ventricular ectopics
3. Atrial flutter with varying block
4. Complete heart block (associated bradycardia)
5. Paroxysmal SVT

**Top 5 causes of atrial fibrillation (this list is huge in reality)**

1. Ischaemic heart disease – The patient is commonly elderly
2. Rheumatic heart disease (mitral valve disease) – the patient is commonly young
3. Thyrotoxicosis
4. Hypertension
5. Drugs (alcohol and caffeine)



**Name 5 causes of dependent pitting oedema****BROADLY SPEAKING ONLY 2 CAUSES**

1. Increased venous (hydrostatic) pressure – CCF, compressive lesions, DVT, pregnancy and venous insufficiency
2. Decreased oncotic pressure – nephrotic syndrome, hepatic failure, burns, protein losing enteropathy, malnutrition & LATE pregnancy.

Lymphoedema is only pitting in the early stages.*The "TOP 5"*

1. Congestive cardiac failure
2. Hepatic (Liver) cirrhosis
3. Venous insufficiency
4. Nephrotic syndrome (Renal)
5. Renal failure without nephrotic syndrome i.e. Fluid overload.

<u>C</u> hunky <u>L</u> egs from <u>V</u> enous <u>R</u> eturn <u>F</u> ailure
--

**AUSCULTATION****Name 5 components that should be mentioned when presenting findings of cardiac auscultation**

1. Rate
2. Rhythm
3. Heart Sounds – S<sup>1</sup>, S<sup>2</sup>
4. Added sounds – S<sup>3</sup>, S<sup>4</sup>, rub
5. Murmur

**What is represented by each audible component? – excluding murmurs**

1. S<sup>1</sup> – Closure of the AV valves
2. S<sup>2</sup> – Closure of the SL valves
3. S<sup>3</sup> – Rapid filling of a dilated ventricle - signifies dilated ventricle
4. S<sup>4</sup> – Atrial contraction against stiff ventricle – e.g. AS, HCM.
5. Rub – a scratchy grating sound best heard with diaphragm LLSE – signifies pericardial inflammation i.e. infection, post MI, trauma or from uraemia.

**State the grading system of systolic murmurs**

Graded X/6 as per the following numbers

1. Heard almost exclusively by cardiologists
2. Quiet, but audible
3. Harsh but not loud

- PALPABLE THRILL FROM NOW ON -

4. Loud
5. Very loud
6. Heard with stethoscope hovering over chest wall

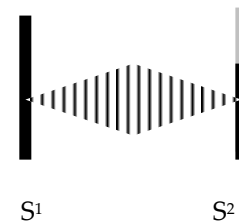
**PRACTICAL****Describe the 5 Korotkoff sounds used in measuring blood pressure**

BP should be taken from Korotkoff I (systolic) and Korotkoff V (diastolic); in some e.g. the young Korotkoff IV needs to be used.

1. An audible THUD when the brachial pulse is auscultation due to release of blood flow from drop in cuff pressure to that of systolic
  2. A BLOWING SOUND
  3. A SOFT THUD
  4. Sounds muffles
  5. Sounds disappear
- } 2&3 normally inaudible; defines "silent interval" between 1&4

**VALVULAR DISEASE****Top 5 things about Aortic Stenosis**

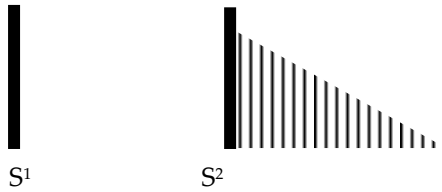
1. HARSH EJECTION SYSTOLIC MURMUR (Ao. → carotids)
  - a. *Carotid* radiation cf. mitral regurgitation
2. Relative volume of S<sup>2</sup> denotes severity (quieter → severe)
3. Weak and slow rising pulse (parvus et tardus)
4. Heaving (often NOT displaced) apex
5. Most common cause – senile calcification, congenital (bicuspid), rheumatic fever.



**Bonus** – The loudness of the murmur DOES NOT correlate to its severity (i.e. quiet murmur may suggest a slight stenosis with minimal turbulence, or severe stenosis with a poor cardiac output)

Commonly heard at the apex but DOES NOT radiate to the axillae

### Top 5 things about Aortic Regurgitation



1. DECREASED early diastolic murmur LLSE – “absence of silence”
2. Collapsing pulse (and multiple eponymous signs)
3. “Wide pulse pressure” (i.e. 150/60 – large difference)
4. Associated with conditions that can be found O/E.
  - a. Argyll-Robertson pupil (think “Syphilis”)
  - b. Apical Lung fibrosis (think “Ank. Spond.”)
  - c. High arched palate (think “Marfan’s”)
5. Displace and heaving apex

**Bonus** – The Austin Flint murmur may be heard (suggesting severe AR); this is an apical low pitch mid diastolic murmur caused by regurgitant blood hitting off the anterior mitral valve leaflet

### Name 5 causes of aortic regurgitation

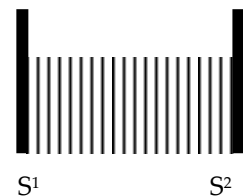
The ghost of Austin Flint makes medical students “SCREAM AR!”

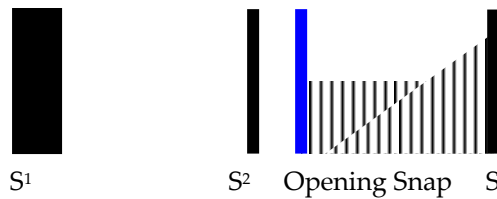
1. Syphilis
2. Congenital
3. **R**heumatic Fever
4. **E**ndocarditis
5. **A**ortic Dissection
6. **M**arfan’s syndrome
7. **A**nkylosing spondylitis
8. **R**heumatoid arthritis

*N.B. those in bold are your top 5.*

### Top 5 facts about mitral regurgitation

1. PANSYSTOLIC BLOWING systolic murmur (apex to axilla)
2. THRUSTING displaced apex
3. Mitral valve prolapse, post MI, IE, ruptured chordae
4. Left atrial enlargement and → AF
5. No large V waves on JVP cf. tricuspid regurgitation.



**Top 5 things about mitral stenosis**

1. Three key points of description
  - a. LOUD S1
  - b. OPENING SNAP
  - c. RUMBLING MID DIASTOLIC MURMUR WITH PRESYSTOLIC ACCENTUATION (if in SR)
2. Less common now ; less Rheumatic fever
3. Large left atrium → AF
4. TAPPING un-displaced apex reflects loud S1
5. Characteristic clinical features include - Malar flush, haemoptysis, pulmonary HT & acrocyanosis

**ENDOCARDITIS****What are the 5 extra-cardiac findings of infective endocarditis?**

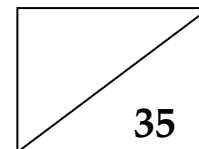
1. PYREXIA (Should be on your list of PUO!)
  2. HANDS
    - 2 on the front, 2 on the back
      - Janeway lesions & Osler nodes FRONT
      - Splinter haemorrhages & clubbing BACK
  3. ABDOMINAL
    - 2 in the abdomen
      - Splenomegaly
      - Renal embolic → microscopic haematuria
  4. ROTH SPOTS (on fundi)
  5. PETECHIAE – nails folds, palate, skin.
- \*\*\*\*ALL OF WHICH ARE EMBOLIC PHENOMENA\*\*\*\*

**What are the 5 most common organisms responsible?**

1. **S**treptococcus **V**iridans MOST COMMON
2. Staphylococcus **A**ureus MOST COMMON IN IVDA
3. Streptococcus **F**aecalis
4. Staphylococcus **E**pidermidis
5. **F**ungal

**V**icious  
**A**ggressors  
**F**ight  
**E**ndocardial  
**F**laps

# Finals Respiratory Examination.



## *Pleural effusion/COPD/Bronchiectasis/CFA/Cancer*

Introduces self/obtains consent	1
<b>Inspection:</b>	
Around bed examination (Inh., Neb., O <sup>2</sup> , drains, sputum pot)	1
Use of Accessory Muscles, type of Breathing e.g. pursed lip	1
Hoarseness, Stridor (in) / Wheeze (out)	1
Anaemia	1
Respiratory Rate	1
<i>Hands</i>	
Tar staining	1
Cyanosis, Clubbing	1
Flapping tremor (asterixis)	1
Wasting	1
<i>Head and Neck</i>	
Horner's Syndrome	1
Tongue- Central Cyanosis	1
Facial Swelling – SVCO	1
<i>Chest &amp; Abdomen</i>	
Shape and Symmetry (pectus excavatum/carinatum, kyphosis)	1
Thickened Red Skin - Radiotherapy	1
Chest:Abdominal movement (should move in & out simultaneously)	1
<b>Palpation</b>	
Trachea	1
Apex	1
Lymphadenopathy (neck and axillae)	1
Chest Expansion	1
Fremitus	1
<b>Percussion</b>	
Percussion (4 places each side and laterally)	1
Dull, resonant, hyperresonant	
Begins at clavicle	1
Axillae (3 times each side)	1
<b>Auscultation</b>	
<u>Breath Sounds</u> (Vesicular or bronchial)	1
<u>Added Sounds</u> (wheeze, stridor, crackles, rub)	1

Length of inspiration and expiration 1

Voice Sounds

Vocal Resonance (normal, increased or decreased) 1

Whispering Pectoriloquy 1

Aegophony (bleating sound heard with effusion over consolidated lung) 1

The following are not technically part of the “respiratory examination” but shows you are thinking of cardiac and malignant causes/involvement of respiratory disease

*Heart – JVP, RHF, ankles* 1

*Liver – Met.s* 1

**Summary** 1

Spirometry, PEFr, ABGs, CXR, Routine Bloods. 1

**Differential Diagnosis** 1

**Diagnosis** 1

## RESPIRATORY - THE TOP 5's

### INSPECTION

#### Name 5 RESPIRATORY causes of finger clubbing

1. Cryptogenic (idiopathic) fibrosing alveolitis /pulmonary fibrosis
2. Chronic suppurative lung disease (i.e. bronchiectasis, CF, empyema, abscess)
3. Bronchial Carcinoma
4. Mesothelioma
5. *NOT COPD – common mistake*

#### Name 5 causes of asterixis

1. Liver disease
2. CO<sub>2</sub> retention
3. Renal disease
4. Metabolic abnormalities – “hypo-“ glycaemia/kalaemia  
and magnesaemia
5. Drugs – barbiturates, alcohol, phenytoin and primidone

Look!  
Coarse  
Rhythmic  
Movements  
Doctor!

#### Top 5 non-respiratory causes of an increased respiratory rate (>20)

1. Anxiety
2. Pain
3. Fever/sepsis
4. Brainstem lesions
5. Hypovolaemia

Anxious  
People  
Find  
Breathing  
Hard

#### Top 5 causes of decreased respiratory rate (<12)

1. Sleeping
2. Opioids
3. Benzodiazepines
4. CNS lesions
5. Peripheral lesions e.g. GBS/MG

Causes of  
SOB? Thinks  
CNS vs.  
Peripheral

### PERCUSSION

#### Name 5 causes of dullness to percussion

1. Effusion
2. Pleural thickening
3. Collapse
4. Fibrosis
5. Consolidation

Expert  
Percussion  
Can  
Find  
Causes

**Top 5 Causes of pleural effusion**

1. Cardiac failure
2. Bronchial carcinoma
3. Metastatic carcinoma
4. Pneumonia
5. Pulmonary infarction

**Next 5...**

1. Hypoproteinaemic states (nephrotic, liver disease)
2. Mesothelioma
3. Connective tissue disease e.g. SLE
4. TB
5. Lymphoma

**Name 5 causes of a transudate (protein <30g/L)**

1. Cardiac failure
2. Constrictive pericarditis
3. Fluid overload
4. Hypoproteinaemia
5. Hypothyroidism

**Name 5 causes of an exudate (protein >30g/L)**

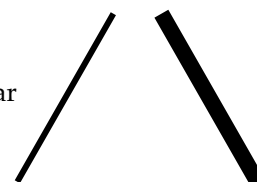
1. Pneumonia
2. TB
3. Pulmonary Infarction
4. RA/SLE
5. Malignancy (mesothelioma, bronch. Ca, mets, lymphangitis carcinomatosa)

**AUSCULTATION****Describe the top 5 points to comment when reporting respiratory auscultation**

1. Get the patient to cough first – comment on quality +/- wheeze
2. The patient must breathe in and out through their mouth
3. Comment on the characteristics of breath sounds – length of inspiration/expiration and quality
4. ADDED SOUNDS – wheeze, stridor, crepitations, rales.
5. Comment on voice sounds

**Describe the characteristics of bronchial breathing**

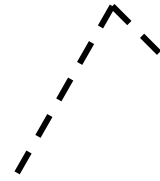
1. Hollow, blowing sound
2. 2 phases – gap between insp. and exp. can be difficult to hear
3. Expiratory higher pitch and intensity than inspiration
4. Heard over large airways, consolidated lung – but may be audible in collapse, fibrosis and the upper part of an effusion
5. Diagrammatically described as shown



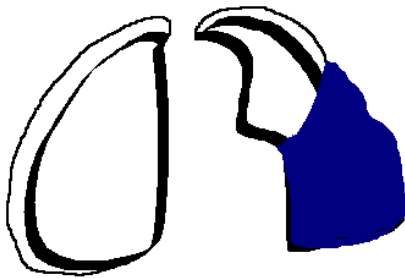
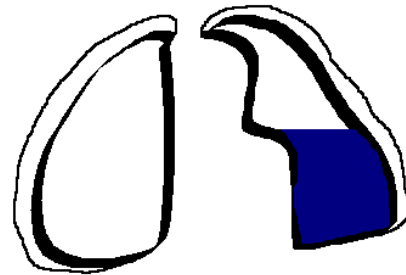


**Describe the characteristics of vesicular breathing**

1. Rustling quality "like leaves in wind"
2. longer and louder inspiratory phase
3. Heard over lung field – not over upper central chest i.e. trachea and main bronchi
4. Expiratory phase prolonged when wheezy
5. Diagrammatically described as shown

**Top 5 features of Consolidation**

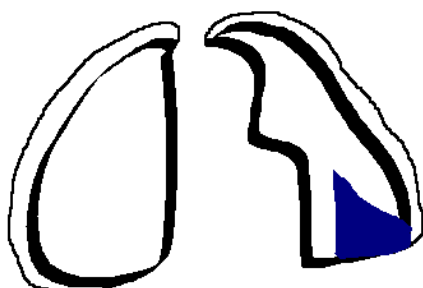
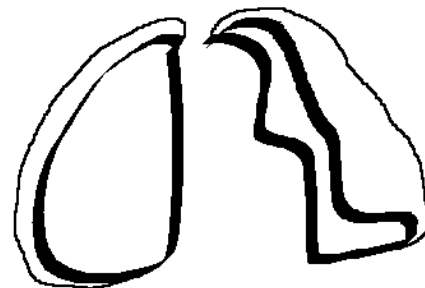
1. DULLNESS to PERCUSSION
2. BRONCHIAL breath sounds
3. COARSE CRACKLES
4. INCREASED vocal fremitus/resonance
5. WHISPERING pectoriloquy

**Top 5 features of Effusion**

1. STONY DULL PERCUSSION
2. DECREASED breath sounds
3. DECREASED AIR ENTRY
4. DECREASED vocal fremitus/resonance
5. Decreased expansion

**Top 5 features of Pneumothorax**

1. "HYPERRESONANCE WITH SILENCE"
2. HYPERRESONANT percussion
3. DECREASED breath sounds/expansion
4. NO VOCAL FREMITUS/RESONANCE
5. *IF TRACHEAL DEVIATION PRESENT*  
*think "TENSION!" - tracheal deviation away from lesion.*

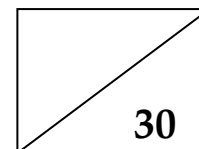
**Top 5 features of Collapse**

1. DECREASED BREATH SOUNDS
2. DECREASED AIR ENTRY
3. DULL PERCUSSION
4. DECREASED vocal fremitus/resonance
5. Trachea may be deviated towards side of collapse.

**Name 5 causes of a complete white hemithorax on CXR**

1. Complete consolidation (dullness to percussion)
2. Large effusion (stony dull to percussion, may have tracheal deviation AWAY from lesion)
3. Complete Collapse (tracheal deviation towards lesion, contra-lateral lung hyper-expansion)
4. *Pneumonectomy (history of surgery and scar)*
5. *Pulmonary agenesis (known from birth)*

# Finals Neurological Examination.



*Hemiparesis, Parkinson's, myopathies, UMN, LMN*

Introduces self/obtains consent 1

## Inspection

General inspection 1

Nutritional Status 1

Fasciculations/contractures 1

Wasting/symmetry/posture 1

Tremor 1

## Tone

Assess tone upper and lower limb 1

Cogwheel-rigidity, myotonia (make fist and open quickly) 1

Increased/decreased tone/clonus 1

## Power

Assess power upper and lower limb 1

Grades x/5 (0,1,2,3,4 or 5) 1

## Reflexes

Upper – biceps(C5,6), supinator(C5,6), triceps(C7,8), Hoffman's 1

Lower – Ankle (S1,2), knee (L3,4), Plantar 1

Persistence of primitive (Moro, plantar/palmar, rooting, plantar) 1

## Coordination

Gait, Heel-shin 1

Dysdiadochokinesis, finger nose, nystagmus 1

Romberg's Test (for proprioception) 1

## Cranial Nerves

As required (eye movements – pursuit, saccadic, reflex) 1

## Sensation

Pain (pinprick) – spinothalamic pathway (ST pathway) 1

Temperature (tubes of hot/cold water) – ST pathway 1

Vibration (tuning fork) dorsal columns (DC) 1

Proprioception (finger/toe up or down) DC 1

**Other tests as required (Phalen's, Frohmen's) 1**

## Parkinson's Testing

Bradykinesia (open and close fingers) 1

Rigidity (tone with other limb moving) 1

Tremor (re-emergence)	1
Postural instability (close eyes, tug back)	1
<b>Summary</b>	1
Tests – LP, EEG, TFTs, Liver screen, acuity, fundoscopy	
<b>Differential diagnosis</b>	1
<b>Diagnosis</b>	1

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Power grading;

- 0 – Complete paralysis
- 1 – Flicker of contraction possible
- 2 – Movement without gravity
- 3 – against gravity, but nothing else
- 4 – Movement against resistance
- 5 – normal

## NEUROLOGY - THE TOP 5's

### What are the 5 main component of a neurological exam?

Every student remembers “tone/power/reflex” but forgets other very important aspects of the neuro exam. For this sake of this “Top 5” tone/power and reflex are one “top”.

1. Inspection
2. Tone/Power/Reflexes
3. Cerebellar signs INCLUDING GAIT
4. Sensation
5. Cranial nerves

### INSPECTION

#### Name 5 causes of wasting

Best to think of this as “which level?” rather than “which condition?”

#### WASTING – HAS TO BE LMN

1. Anterior horn cells (MND, syringomyelia, Charcot-Marie Tooth)
2. Root Lesion (cervical spondylosis)
3. Plexus lesion (cervical ribs or malignancy e.g. Pancoast's)
4. Nerve lesion (traumatic, diabetic)
5. Other – old age, rheumatoid

#### Top 5 cause of tremor

1. Resting tremor – Parkinson's disease
2. Postural tremor METABOLIC (outstretched arms) anxiety/thyrotoxicosis/ETOH/drugs
3. Postural tremor CENTRAL (outstretched arms) brain damage (Wilson's, syphilis)
4. Intention tremor – cerebellar disease
5. Tremor secondary to neuropathy

#### Top 5 causes of fasciculation

1. MND
2. Motor root compression
3. Peripheral neuropathy (commonly caused by DM)
4. *Primary myopathy*
5. *Thyrotoxicosis*

### TONE

#### Top 5 causes of increased tone

1. Stroke
2. Trauma – spinal/cerebral
3. Parkinson's disease
4. Multiple sclerosis
5. *Myotonias*

**Name 5 causes of decreased tone**

1. Congenital – Trisomy 21,13, muscular dystrophies
2. COMMON – Immediate post-stroke, cerebellar pathology
3. Infective – Guillain-Barre syndrome, botulism and meningitis
4. Autoimmune - Myaesthesia Gravis, coeliac
5. Metabolic – hypocalcaemia, hypovitaminosis D, hypothyroidism

**POWER****Name the 5 points of assessing power**

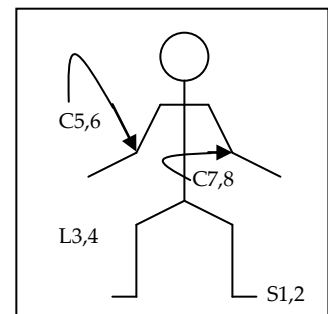
Very subjective

0. NO POWER
1. Flicker of contraction
2. Some active movement but cannot overcome gravity
3. Can overcome gravity but NO more
4. Active power against resistance – but not normal
5. Full power (allowing for age)

**REFLEXES****What are the top 5 reflexes tested in a neurological examination and their roots?**

- |            |              |
|------------|--------------|
| 1. Triceps | C7 and C8    |
| 2. Biceps  | C5 and C6    |
| 3. Knee    | L3 and L4    |
| 4. Ankle   | S1 and S2    |
| 5. Plantar | L5,S1 and S2 |

\*\* Supinator C5 and C6

**Top 5 causes of hyper-reflexia**

1. ANXIETY
2. Stroke
3. MS
4. Infection – e.g. meningitis but also disseminated infection
5. ANY UMN lesion – e.g. tumour, trauma, and (as mentioned) vascular

**Top 5 cause of hypo-reflexia**

1. Neuropathies (**D-A-M-P** : diabetes, alcohol, malignancy, pernicious anaemia)
2. Demyelination (GBS, CIDP, MM, CMT)
3. LMN lesion
4. Hypothyroidism – FAST UPSTROKE; SLOW RELAXING PHASE
5. Normal variation

**What are the 5 main components of the spinal reflex arc?**

1. Tapping a tendon rapidly stretches the muscle and spindles (intrafusal fibres) within the muscle bulk
2. This is the sensory message passed to the cord via 1a fibres ("primary 1a afferents")
3. 1a fibres enter through the dorsal root ganglion and synapse in the cord
4. Movement of the joint is via MONOSYNAPTIC 1a transmission – i.e. one synapse between 1a fibres and alpha motor neurons – tells the muscle to contract and produce the "reflex movement"
5. This is aided by POLYSYNAPTIC transmission – from 1a to alpha motor neurons to INHIBIT the antagonist muscles i.e. in knee jerk allows the quads to contract and the hamstrings relax.

**CEREBELLAR SIGNS****Name 5 signs of cerebellar pathology**

Credit to Dr. Bob Clarke of Dr. Clarke's Revision Course, BMA.

**"D-A-N-I-S-H"**

1. Dysdiadochokinesis
2. Ataxia
3. Nystagmus
4. Intention tremor
5. Slurred speech (dysarthria)
6. Hypotonia

**How can these be assessed?**

1. Hand clapping with alternating supination/pronation AS FAST AS POSSIBLE & Heel-shin AS SLOW AS POSSIBLE
2. Walking along a straight line
3. Extra-ocular movements – ASK ABOUT DIPLOPIA AND BLURRING
4. Finger-nose test – RAPIDLY – ensuring you are an arm's reach from the patient.
5. Dysarthria - from the history
6. Examination of tone

**Is Romberg's test a good test of cerebellar function?**

1. **NUMBER ONE – ROMBERG'S TEST IS NOT A TEST OF CEREBELLAR DYSFUNCTION.**
2. Romberg's test(stand still, close eyes, observe movement) is a test of PROPRIOCEPTION – a positive test indicated a patient is unaware of joint position when he or she cannot see his or her joints.
3. Cerebellar ataxia will be more exaggerated when the eyes are closed – but also present with eyes open – i.e. NOT a POSITIVE ROMBERG's
4. Do not be caught out.
5. You've been warned.

**SENSATION**

**What 5 modalities of sensation should be tested in a neurological exam?**

- |                    |                     |
|--------------------|---------------------|
| 1. Pain (pinprick) | ST (spinothalamic)  |
| 2. Light touch     | DC (dorsal columns) |
| 3. Temperature     | ST                  |
| 4. Vibration       | DC                  |
| 5. Proprioception  | DC                  |

**Give one test you would use for each of the above**

1. With a neurotip – repetitive tapping enough to induced mild pain/discomfort – start at sternum then begin distally and work through dermatomes
2. With a wisp of cotton wool – only enough pressure to just bend the “spike” you have protruding from your cotton ball. This can be dabbing or stroked upward to find a sensory level.
3. With glass tube of cool/warm water – strictly these should be no more than a few degrees warmer or cooler than body temperature. Otherwise you’re testing pain.
4. With a 128 or 256Hz tuning fork – frequencies any higher are too subtle for this test and should be reserved for the Rinne and Weber’s tests (512Hz)
5. Romberg’s test or “close your eyes and tell me which way your toe/finger is being bent”; hold the digit at the sides to prevent stretch on the skin.

**CRANIAL NERVES** – *see later*

**FURTHER POINTS**

**Name 5 features of an UMN lesion**

Motor lesions cause weakness regardless of UMN/LMN but in UMN

“Everything goes up”

1. INCREASED TONE
2. INCREASED REFLEXES
3. UPGOING PLANTARS
4. GENERALLY RETAINED MUSCLE BULK
5. CLONUS (sign of increased tone)

**Name 5 features of a LMN lesion**

“Everything is lowered”

1. DECREASED TONE
2. DEPRESSED REFLEXES
3. DOWN GOING PLANTARS
4. DECREASED MUSCLE BULK
5. FASCICULATIONS



**What are the top 5 causes of impaired conscious level/lowered GCS?****Metabolic Top 5**

1. Drugs/Toxins – CO, ETOH, TCA, benzodiazepines
2. Glycaemic mismanagement
3. Poor oxygenation (hypoxia or “CO<sup>2</sup> narcosis”)
4. Hypothermia/Sepsis
5. Hepatic/uraemic encephalopathy

**Neurological Top 5**

1. Trauma
2. Infection
  - a. Bacterial/viral
3. Tumour
4. Vascular
  - a. Stroke/SAH/Hypertensive encephalopathy
5. Epilepsy – post-ictal/non-convulsive status/absence seizure

**“C O M A”**

**C**O<sub>2</sub> narcosis (respiratory failure)

**O**verdose –tranquillisers, ETOH, salicylates, CO, anti-depressants

**M**etabolic – hypoglycaemia, DKA, uraemia, hypothyroid, hepatic coma, hypercalcaemia, adrenal failure

**A**poplexy – head injury, CVA, intracranial bleeds, meningitis, encephalitis, epilepsy

**Name the top 5 neurological gait abnormalities you’re likely to get in your finals**

1. Ataxic or “cerebellar” gait – WIDE BASED GAIT, lurching from side to side
2. The shuffling gait of parkinsonism – festinant, stooped forward, hurrying
3. A spastic/hemiplegic gait from a previous stroke – abducted, swinging leg with raised pelvis - “circumduction” of the leg
4. Sensory ataxia – stares at ground and lifts legs high and stamps them down, due to the lack the awareness of the limb in space - Romberg’s test indicated
5. High stepping gait – Unilateral high stepping - due to foot drop from whatever pathology.

These are good “finals” type gaits as they are chronic.

**Not a common question at finals but can be asked on the wards....**

**Give 5 causes of absent ankle jerks with up going plantars**

1. Subacute combined degeneration of the cord
2. MND
3. Friedrich’s ataxia
4. Taboparesis
5. Diabetic neuropathy with cervical spondylosis

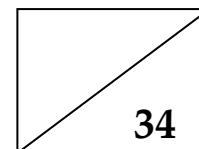
**Name 5 causes of Parkinsonism**

1. **P**arkinson's Disease (idiopathic)
2. **A**noxoxic Brain damage
3. Post Encephalitis
4. Parkinson's Plus type syndromes  
(Progressive Supranuclear Palsy,  
Multi system atrophy)
5. **D**rug induced (chlorpromazine, metoclopramide,  
prochlorpromazide)

**Causes of PARK.D****P**arkinson's disease**A**noxoxic brain damage**R**obin Williams (think "Awakenings")\***K**ombined**D**rugs

\* If you haven't seen it, this is a movie about "waking up" from a Parkinson-like frozen state post encephalitis, starring Robin Williams and Robert DeNiro

# Finals Cranial Nerve Examination.



*Pupillary defects, Bell's palsy, (pseudo)bulbar palsy, ophthalmoplegia*

Introduces self/obtains consent	1
<b>Inspection</b>	
General inspection	1
<b>Cranial Nerve I</b>	
Very difficult to assess clinically, asks, uses nice smells	1
<b>Cranial Nerve II</b>	
Assess acuity – Snellen chart/Ishihara plates/newspaper at end of bed	1
Assess fields accurately/finds blind spot	1
Assess visual inattention	1
Fundoscopic appearance of the disc	1
<b>Cranial Nerves III,IV,VI</b>	
Comment on any relevant observation –dilation/constriction/ptosis <sup>(m)</sup>	1
Assess movements (pursuit and saccadic)	1
Comments on nystagmus/asks about diplopia/assess diplopia	1
Assess accommodation and reaction to light	1
– N.B. requires intact CN II	
Assess for INO, RAPD and comments accurately on findings	1
<b>Cranial Nerve V</b>	
Assess sensation in correct areas (V <sup>1</sup> , V <sup>2</sup> , V <sup>3</sup> )	1
Assess corneal reflex (asks examiner first)	1
Assess muscles of mastication	1
Asks about hearing changes (ringing, hyperacusis)	1
Jaw jerk	1
<b>Cranial Nerve VII</b>	
Assess Motor function – frontalis, orbicularis oculi, orbicularis oris	1
Asks about hyperacusis	1
Asks regarding taste (chordae tympani)	1
<b>Cranial Nerve VIII</b>	
Rinne and Weber's tests	1
Free-field speech testing	1
Questions about vertigo and Hallpike's manoeuvre (if relevant)	1
Auroscopy	1
<b>Cranial Nerve IX and X</b>	
Gag reflex (afferent(sensory)root IX&X; efferent(motor)root X)	1

Accurately describes speech, and checks if this is usual for patient	1
<b>Cranial Nerve XI</b>	
Turns head to either side against resistance	1
Shrugs shoulders	1
<b>Cranial Nerve XII</b>	
Protrude tongue	1
Move from side to side	1
<b>Summary</b>	1
Tests – horner’s adrenaline test, comment other (fundoscopy, auroscopy, gag, corneal, e.t.c.), formal field testing, evoked visual potentials, imaging (MRI), formal audiometry, EMG, nerve conduction studies, SALT review.	1
<b>Differential diagnosis</b>	1
<b>Diagnosis</b>	1

Notes...**Functions of Cranial Nerves:**

- I. Olfactory
  - a. Smell - purely special sensory
- II. Optic
  - a. Vision – purely special sensory
- III. Oculomotor
  - a. All extra-ocular muscles including the skeletal muscle portion of levator palpebrae superioris, constrictor pupillae and dilator pupillae EXCEPT lateral rectus and superior oblique. Remember the chemical equation LR<sup>6</sup>SO<sup>4</sup>R<sup>3</sup>.
- IV. Trochlear
  - a. Superior Oblique Muscle
- V. Trigeminal
  - a. Sensory – vertex of skull to base of chin. Mouth, nose, paranasal sinuses, anterior 2/3<sup>rd</sup>s of tongue and teeth.
  - b. Motor (and proprioception) – muscles of mastication and tensor tympani
- VI. Abducens
  - a. Lateral Rectus muscle
- VII. Facial
  - a. Special Sensory - Taste anterior 2/3<sup>rd</sup>s of tongue and PS supply lacrimal and submandibular/lingual salivary glands
  - b. Motor – Facial muscles and stapedius, stylohyoid, and posterior digastric.
- VIII. Vestibulocochlear
  - a. Balance and hearing
- IX. Glossopharyngeal
  - a. Sensory – pharynx, tonsils, auditory tube and middle ear, posterior 1/3<sup>rd</sup> tongue (sensation and taste), carotid body and sinus. Parasympathetic supply parotids
  - b. Motor - stylopharyngeus
- X. Vagus
  - a. Sensory – pharynx, larynx, external tympanic membrane, internal auditory meatus, epiglottal taste. PARASYMPATHETIC heart, lungs and GI.
  - b. Motor – all muscles with palat- (except tensor veli palatini), pharyngeal muscles (not stylopharyngeus)
- XI. Spinal Accessory
  - a. Motor – sternocleidomastoid and trapezius
- XII. Hypoglossal
  - a. Motor to tongue (n.b. not palatglossus)

## CRANIAL NERVES - THE TOP 5's

### Name 5 causes of anosmia

1. Obstruction - Congestion/URTI/Nasal Polyps
2. Toxins – drugs/smoking
3. Old age
4. Central causes - Parkinson's disease/Alzheimer's disease/Dementia with Lewy bodies
5. *Zinc deficiency*

### Name the top 5 causes of bilateral decrease in visual acuity

#### WHO 2002 – Worldwide causes

1. Cataracts – 47.8%
2. Glaucoma – 12.3%
3. Uveitis – 10.2%
4. Age related Macular degeneration – 8.7
5. Diabetic retinopathy – 4.8%

### Name 5 causes of monocular blindness

1. Glaucoma
2. Ischaemia of the optic nerve
3. Amaurosis fugax
4. Atrial fibrillation (or other causes of emboli)
5. Somatisation/ hysteria

Goodness!  
I's  
An  
Absent  
Sight

### Top 5 causes of optic atrophy

1. MS
2. Optic nerve compression
3. Glaucoma
4. Toxins (methanol and quinine)
5. Central retinal artery occlusion (ischaemia)

### Top 5 causes of papilloedema

1. SOL
2. Benign intracranial hypertension
3. Malignant hypertension
4. Central retinal vein thrombosis
5. CO<sub>2</sub> retention

### 5 signs of a third nerve palsy

1. Complete unilateral ptosis – due to paralysis of levator palpebrae superioris
2. Dilated unreactive pupil with slow/incomplete reaction to light and accommodation
3. Squint (gaze deviated “down and out” – unopposed 4<sup>th</sup> and 6<sup>th</sup> actions)
4. Diplopia
5. N.B. “Medical third nerve palsy” – pupillary sparing secondary to separate blood supply of parasympathetic fibres.

### 5 causes of a third nerve palsy

1. Medical – HBP and DM
2. MS
3. PCA aneurysm – causes a painful 3<sup>rd</sup> nerve palsy
4. Trauma
5. Tumour



### 5 tests when you've found a third nerve palsy

- |                                 |                               |
|---------------------------------|-------------------------------|
| 1. BP and urinary sugar         | – think “diabetes”            |
| 2. ESR                          | – think “vasculitis”          |
| 3. Anti-ACh receptor antibodies | – think “myasthenia gravis”   |
| 4. TFTs and Orbital USS         | – think “thyroid eye disease” |
| 5. MRI/MRA                      | – think “vascular”            |

### 5 signs of a sixth nerve palsy

1. Medial deviation
2. Failure of lateral movement
3. Diplopia when looking to the affected side
4. NO pupil involvement
5. Tilted head towards weak side in order to “correct” diplopia



### 5 causes of a sixth nerve palsy

1. HBP
2. DM
3. Raised ICP – can be a false localising sign
4. MS
5. Acoustic neuroma

### Describe 5 different pupillary abnormalities

1. Marcus Gunn Pupil (RAPD) – relative dilation of a pupil when performing “swinging flash light test” – pupils “dilate” bilaterally when the torch is shone in the eye with the afferent defect.
2. Argyll Robertson Pupil – a pupil which lacks light reactivity but retains accommodation – classically the pupil of neurosyphilis. Think of this as the prostitute’s pupil “accommodates, but doesn’t react”.
3. Horner’s Pupil – Ptosis, Miosis and Anhidrosis – loss of sympathetic tone.
4. Holmes-Adie pupil – Dilated pupil seen in young women, usually unilateral with an irregular pupil. There is no, or slow, reaction to light and accommodation. There may be associated diminished reflexes – “Holmes-Adie Syndrome”.
5. Glass eye – an uncommon finding, more commonly a membership type question; although may come up.

### Give 5 causes/associations of Bell’s palsy

Bell’s palsy – by definition this is an idiopathic 7<sup>th</sup> nerve palsy. Despite this, some consultants state there are “causes” of Bell’s palsy whereas others “associations”.

1. AIDS
2. Lyme
3. Sarcoidosis
4. Tumour
5. Diabetes

Alexander Bell with an STD

### 5 causes of 7<sup>th</sup> nerve palsy

1. Bell’s Palsy i.e. idiopathic
2. Herpes zoster
3. CPA tumours
4. Parotid tumours
5. UMN lesion - e.g. stroke

### List 5 management options in Bell’s palsy

1. Physiotherapy – massage, electric stimulation, splinting
2. Lubrication for eye, taping the eye shut at night
3. Steroids
4. Acyclovir
5. Ophthalmology referral

### How can one localise the lesion of a 7<sup>th</sup> nerve palsy?

1. Pons – 6<sup>th</sup> nerve also involved.
2. Cerebellar-pontine angle tumour – 5-8<sup>th</sup> nerves involved
3. Bell’s (i.e. isolated 7<sup>th</sup> nerve) – hyperacusis, decreased taste +/- the periauricular vesicles of Ramsay-Hunt syndrome.
4. Parotid – possible palpable lump
5. Bilateral – something systemic such as GBS, MS or sarcoidosis.



**Name the top 5 causes of poor hearing**

1. Wax - CONDUCTIVE
2. Otosclerosis - CONDUCTIVE
3. Paget's - CONDUCTIVE
4. Presbycusis/Congenital - SNHL
5. Drugs - SNHL

**Top 5 characteristics about PSEUDOBULBAR palsy**

1. Common
2. UMN lesion
3. Lesion: bilateral, usually internal capsule
4. Features
  - a. Tongue – small, stiff and spastic
  - b. Speech – slow, thick and indistinct
  - c. Jaw Jerk – brisk
5. Affect: emotionally labile

**Top 5 characteristics about BULBAR palsy**

1. Rare
2. LMN lesion
3. Lesion: Medulla Oblongata
4. Features
  - a. Tongue – flaccid, fasciculation
  - b. Speech – Nasal
  - c. Jaw Jerk – Normal/absent
5. Affect: normal

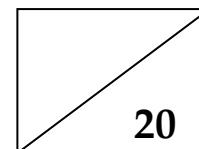
**Top 5 causes of PSEUDOBULBAR palsy**

1. Stroke
2. MS
3. MND
4. Creutzfeld-Jakob Disease
5. Tumour

**Top 5 causes of BULBAR palsy**

1. MND
2. Polio
3. GBS
4. MG
5. Syringomyelia

# Finals Thyroid Examination.



## *Grave's Disease, Hypo-hyper-, single/multi nodular, Goitre*

---

Introduces self/obtains consent	1
<b><u>Inspection</u></b>	
General inspection	1
Clubbing, tremor	1
Carpal Tunnel release surgery	1
Exophthalmos	1
Sweating	1
Hair thinning, loss of outer 1/3 <sup>rd</sup> of eyebrows	1
“Peaches and cream” complexion	1
Goitre, tongue out	1
<b><u>Palpation</u></b>	
Pulse – character, rate, rhythm;	1
Dry skin	1
Assess for myxoedema	1
Palpate goitre, lateral lobes, isthmus, nodules, thyroglossal cysts	1
<i>Smooth, single nodule, tender</i>	
Lymph nodes	1
<b><u>Percussion</u></b>	
Percuss for retrosternal goitre	1
<b><u>Auscultation</u></b>	
Listen for bruit	1
<b>Summary</b>	1
BP, ECG, TFTs, exophthalmometry, acuity, fundoscopy, +/- Pemberton's test	1
<b>Differential diagnosis</b>	1
<b>Diagnosis</b>	1

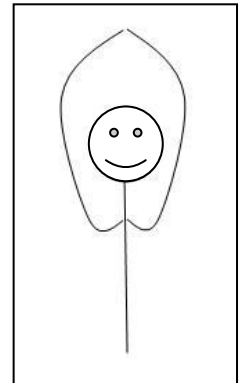
## THYROID - THE TOP 5's

**Name 5 "other" causes of clubbing (i.e. not cardiac/respiratory or GI)**

1. Thyroid acropachy (thyrotoxicosis and clubbing)
2. Familial
3. Brachial AVM - Unilateral clubbing
4. *Axillary artery aneurysm – Unilateral clubbing*
5. *HPOA – some argue this is not clubbing*

**What is Pemberton's test?**

1. Ask the patient to reach both arms above straight above their head and bring their hands together
2. A positive test results in facial flushing, neck venous distension, and possibly stridor.
3. This indicates a significant SVCO
4. In the context of a thyroid goitre this may reveal an otherwise hidden retrosternal goitre.
5. This may prompt surgery



**Give 5 causes of hypothyroidism**

1. Atrophic/autoimmune
2. Hashimoto's
3. Drug induced – i.e. lithium, INF, amiodarone
4. Post treatment for hyperthyroidism – radioiodine/thyroidectomy
5. Pan-hypopituitarism

**Give 5 symptoms of hypothyroidism**

1. Fatigue/lethargy/ "tired all the time"
2. Weight gain
3. Constipation
4. Cold intolerance
5. Psychiatric disturbances

**Give 5 signs of hypothyroidism**

1. Bradycardia
2. Slow to relax reflexes
3. Coarse hair – may be coming away in clumps
4. *Peaches and Cream complexion/ loss of outer third eyebrows*
5. +/- Goitre

**Give 5 causes of hyperthyroidism**

1. Graves' disease
2. Toxic multinodular goitre
3. Solitary toxic nodule/adenoma
4. Acute thyroiditis – DeQuervain's/autoimmune,
5. Iatrogenic

**Give 5 symptoms of hyperthyroidism**

1. Agitation and insomnia
2. Weight loss
3. Abnormal periods
4. Sweating
5. Altered bowel function - diarrhoea

**Give 5 signs of hyperthyroidism**

1. Tachycardia
2. Warm sweaty palms
3. Fine tremor
4. Lid retraction
5. Lid lag

**Describe 5 eye signs of thyroid disease****NO SPECS** (\*a MRCP mnemonic)

1. **N**o eye signs
2. **O**nly lid lag – sign of thyrotoxicosis and not Graves per se
3. **S**oft tissue swelling – peri-orbital oedema
4. **P**roptosis
5. **E**xophthalmos, extra-ocular muscles
6. **C**hemosis
7. **S**ight loss due to optic nerve compression

**What are the 5 thyroid malignancies?**

1. **P**apillary
2. **F**ollicular
3. **M**edullary
4. **A**naplastic
5. **L**ymphoma

**P**eople  
**F**ind  
**M**y  
**A**cronyms  
**L**ousy

These are in the order of most common to least common

**Name one characteristic feature of each thyroid malignancy (relates to above numbers)**

1. MC, W>M, 20s-60s good prognosis. Presents as solitary nodule. Diagnose with FNA. Manage with surgery and post operative I<sup>131</sup>.
2. Cuboidal cells, haematogenous spread. Presents as solitary nodule. CANNOT diagnose with FNA. Older patients; Manage with surgery and post operative I<sup>131</sup>
3. Familial, association with MEN syndromes, calcitonin as tumour marker. Presents as solitary nodule. Diagnose with FNA.
4. Rare, invasive, aggressive, fixes surrounding tissues. Presents as firm goitre.
5. Responds well to radiotherapy. Presents as firm goitre.

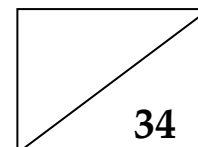
**What 5 options are available to treat endocrine abnormalities of the thyroid gland**

1. HYPO – thyroxine replacement
2. HYPER – carbimazole, PTU, radio-iodine, surgery
3. MALIGNANCY – surgery/radioiodine therapy
4. EYE DISEASE – steroids/ corrective surgery
5. SYMPTOMS OF HYPER – beta blockade

**What 5 complications are specific to thyroidectomy?**

1. Compressive haematoma/airway obstruction – MEDICAL EMERGENCY.
2. Hypoparathyroidism/hypocalcaemia from “bruised parathyroids”
3. Recurrent laryngeal nerve palsy – presenting as an altered (hoarse) voice
4. Hypothyroidism
5. Recurrent hyperthyroidism – only with subtotal thyroidectomy (less common recently)

# Finals Musculoskeletal Examination. (GALS)



## *Ank.Spond/Rheumatoid Arthritis/Osteoarthritis*

Introduces self/obtains consent 1

### **Questions** (*Do you have any...*)

Pain or stiffness in legs, arms, neck or back? 1

Difficulty washing, dressing or with stairs? 1

### **GAIT**

Ask patient to stand from sitting 1

Ask to walk for short distance 1

Note smoothness of movement, symmetry, need for support.

Ask to turn back – notes difficulties 1

Notes abnormalities accurately 1

Antalgic gait, spastic gait, evidence of foot drop, ataxia

### **ARMS**

Look – position: arms forward, hands rested on thighs/pillow 1

Look – erythema, swelling, deformity, scars, muscle wasting 1

Feel – temperature, swelling (tendons, joints, tender?) 1

Feel – “Metacarpal squeeze” – assess for tenderness 1

Move – Assess gross movement (make a fist) 1

Move – Assess fine movement (pincer grip, buttons) 1

Move – Power of grip – “squeeze my fingers” 1

Move – Assess pronation/supination, with elbows in 1

Move – Elbow flexion and extension 1

Move – Shoulder external rotation and abduction 1

(hands behind head with elbows pulled back)

“Move” should include firstly active (patient) then passive movements, with an examining hand over the relevant joint to fix it and palpate for crepitus.

### **LEGS**

Look – sole of foot for calluses (abnormal weight bearing) 1

Look – erythema, swelling, deformity, scars, muscle wasting 1

Feel – temperature, swelling (tendons, joints, tender?) 1

Feel – “Metatarsal squeeze” – assess for tenderness 1

Feel – “Patellar tap” (for effusion) 1

Move – hip internal and external rotation 1

Move – knee flexion and extension 1

### **SPINE**

Look – Patient standing, examine at their back & side 1

Scoliosis present?, lordosis-kyphosis-lordosis intact?

Look – erythema, swelling, deformity, scars, muscle wasting	1
Feel – TMJ – fingers on TMJ, Jaw thrust out, move side to side	1
Feel – Palpate down length of spine for tenderness	1
Move – C-spine, lateral flexion (ear to shoulder), rotation of head	1
Move – “Touch toes”, assess for movement at spine vs. hip	1
<b>Summary</b>	1
ESR, Rh Factor, ANA, Calcium and Phosphate, X-rays.	1
<b>Differential diagnosis</b>	1
<b>Diagnosis</b>	

## GALS - THE TOP 5's

**GAIT – see also neurology top 5**

**Name 5 causes of proximal myopathy**

1. Endocrine – DM amyotrophy, Cushing's, hyperthyroidism
2. Polymyositis
3. Drug – ETOH, steroids, chloroquine
4. *Carcinomatous neuropathy*
5. *Muscular dystrophy*

**ARMS**

**Describe 5 signs of rheumatoid arthritis available in the arms**

1. Ulnar deviation
2. Swan neck necking/boutonniere/z-thumb deformity
3. Palmar erythema
4. Nail fold infarcts
5. Nodules

**What are the 5 main nerves of the brachial plexus?**

1. Median
2. Ulnar
3. Radial
4. Axillary
5. Musculocutaneous

**LEGS**

**Give 5 causes of joint swelling**

1. Inflammatory – RA, OA
2. Vascular – haemarthrosis e.g. haemophilia
3. Infective – septic arthritis
4. Traumatic
5. Crystal arthropathy – Gout, pseudogout

**PATHOLOGY**

**Describe 5 characteristics of ankylosing spondylitis**

1. Stiff back (bamboo spine)
2. Pulmonary apical fibrosis
3. Anterior uveitis
4. Aortic Regurgitation
5. Achilles tendonitis



**Describe 5 characteristics of scleroderma**

1. Tight skin – face, hands and joints
2. Raynaud's phenomena
3. Puffy hands and feet
4. Dry eyes
5. GI upset (dysphagia, diarrhoea, bloating)

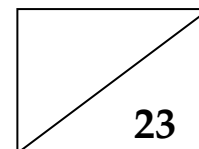
**Describe 5 causes of anaemia in rheumatoid arthritis**

1. Iron Deficiency Anaemia - GI loss secondary to NSAIDs
2. ACD - Anaemia of chronic disease
3. Aplastic anaemia - Marrow suppression secondary to Gold, MTX & other DMARDs
4. Autoimmune Anaemia - Other autoimmune disease such as pernicious anaemia
5. Felty's Syndrome – splenomegaly, haemolytic anaemia, neutropenia

**Describe 5 neurological complications of rheumatoid arthritis**

1. Carpal tunnel syndrome
2. Peripheral neuropathy
3. Mononeuritis multiplex
4. Subluxation of the atlanto-axial joint.
5. *Bit of a leap here to make it to 5 but...penicillamine induced MG*

# Finals Abdominal Examination.



*ALD, Renal Transplant, Polycystic Liver, Hepatomegaly, Splenomegaly*

---

Introduces self/obtains consent	1
<b>Inspection</b>	
Hands;	
Koilonychia, Leukonychia	1
Anaemia/ Palmar Erythema	1
Dupuytren's Contracture	1
Clubbing	1
Hepatic Flap	1
Head and Neck;	
JVP	1
Anaemia	1
Mouth - Cheilitis, Stomatitis, Glossitis, Gum Bleeding	1
Corneal Arcus, Xanthelasma	1
Icterus	1
Parotids	1
Chest & Abdomen; <b>STIGMATA OF CHRONIC LIVER DISEASE</b>	
Spider Naevi	1
Ecchymoses	1
Gynaecomastia	1
Oedema	1
Oestrogenic skin	1
<b>Palpation</b>	
Pulse	1
Lymph Nodes – esp. left Supraclavicular	1
Superficial then deep palpation	1
Tenderness/Rebound/Masses	1
Organomegaly Liver/Spleen/Kidneys/Aorta/hernial orifices	1
<b>Percussion</b>	
Shifting Dullness	1
Organ Borders	1
<b>Auscultation</b>	
Bowel Sounds (comment "3minutes")	1

Perform a rectal examination	1
<b>Summary</b>	1
<b>Differential diagnosis</b>	1
<b>Diagnosis</b>	1

## **ABDOMINAL - THE TOP 5's**

### **Name 5 GI causes of clubbing**

1. Cirrhosis
2. Inflammatory bowel disease
3. GI lymphoma
4. Malabsorption – coeliac disease etc.
5. THERE ARE ONLY 4.

### **Name 5 associations of duypuytren's contractures**

1. Alcoholism
2. Chronic anticonvulsant therapy
3. Systemic conditions e.g. cirrhosis, DM, epilepsy, TB
4. *Peyronie's disease*
5. *Retroperitoneal fibrosis*

*This may seem like an obscure top 5, however, it is important to appreciate that other conditions can be associated with duypuytren's contractures and not just alcohol/liver disease.*

### **Top 5 questions to ask in history regarding a jaundiced patient**

1. Occupation? –chemicals/infections e.g. sewage workers – leptospirosis, legionaire's
2. Have you ever received any transfusions?
3. Has there been any urine/stool colour change?
4. Are you taking any drugs? – including ETOH, OCP, IVDA
5. Is it painful?

### **Top 5 MEDICAL causes of jaundice**

1. Alcohol – ALD, cirrhosis, acute alcoholic hepatitis
2. Drugs – OCP, IVDA, OD
3. Viruses – HAV, HBV, HCV, EBV, CMV
4. Malignancy – Lymphoma, HCC
5. Haematological – HA, AIHA

### **Top 5 SURGICAL causes of jaundice**

1. Stones - painful
2. Malignancy of head of pancreas - painless
3. Nodal obstruction – painful/painless
4. Reabsorption of haematomas
5. Anaesthetic/antibiotic effect

**Top 5 causes of hepatomegaly**

1. Cardiac failure
2. Fatty liver – often alcoholic or NASH
3. Early cirrhosis – usually alcoholic
4. Infection – HAV, EBV
5. Liver secondaries

Other causes include – *Chronic liver disease (PBC, HBV, HCV, haemochromatosis), Lymphoproliferative (CLL, lymphoma), Budd-Chiari Syndrome and the apparent hepatomegaly of emphysema (hyper-expanded lung fields)* – Learn the top 5 first.

**If you find hepatomegaly what 5 things should you look for now to assess the effect of hepatomegaly on this patient?**

1. Signs of chronic liver disease
2. Signs of portal hypertension – splenomegaly, ascites
3. Signs of liver failure – flap, foetor
4. Elevated JVP
5. Lymph nodes

**Top 5 causes of MASSIVE splenomegaly**

1. CML
2. Myelofibrosis
3. Malaria
4. Kala-azar – visceral leishmaniasis
5. Gaucher's disease – a lysosomal storage disorder

**Classification of splenomegaly**

1. Infective – HAV, EBV, SBE
2. Congestive – e.g. portal hypertension
3. Haematological – lymphoproliferative, haemolytic, ITP, PCRV
4. Sarcoid
5. Amyloid

**5 causes of hepatosplenomegaly**

1. Myeloproliferative – CLUE is -pallor (anaemia) and purpura (thrombocytopenia)
2. Lymphoproliferative – CLUE is - lymphadenopathy
3. Cirrhosis with portal hypertension - CLUE is – stigmata of chronic liver disease
4. *Infection – acute viral hepatitis, EBV, CMV*
5. *Amyloid/Sarcoid*

**Top 5 causes of a palpable kidney**

1. Polycystic kidney disease
2. Renal cell carcinoma
3. *Hydronephrosis*
4. *Renal cyst*
5. *Hypertrophy of a solitary functioning kidney*

The causes of hepatomegaly/ splenomegaly/ hepatosplenomegaly are not always stand alone – there is a great deal of cross over between causes.

The best way to describe this is in examinations is to start with a “surgical sieve” approach – infective, inflammatory, congestive, infiltrative, congenital, drugs e.t.c. an example of such a sieve is “THIN MAIDEN” (*see next page*)

Always keep top 5 hepatomegaly and splenomegaly ready – but be prepared to use the sieve in difficult cases.

**What 5 points allows one to differentiate a kidney from a spleen**

1. Spleen enlarges to RIF, kidney moves down on inspiration
2. Can't get above spleens, can with kidneys
3. Spleen may have a palpable notch – kidneys don't
4. Spleen is NOT ballotable - kidneys are
5. Spleen is DULL to percussion, kidney is supposed to have a band of resonance from the overlying colon

**A Spleen...**

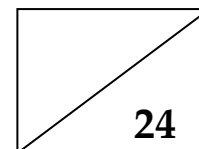
Enlarges toward RIF  
 Cannot be felt above  
 Has a palpable notch  
 Cannot be balloted  
 Is dull to percussion

**What are the top five medical causes of an acute abdomen? (In no particular order)**

1. Metabolic – DKA, Acute intermittent porphyria, lead poisoning
2. Referred – pneumonia, MI
3. Renal – colic, pyelonephritis
4. Haematological – haemophilia, sickle cell crises, PCRV
5. Functional – rule out other causes before suspecting this

**Trauma****Hæmatological****Infective****Neoplastic****Metabolic****Autoimmune****Inflammatory****Degenerative****Endocrinological****Not acquired (i.e. congenital)**

# Finals Peripheral Vascular Examination.



*Chronic ischaemia, abdominal aneurysm, iliac aneurysms, carotid artery disease*

Introduces self/obtains consent 1

## **Inspection**

General inspection 1

Colour (white/red) 1

Skin trophic changes – shiny skin, scaling, hairless, ulcers 1

Looks between toes and heels 1

Examines abdomen – visible pulsation 1

## **Palpation**

Temperature – acute cold, chronic warm - *use same hand* 1

Pulse – character, rate, rhythm 1

Abdominal Aorta (superior/inferior/lateral borders); bimanual palpation 1

Assesses for aneurysms 1

Iliacs, femorals 1

Popliteal 1

Posterior tibial – *counter pressure with thumb* 1

Dorsalis pedis – *lateral to the tendon of ext. hallucis longus* 1

## **Auscultation**

Abdominal aorta 1

Iliacs 1

Femorals – at femoral canal 1

## **Buerger's Test**

Assesses colour change on angle (“Buerger's angle”) 1

Assesses colour change on dependency 1

**Summary** 1

BP, ECG, ABPI, Coag., angiogram 1

**Differential diagnosis** 1

**Diagnosis** 1

## PERIPHERAL VASCULAR- THE TOP 5's

### **Give 5 risk factors for PVD**

1. Smoking
2. Hyperlipidaemia
3. Diabetes
4. Hypertension
5. Age

### **Top 5 questions in a history of chronic limb ischaemia**

1. Site
2. Onset of pain
3. Functional capacity – how far can you walk before the pain comes on?
4. Rest pain
5. Risk factors - as above

### **Describe the key elements in management of chronic limb ischaemia**

1. Conservative medical management (lifestyle, aspirin, statin, BP/DM control)
2. Bypass – venous/artificial graft
3. Endarterectomy
4. Stenting
5. Amputation (for non-viable limb symptom control)

### **Name the 5 P's of the acutely ischaemic limb**

1. Pain
2. Pulseless
3. Pallor
4. Perishingly cool
5. Paraesthesia/Paralysis (neurological deficit)



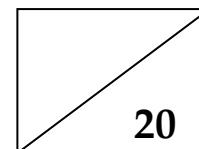
**Top 5 points in immediate management of the acutely ischaemic limb**

1. **Recognition that this is a surgical emergency** – call a vascular surgeon.
2. **ABC** – stabilise the patient remembering to look for the source (coag., ECG).
3. **Control symptoms** – Analgesia (IV opioids) & oxygen
4. **IV heparin infusion** to attempt to re-canalise/prevent further thrombosis
5. **Prepare for investigation +/- surgery** – fast, imaging, or direct to theatre.

**Top 5 facts about abdominal aortic aneurysm**

1. An AAA is a  $\geq 50\%$  increase in normal aortic diameter i.e.  $>3\text{cm}$  diameter in an adult.
2. MCC  $\rightarrow$  atheroma, occasionally bacterial (syphilis, salmonella), rarely congenital
3. **Detection of an aneurysm** -
  - a. **Clinically** - The aorta bifurcates at the level of the umbilicus - only large aneurysms in thin patients can be felt.
  - b. **Radiologically** - Abdominal USS is the best screening tool at detecting aneurysms. CT scanning is by far the best modality for planning AAA repair.
4. Repair is considered from 5cm diameter and up.
5. Renal failure and intestinal ischaemia can complicate repair due to involved arteries.

# Finals Breast Examination.



*Breast lumps, skin changes, nipple changes, discharge, lymphadenopathy*

Introduces self/obtains consent 1

## **Inspection**

General inspection 1

Scars 1

Symmetry 1

Skin appearance – inflammation, eczema, tethering, cracks, peau d'orange 1

Nipple appearance – inversion, bleeding, discharge, retraction 1

Arm movements – above head and pushing on hips/bed  
Retraction, dimpling, venous changes/phlebitis 1

## **Palpation**

Examines 4 quadrants 1

Axillary tail 1

Describes any lumps found  
Quantity, shape, size, tenderness, mobility, consistency, surface 1

Axillary lymphadenopathy 1

Supraclavicular lymphadenopathy 1

Examines liver and spine for evidence of metastatic disease 1

## **Discharge**

If present ask patient to express 1

Describe  
Uni-/bilateral, serous, bloody, green, milky, timing (i.e. cyclical) 1

**Summary** 1

Mammogram, USS, FNA, Core biopsy 1

**Differential diagnosis** 1

**Diagnosis** 1

**Wash hands** 1

## BREAST - THE TOP 5's

### Name 5 causes of a NON-TENDER breast lump

1. Cyst
2. Carcinoma
3. Fibroadenosis
4. Trauma/Fat necrosis
5. Other: papilloma/galactocele

### Names causes of a TENDER breast lump

1. Cyst
2. Abscess
3. Fibroadenosis
4. Costal cartilage chondrosis
5. Inflammatory breast carcinoma

### What 5 investigative options are available for breast lumps

- |  |   |                         |
|--|---|-------------------------|
| <ol style="list-style-type: none"> <li>1. { Clinical Examination</li> <li>2. { Radiology (USS or mammogram)</li> <li>3. { Pathology (FNA or core)</li> </ol> | } | "Triple Assesment"      |
| <ol style="list-style-type: none"> <li>4. { Receptor status</li> <li>5. { CT staging</li> </ol>  | } | If malignancy confirmed |

### Give 5 risk factors for breast malignancy

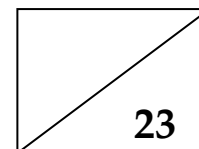
1. Family history
2. Increased unopposed oestrogen exposure: (Nulliparity/Early menarche/late menopause/Obesity)
3. Family history
4. Personal past history of breast cancer
5. Not breast feeding

### What are the Wilson and Jungner criteria for an effective screening programme?

(common finals topic – hence not limited to "Top 5")

1. The condition sought should be an important health problem.
2. There should be an accepted treatment for patients with recognized disease.
3. Facilities for diagnosis and treatment should be available.
4. There should be a recognizable latent or early symptomatic stage.
5. There should be a suitable test or examination.
6. The test should be acceptable to the population.
7. The natural history of the condition, including development from latent to declared disease, should be adequately understood.
8. There should be an agreed policy on whom to treat as patients.
9. The cost of case-finding (including diagnosis and treatment of patients diagnosed) should be economically balanced in relation to possible expenditure on medical care as a whole.
10. Case-finding should be a continuing process and not a "once and for all" project.

# Finals Eye Examination.



## *DM Retinopathy, Hypertensive Retinopathy, Pupil defects*

Introduces self/obtains consent 1

### **Inspection**

General inspection 1

Eye deviation at rest, failure to make eye contact, obvious palsy 1

Extra-ocular eye movements 1

Reaction to accommodation\* 1

Direct light reflex, consensual reflex\* 1

RAPD\* 1

### **Fundoscopy**

Ask patient to focus on "one spot on the ceiling" 1

Tell the patient you'll be close, and to keep breathing 1

Assess for "red reflex" – both eyes 1

Start with right eye (if right handed) 1

Move towards patient, with focus on "0", leave own glasses on 1

Do not obscure the vision from the other eye 1

Examine all layers of eye, finally focussing on retina 1

Conjunctiva, cornea, anterior chamber, pupil, iris, lens, vitreous, retina

Find a blood vessel and follow it back to the optic disc 1

Examine the disc – look for swelling or cupping 1

Follow each retinal artery out into each quadrant 1

Comment on vessels, exudates, neovascularisation, additional spots

Ask patient to look directly into light – look at macula 1

Do not hold this position for any longer than is necessary (uncomfortable)

Repeat for other eye 1

**Summary** 1

BP, exophthalmometry, acuity 1

**Differential diagnosis** 1

**Diagnosis** 1

\*May not be possible if the patient has been administered dilating drops

## EYES- THE TOP 5's

See also Pages 29 – 31.

### **Name the 5 fundoscopic changes in a hypertensive patient**

1. No changes (in early stages)
2. Stage I: Silver wiring (thickening of arterial muscular layer).
3. Stage II: Stage I + AV nipping (apparent gap in venous flow at arteriole crossover)
4. Stage III: Stage II + haemorrhages and soft exudates
5. Stage IV: Stage III + papilloedema

### **Name the 5 fundoscopic changes in a diabetic patient**

1. No changes (in early disease)
2. Hypertensive changes (see above)
3. Background: "dots and blots" (microaneurysms and haemorrhages) & hard exudates
4. Pre-proliferative: Background + soft exudates (ischaemic myelinated nerves)
5. Proliferative: Neovascularisation – triggered by ischaemic nerves (soft exudates).

### **Name 5 common diagnosis that can be implied from external eye exam only**

1. Thyroid disease – see page 35
2. Dyslipidaemia – corneal arcus/xanthelasma
3. Horner's Syndrome – requires neck exam and CXR.
4. Ptosis – bilateral usually implies systemic disease –MG, muscular dystrophy e.t.c
5. *Lesions on iris – think of rare inherited conditions such as Wilson's disease, neurofibromatosis*

## **Suggested Reading/References:**

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