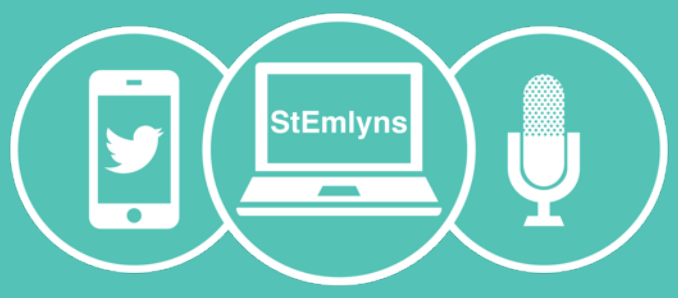
RESPIRATORY EXAMINATION

Nick Smith



RESPIRATORY EXAMINATION

INTRODUCTION

Hand washing
- Essential to prevent cross infection
- Clean stethoscope

Don appropriate PPE

Introduce yourself
- Use your full name and explain who you are

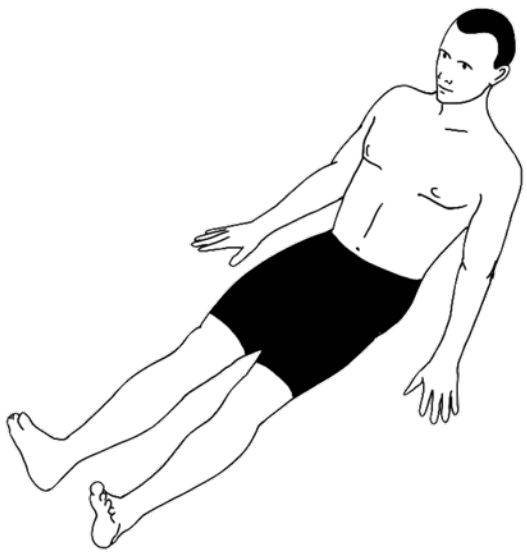
Confirm you have the correct patient
- Their name and date of birth
- Also how do they like to be addressed

Explain
- Explain that because of their condition that you would like to examine their heart
- Explain in plain English what that will involve

Consent
- Gain their consent to do this

Chaperone
- Consider whether you need a chaperone for this examination

GENERAL INSPECTION



Position
- 45 degrees on couch

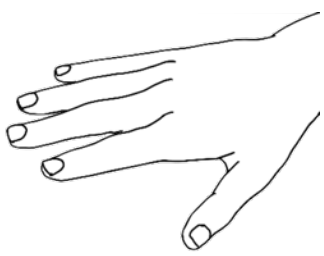
Exposure
- Can leave top on initially
- Undressed completely from the waist upwards prior to inspection of the chest

Surrounding area
- Drips, oxygen, medication, monitor

Patient
- Body habitus
- well/unwell
- scars
- effort of breathing
- cyanosed
- pursed lips breathing

Respiratory rate
- can be done at the same time as pulse instead if you prefer

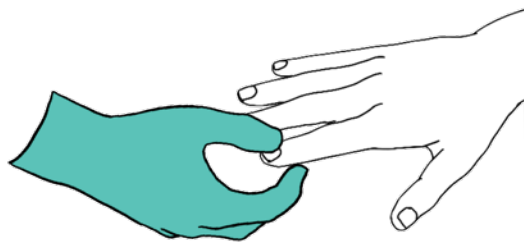
NAILS, HANDS & WRISTS



Clubbing
- loss of nail bed angle (look for the diamond between each pair of fingers)
- ?Interstitial lung disease, Ca lung, bronchiectasis

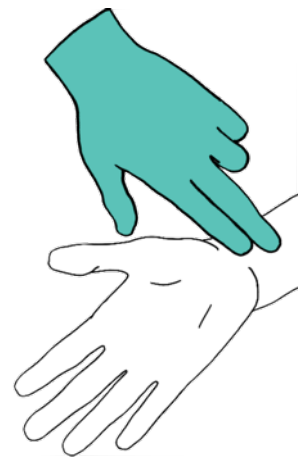
Koilonychia
- spooning of the nails
- iron deficiency anaemia causing shortness of breath

Tar Staining
- Heavy smoker



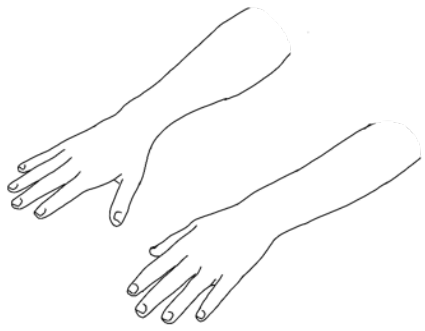
Temperature & capillary refill time
- press for 5 sec not 0.5 sec! - return of colour in <2sec
- poor perfusion

Peripheral cyanosis
- hypoxia

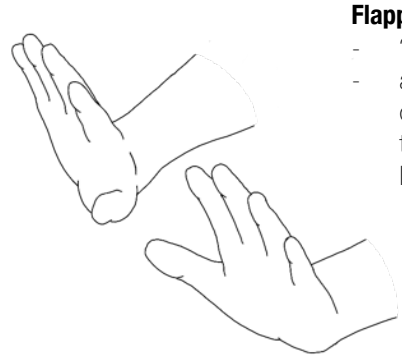


Pulse
- rate & rhythm
- may be raised with excessive beta 2 antagonist use
- may be bounding in severe CO_2 retention

TREMORS

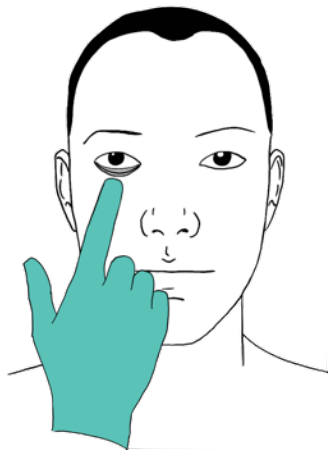


Fine tremor
- ?excessive use of beta 2 agonists
- arms out straight, palms down (demonstrate to patient)
- placing a piece of paper across back of hands will exaggerate any tremor



Flapping tremor
- ?severe CO2 retention
- arms out straight, wrists cocked back (demonstrate to patient) and hold for at least 15 sec

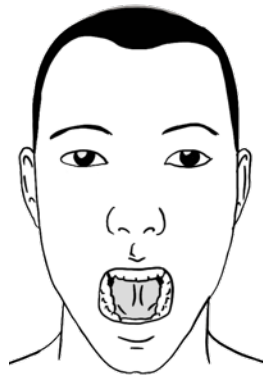
HEAD & NECK



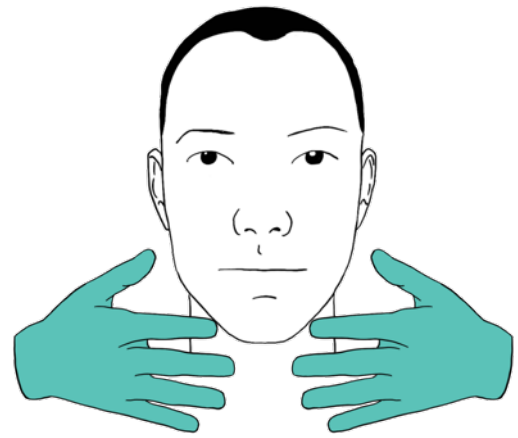
Horner's
- ptosis & miosis (drooping of the upper eyelid & excessive constriction of pupil)
- ?pancoast tumour pressing on sympathetic chain of nerves in chest

Iritis, conjunctivitis
- TB, sarcoidosis

Conjunctival pallor
- pull the lower eyelid down and examine for paleness of the conjunctiva
- anaemia causing shortness of breath



Central cyanosis
- bluish tinge especially noticeable around lips and under tongue
- ?hypoxia



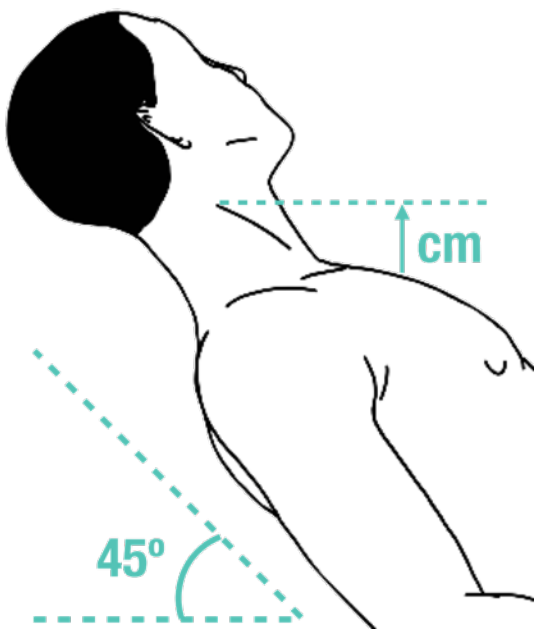
Tracheal tug
- Trachea pulled down on inspiration due to hyperinflation
- ?COPD

Tracheal deviation
- PATIENT WILL BE VERY SICK
- "I am going to feel your wind pipe; it may be a bit uncomfortable"
- deviates towards: collapse, pneumonectomy
- deviates away from: tension pneumothorax, very big effusion

Cricosternal distance
- measured from sternal notch to cricoid cartilage
- normally 2-3cm (finger width)
- ?reduced in hyperinflation (COPD)

Lymph nodes
- Anterior and posterior triangles, supraclavicular and axilla (lymph drainage from chest wall)

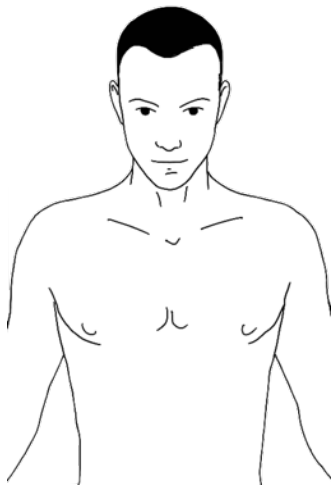
JVP



- Adequate exposure of neck & lighting
- Patient at 45 degrees
- Neck relaxed and head turned slightly to the left
- Look for pulsation
- Decide whether arterial or venous
- Estimate height above sternal angle
- Raised if JVP >4cm visible vertically above the sternal angle
- ?RHF, overload, massive PE, tension pneumothorax, cardiac tamponade, SVC obstruction

Spotted an error? email me: nickharveysmith@gmail.com

INSPECTION



Exposure
- From this point the patient should be undressed from the waist upwards
- ideally this includes removing bra but be pragmatic about this - “normally at this point I would ask you to remove your bra... are you comfortable with doing this?

Look for

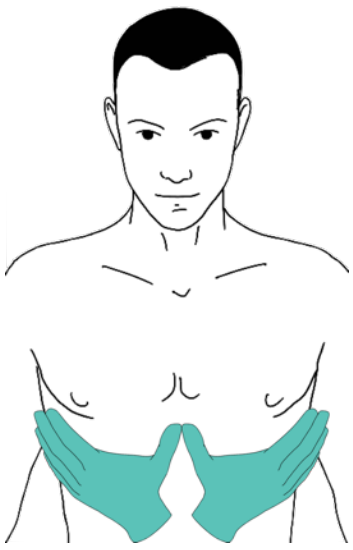
Deformity & symmetry
- Barrel chest – hyperinflation
- Pectus excavatum (funnel chest) – developmental defect
- Pectus carinatum (pigeon chest) – increased respiratory effort during development
- Paradoxical movement chest/abdo - COPD or obstruction

Scars
- thoracotomy
- chest drain
- radiotherapy tattoo

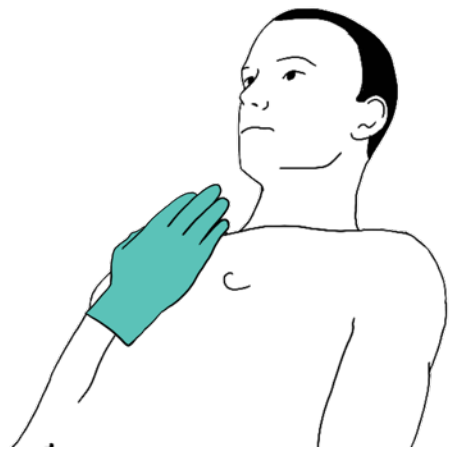
Respiratory pattern
- Prolonged expiratory phase – sign of smoking related lung disease if coupled with pursed lips breathing

Intercostal drawing
- COPD due to hyperinflation

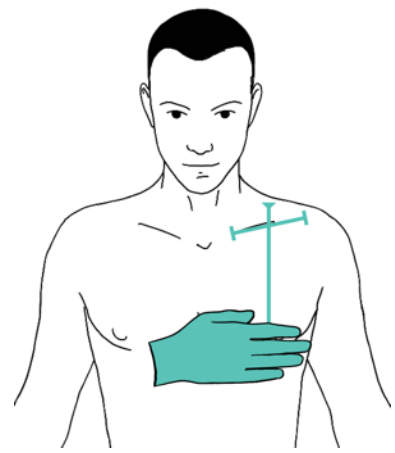
PALPATION



Expansion
- Ideally in 2 places with thumbs “floating”

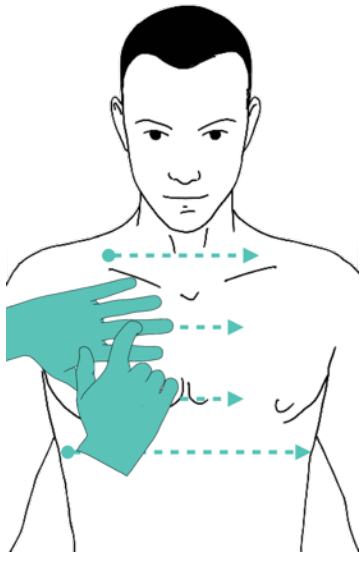


Heave
- as per cardiac exam
- cor pulmonale
- abnormal enlargement of the right side of the heart as a result of disease of the lungs or the pulmonary blood vessels



Apex Beat
- as per cardiac exam
- normally 5th intercostal space, mid-clavicular line
- displaced - ?collapse or tension pneumothorax

PERCUSSION



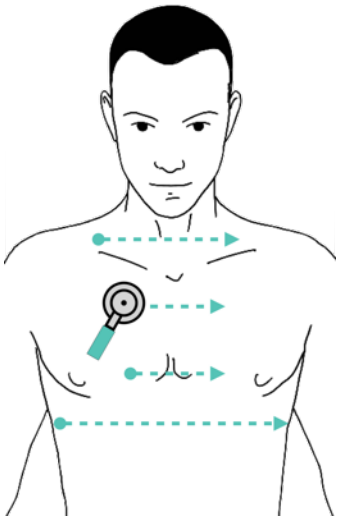
Compare sides
- Right apices then left apices etc. as opposed to do all of one lung then the other
- Clavicles can be percussed directly
- Concentrate on technique to begin with

Map out abnormalities
- heart and liver will usually produce areas of dullness but this maybe lost with hyper-inflated lungs

Comment on percussion note
- Resonant
  - normal
- Hyper-resonant
  - pneumothorax
  - emphysematous bullae
- Dull
  - consolidation
  - collapse
  - alveolar fluid
  - pleural thickening
  - neoplasm
- Stony dull
  - extreme dullness over a pleural effusion
-

Spotted an error? email me: nickharveysmith@gmail.com

AUSCULTATION



Listen systematically

- "Take deep breath in and out of your mouth please"
- bell for apices (above clavicles)
- diaphragm for rest
- compare sides
- avoid hyperventilating the patient
- listen down and round to the axilla (~8th rib)
- keep listening until the end of expiration
- map out any abnormality

BREATH SOUNDS

Vesicular

- normal

Diminished

- local – effusion, tumour, pneumothorax, pneumonia, collapse
- global – COPD

Bronchial

- Darth Vader breathing
- consolidation, upper border of pleural effusion

Wheeze

- usually expiratory
- polyphonic – asthma, COPD
- monophonic – carcinoma or foreign body

Crepitations

- crackles - like Velcro
- infection, fluid or fibrosis
- ask the patient to cough and listen again - it may clear secretions

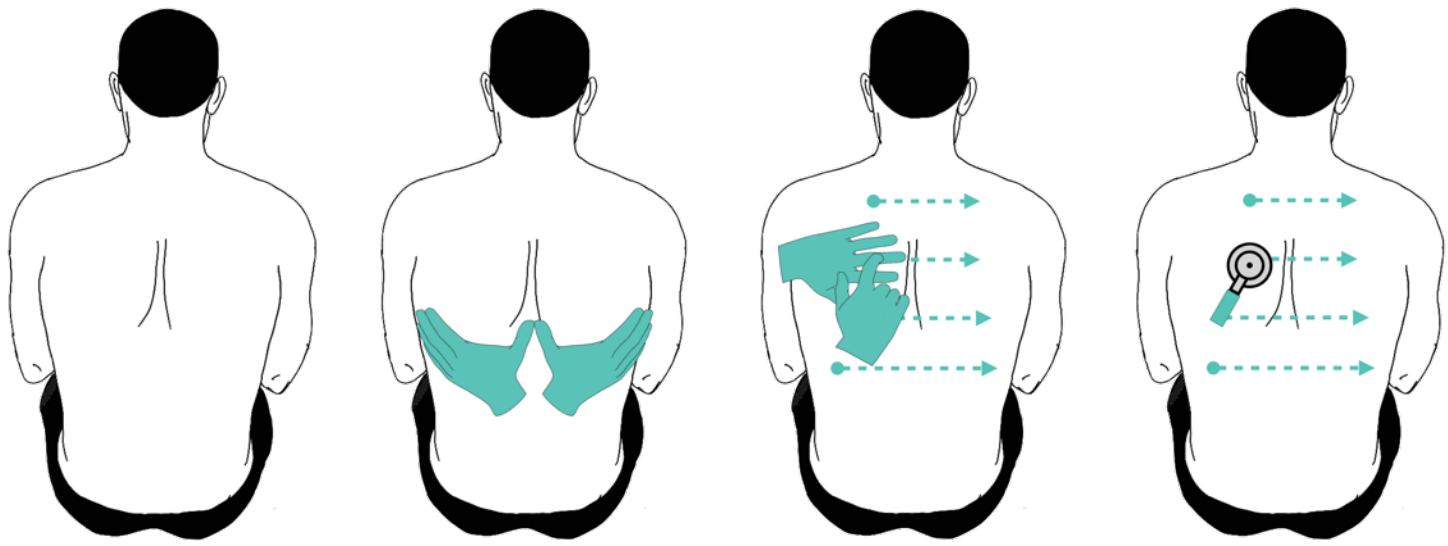
Rub

- footstep in fresh snow
- pneumonia, PE with infarction

Vocal resonance

- Rarely routinely performed in clinical practice
- "Say 99 every time I place my stethoscope on your chest"
- Same pattern as above
- Increased - consolidation
- Reduced - effusion, pneumothorax

POSTERIOR CHEST WALL



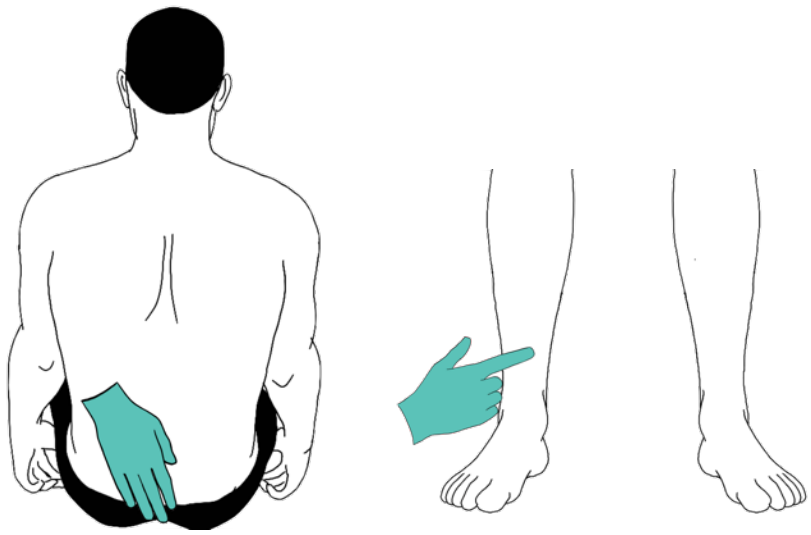
INSPECTION | PALPATION (expansion) | PERCUSSION | AUSCULTATION

REPEAT EXAMINATION ON BACK

- More signs will be picked up posteriorly than anteriorly therefore if you are short on time it is better to concentrate on the back
- Arms folded across chest
- Lung bases extend down to 11th ribs posteriorly
- Auscultate down until you hear no breath sounds

Spotted an error? email me: nickharveysmith@gmail.com

RIGHT HEART FAILURE

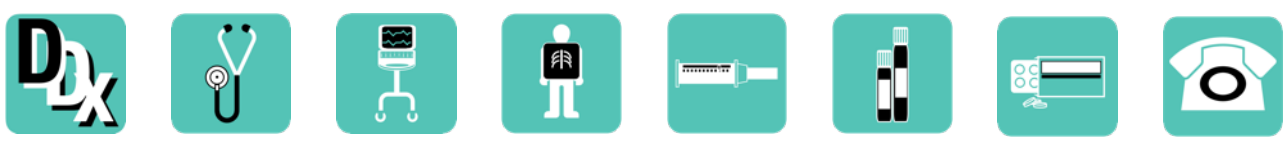


Sacral oedema
- Feel at the base of the spine for oedema
- It's called sacral oedema for a reason (not lumbar oedema)

Pedal oedema
- Press in to shin for 5 seconds and look for indentation
- not always visible so run fingers over it too
- numerous other causes

FINISH

FINISH
- Thank the patient
- Tell them you have finished
- Invite the patient to dress (do they need help?)
- Do they have any questions?
- Doff PPE in the appropriate area
- Wash your hands



- What else should you examine?
- What are your differentials?
- What investigations should you order?
- What medications should you start (or stop/adjust)?
- Who should you call?

...AND WHY?

Spotted an error? email me: nickharveysmith@gmail.com