A 2 year old is brought in by mum, he has been getting increasingly SOB over the last few hours. She is getting rather worried about him.
How would you assess the child's effort of breathing on examination. 3 points
Under what circumstances are these signs likely to be absent. 3 points

Respiratory Rate *Intercostal recessions* *Flaring alae nasi* *Accessory muscle use* *Inspiratory or expiratory noises* *Grunting* ***½ point for each of the above*** *Absent in- exhausted child* *Child with neuromuscular disease* *Cerebral depression- drugged, encephalopathic, raised ICP etc*
On examination, what signs of respiratory inadequacy affecting other organs would you look for ? 3 points
Skin colour- pale or cyanotic *Heart rate- initially raised, reduced in pre-terminal stages* *Mental status- agitation or later drowsiness*
What is the most useful bedside test which assesses the effectiveness of breathing? 1 point
Pulse Oximetry

A 35 year old man comes in to you're A&E c/o SOB. He is a known asthmatic but does not feel too bad, he had ran out of inhalers while on holidays yesterday.
He receives all the appropriate treatment but does not seem to be getting any better.
List 4 signs/symptoms of moderate/severe asthma.- 2 points

PEFR 33-50% best or predicted
RR > 25
Pulse > 110
Difficulty in finishing sentences.

What are the indications for chest X-ray in acute asthma? 3 points

? pneumothorax
?pneumomediastinum
?consolidation
no improvement on treatment
life threatening asthma
requirement for intubation
½ point for each of the above

After a further nebuliser he does seem to improve and is virtually symptom free, his PEFR is now 80% his best. Under what circumstances would you prefer to keep him in hospital? 3 point

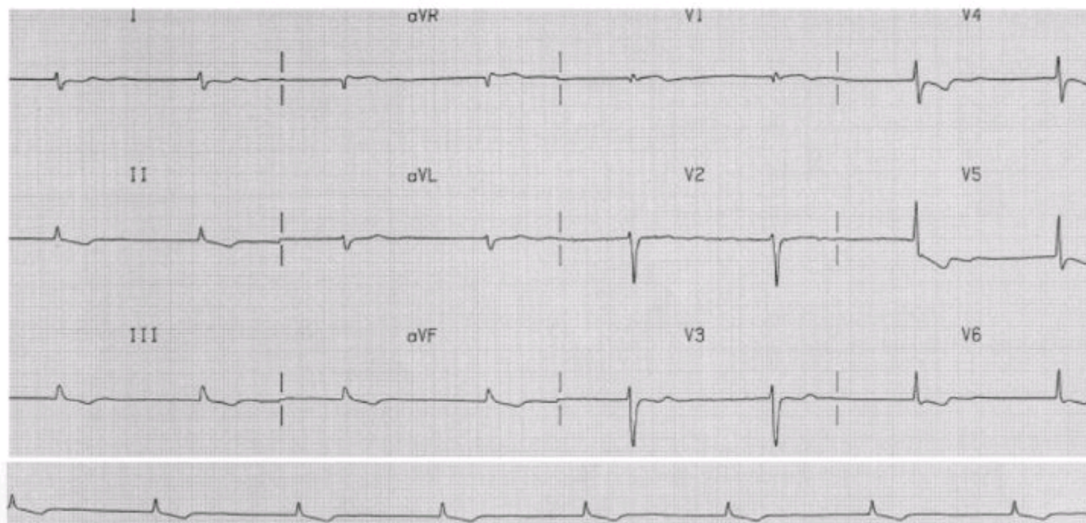
Lives alone/poor access to help
Continuing symptoms
Exacerbation despite steroid pre hospital
Psychological problems/difficulty in learning
Concerns regarding compliance
Pregnant
Previous near fatal/brittle asthma
Presentation at night
½ point for each of the above

Just as you are about to discharge the pt your SHO comes in with a set of ABG he had done a few minutes ago before you came to review the pt.
pO_2- 12
pCO_2- 3.0
pH- 7.46
BE- 3

What would you say to the SHO? – 2 points

Why did he do the ABGs- they are not indicated in non life threatening asthma and it has been shown that patients present late because they fear that someone will do the ABGs on them.

A 72 year old lady comes in c/o dizzyness. She has been gradually getting more and more tired recently and has had some abdominal pains last couple of days. Today she started to feel sick and vomited once. Her main problem however is dizziness esp on standing up. AN ECG has been done:



Describe 4 abnormalities on this ECG – 4 points

Supra Ventricular Bradycardia
AF
T wave inversion inferior
Downwards sloping ST segment V4-V6(reverse tick)

The pt tells you that she normally has an irregular heart beat and takes digoxin for it and a tablet to thin her blood down, she also takes a water tablet for her BP. What investigations would you do which would help with the treatment? 2 points

Digoxin levels, U&Es, Mg 2+

What is the most common cause of digoxin toxicity? 1 point

Renal failure/impairment

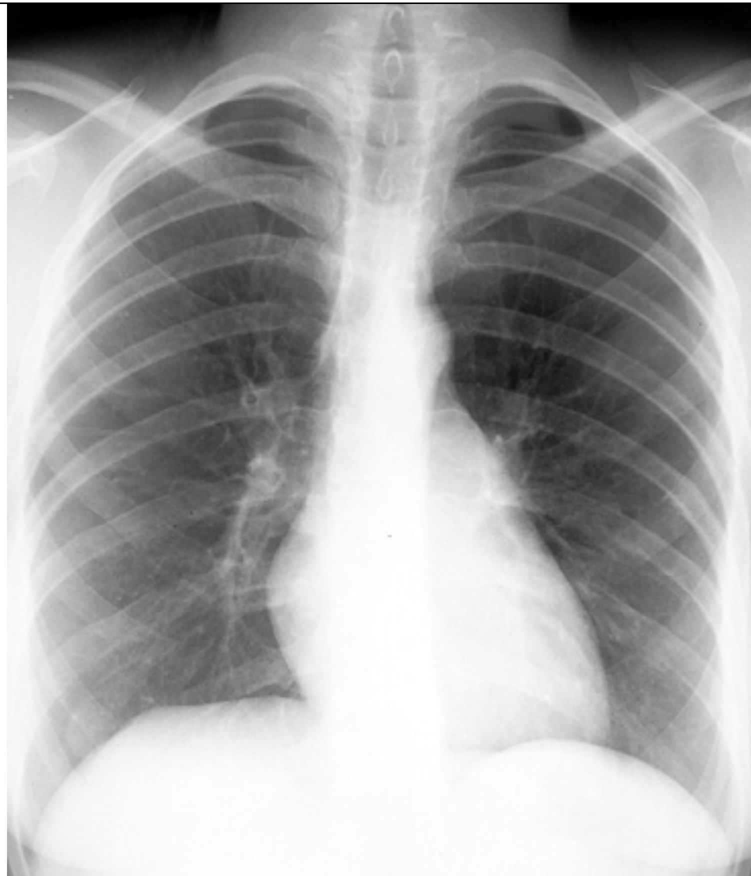
List 4 indications for Digibind. 2 points

K+ > 5
Haemodynamically unstable bradyarrhythmia
Ventricular tachycardia
Cardiac arrest
Digoxin levels > 10-15
Altered mental status attributable to dig toxicity
Ingestion of >10mg in an adult or >0.3 mg/kg in child

Pt suddenly develops VT of 150, and becomes sweaty and SOB, BP is 80/50- what easily available drug could you use to treat this immediatelly? 1 point

Lidocaine 100 mg bolus

Your SHO comes over to ask you to assist him with chest drain insertion. He has a 25 year old man with acute chest pain since yesterday, no history of trauma and a pneumothorax on his X-ray.
List 6 indications for chest drain insertion? 3 points

Pneumothorax- Recurrent post repeated aspiration Symptomatic-i.e. SOB Large traumatic Tension post needle decompression Any ventilated pt Large 2-ry in pt >50 Empyema Traumatic haemopneumothorax Malignant pleural effusion Post op- e.g thoracotomy	
What are the A@&E treatment options for such a patient? 3 points	
If < 2cm air and no symptoms discharge and advise re X-ray in 2/52 or return if symptoms worsen Otherwise try aspiration, if unsuccessfull can be tried one more time or go on to drain insertion.	
This is the pt CXr. What would you tell the SHO? 2 points	
This is a small L sided pneumothorax if pt is not SOB then I does not need a drain.	
What advice would you give to pt discharged after a diagnosis of a spontantaneous pneumothorax? 2 points	
Advise not to fly until resolved on a re X-ray, most air lines advise 6/52 later for extra ½ mark Do not dive unless bilateral surgical pleurectomy.	

A 25 year old man is brought in by his friend. He had come off his motorcycle the previous night. He slid off at about 50-60mph and hit a kerb with his L shoulder. His shoulder has been very painful since and today, when he sobered up, he noticed that he is having problems holding anything with his hand which also feels numb.
What is the most likely injury he sustained? 1 point
List 2 signs of this injury which might be obvious on simple observation.2 points

<table>
<tr><td colspan="2">Brachial plexus injury
Horner's
Winged scapula
Klumke's or
Erb's palsies</td></tr>
<tr><td colspan="2">He does not feel SOB and his pulse is 75 regular. He does not appear to have any other injuries. What would be your initial management of this patient? 1point</td></tr>
<tr><td colspan="2">Give analgesia, apply cervical collar, order C spine X-rays, shoulder X-ray</td></tr>
<tr><td>On examination you find that he has reduced sensation over the area on right. Which 3 dermatomes are likely to be affected? 1 points
Which movements are likely to be affected by this injury? 3 points</td><td> </td></tr>
<tr><td colspan="2">C5-C7- 1 point for all 3, ½ point for 2
C5-shoulder abduction, extension and external rotation, some elbow flexion
C6- elbow flexion, forearm pronation and supination, some wrist extension
C7- global weakness of the upper limb without paralysis of a specific group, lat dorsi

1 point for at least 2 movements mentioned in each group, ½ point for just one</td></tr>
<tr><td colspan="2">List 2 other bony injuries likely in this patient? 2</td></tr>
<tr><td colspan="2">Avulsion injury to spinous processes/C spine injury
Clavicular fracture
Acromio-clavicular injury
Shoulder dislocation
Fracture humeral head</td></tr>
</table>