

# Asthma

## Paramedic case studies #5

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### Past history

You are attending a 30 year old woman who has a past history of asthma including use of multiple medications (short and long acting beta2 agonist and steroid). She has been admitted to hospital before for her asthma.

### Today

For the last 24 hours she has had mild productive cough and breathing difficulty that sounds like it could be a chest infection. Today she has been having continual difficulty with her breathing gaining no relief from her nebuliser and puffer. Her breathing difficulty has increased notably over last hour so her husband called for ambulance help.

### On examination

CNS GCS=14 eyes open to voice (3) Patient is very tired and drowsy

CVS pale cool clammy P=120 BP=130/80

Resp 30min c/o severe breathing difficulty, clear dyspnoea evident with increased effort, use of accessory muscles, retraction and prolonged expiratory phase, on ausc chest wheezing L=R. She is standing leaning against a bench (tripod)

Chest c/o sharp pain, well localised and increased by deep inspiration

ECG sinus tachy

Pulse oximetry 94%

### Working assessment

Asthma, severe respiratory distress

### Management

Discuss criteria of resp status that differ mild, moderate and severe distress. Revisit the case study to explore what presentation changes would be required for each. Emphasise err on more severe than underestimating.

Oxygen – needed to drive nebuliser regardless of pulse oximetry

Salbutamol – when to use metered dose inhaler versus nebuliser. When to add ipratropium?

Opioids – what risks are there? When is it needed? i.e. is pain severe enough

Scene time – minimal with need for treating patient as having strong potential to deteriorate is important

### Patient deteriorates

Despite correct initial management, patient becomes increasingly drowsy with glassy eyed stare straight ahead and no response to verbal stimuli. Now grimacing and withdrawing to painful stimuli. Pulse oximetry = 90% now

### Next management

Discuss reasons for decrease in consciousness – hypoxia at SpO<sub>2</sub> of 90% or something else?

Asthma is gas trapping so this is a getting air out problem and CO<sub>2</sub> retention is the problem.

How to respond? Need to maintain oxygen so increase supply? Air viva with oxygen attached?

When? As soon as resp failure becomes evident. If cannot maintain consciousness, will not

maintain extra effort. Rapid deterioration after. Also little air movement so nebuliser no longer useful. Discuss timing to remove nebuliser and replace with BVM.

If cannot deliver nebulised bronchodilator, how else? Discuss role and timing of IM adrenaline  
Allow patient in scenario to become bradypneic. Now discuss how to ventilate. Slow with time to allow air to escape again. Discuss problems of over ventilating (even if this is less than normal for other patients). Barotrauma, increased intrathoracic pressure with reduced venous return and loss of cardiac output and BP. How to address this? Minute apnoea. Discuss when to put the bag down like this versus when the patient is found like this or deteriorates when not receiving BVM.

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