

# The College of Emergency Medicine

Patron: HRH The Princess Royal

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## ACCS

## Asthma

**Patients Name:** Charlotte Needingworth  
**Patients Age / DOB:** 23

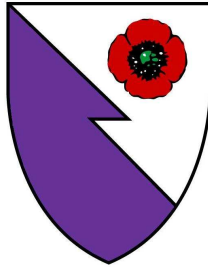
Major Problem	Medical Shortness of breath	NTS Task Prioritisation Communication
Learning Goal	Assessment of an acute severe asthmatic	
Narrative Description	23 year old woman self presents to the ED with shortness of breath. Brought straight to resus by triage nurse. The patient is not bad enough for intubation, but requires intravenous magnesium and salbutamol. The scenario should test the candidates ability to accurately describe the severity of an asthma attack using the British Thoracic Society Guideline. PMHx Asthmatic, one previous ICU admission. NKDA Smoker 3/day,	
Staffing	Faculty Control Room: 1 x Sim man controls 1 x Pt voice / nurse informer Faculty Role Players: 1 x Nurse	Candidates A&E Doctor A&E Senior nurse
Case Briefing	To All Candidates Self presenting patient brought into resus with shortness of breath	To Role Players ICU Doctor Medical SpR
Manikin preparation	Female patient sat up at 30 degrees No monitoring attached but all available including defibrillator. Cannulated. Scattered wheezes, respiratory rate of 25 bpm.	
Room set up	A&E resus Experienced nurse available to help	

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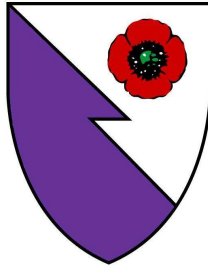
ACCS		Asthma	
		A normal chest x-ray can be referred to if necessary	
<b>Simulator operation</b>		Patient has persistent wheeze and shortness of breath The respiratory rate is always raised.	
<b>Props needed</b>		Defibrillator, Drugs: GTN, aspirin, clexane, adrenaline, amiodarone	

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ACCS

## Observations:

*Initial*

HR	120 MI
O2 sats	96% on O2
BP	150/80
Temp	37.0
RR	16
GCS	E=4 V=5 M=6 15/15

Asthma

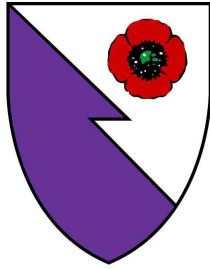
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## **ACCS Nurse Role**

## **Asthma**

### **Scenario**

A 23 year old woman has self-presented to the ED with shortness of breath. She has underlying asthma with a previous ICU admission.

### **Underlying diagnosis**

Acute Severe Asthma

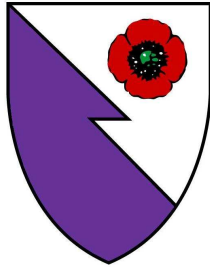
### **Instructions**

You are an experienced nurse who can contact anyone and find anything in your department.

You are able to make appropriate suggestions including getting help if needed.

Available is an ECG when you are asked to take one, the Peak Flow Monitor is missing.





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## **ACCS Patient Role**

## **Asthma**

### **Scenario**

A 23 year old woman has self-presented to the ED with shortness of breath. This started while you were at a smoky nightclub. She has underlying asthma with a previous ICU admission.

### **Underlying diagnosis**

Acute Severe Asthma

### **Patient Instructions**

You are complaining of shortness of breath and feeling a bit panicked. Your chest feels tight, but do not have chest pain. You have been coughing up white sputum for a couple of days. You cough frequently, you can only complete half sentences. When you checked your Peak Flow Rate this morning, it was 230, your best PEFr is 590.

You have no known allergies

You smoke 3/day

You drink about 20 units ETOH / week

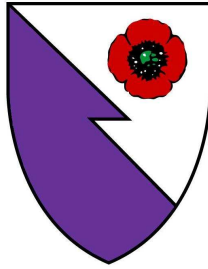
PMHx: asthma

NKDA

List of meds Salbutamol Inhaler / Flixotide / Prednisolone 5mg

FHx: COPD (Father)





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## ACCS

**Blood Results: Charlotte Needingworth**  
**Age 23 year old female**

## Asthma

Hb	9.2	Na	134
WCC	12	K	3.1
Plt	112	Ur	12
MCV	100	Cr	87

## ABG On Oxygen

pH	7.36
pO <sub>2</sub>	10.3
pCO <sub>2</sub>	3.2
HCO <sub>3</sub>	22
BE	2
Lactate	4.8

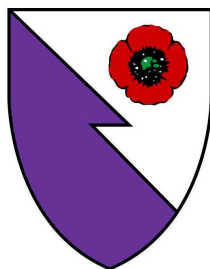
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## ACCS

## Asthma

### INTRAVENOUS DRUG MONOGRAPH for Magnesium Sulphate – critical care

NAME OF DRUG	NORMAL ADULT DOSE.	STRENGTH AVAILABLE	STORAGE	BOLUS	INFUSION	STABILITY	OTHER INFORMATION
<b>MAGNESIUM SULPHATE</b>	<p><b>Hypomagnesaemia</b> <b>Severe / Acute:</b> <b>Day 1:</b> 35-50mmol up to a total of 160mmol may be required over 5 days.<sup>3</sup></p> <p><b>Maintenance: (normally in intravenous nutrition)</b> 10-20mmol daily.<sup>2</sup></p> <p><b>Arrhythmia / Asthma:</b> 8mmol over 10-15 minutes repeated once if necessary.<sup>2</sup></p> <p><b>Eclampsia:</b> 16mmol over 5-10 minutes followed by an infusion of 4mmol per hour.</p>	<p>10ml ampoules containing 5g of magnesium sulphate 50% (20mmol)</p>	<p>Store below 25°C.</p>	<p>Dilute to a maximum concentration of 200mg/ml with compatible fluid.<sup>1</sup></p> <p><b>Maximum rate:</b> 150mg (0.6mmol) per minute.<sup>1</sup></p> <p><i>*High risk infusion pump recommended*</i></p>	<p>Dilute 5 to 10ml to 50ml of compatible fluid<sup>1</sup></p> <p><b>Maximum rate:</b> 150mg (0.6mmol) per minute.<sup>1</sup></p> <p><b>Compatible fluids:</b> Sodium Chloride 0.9%, Glucose 5%<sup>1</sup></p>	<p>Discard diluted solutions 24 hours after preparation.</p>	<p><b>Acute events that may accompany administration:</b></p> <p>Rapid administration may cause flushing and hypotension. In pregnancy blood pressure, respiratory rate, magnesium plasma levels and fluid monitoring is necessary and ECG monitoring recommended.<sup>1</sup></p> <p><b>pH = 5.5 -8<sup>(1)</sup></b></p>

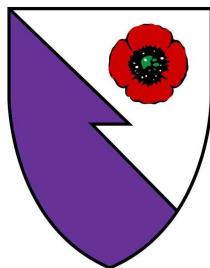
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## ACCS

## Asthma

### INTRAVENOUS DRUG MONOGRAPH for salbutamol solution for infusion.

NAME OF DRUG	NORMAL ADULT DOSE.	STRENGTHS AVAILABLE	STORAGE	BOLUS	INFUSION	STABILITY	OTHER INFORMATION
<b>SALBUTAMOL</b> (Ventolin solution for infusion.)  <i>Please note there is a separate monograph for salbutamol injection.</i>	<b>Severe bronchospasm:</b> Initially 5microgram/minute, adjusted according to response, <sup>(3)</sup> usually in the range of 3-20microgram/minute, or more if necessary. <sup>(1)</sup>	5ml ampoules containing 5mg, i.e 1mg/ml. <sup>(1)</sup>	Store below 30°C. <sup>(1)</sup>  Store in outer carton. <sup>(1)</sup>	Do not give this preparation by direct bolus. <sup>(1)</sup>	Dilute 5ml (5mg) to 500ml using compatible fluid <sup>(1)</sup>  <b>Resulting concentration:</b> 10mcg/ml. <sup>(1)</sup>  <b>Rate:</b> Initially 0.5ml/minute, adjusted according to response <sup>(3)</sup> , usually 0.3ml-2ml/minute. <sup>(1)</sup>  <b>Compatible fluids:</b> Sodium chloride 0.9%, glucose 5% <sup>(1)</sup> .	Discard diluted solutions 24 hours after preparation. <sup>(1)</sup>	Clear, colourless or pale straw coloured solution. <sup>(1)</sup>  <b>Acute events that may accompany administration:</b> Tremor, headache, tachycardia, palpitations, muscle cramps and hypokalaemia. <sup>(1)</sup>

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