

SAQ 1

The triage nurse rings you regarding a 32 year old with diabetes and bipolar disorder who is a frequent presenter to your emergency department. She often presents with disruptive behaviour but the nurse is concerned that today she appears disorientated, ataxic and complains of nausea and vomiting for the last two weeks.

Temp 37.4  
HR 110  
BP 90/60  
RR 22  
sats 97% OA

Her lithium level is 3 mmol/L

1. List four potential causes you would consider in this patient that may have resulted in lithium toxicity?

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2. A urine bHCG confirms pregnancy, and a UTI. List four antibiotics used to treat UTI and discuss why you would or would not use them in pregnancy.

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3. Your 4th year student asks you about the role of charcoal in lithium overdose. You explain that charcoal does not bind lithium. Name 3 classes of drugs seen in overdose that are not bound by charcoal and give two examples of each.

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4. What alternative enhanced elimination technique may have a role in lithium toxicity?

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5. Name 3 toxicokinetic or toxicodynamic features of a drug that make it amenable or appropriate to this method of enhanced elimination, and 2 other drugs toxicities where the method plays a role.

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6. You find on questioning that it is likely she is 16/40 pregnant, homeless and with no regular medical care. List and expand briefly on 4 issues that should be discussed with this woman, include other services that may need to be involved.

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**SAQ 2**

A 2 week-old term baby weighing 4kg is brought to the ED with difficulty breathing and floppiness.

Her vital signs are as follows

HR 160

BP 65/35

Sat 83% on air

T 37.6

CRT 4 seconds

She is lethargic, will respond to voice

1. List 4 differentials for her presentation

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2. List your treatment priorities in sequential order (4 marks)

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**SAQ 3**

A 3 month old girl is brought in to ED with pallor and lethargy for the past hour. She has had fevers and URTI symptoms for the past 3 days. Her observations are as follows

GCS 15/15 but floppy/lethargic

HR 250

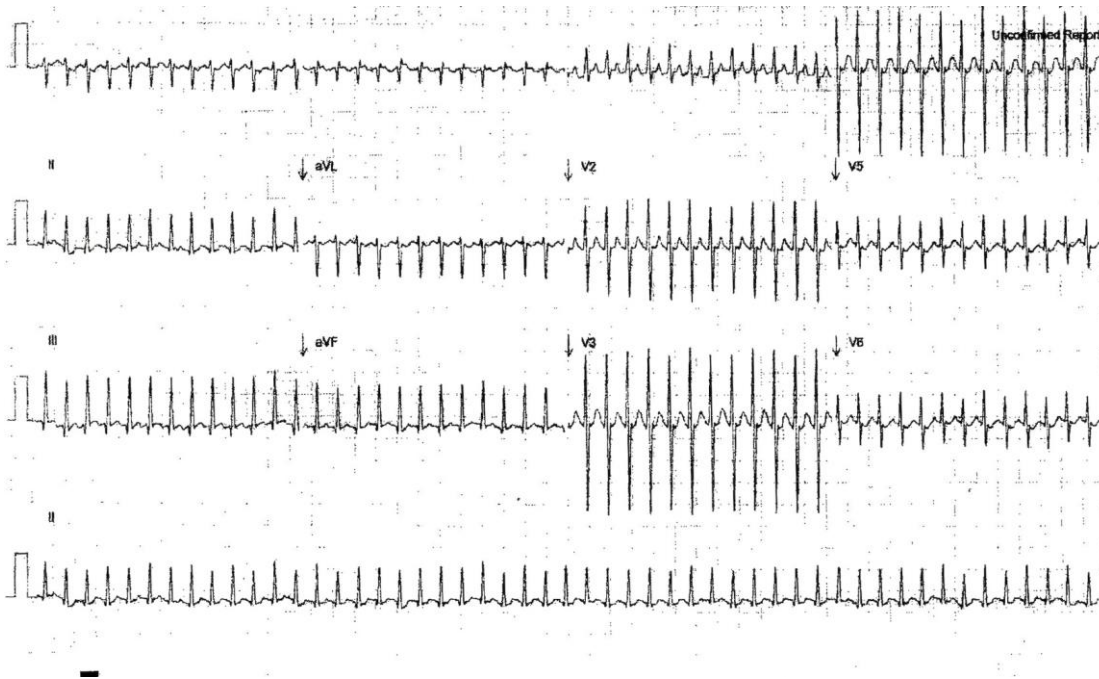
BP 75/45

CRT 2 seconds

Sat 95%A

T 38.2

This is her ECG



1. What is the most likely diagnosis? (1 mark)

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2. What are 2 features of the ECG that support this diagnosis? (2 marks)

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3. List 3 treatment options in the order of escalation that you would perform them (3 marks)

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4. List 4 investigations you would perform in the ED and their justification (4 marks)

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SAQ 4

A 35 yr old lady who is 30 weeks gestation, is brought to your emergency department after a witnessed cardiac arrest.

(a) What are the leading causes of maternal death in pregnancy ? (4 marks)

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(b) List 5 airway and ventilation issues you could anticipate when attempting to intubate this lady ? (5 marks)

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(c) What are the indications for a perimortem caesarean section ? (1 mark)

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**SAQ 5**

A 23-year-old man with known asthma is brought to ED by ambulance with an acute exacerbation.

a) What 5 features on history would concern you that his attack might be severe

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b) What 5 features on examination would suggest he had a severe exacerbation

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c) Clinical examination confirms he has a severe episode. List and justify the investigations you would perform. 2 marks

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d) List your immediate treatment priorities (5 marks).

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SAQ 7

A 70 year old man with type 2 diabetes presents to your ED with 24 hours of malaise. His initial observations are: HR 120 and BP 70/40. His bedside BSL is 11.2 mmol/L and his central capillary refill is 5 seconds. He is confused and review of past notes indicated that this is new and he has a history of alcoholism.

1. What are the 3 most likely causes of this presentation (3 marks)

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2. What key initial investigations will you perform? (4 marks)

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3. Your perform a PR that shows heavy melena, the patient then has a large fresh haematemesis. List 4 initial management priorities (2 marks)

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**SAQ 8**

A 34 year old man presents 10 days after a business trip to Papua New Guinea. He has had fevers, malaise, generalised aches and frequent episodes of diarrhoea. HR 130 BP 100/50 Temp 38 Sats 98% on air.

List 10 potential causes of fever & illness in this man

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_
5. \_\_\_\_\_
6. \_\_\_\_\_
7. \_\_\_\_\_
8. \_\_\_\_\_
9. \_\_\_\_\_
10. \_\_\_\_\_

What blood tests will you request?

Investigation	Justification

List 5 major complications of severe Plasmodium falciparum malaria.

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_
5. \_\_\_\_\_

What are the two main choices for the urgent initial treatment of severe Plasmodium falciparum malaria?

1. \_\_\_\_\_
2. \_\_\_\_\_

SAQ 9

List 4 indications for endotracheal intubation (4 marks)

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List 2 indications for non-invasive ventilation (1 marks)

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List 4 contra-indications to NIV (2 marks)

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What is the mechanism of action of NIV? (3 marks)

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**SAQ 10**

A 36 yr old female presents your Emergency Department. She has a history of self-harm. She states she ingested a 1kg box of rat poison pellets 14 hours ago. Her vital signs are within normal limits.

a. What toxic agents are contained in rat poison pellets ? ( 1 Mark)

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b. List 4 clinical features that may manifest in the setting of toxicity ? (2 Marks)

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c. What investigations are required in this patient ? (4 Marks)

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d. What is the preferred antidote in the presence of toxicity and what are the challenges faced in treating patients who manifest toxicity ? (3 Marks)

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