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## Asynchronous Interactive Module (AIM)

### Altered Mental Status

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### Objectives

*By the end of this module, you should be comfortable:*

- Providing a list of the critical diagnoses to consider in a patient presenting with altered mental status
- Discussing the differences in the initial assessment, workup, treatment and disposition for these critical diagnoses

### Preparatory Work

Before continuing, read the following on CDEMCurriculum.org:

- [Altered Mental Status](#)
- [Thyroid Storm](#)
- [Agitated Patient](#)
- [Meningitis and Encephalitis](#)
- [Stroke](#)

And the Altered Mental Status video

- [from RushEmergencyMedicine.com](#)
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#### Case Presentation:

A 60 year-old woman is brought to the emergency department by her husband for agitation. She had been ill with flu like symptoms for the past week. The husband says she was normal last night before going to bed, but this morning she was acting strangely. Her vitals are as follows.

BP: 180/90, HR 110, T 37 C, R 20, O2 sat 96%.

As you walk to the room, a list of the critical diagnoses you need to address for a patient of this age, sex and chief complaint should pop into your head. List them here.

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4	
5	

What initial orders would you place and why?


What's the leading cause of death in a patient with altered mental status?


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How would you assess her primary survey?

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B	
C	
D	
E	

What about the COMA cocktail?

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#### Case Presentation:

The husband says she was normal yesterday. She takes a medication for insomnia, smokes a pack a day and drinks a glass of wine each night.

On exam, she is fighting you and insists on going back home. She is disheveled and agitated. Skin and mucous membranes are normal. Nuchal rigidity is difficult given her agitation, but there is no Kernig's or Brudzinski's sign.

On neurologic exam, she is alert only to her name, but cannot recognize her husband. She doesn't cooperate with the rest of the neurologic testing, but she appears to be moving everything symmetrically. She is a bit tremulous.

How would you characterize this behavior change, as dementia, delirium or psychosis? Why? What are some typical causes of this category of behavior change?


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### Refining your differential

Your differential is guided by the mnemonic AEIOU TIPS. What evidence do you have so far the supports or opposes that diagnosis. Remember to note your level of suspicion at this point (**pre-test probability** - none, low, medium or high).

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What **diagnostic tests** would you order and why? Arrange them based on the differential diagnosis.

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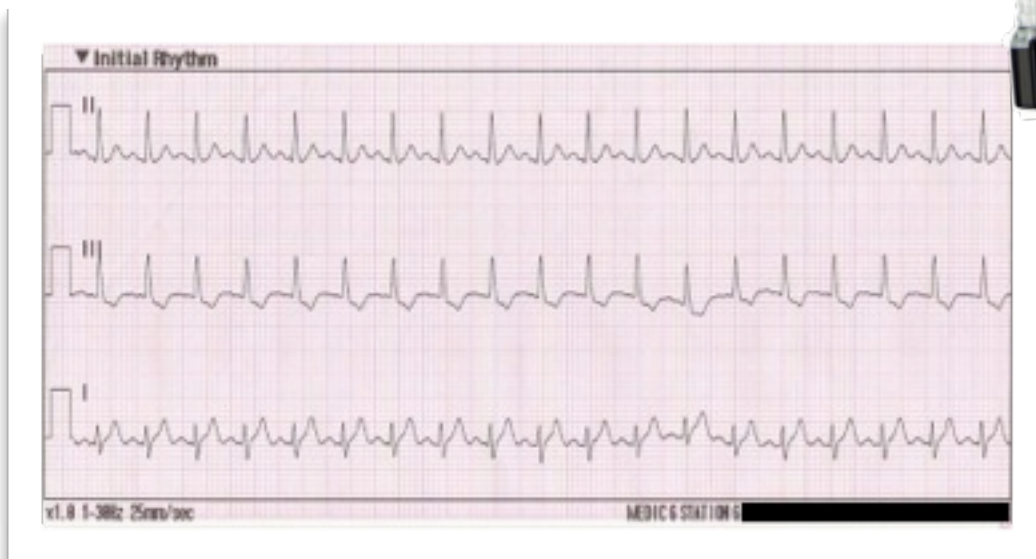
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You do a lumbar puncture and find normal pressure, no cells, normal protein and glucose levels and normal gram stain and India Ink preparations. The cultures are of course pending.

The CBC showed a white count of 14.6 with a left shift and a predominance of neutrophils on the differential. The urinalysis, chest x-ray and blood chemistries were all unremarkable. A urine drug screen and alcohol level were negative.

CT scan of the head was also unremarkable. An EKG was also done and is shown below.



What do you think is going on with this patient?


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How has this information changed your interpretations of your differential diagnosis?

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#### Case Presentation:

The nurse calls you to the room saying that she's becoming increasingly diaphoretic and very agitated. She's yelling and screaming, grabbing at imaginary items. You get a repeat set of vital signs and repeat glucose is 134.

BP: 210/90, HR 140, T 37 C, R 28, O2 sat 96%.

What do you want to do now?


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#### Case Presentation:

You notice in the computerized records that she has been admitted in the past for an alcohol withdrawal seizure.

BP: 210/90, HR 140, T 37 C, R 28, O2 sat 96%.

How would you manage the patient now? Try to be specific with medications and doses.




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#### Now it's your turn

Altered mental status can be a challenging presentation since the history is often unreliable or absent. Pick a patient presentation you've seen where a patient presented with AMS. During our class session, present your scenario.


Now outline how you would now manage this patient. Include your thoughts on what supported the various diagnoses in the differential and what tests you would order. Guide the class through your diagnostic and treatment strategy.

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