



General Internal Medicine,
Chapter 1: Toxin Exposure

Niket Sonpal, M.D.





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- What to do first?
- Gastric Emptying
- Lavage

In whom is this intervention
contraindicated?



In whom is this intervention
contraindicated?

- After two hours

In whom is this intervention contraindicated?

- After two hours
- Caustics

In whom is this intervention
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- After two hours
- Caustics

When is charcoal
dangerous?



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- When will your answer be hydration and simple forced diuresis?

- 40 woman to ED after ingested bottle of pills. She is severely confused and lethargic. Comes within 30 minutes after ingestion. Exam: sleepy, dopey, stuporous, disoriented, and obtunded.

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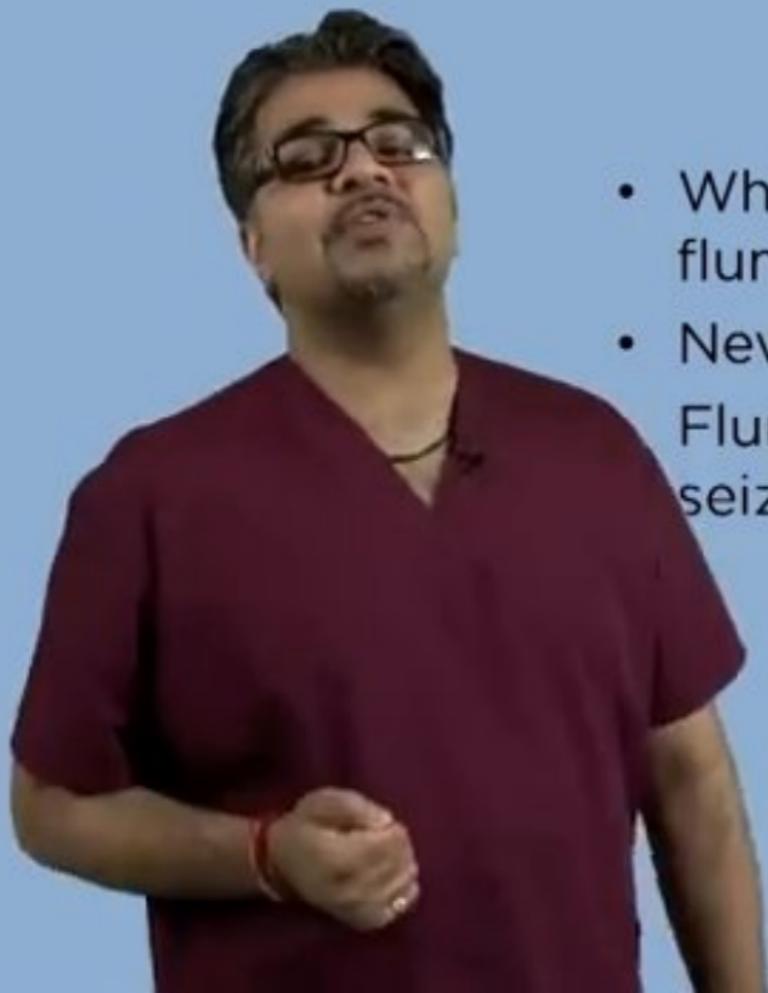
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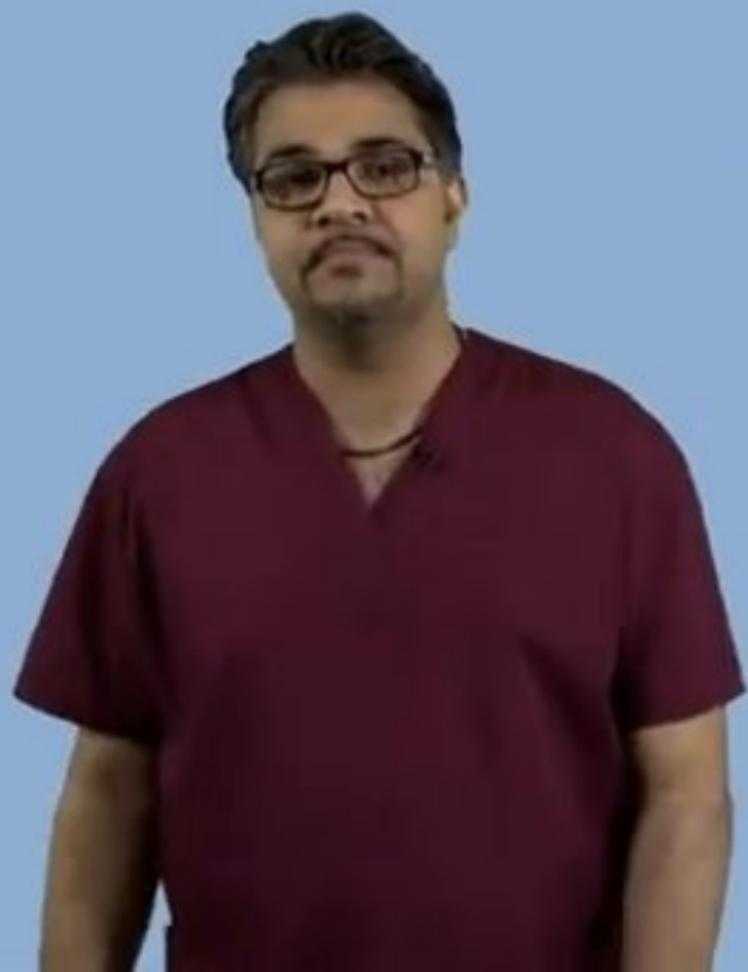


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- Never in acute overdose
Flumazenil induces seizures

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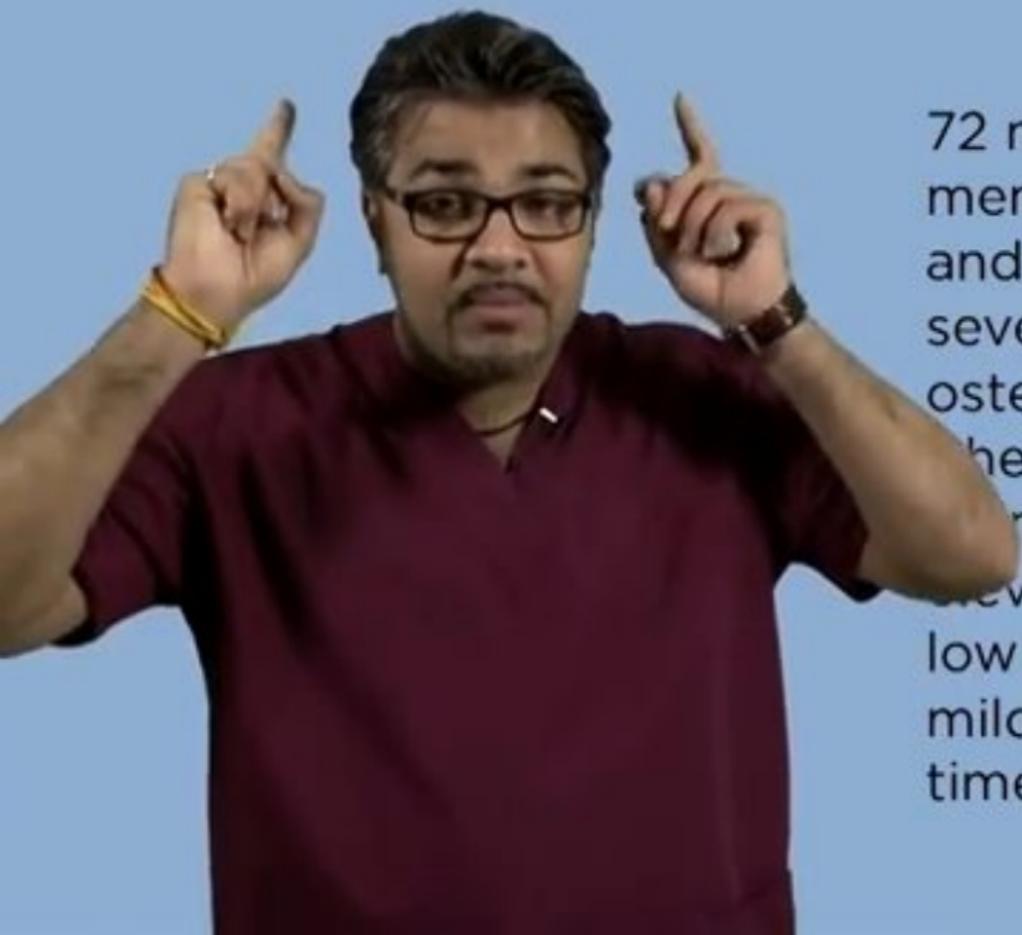
Case 3 ^{DoctorDanie} bilibili



72 man comes to ED. Altered mental status, dyspnea, tinnitus, and hyperventilation over last several hours. History severe osteoarthritis. 38°C (100.3°F). Chest x-ray noncardiogenic pulmonary edema. Mildly elevated BUN and creatinine, low serum bicarbonate 14, mildly elevated prothrombin time, ABG:pH 7.49, pCO_2 of 23.



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Likely diagnosis?

- Aspirin Overdose

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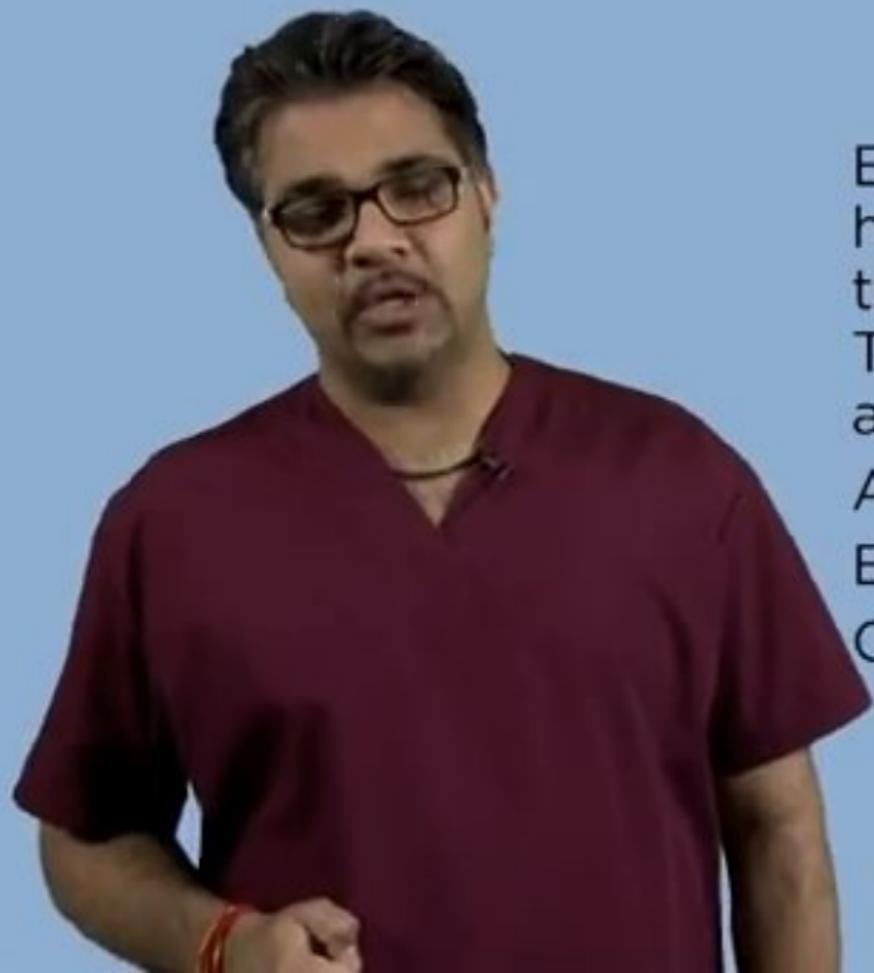
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Best initial therapy?

- Bicarbonate

Elderly woman. Bilateral hearing loss and tinnitus. Has to turn volume higher on TV. Takes aspirin for rheumatoid arthritis. Diagnosis?



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Case 3



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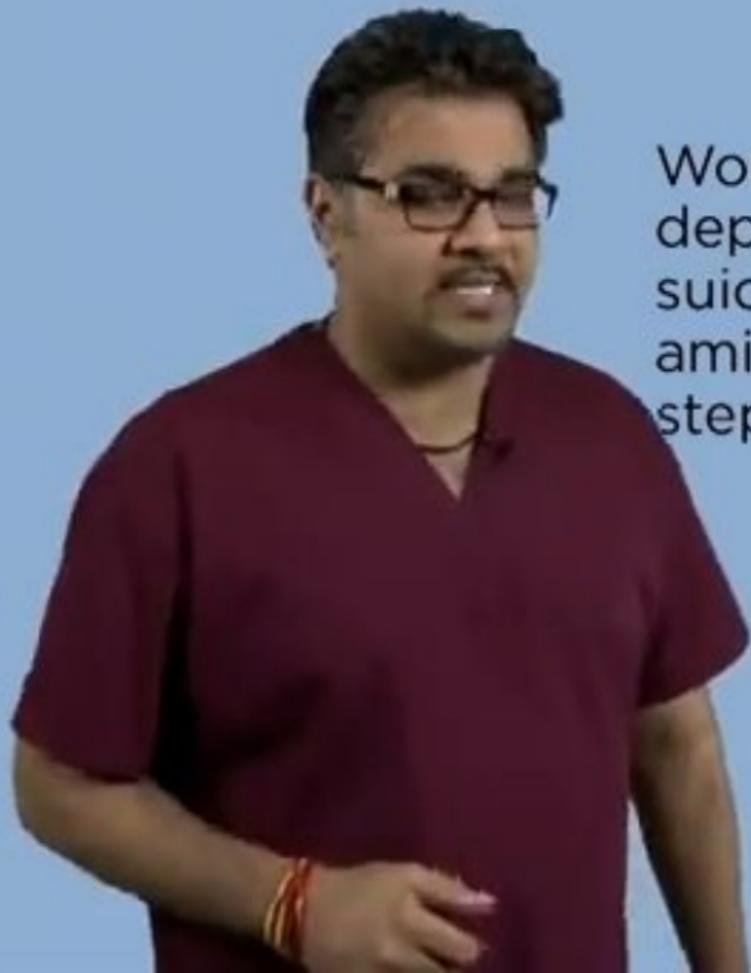
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Case 4

Woman with long history of depression. After attempting suicide by ingesting bottle of amitriptyline. Most important step now?



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- A. Blood level
- B. Urine level

Case 4

Woman with long history of depression. After attempting suicide by ingesting bottle of amitriptyline. Most important step now?

- A. Blood level
- B. Urine level
- C. Bicarbonate
- D. EKG
- E. Charcoal

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Case 4 ^{DoctorDanie} bilibili



Case 4 DoctorDanie bilibili

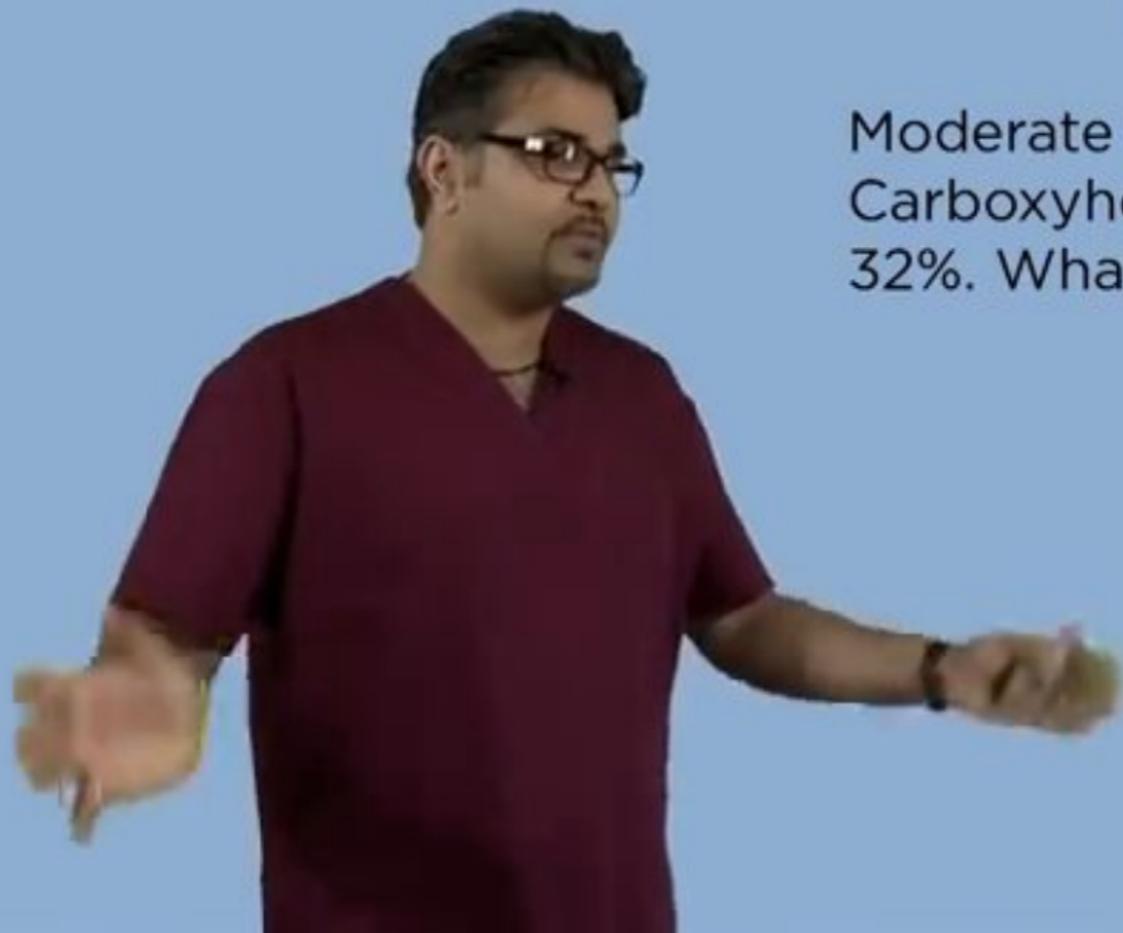


Best initial therapy if at a toxic level?

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- Bicarbonate

Moderate in severity.
Carboxyhemoglobin level is
32%. What to do first?



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Most important diagnostic test at this time? (or, how is he going to die first?)



Most important diagnostic test at this time? (or, how is he going to die first?)

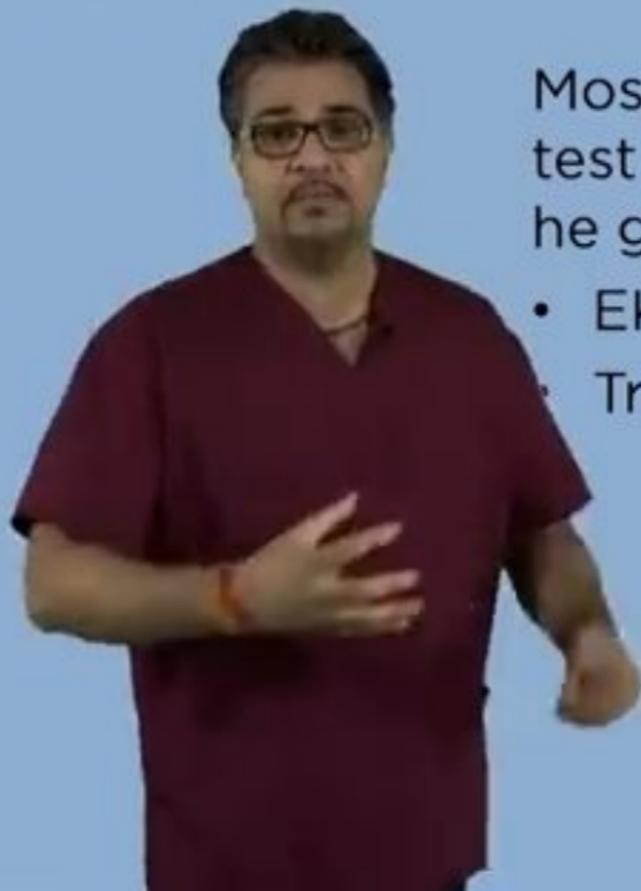
- EKG
- Troponin

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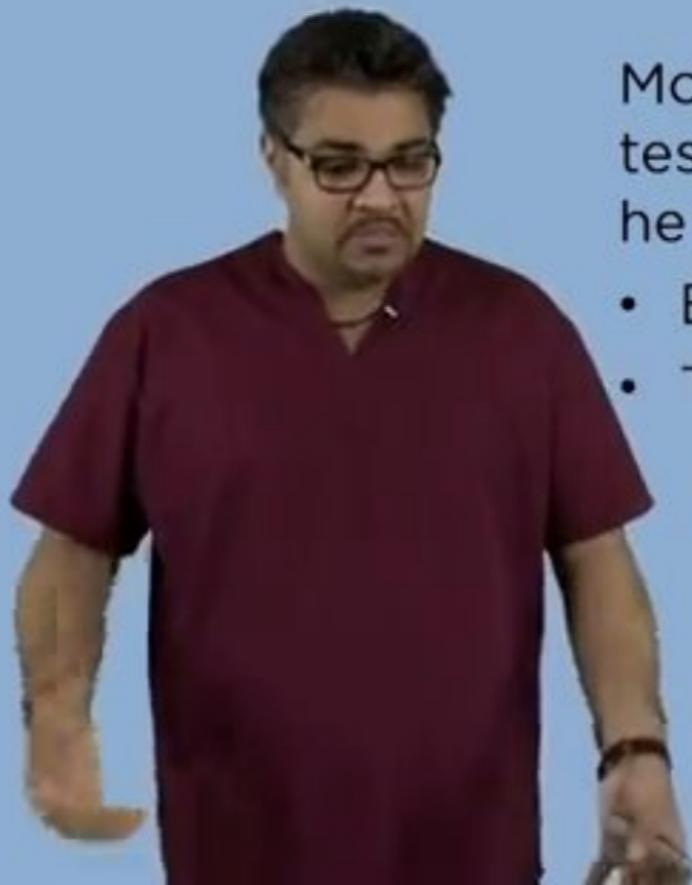
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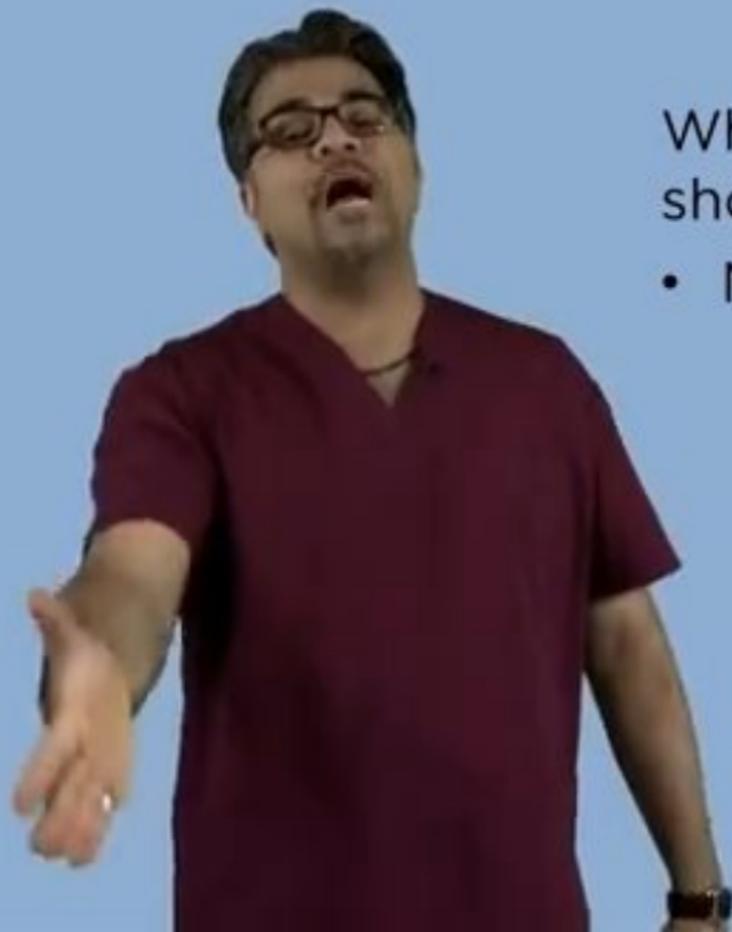


What will a pulse oximeter show?

- Normal

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- Normal



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Elderly man and family live in house that uses wood stove for heat. Not able to get out of house because of heavy snow. Now have headaches, dizziness, nausea, and shortness of breath. The father feels better when shoveling snow.



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What to do?

A. Switch to oil heat



What to do?

- A. Switch to oil heat
- B. Open the window
- C. Call an ambulance
- D. Give supplemental home oxygen
- E. Check RBCs



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Case 6

31 Marine captain brought because of heavy terrorist activity at Madison Square Garden. Chemical agents may have been released. Has shortness of breath, excessive salivation, diarrhea, weak muscles, polyuria, and abdominal cramping. Exam: constricted pupils and wheezing.

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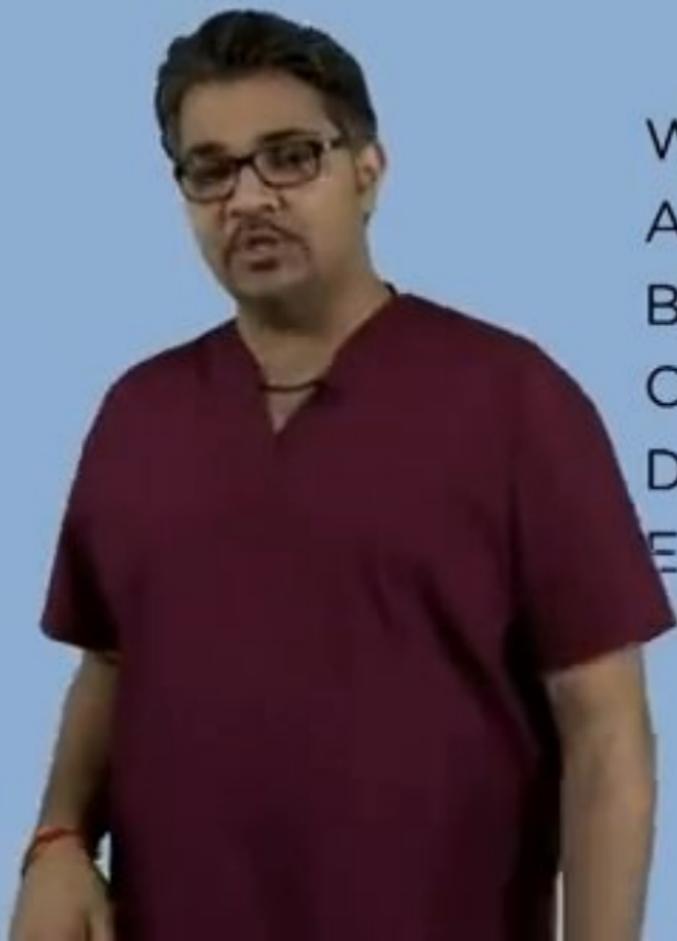


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Diagnosis?

- Organophosphates

What first in management?



What first in management?

- A. Remove clothes
- B. Wash the patient
- C. Atropine
- D. Pralidoxime
- E. Red cell cholinesterase level

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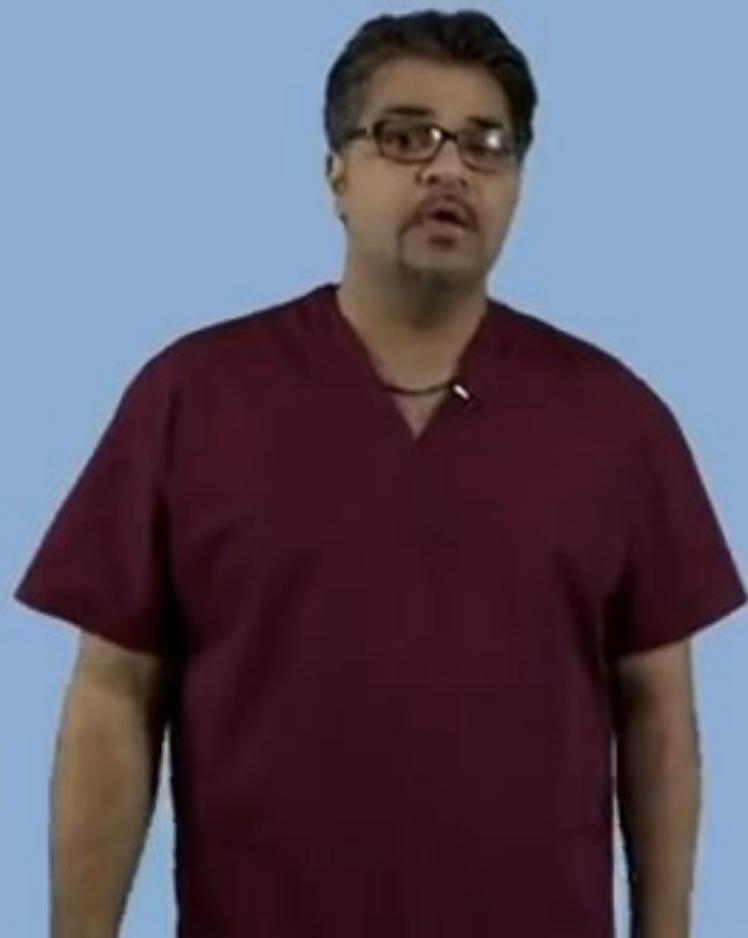
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Most specific treatment?



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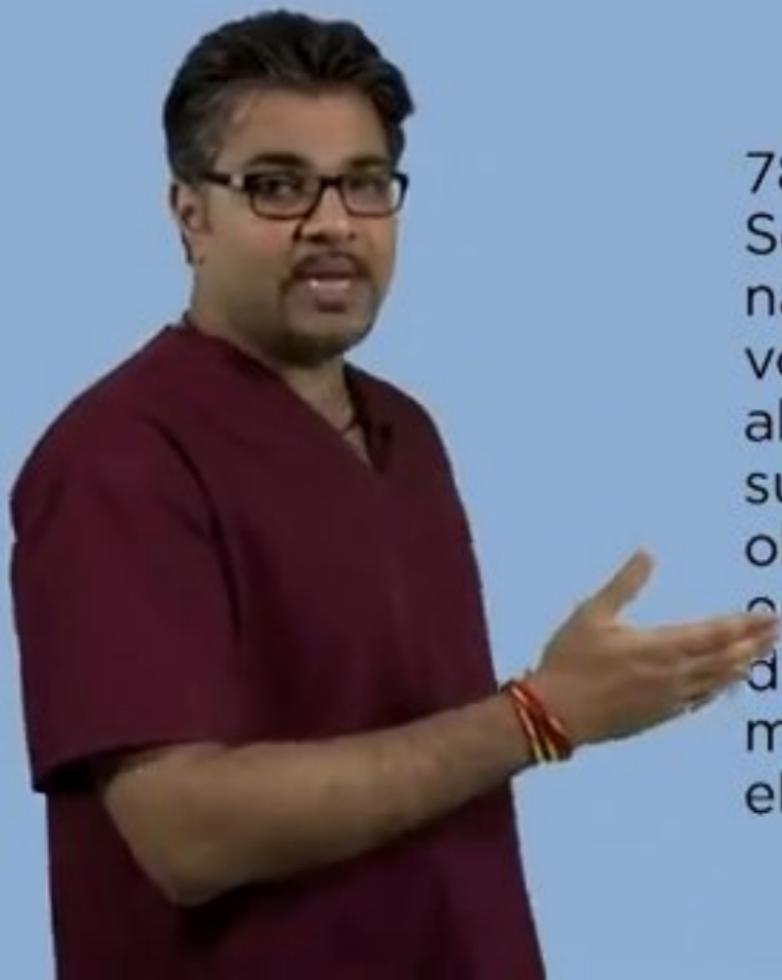
Most specific treatment?

- Pralidoxime

78-woman with CHF. Several days of confusion, nausea, abdominal pain, vomiting, palpitations, and altered color perception, such as yellow halos around objects. She is maintained on an ACE inhibitor, digoxin, furosemide, and metoprolol. Digoxin level is elevated.

78-year-old woman with CHF. Several days of confusion, nausea, abdominal pain, vomiting, palpitations, and altered color perception, such as yellow halos around objects. She is maintained on an ACE inhibitor, digoxin, furosemide, and metoprolol. Digoxin level is elevated.

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Case 7 ^{DoctorDanie} bilibili





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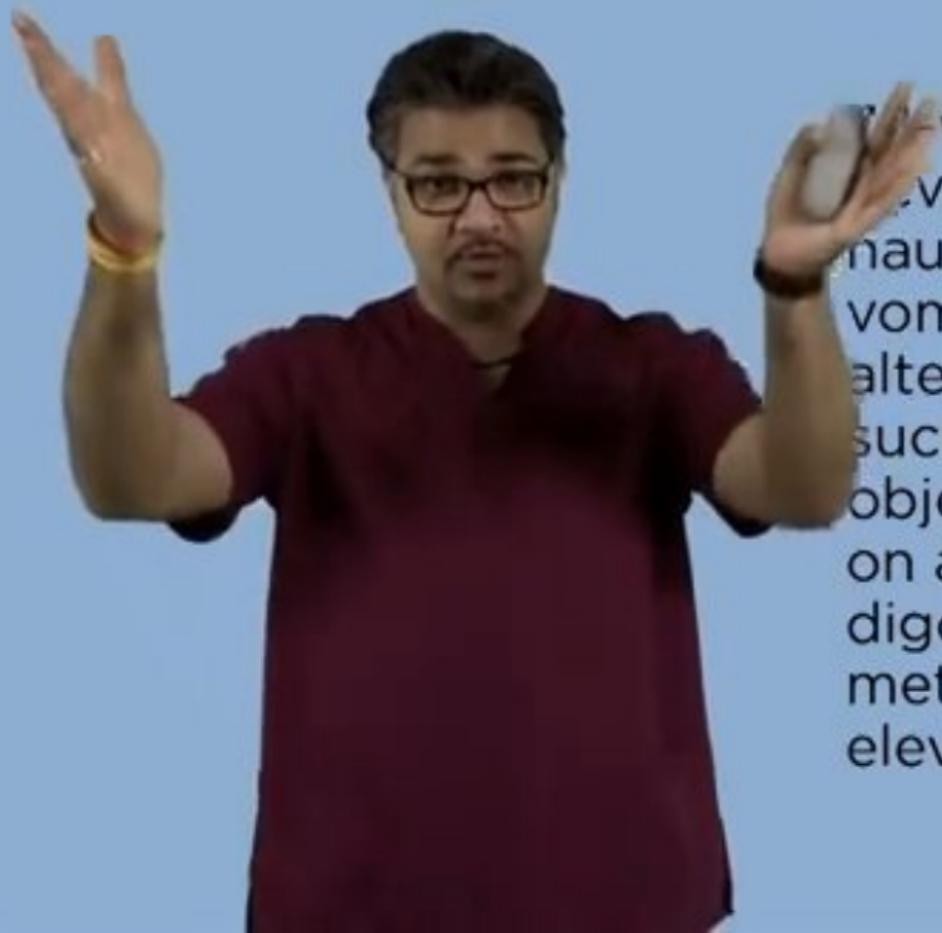
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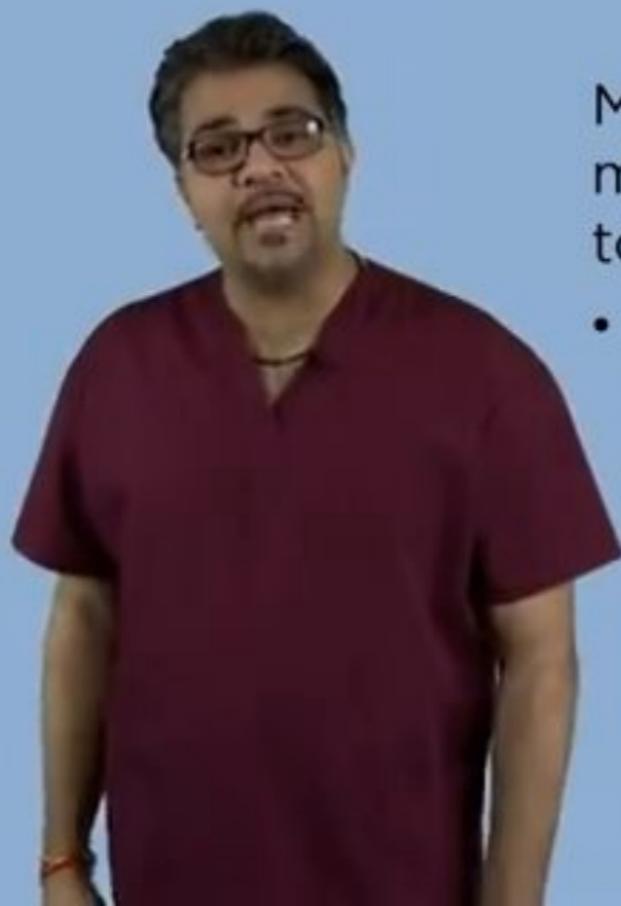
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Most common
manifestation of digoxin
toxicity?

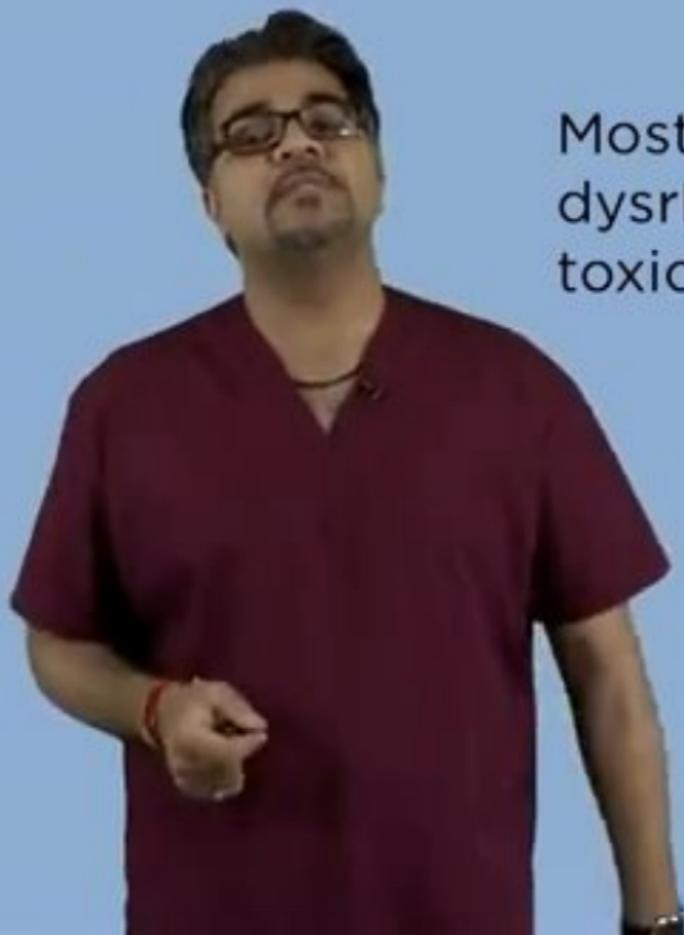
- Gastrointestinal
disturbance, Nausea/
vomiting

What cardiac rhythm disturbances are possible?

- A. Atrial
- B. Ventricular
- C. Ectopy

Most common cardiac
dysrhythmia with digoxin
toxicity?

Most common cardiac
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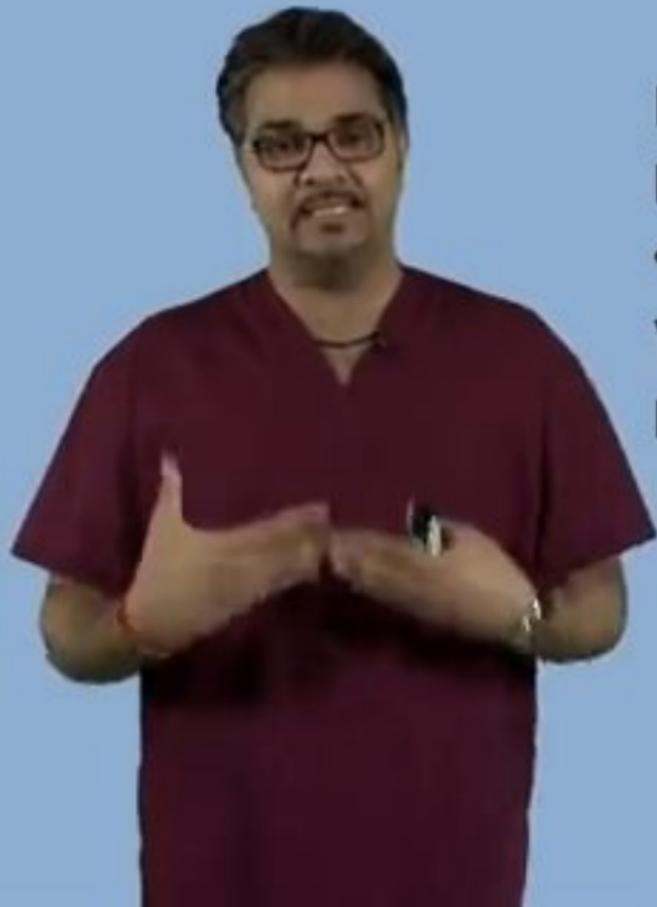
Most urgent step in this patient?

- EKG

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What will patient's potassium level be?



Most urgent step in this patient?

- EKG

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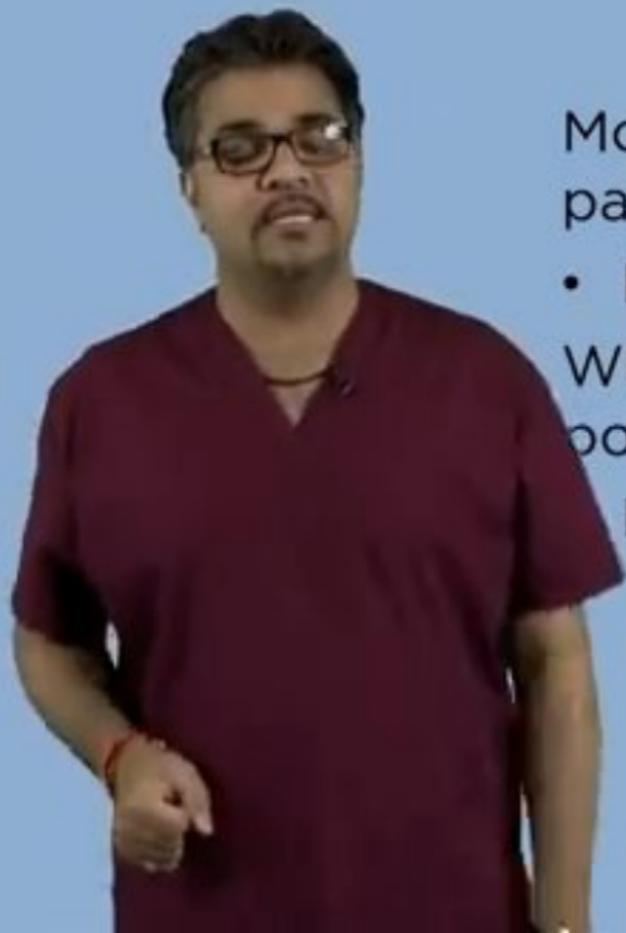


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- EKG

What will patient's potassium level be?

- High



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What will patient's potassium level be?

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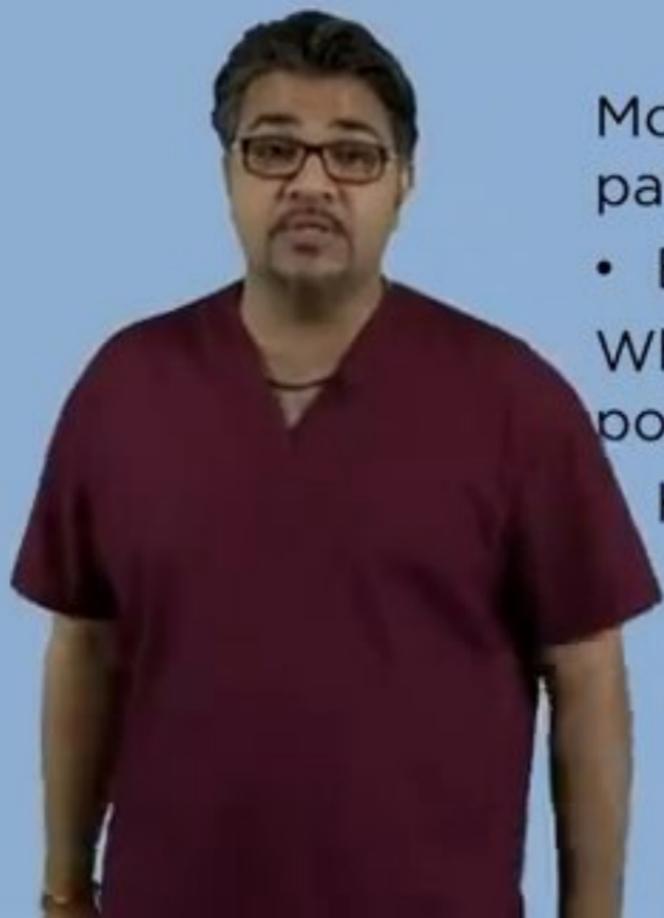


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Strongest indication for digoxin immune Fab?

Strongest indication for digoxin immune Fab?





Strongest indication for digoxin immune Fab?

- Arrhythmia
- CNS disturbance
- Hyperkalemia



Man lives in rural West Virginia without indoor plumbing. As he sits in outhouse, he has sudden pain in perineum. Bitten by local insects. Develops waves of muscular pain that extend to abdomen which is extremely painful and rigid.



Man lives in rural West Virginia without indoor plumbing. As he sits in outhouse, he has sudden pain in perineum. Bitten by local insects. Develops waves of muscular pain that extend to abdomen which is extremely painful and rigid.

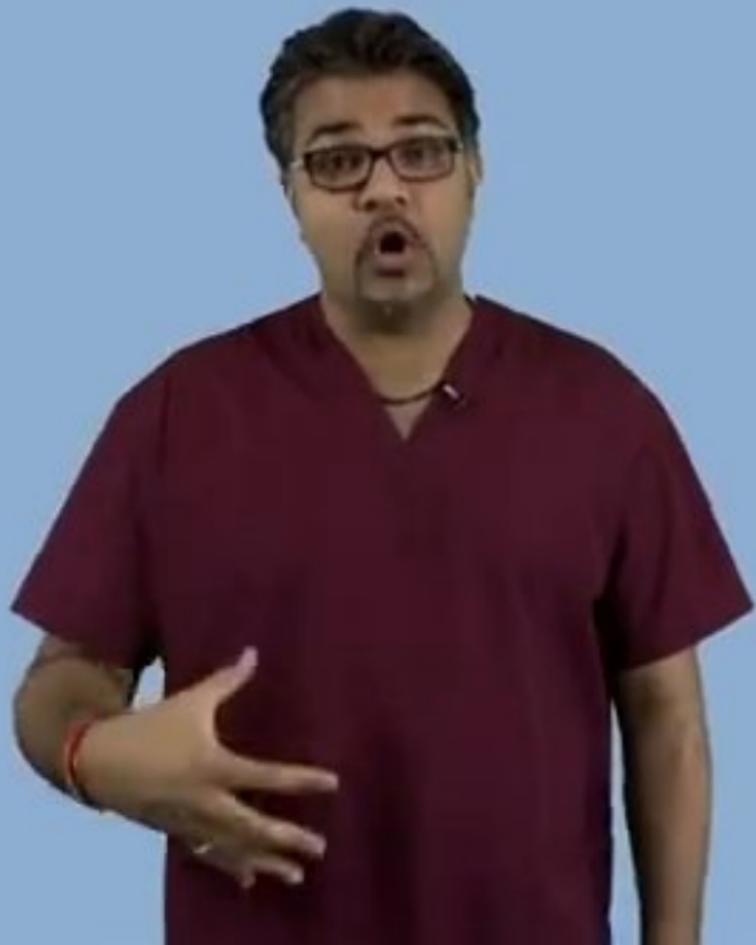


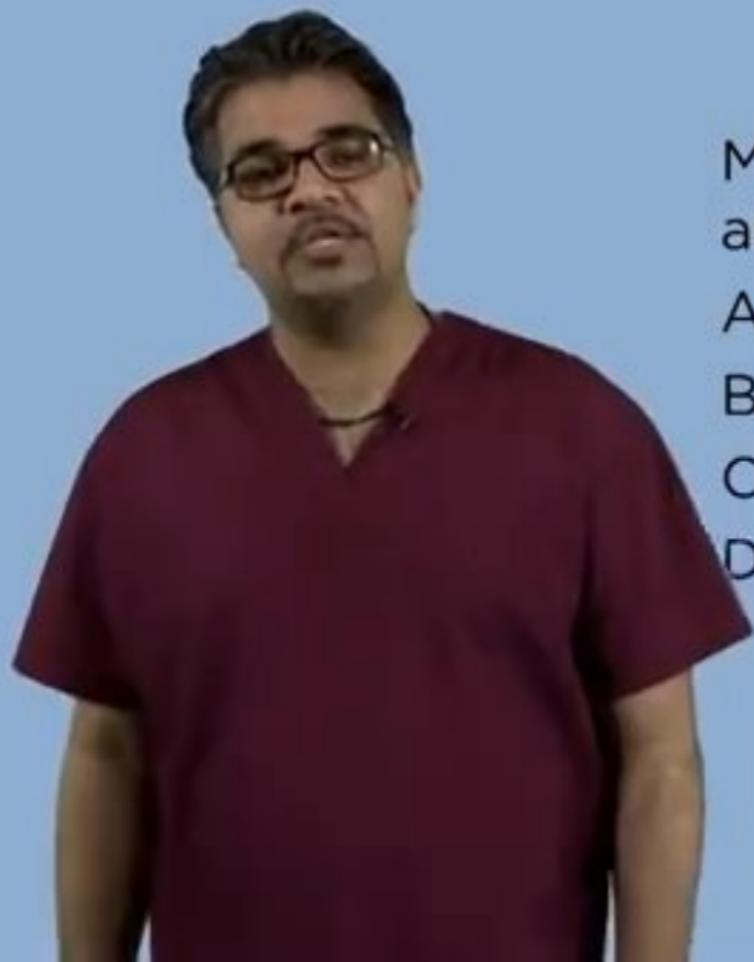
Man lives in rural West Virginia without indoor plumbing. As he sits in outhouse, he has sudden pain in perineum. Bitten by local insects. Develops waves of muscular pain that extend to abdomen which is extremely painful and rigid.



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Diagnosis?





Most common electrolyte abnormality?

- A. Low magnesium
- B. High sodium
- C. Low calcium
- D. High potassium

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- C. Low calcium
- D. High potassium
- E. Low potassium

What are the initial and most effective therapies?

What are the initial and most effective therapies?

- Give Calcium
- Antivenin

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February in Chicago. Homeless alcoholics brought in because of lethargy worse than usual episodes of drunkenness. Temp 31.1°C (88°F). Most urgent test?

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A. Urinalysis



February in Chicago. Homeless alcoholics brought in because of lethargy worse than usual episodes of drunkenness. Temp 31.1°C (88°F). Most urgent test?

- A. Urinalysis
- B. EKG**
- C. Arterial blood gas
- D. Calcium
- E. Urine toxicology



February in Chicago. Homeless alcoholics brought in because of lethargy worse than usual episodes of drunkenness. Temp 31.1°C (88°F). Most urgent test?

- A. Urinalysis
- B. EKG**
- C. Arterial blood gas
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- E. Urine toxicology

Most specific finding of
EKG?

- J waves of Osborn



Most specific finding of
EKG?

- J waves of Osborn





Case 10



82-year-old homebound woman with bleeding gums, ecchymoses on legs. Several nonhealing ulcers. Malnourished. History of living on “tea and toast” diet. PT, PTT, and platelet count are normal. Diagnosis?

- Vitamin C deficiency



- Generally healthy athlete with headache, bone pain, nausea, vomiting, and vertigo. Has papilledema.

Case 11



- Generally healthy athlete with headache, bone pain, nausea, vomiting, and vertigo. Has papilledema.
- Meds: numerous vitamin tablets. Head CT: normal. Some ataxia, alopecia, and lab evidence of hepatic toxicity. He also has dry skin, dry eyes, and mild confusion.
- Diagnosis?

Case 11



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- Meds: numerous vitamin tablets. Head CT: normal. Some ataxia, alopecia, and lab evidence of hepatic toxicity. He also has dry skin, dry eyes, and mild confusion.
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- B. Oral acetazolamide
- C. Intravenous diuretics
- D. Corticosteroids
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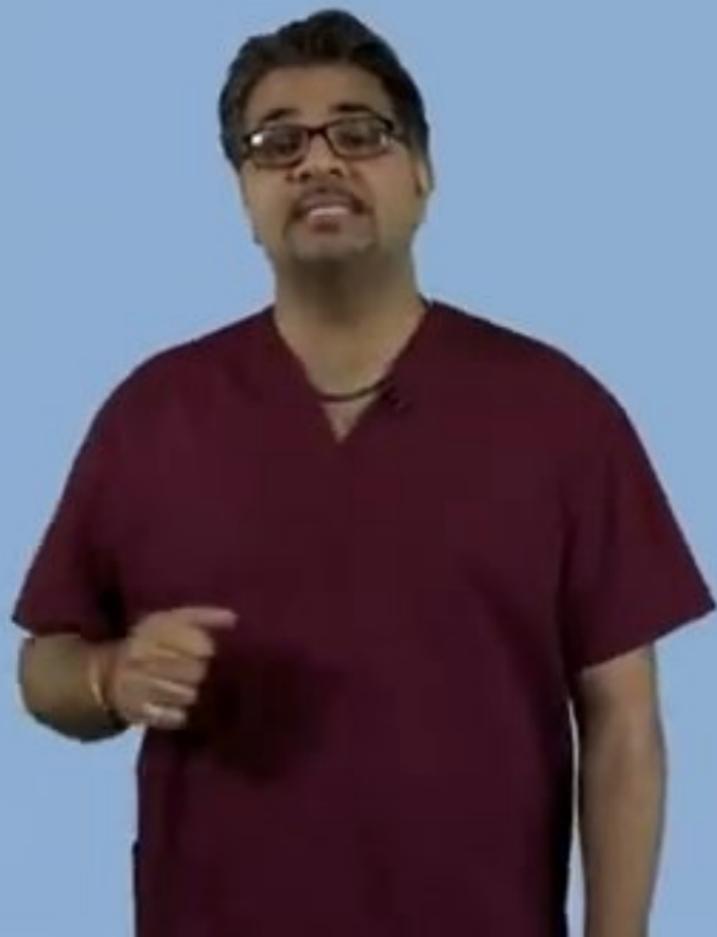
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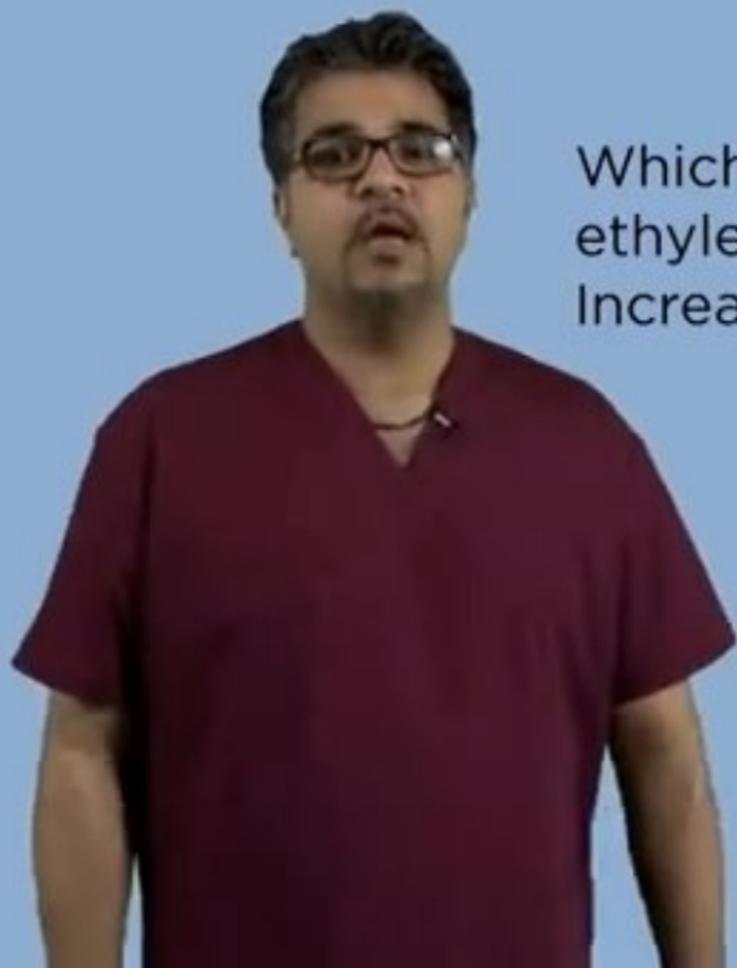
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