

# Dane County EMS Newsletter

November, 2024



## To all EMS providers...

**Thank you.** Thank you for your dedication to helping others. Thank you for the time you give up with your families - and to your families for sharing your time. We hope all who celebrate have a very Happy Thanksgiving, and that everyone has a safe and happy holiday season.



## November Viz Quiz

**Match the below symptoms with the correct toxic exposure:**

- |  |                               |
|--|-------------------------------|
| 1. Tachycardia, fever, dry skin, confusion                     | A. Methamphetamines           |
| 2. Sweating, fever, vomiting, lethargy, upper abdominal pain   | B. Citalopram (SSRI)          |
| 3. Somnolent, jerking movements, long QTc                      | C. Amitriptyline (TCA)        |
| 4. Lethargy, vomiting, wide QRS                                | D. Benadryl (anticholinergic) |
| 5. Agitation, tachycardia, wide pupils, sweating, hypertension | E. Tylenol (acetaminophen)    |

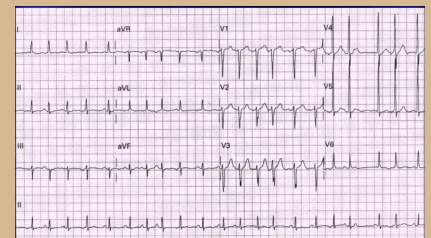


Submit your answer at <https://www.surveymonkey.com/r/C6XLZBG>

## October Viz Quiz Answer

**Answer:** D. Multifocal Atrial Tachycardia; duonebs, NIPPV

This is a case of Multifocal Atrial Tachycardia (MAT), which is a narrow-complex, irregular tachyarrhythmia caused most commonly by underlying lung pathology (i.e. COPD, Pulmonary Hypertension, etc.). MAT is characterized by an irregularly irregular rhythm with 3 morphologically different p-waves (see below). The rhythm itself is very rarely unstable, rather it is the underlying cause of the rhythm that is (i.e. the COPD exacerbation). Therefore, treatment for MAT relies on treating the underlying cause, in this case treating the COPD exacerbation. Cardioversion will not be helpful here. More info on MAT here: [Multifocal Atrial Tachycardia \(MAT\) • LITFL • ECG Library Diagnosis](#)



Congratulations to Jacob from Sun Prairie for winning the October Viz Quiz!

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## Case Study

You are called to a home for a 62 and a 64-year-old husband and wife who both are complaining of headaches and vomiting. This couple started to feel ill last night and called 911 today as their symptoms worsened. Gradual onset headaches, blurred vision and nausea have progressed overnight to now include vomiting and malaise. As you arrive on scene, you note a couple that are awake and alert but are both sluggish. They are able to answer your questions but both appear ill. They deny fevers or abdominal pain. No chest pain, but both patients feel a bit out of breath. The patients hosted a dinner party last night but are unsure if their guests are ill today. They felt fine until last night. It was the first really cold day of the winter, so they turned on the heat and made a fire in their fireplace. Your initial vitals for the 64 year old are: HR 105, resp rate 24, BP 140/88, O2 sat 93%. Glucose 75. Exam is unremarkable, with clear lungs and normal heart sounds. What diagnoses are you considering? Any other assessment or interventions to consider in the prehospital setting?

While GI illness such as gastroenteritis is possible, the cluster of symptoms should raise the concern for environmental exposure as well. Consider carbon monoxide (CO) and/or cyanide exposure. While on scene, note whether there is a CO detector and if it is alarming. If you have a CO-oximeter on your rig, check a CO-ox level. You may also consider end-tidal CO2 levels. And always check a blood sugar!

**CO poisoning facts:** Unintentional CO poisoning results in 100,000 ED visits, 14,000 admissions and 500 deaths annually. Normal CO levels in nonsmokers is 0-3%, but levels can be up to 10% for regular smokers (at baseline). Because CO has a similar wavelength to O2, a normal pulse oximetry may give a falsely reassuring number. CO is REVERSIBLY bound to heme but binds with a 240% higher affinity, so early administering high-flow oxygen can treat CO poisoning. Finger CO-oximeter levels may underrepresent the true degree of CO toxicity relative to measuring blood levels. Special consideration in pregnant patients, as fetal hemoglobin binds with even higher affinity, so maternal CO levels may underrepresent true toxicity. Strongly encourage all pregnant patients to be transported.

**Differentiate from Methemoglobinemia** where the patient appears cyanotic but has a pulse ox of 85, or cyanide poisoning, where the patient is both profoundly cyanotic and hypoxic on standard monitoring. Cyanide binds strongly to heme and uncouples oxygenation. Therefore, giving supplemental O2 doesn't help oxygenation, as these patients require a reversal agent. Keep in mind that in cases of fire and smoke inhalation, there may be elements of each of these exposures.

**Take-home lesson:** The most challenging aspect of CO poisoning is thinking of it in the first place. YOU play an important role in diagnosis and intervention. If you suspect CO exposure, please inform Fire so they can test the environment as well.

## EMS Language Lines

In October, Dane County EMS officially established language lines for all EMS Agencies signed onto the Dane County IGA. This gives EMS providers an invaluable tool for providing patient care to Limited English Proficient and Deaf or Hard of Hearing individuals. Ask your Chief for more information on how to access the language line for your agency!

## Upcoming Events and Training

**12/5, 6pm-8pm: SSM Health Monthly Training  
Back to the Basics: EKG Fundamentals**

Register to attend [here](#)

**12/9, 8am-4:15pm: SCRTAC's Trauma Care  
Across the Continuum Conference at Madison  
College**

For more information or to register go [here](#)

**12/18, 6pm: UW Health Monthly Training  
Frostbite/Special Burns**

Register to attend [here](#)

Thank you for reading! For questions, comments, or feedback you can contact the DCEMS office at [dcems@danecounty.gov](mailto:dcems@danecounty.gov) or by calling 608-335-8228. All other staff contact information can be found at [em.countyofdane.com/EMS/contactus](http://em.countyofdane.com/EMS/contactus).