

## Cardiology Corner: Troponins in SVT

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**Case:** A 44-year-old man presents with narrow complex tachycardia diagnosed as supra-ventricular tachycardia (SVT) and converted with adenosine.

- Patient signed out as “pending labs; if labs normal, discharge home.”
- Amal’s question: Why get labs at all in a patient with SVT who is stable after conversion without complaints?
- A Twitter poll by Amal reveals that many routinely send labs.
- Gabrielli and colleagues found that up to 80% of patients with SVT have a troponin sent, and 30% of those troponins are positive.
- The available literature demonstrates that it is extremely rare for SVT to be the presenting dysrhythmia in acute coronary occlusion myocardial infarction (MI).
- ST depressions while in SVT:
  - It is common for ECG to show diffuse ST depressions while the patient is in SVT.
  - These ECG changes alone should not prompt troponin testing (this is not equivalent to a positive stress test).
  - If the patient continues to have concerning ST changes after conversion (or has symptoms concerning for MI), this should prompt a workup.
- The Gabrielli study showed that up to 30% of the troponins obtained were positive.
  - This does not mean we are catching MIs we would otherwise have missed by indiscriminately sending troponins.
  - The tachycardia from SVT drives a rate-related ischemia that has no relationship to having an acute coronary occlusion.
  - Multiple studies have shown that these elevated troponins are not associated with worse outcomes at 90 days (although they are associated with increased testing).
- The downside of liberally sending troponins is unnecessary downstream testing that can lead to false positives, resulting in additional tests or treatments and, ultimately, patient harm.
- Which patients with SVT should have a troponin sent?
  - Perform a history, physical, and ECG after conversion.
  - If the patient continues to have symptoms concerning for acute coronary syndrome after conversion and/or the ECG shows concerning abnormalities, obtain additional testing.

**References:****Troponin testing in adult patients presenting to the ED for paroxysmal supraventricular tachycardia: a review**

Gabrielli M, Cucurachi R, Lamendola P, et al. *Cardiol Rev.* 2022;10:1097/CRD.0000000000000444. PMID: [35148534](https://pubmed.ncbi.nlm.nih.gov/35148534/)

**Troponin testing in patients with supra ventricular tachycardia—are we overcasting? A teachable moment**

Allen R, deSouza IS. *JAMA Int Med.* 2021;181(6):842-843.  
<https://doi.org/10.1001/jamainternmed.2021.0266>. PMID: [33779679](https://pubmed.ncbi.nlm.nih.gov/33779679/)

**Updating our thinking on troponin use and interpretation**

Foy A, Mandrola J. *JAMA Int Med.* 2021;181(6):843-844.  
<https://doi.org/10.1001/jamainternmed.2021.0241>. PMID: [33779692](https://pubmed.ncbi.nlm.nih.gov/33779692/)

**EMRAP:**

[EM:RAP 2011 November: Cardiology Corner: SVT-Troponins](#)

[EM:RAP 2021 November: Cardiology Corner: Updates in SVT](#)

**CorePendum: Tachydysrhythmias**

## Blood Products + Whole Blood

Dan McCollom and Ryan Knight

- Trauma patients are bleeding whole blood, and our goal should be to replace whole blood or as close as we can get to whole blood. This is why we attempt to achieve a 1:1:1 ratio (packed red blood cells [PRBCs]:fresh frozen plasma [FFP]:platelets) during hemorrhage resuscitation.
- Logistical challenges to blood resuscitation:
  - Thawing time for FFP (including transport + crosschecking) is close to 40 minutes.
  - Platelets may be an afterthought compared with PRBCs and FFP.
  - In many hospitals, immediate-release PRBCs, but not other products, are stocked in the trauma room.
  - In some systems, there is a hesitancy to transfuse, particularly if crystalloids are already hanging.
- “Start with White”
  - Instead of transfusing PRBCs first, consider transfusing FFP first if both are readily available.
  - Starting with FFP increases the chance that we achieve a 1:1:1 ratio.
  - It is important to prepare your team for this approach before the patient arrives.