Narrow Complex Tachycardia (SVT)

Adult Medical

Austin County EMS Protocol & Guideline	
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Overview: Supraventricular Tachycardia (SVT) is most threatening to the patient with associated hypotension 2nd to decreased prefill time resulting in poor cardiac output. Sustained SVT will eventually exhaust the myocardium of oxygen, glucose and ultimately ATP resulting in a higher instance of Ventricular Fibrillation (V-Fib).

Definition: Symptomatic patient's with an organized cardiac rhythm that presents with a narrow QRS in origin (< 120ms) primarily has a positive axis unless normal variant (up to -30 degrees) or left ventricular hypertrophy is present. **Atrial Fibrillation (A-Fib)** is primarily an irregularly-irregular rhythm with no consistent PR interval and atrial rate above 300 and typically becomes symptomatic at a ventricular rate of 130 BPM. **Atrial Flutter (A-Flutter)** is primarily a regular rhythm with an atrial-ventricular conduction ratio (2:1, 3:1, etc). **Supraventricular Tachycardia (SVT)** is a regular rhythm at or above 150 BPM.

EMT

- Place patient on the **Cardiac Monitor**
- Obtain **12 Lead EKG**
- **CPR** & **AED** as appropriate to patient presentation
- **Oxygen** administration as appropriate to the patient presentation
- **Airway Adjuncts** (Supraglottic Airway, OPA, NPA), EtCO2 monitoring appropriate to patient presentation
- Obtain **BGL**
- **Identify** Source/Cause

AEMT

- Vagal Maneuvers appropriate to patient condition
- Establish IV/IO of Normal Saline, 20 ml/kg fluid challenge, may repeat PRN – Observe closely for fluid overload

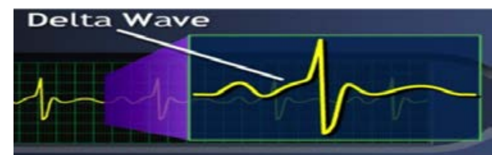
Paramedic

- **Adenosine** 6mg rapid IVP, May repeat at 12 mg – repeat at 12 mg if needed
  ***** Do not administer if patient has identified or a history of WPW (Delta Wave)*****

  *******If Identified as or suspected A-Fib, go directly to Diltiazem*******

- **Diltiazem** 0.25 mg/kg IV/IO given over 5 mins – Max of 25 mgs
- **Amiodarone** 150 mg IV/IO over 5-10 minutes if unable to determine if it is ventricular, atrial or WPW in origin
- **Synchronized Cardioversion** (see procedural sedation procedure)
  - 50j synchronized
  - 100j synchronized
  - 200j synchronized
  - 300j synchronized
  - 360j synchronized

  Cardioversion over 200j requires sedation medication prior to cardioversion



PEARLS

- Physical Exam is essential to identifying the underlying pathophysiological cause(s) of A-Fib and selecting the appropriate treatments that are most likely to be successful.
- Sick (or Unstable) patients are categorized as patients with altered mental status 2nd to hypoperfusion or unconscious.
- Profound hypotension and/or bradycardia 2nd to calcium channel blocker (Diltiazem) should be treated with Calcium Chloride 1 gram IV/IO.
- Patients presenting with hypotension associated with A-fib RVR typically improve BP with rate control. If patient is hypotensive, a candidate for Diltiazem, and concerned about dropping the pressure further with administration of Diltiazem, consider administering ½ dose, assessing and either stop or continue administration.
- Continuous monitoring of BP, HR, RR and SPO2 are key in trending patient's condition along with physical and cognitive findings.
- Patients with Wolf Parkinson White (WPW) or suspected WPW should be treated with Amiodarone (see protocol). DO NOT treat WPW with an AV Nodal blocker (i.e. Adenosine, Diltiazem, etc.), this can exacerbate the syndrome and/or lead to ventricular dysrhythmias
- Consider ½ dose for elderly and patients with hepatic and renal insufficiencies.
- If Diltiazem is contraindicated or unavailable, Lopressor may be administered in its place.