Purpose: **To provide a process for the assessment and management of the patient found to have a supraventricular tachycardia.** SVT rhythms are all narrow-complex tachycardias, including atrial fibrillation and atrial flutter, with rates greater than **150 bpm in ADULTS,** **180 bpm in CHILDREN (1-8)** **and** **220 bpm in INFANTS (Newborn to 1 year).**

NOTE: **ALL WIDE COMPLEX RHYTHMS (QRS > 0.12 seconds) ARE TO BE TREATED AS VENTRICULAR TACHYCARDIA UNLESS ASSOCIATED P- WAVES ARE CLEARLY VISIBLE**.

S P **I. General Management**

A. Assess ABC's
B. Apply oxygen as needed
C. Monitor EKG (identify rhythm), blood pressure, oximetry

P D. Determine if the patient is **STABLE** or **UNSTABLE**
   a. **STABLE** normal mentation for the patient, relatively normotensive, no significant chest pain*, no signs of shock
   b. **UNSTABLE** altered mental status, significant chest pain*, significant shortness of breath, hypotension, or other signs of shock (any one or more of these)

   - "Significant chest pain" is a judgment based on medic discretion and patient presentation.

II. Specific Management

S P A. Obtain vascular access if quickly accessible

B. (ADULT ONLY) UNSTABLE: treat with synchronous cardioversion.

P 1. Consider sedation per procedure

2. **Synchronous cardioversion for adult patient:**
   a. 100 joules; check pulse and rhythm
   b. If the patient does not convert, repeat cardioversion at escalating energy settings (200 J, 300 J, 360 J, reassess between shocks and discontinue if the patient converts)
      1) **Biphasic equipment energy levels may be different but the cycle is the same. Follow the manufacturer's guidelines for the specific monitor/defibrillator.**

3. If cardioversion is **unsuccessful**, consider:
   a. Additional cardioversion(s)
   b. Additional sedation
   c. Fluid bolus in the absence of pulmonary edema
   d. **Adenosine** **6 mg** rapid IV over 1 - 3 seconds
      1) Repeat **12 mg** rapid IV if necessary
   e. Contact Medical Control for additional orders

4. If cardioversion/medication is **successful**, reassess patient, repeat VS, record EKG and perform an initial or repeat 12 Lead, if available

5. Transport

C. (PEDIATRIC ONLY) UNSTABLE:

S P

1. **Evaluate rhythm** with 12 Lead EKG monitor, if available
2. **Differentiate between probable Sinus Tach and Probable SVT**
   a. Sinus Tach – Compatible history consistent with known cause
      1) P-waves present/normal
      2) Variable RR; constant PR
      3) Infants: rate usually less than 220 bpm
      4) Children: rate usually less than 180 bpm

   b. SVT - Compatible history (vague, nonspecific)
      1) P waves absent/abnormal
      2) HR not variable
      3) History of abrupt changes
      4) Infants: rate usually greater than 220 bpm
      5) Children: rate usually greater than 180 bpm

3. **If the patient is found to be in probable Sinus Tach**
   a. Search for and **treat possible causes**

4. **If the patient is found to be in probable SVT**

P

   a. Consider vagal maneuvers (No delays)

   b. If **IV access** is **readily available**:
      1) **Adenosine** — **0.1mg/kg** max 6mg; rapid IV/IO (1-3 sec)
      2) Repeat if needed — **0.2mg/kg** max 12mg, rapid IV/IO

   c. If **IV access** is <u>**not**</u> **readily available**:
      1) **Synchronous cardioversion:**
         a) At 0.5 j/kg; check pulse and rhythm
         b) Repeat at 1 j/kg; check pulse and rhythm
         c) Repeat at 2 j/kg; check pulse and rhythm

5. If cardioversion/adenosine is **unsuccessful**:
   a. Obtain IV/IO, if not already established
   b. Consider Sedation
   c. Additional cardioversion(s): use above energy settings
   c. Fluid bolus in the absence of pulmonary edema (20 ml/kg)
   d. **Adenosine** (if not previously given) — **0.1mg/kg** max 6mg; rapid IV/IO (1-3 sec)
      1) Repeat if needed — **0.2mg/kg** max 12mg, rapid IV/IO

   e. Contact Medical Control for additional orders

6. If cardioversion/medication is **successful**, reassess patient, repeat VS, record EKG and perform an initial or repeat 12 Lead, if available

7. Transport

S P D. **(ADULT and PEDIATRIC) STABLE SVT:** Treat with observation and transport.

P 1. Obtain 12 lead EKG, if available and not previously done

2. Prompt transport

P 3. Consider vagal maneuvers

4. **Possible orders post-radio contact:**

P a. Adenosine at above doses

1) Medics may request adenosine for stable patients after a 12 lead is obtained, if available

2) Adenosine may be denied for stable patients if on-line Medical Control would prefer to further test/evaluate the patient before converting the rhythm

c. Additional fluids

E. Considerations – Evaluate and, when possible, treat suspected contributing factors

• Hypoxia	• Tablets (drug overdose)
• Hypovolemia	• Tamponade (cardiac)
• Hydrogen ion (acidosis)	• Tension pneumothorax
• Hyperkalemia/Hypokalemia	• Thrombosis – heart (AMI)
• Hypothermia	• Thrombosis – lungs (PE)
• Hypoglycemia	• Trauma

6/10/98
7-1-2004
2-1-2007