# TACHYCARDIA

## Step 1:

**STABLE**
- Hypotension?
- Decreased mentation?
- CP/SOB?

**UNSTABLE**
- Cardiovert!

## Step 2:

**NARROW COMPLEX TACHYCARDIA**
- QRS >120?
- <120?

**WIDE COMPLEX TACHYCARDIA**
- SVT with aberrancy
- Monomorphic VT
- Polymorphic VT

## Table:

<table>
<thead>
<tr>
<th>SINUS TACHYCARDIA</th>
<th>ATRIAL FIB/FLUTTER</th>
<th>PAROXYSMAL VT (PSVT) = REENTRANT TACH</th>
<th>JUNCTIONAL TACH</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Risks/Pathophys</strong></td>
<td>Fever, pain, anxiety, hypovolemia, anemia, hypoxia</td>
<td>Fib: LA enlarged; ectopic foci of electric activity Flutter: reentrant atrial circuit</td>
<td>AVNRT: reentrant circuit in AV node AVRT: WPW (accessory pathway)</td>
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<tr>
<td><strong>HR, typically</strong></td>
<td>&lt;150</td>
<td>Flutter: 150 = 2:1 block 100 = 3:1 block Fib: any</td>
<td>&gt;150</td>
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<tr>
<td><strong>EKG</strong></td>
<td>P waves anterograde</td>
<td>Irregular rhythm, no p waves or sawtooth</td>
<td>Often short RP (RP&lt;PR) P often hidden in QRS or retrograde. P may be inverted in inf leads. AVRT: delta waves, short PR, long QRS</td>
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<tr>
<td><strong>After vagal stim adenosine</strong></td>
<td>May slow and gradually ramp up</td>
<td>Reveals flutter waves or no p waves</td>
<td>Usually breaks if high enough dose. Avoid in WPW!</td>
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<tr>
<td><strong>Treatment</strong></td>
<td>Treat underlying problem</td>
<td>CCB/Beta-blockers Amiodarone Digoxin</td>
<td>Vagal maneuvers Adenosine CCB Beta-blockers Digoxin</td>
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</table>
This was created to be a chalk talk on the board with the following questions to facilitate creation and discussion of the chart:

1. You are called the bedside of a patient with tachycardia. What is the first thing you want to assess for?
   • Get VS, go see the patient. Decide whether stable or unstable, using the three criteria of BP, mentation, cp/sob

2. Once you determine they are stable what is your next decision point?
   • Narrow vs. wide QRS
   • Irregular vs. regular; Irregular would be 2/2 a fib/flutter or multifocal atrial tachycardia
   • Definitions:
     • AVNRT = AV nodal reentrant tachycardia (reentrant circuit within AV node)
     • AVRT = AV reentrant tachycardia (circuit not necessarily in AV node, involves at least 1 accessory pathway and maybe AV node conducting rhythm). Ex WPW

3. Narrow complex tachycardia is the same as supraventricular tachycardia (a.k.a. a rhythm originating from the AV node or above).
   • What are the common types of SVT, who gets them?
   • The rate of the tachycardia can help you decide what the rhythm is. What are the usual expected rates for the different SVTs?
   • What are the typical EKG findings of each?
   • If you suspect PSVT, you will often try vagal maneuvers or push adenosine for both diagnostic AND therapeutic reasons.

   *How to give adenosine: crash cart nearby, have EKG running, 6mg quick push through peripheral, followed immediately by 10cc saline flush. Raise arm above heart. Warn the patient that they may feel a sensation of dying/chest pain. Try 6mg again or 12mg, if it doesn’t work and suspect AVNRT. Avoid in WPW, which could block the AV node and accelerate the rhythm down the accessory pathway.

4. What is the basic treatment for each kind of SVT?

   **EKG practice**
   
   #1: A FIB - 81F with chest pain.
   
   #2: JUNCTIONAL TACHY (vs. very slow AVNRT)- 42M healthy, with fluttering, diaphoresis, chest discomfort.
   • Note retrograde p waves in all leads with p wave inversion in inferior and lateral leads. Converted to sinus with CCB.
   • What should you screen him for? -> Acute MI

   #3: PSVT vs AFIB/FLUTTER
   • What would you do with this EKG in different scenarios:
     • 73F with chest pain, sob -> suspect a fib/flutter, so cardiovert
     • 30M with palpitations and diaphoresis -> suspect PSVT, if stable, can try vagal maneuvers, but low threshold to push adenosine

References: The Red Book, Up to Date, UCSF Hospitalist Handbook

-Anita Chang, R2