Narrow Complex Tachycardia

**History**
- Medications (e.g., Aminophylline, Adderall, diet pills, thyroid supplements, decongestants, and Digoxin)
- Diet
- Drugs (e.g., nicotine and illegal drugs)
- Past medical history
- History of palpations/heart racing
- Syncope/near syncope

**Signs and Symptoms**
- Heart rate > 150 with narrow, regular complexes
- Systolic BP < 90
- Dizziness, chest pain, shortness of breath, altered mental status, or diaphoresis
- Acute Pulmonary Edema
- Potential presenting rhythm:
  - Atrial/sinus tachycardia
  - Atrial fibrillation/flutter
  - Multifocal atrial tachycardia
  - Ventricular tachycardia

**Differential**
- Heart disease (e.g., WPW or valvular)
- Sick sinus syndrome
- Myocardial infarction
- Electrolyte imbalance
- Exertion, pain, or emotional stress
- Fever
- Hypoxia
- Hypovolemia or anemia
- Drug effect/overdose (see History)
- Hypothyroidism
- Pulmonary embolus

**Assess symptom severity**

**Unstable**
- Cardiac monitor
- **Consider amnesia pre-cardioversion**
- Midazolam
- **EtCO₂ monitoring (if available)**
- Establish IV/IO
- **Synchronized cardioversion**
  - 200J
  - May repeat with escalating energy
- 12-Lead ECG

**Stable**
- Cardiac monitor
- **Consider, IV/IO**
- 12-Lead ECG
- **Attempt Valsalva maneuver**

**Regular rhythm (SVT)**
- (QRS ≤ 0.09 sec)
- **Adenosine**
  - If rhythm change, repeat 12-Lead ECG

**Irregular rhythm**
- (A-Fib/A-Flutter)
  - If systolic BP < 90
  - Normal Saline bolus 500ml IV/IO
  - **Maximum 2L**

**Notify receiving facility. Consider Base Hospital for medical direction**
San Mateo County Emergency Medical Services

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Pearls

- Most important goal is to differentiate the type of tachycardia and if STABLE or UNSTABLE.
- If at any point the patient becomes unstable, move to the unstable arm of the algorithm.
- For ASYMPTOMATIC patients (or those with only minimal symptoms, such as palpitations) and any tachycardia with a rate of approximately 100 – 120 with a normal blood pressure, consider CLOSE OBSERVATION or fluid bolus rather than immediate treatment with an anti-arrhythmic medication. For example, a patient’s “usual” atrial fibrillation may not require emergent treatment.
- Continuous paper recording peri-adenosine administration
- All Adenosine administrations should be immediately followed by a 20ml rapid flush.
- Unstable Signs/Symptoms include: Hypotension; acutely altered mental status; signs of shock/poor perfusion; chest pain with evidence of ischemia (e.g., STEMI, T-wave inversions or depressions); and acute pulmonary edema.
- Search for underlying cause of tachycardia such as fever, sepsis, dyspnea, etc.
- If patient has a history of Wolfe Parkinson White (WPW), Adenosine is contraindicated.
- Synchronized Cardioversion is recommended to treat UNSTABLE atrial fibrillation/flutter and monomorphic-regular tachycardia (SVT).
- Monitor for respiratory depression and hypotension associated with Midazolam.
- Activate and upload all monitor data.