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)
- Irregular rhythm (A-Fib/A-Flutter)
- Adenosine
- If rhythm change, repeat 12-Lead ECG

If systolic BP < 90
- Normal Saline bolus 500ml IV/IO
- Maximum 2L
- Notify receiving facility.
- Consider Base Hospital for medical direction

Effective November 2018

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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.