



# ADULT TACHYCARDIA

## NARROW ( $\leq 0.11$ SEC)

### History

- Age
- Past medical history (MI, Angina, Diabetes, post menopausal)
- Recent physical exertion
- Palpitations, irregular heart beat
- Time (onset /duration / repetition)

### Signs and Symptoms

- Chest pain, heart failure, dyspnea
- AMS
- Shock, poor perfusion, hypotension
- Pale, diaphoresis
- Shortness of breath
- Nausea, vomiting, dizziness

### Differential

- Trauma vs. Medical
- Sinus Tachycardia vs. dysrhythmia
- Fever, sepsis, infection
- Pericarditis, pulmonary embolism
- Aortic dissection or aneurysm
- Overdose: Stimulants

Assess tachycardia in context of clinical condition  
Identify and treat underlying cause of tachycardia

**P** Cardiac Monitor

Unstable / Serious Signs and Symptoms  
HR Typically  $\geq 150$   
Hypotension, Acute AMS, Ischemic Chest Pain,  
Acute CHF, Seizures, Syncope, Poor Skin Signs,  
or Shock secondary to tachycardia

**P**

Consider  
Only if regular/narrow complex  
**ADENOSINE 6 mg IV / IO**  
Rapid push with flush  
May repeat **12 mg IV / IO**  
May repeat **12 mg IV / IO**

Cardioversion Procedure

**Consider Sedation Prior to Cardioversion**  
**MIDAZOLAM**  
**2 – 2.5 mg IV / IO, 5 mg IM / IN**  
May repeat as needed  
(Maximum 10 mg)

**Synchronized**  
**Narrow and Regular: 200J**  
**Narrow and Irregular: 200J**  
May repeat cardioversion attempts

NO

**B** 12 Lead ECG Procedure  
IV or IO Access Protocol UP 6

Regular Rhythm?

**P** Attempt Vagal Maneuvers Procedure

**ADENOSINE**  
**6 mg IV / IO**  
Rapid push with flush  
May repeat **12 mg IV / IO**  
May repeat **12 mg IV / IO**

NO

**P**

**DILTIAZEM 0.25 mg/kg IV / IO**  
Over 2-3 minutes  
(Maximum 25 mg)

If No Improvement in 15 minutes  
**DILTIAZEM 0.35 mg/kg IV / IO**  
Over 2-3 minutes  
(Maximum 25 mg)

OR

**AMIODARONE**  
**150 mg in 50 mL of NS IV / IO**  
Over 10 minutes

Monitor and Reassess

Notify Destination or Contact Medical Control



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## NARROW ( $\leq 0.11$ SEC)

### AMIODARONE INFUSION INSTRUCTIONS

*DOSE: 150 mg/50 mL infused over 10 minutes*

- Inject 150 mg of Amiodarone into 50 mL Normal Saline bag
- Using a 10 gtt IV set, administer 50 gtt/minute

#### Pearls

- **Recommended Exam: Mental Status, Skin, Neck, Lung, Heart, Abdomen, Back, Extremities, Neuro**
- **Most important goal is to differentiate the type of tachycardia and if STABLE or UNSTABLE and SYMPTOMATIC.**
- **12-Lead ECG:**
  - 12 Lead ECG not necessary to diagnose and treat
  - Obtain when patient is stable and/or following rhythm conversion.
- **Unstable condition**
  - Condition which acutely impairs vital organ function and cardiac arrest may be imminent.
  - If at any point patient becomes unstable move to unstable arm in algorithm.
- Search for underlying cause of tachycardia such as fever, sepsis, dyspnea, etc.
- Typical sinus tachycardia is in the range of 100 to (200 - patient's age) beats per minute.
- **Symptomatic condition**
  - Arrhythmia is causing symptoms such as palpitations, lightheadedness, or dyspnea, but cardiac arrest is not imminent.
  - Symptomatic tachycardia usually occurs at rates  $\geq 150$  beats per minute.
  - Patients symptomatic with heart rates  $< 150$  likely have impaired cardiac function such as CHF.
- **Serious Signs / Symptoms:**
  - Hypotension. Acutely altered mental status. Signs of shock / poor perfusion. Chest pain with evidence of ischemia (STEMI, T wave inversions or depressions.) Acute CHF.
- **If patient has history or 12 Lead ECG reveals Wolfe Parkinson White (WPW):**
  - DO NOT administer a Calcium Channel Blocker (e.g. Diltiazem) or Beta Blockers.
  - Use caution with Adenosine and give only with defibrillator available.
- **Regular Narrow-Complex Tachycardia:**
  - Vagal maneuvers and adenosine are preferred. Vagal maneuvers may convert 19% to 54 % of SVT.
  - Using passive leg raise with Valsalva is more effective.
  - Adenosine should be pushed rapidly via proximal IV site followed by 20 mL Normal Saline rapid flush.
  - Adenosine should not be used in the post-cardiac transplant patient without **Contact of Medical Control**.
  - Agencies using both calcium channel blockers and beta blockers should choose one primarily. Giving the agents sequentially requires **Contact of Medical Control**. This may lead to profound bradycardia / hypotension.
- **Irregular Narrow-Complex Tachycardia:**
  - Rate control is more important in pre-hospital setting rather than focus on rhythm conversion.
- **Synchronized Cardioversion:**
  - Recommended to treat UNSTABLE Atrial Fibrillation, Atrial Flutter and SVT.
- Monitor for hypotension after administration of Calcium Channel Blockers or Beta Blockers.
- Document all rhythm changes with monitor strips and obtain monitor strips with each therapeutic intervention.