



Adult Tachycardia

NARROW (≤ 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

UNSTABLE / Serious Signs and Symptoms
HR Typically ≥ 150
Hypotension, Acute AMS, Ischemic Chest Pain,
Acute CHF, Seizures, Syncope, or Shock
secondary to tachycardia

P	Consider Only if regular/narrow complex Adenosine 12 mg IV / IO Rapid push with flush May repeat 12 mg IV / IO
	Cardioversion Procedure
	Consider Sedation Prior to Cardioversion – only if stable Midazolam 2 – 2.5 mg IV / IO / IN May repeat as needed Maximum 10 mg Consider Ketamine 1mg/kg IV / IM
Synchronized Narrow and Regular: 50 – 100J Narrow and Irregular: 120 – 200J May repeat and increase dose with subsequent cardioversion attempts If refractory - consider changing pad placement	

STABLE

B	12 Lead ECG Procedure
P	Cardiac Monitor
	IV or IO Access Protocol UP 6

Regular Rhythm?

P	Attempt Vagal Maneuvers Procedure
	Adenosine 12 mg IV / IO Rapid push with flush May repeat x 1 - 12 mg IV / IO

P	Diltiazem 0.25 mg/kg IV / IO Over 2 – 3 minutes Maximum 25 mg
	<u>If No Improvement in 10 minutes</u> Diltiazem 0.35 mg/kg IV / IO Maximum 25 mg
	<u>If No Improvement in 15 minutes</u> Lopressor 5mg IV / IO – If SBP >100
Monitor and Reassess	
Notify Destination or Contact Medical Control	



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Lopressor / Metoprolol is optional & can be used as an alternative if Diltiazem is on back order due to drug shortage

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 ≥ 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 extreme caution. 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.