Adult Tachycardia
NARROW (≤ 0.11 sec)

History
- Age
- Past medical history (MI, Angina, Diabetes, post menopausal)
- Recent physical exertion
- Palpitations, irregular heart beat
- **T**ime (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

YES →

P	Cardioversion Procedure CSP 2
	Consider Sedation Prior to Cardioversion **Midazolam 2.5 mg IV / IO / IN** **5 mg IM** **Age ≥ 65: 1 mg IV / IO / IN** **2.5 mg IM** Repeat every 5 minutes **Maximum 10mg**
	Synchronized Cardioversion **200 Joules**

Exit to Appropriate Protocol(s)
if rhythm converts

NO ↓

B	12 Lead ECG Procedure CSP 1
P	Cardiac Monitor
	IV / IO Access Protocol UP 6

Regular Rhythm?

YES →

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 SBP > 100 **Maximum 25 mg** If No Improvement in 15 minutes **Diltiazem 0.35 mg/kg IV / IO** **Maximum 25 mg** **OR** **Metoprolol 5 mg IV / IO** If No Improvement in 5 minutes **Repeat Metoprolol 5 mg IV / IO**
	Monitor and Reassess
	Notify Destination or Contact Medical Control

Single lead ECG able to diagnose and treat arrhythmia

12 Lead ECG not necessary to diagnose and treat, but preferred when patient is stable.

Adult Cardiac Protocol Section

Adult Tachycardia
NARROW (≤ 0.11 sec)

THE MOST IMPORTANT ASPECT IS TO DIFFERENTIATE THE TYPE OF TACHYCARDIA AND IF THE PATIENT IS STABLE OR UNSTABLE.

SEARCH FOR AND TREAT THE UNDERLYING CAUSE OF THE TACHYCARDIA SUCH AS FEVER, SHOCK, SEPSIS, RESPIRATORY DISTRESS, HYPOXIA, ETC.

Symptomatic tachycardia usually occurs at rates of 120 – 150 or greater and typically > 150 beats per minute.

Patients with symptoms related to a tachycardia < 150 beats per minute typically have impaired cardiac function such as CHF.

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 **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.