

Adult Monomorphic Tachycardia

Wide Complex (≥0.12 sec)



History

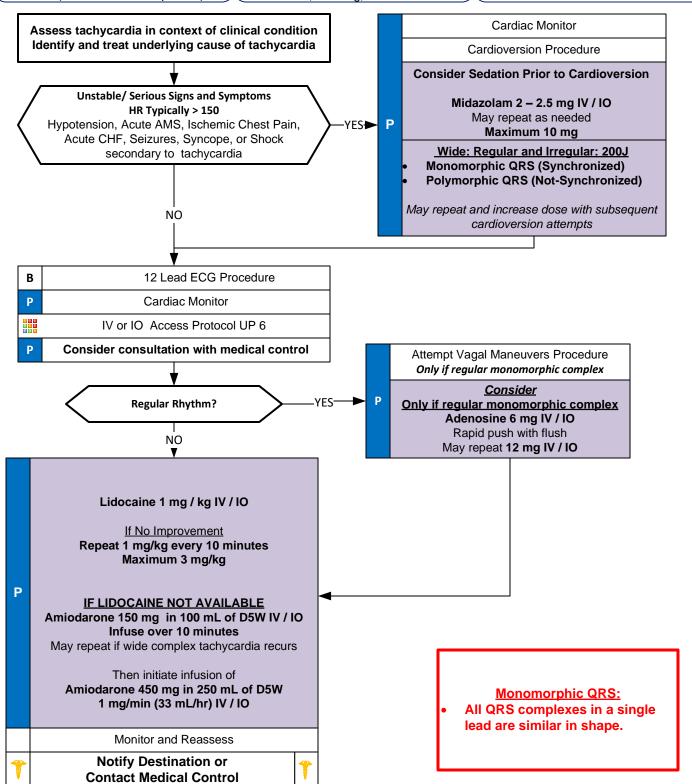
- Age
- Past medical history (MI, Angina, Diabetes, post menopausal)
- Recent physical exertion
- Palpitations, irregular heart beat
- Time (onset /duration / repetition)

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. dysrrhythmia
- Fever, sepsis, infection
- Pericarditis, pulmonary embolism
- Aortic dissection or aneurysm
- Overdose: Stimulants



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Adult Cardiac Protocol Section

ECG and rhythm information should be interpreted in context of the entire patient assessment:

- Tachycardia is defined as heart rate > 100 but rarely causes symptoms unless > 120 in the adult.
- The most important decision point in care is whether the patient is stable or unstable.
- Tachycardias are identified in several ways based on appearance of the QRS complex, heart rate, and if regular or irregular.
- Main objective is to recognize and differentiate between sinus tachycardia, narrow-complex supraventricular tachycardia and wide-complex tachycardia.
- Next you should identify the underlying cause of the tachycardia and whether it is the primary reason for the problem, or secondary to a problem like anxiety, fever, shock, or sepsis.

Wide-QRS-Complex Tachycardia (QRS ≥ 0.12 sec) in order of frequency:

Ventricular Tachycardia > Ventricular Fibrillation SVT with aberrancy > Wolff-Parkinson-White (WPW) > Ventricular rhythms

Pearls

- Recommended Exam: Mental Status, Skin, Neck, Lung, Heart, Abdomen, Extremities, Neuro
- Most important goal is to differentiate the type of tachycardia and if STABLE or UNSTABLE and if SYMPTOMATIC.
- 12-Lead ECG:

12-Lead ECG is not necessary to diagnose and treat arrhythmia. A single lead ECG is often all that is needed. Obtain12-Lead when patient is stable and/ or following a rhythm conversion.

Monomorphic QRS:

All QRS complexes in a single lead are similar in shape.

- Polymorphic QRS:
 - QRS complexes in a single lead will change shape from complex to complex.
- Rhythm should be interpreted in the context of symptoms and pharmacological or electrical treatment given only when symptomatic, otherwise monitor and reassess.
- Unstable condition
 - Condition which acutely impairs vital organ function and cardiac arrest may be impending.

If at any point patient becomes unstable move to unstable arm in algorithm.

- Symptomatic condition
 - Arrhythmia is causing symptoms such as palpitations, lightheadedness, or dyspnea but cardiac arrest is not impending.
 - 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 congestive heart failure.
- Search for underlying cause of tachycardia such as fever, sepsis, dyspnea, etc.
- Typical sinus tachycardia is in the range of 100 to (220 patients age) beats per minute.
- 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 Wide-Complex Tachycardia:

Unstable condition:

Immediate defibrillation if pulseless and begin CPR.

Stable condition:

Typically VT or SVT with aberrancy. Adenosine may be given if regular and monomorphic and if defibrillator available.

Verapamil contraindicated in wide-complex tachycardias.

Agencies using Amiodarone, Procainamide, and Lidocaine need to choose one agent primarily. Giving multiple anti-arrhythmics requires contact of Medical Control.

Atrial arrhythmias with WPW should be treated with Amiodarone or Procainamide

• Irregular Tachycardia:

Wide-complex, irregular tachycardia: Do not administer calcium channel, beta blockers, or adenosine as this may cause paradoxical increase in ventricular rate. This will usually require cardioversion. Contact Medical Control.

• Document all rhythm changes with monitor strips and obtain monitor strips with each therapeutic intervention.