

Wide Complex Tachycardia

History

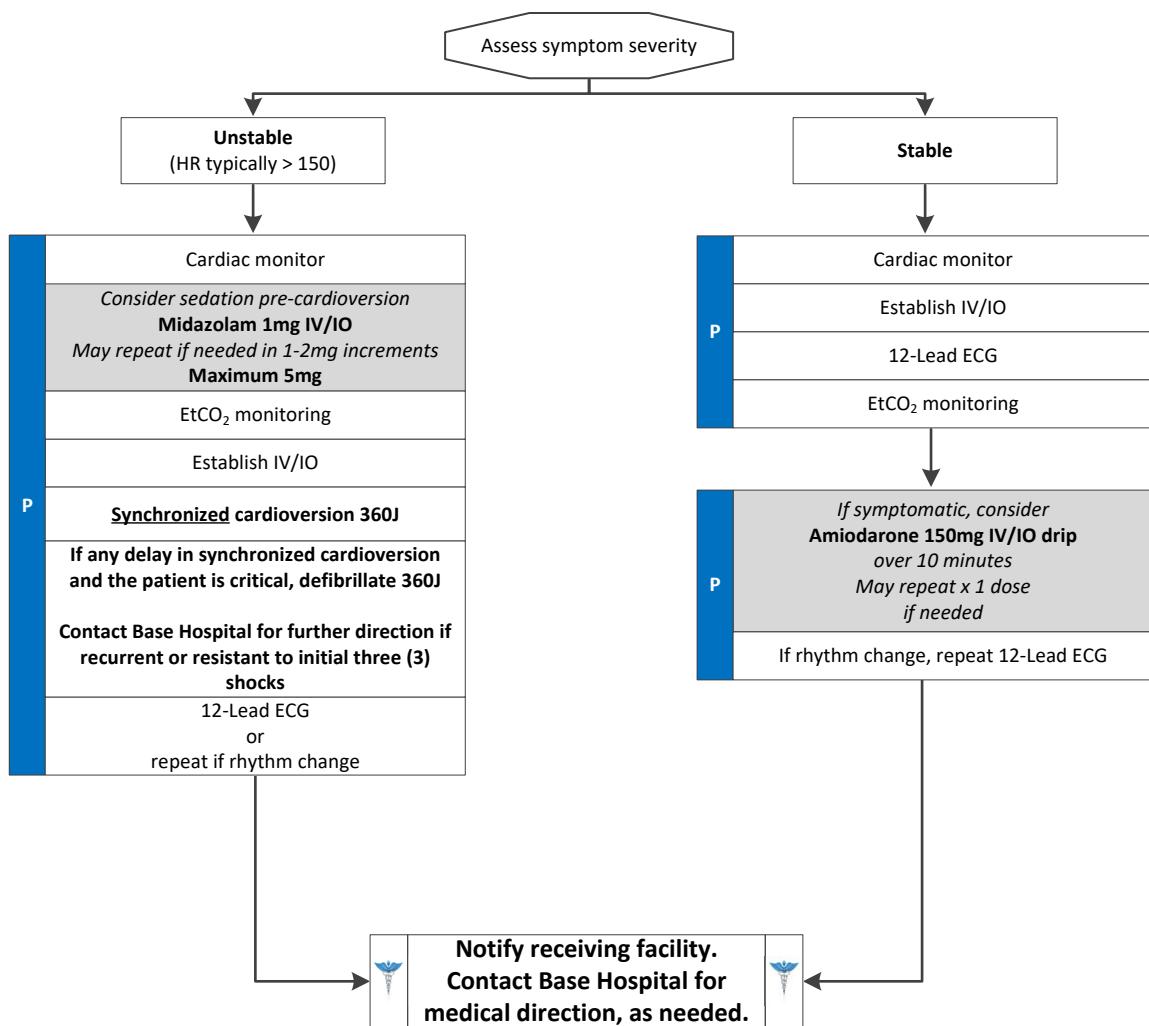
- Medications (e.g. Aminophylline, Adderall, diet pills, thyroid supplements, decongestants, and Digoxin)
- Diet (e.g. caffeine and chocolate)
- Drugs (e.g. nicotine and illegal drugs)
- Past medical history
- History of palpitations/heart racing
- Syncope/near syncope
- Renal failure
- Missed dialysis

Signs and Symptoms

- Heart rate > 150
- Systolic BP < 90
- Dizziness, chest pain, shortness of breath, altered mental status or diaphoresis
- CHF
- Potential presenting rhythm:
 - Atrial/sinus tachycardia
 - Atrial fibrillation/flutter
 - Multifocal atrial tachycardia
 - Ventricular tachycardia

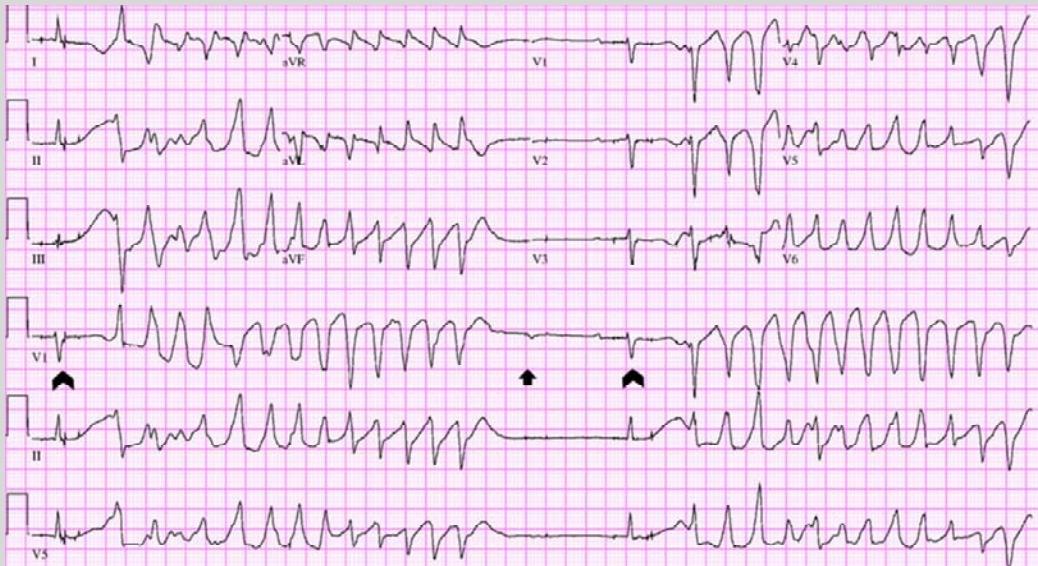
Differential

- 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



Wide Complex Tachycardia

Torsades de pointes or torsade depointes (TdP or simply torsade(s)) is a specific type of polymorphic ventricular tachycardia that exhibits distinct characteristics on the electrocardiogram (ECG). If this does not occur, possible adverse outcomes include palpitations, dizziness, lightheadedness (during shorter episodes), fainting (during longer episodes), and sudden cardiac death.



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.
- In unstable patients with fever or other signs of sepsis, the underlying cause of the rapid heart rate is more likely fever and hypovolemia. This is particularly true in wide irregular tachycardia which is frequently underlying A fib with a bundle branch block. Initial efforts should focus on treating appropriately for underlying sepsis.
- In Polymorphic VT: (torsade de pointes) etc., the variation in QRS morphology may make it difficult to synchronize. If you cannot synchronize, move to defibrillation.
- In wide irregular rhythm such as A Fib with left or right bundle etc, synchronized cardioversion at 360J is more likely to yield first shock conversion.
- Typical sinus tachycardia is in the range of 100 to (200 – the patient's age) beats per minute.
- Symptomatic tachycardia usually occurs at rates of 120 – 150 and typically ≥ 150 beats per minute. Patients who are symptomatic with heart rates < 150 likely have impaired cardiac function, such as CHF.
- Serious 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 CHF.
- Search for underlying cause of tachycardia such as fever, sepsis, dyspnea, etc.
- Monitor for respiratory depression and hypotension associated with Midazolam.
- Continue pulse oximetry and EtCO₂ monitoring is required for all wide complex tachycardia patients.
- Providers must export all monitor data to EHR when caring for and treating wide complex tachycardia patients.



Treatment Guideline AC07