

# Adult Polymorphic Tachycardia Wide Complex ( $\geq 0.12$ sec)



## History

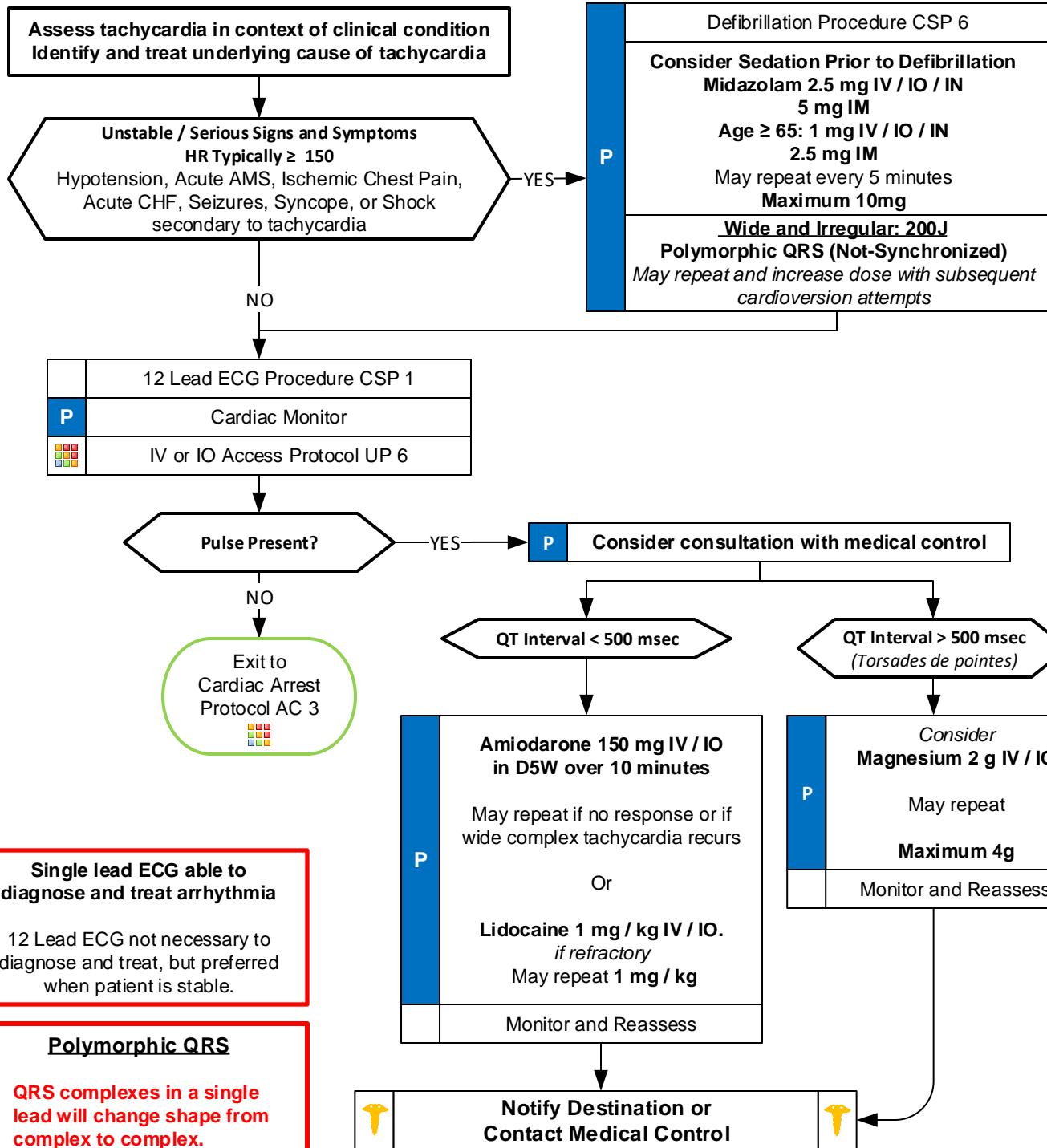
- \* Age
- \* Past medical history (MI, Angina, Diabetes, post menopausal)
- \* Recent physical exertion
- \* Palpitations, irregular heart beat
- \* Time (onset / duration / repetition)

## Signs and Symptoms

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

## Differential

- \* Cardiac arrest
- \* Sinus Tachycardia vs. dysrhythmia
- \* Fever, sepsis, infection
- \* Pericarditis, pulmonary embolism
- \* Aortic dissection or aneurysm
- \* Overdose



# Adult Polymorphic Tachycardia

## WIDE ( $\geq 0.12$ sec) Torsades de pointes



### Pearls

- \* **DO NOT** administer a Calcium Channel Blocker for wide complex tachycardia
- \* 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.
- \* **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 imminent.
  - 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 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 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.
- \* **Polymorphic / Irregular Tachycardia:**
  - This situation is usually unstable and immediate defibrillation is warranted.
  - If QT length is known, use for decision-making. Prolonged QT length defined as  $> 500$  msec.
  - QT length  $< 500$  msec:
    - Arrhythmia more likely related to ischemia or infarction and Magnesium not likely helpful.
    - May quickly deteriorate into Ventricular Fibrillation.
    - Even when terminated by defibrillation, may recur, so follow with medication therapy.
  - QT prolongation  $> 500$  msec:
    - Magnesium more likely to be helpful.
- \* Document all rhythm changes with monitor strips and obtain monitor strips with each therapeutic intervention.