Adult Tachycardia With a Pulse Algorithm

1. Assess appropriateness for clinical condition.
   Heart rate typically ≥150/min if tachyarrhythmia.

2. Identify and treat underlying cause
   - Maintain patent airway; assist breathing as necessary
   - Oxygen (if hypoxemic)
   - Cardiac monitor to identify rhythm; monitor blood pressure and oximetry

3. Persistent tachyarrhythmia causing:
   - Hypotension?
   - Acutely altered mental status?
   - Signs of shock?
   - Ischemic chest discomfort?
   - Acute heart failure?

4. Synchronized cardioversion
   - Consider sedation
   - If regular narrow complex, consider adenosine

5. Wide QRS? ≥0.12 second
   - No
   - IV access and 12-lead ECG if available
   - Vagal maneuvers
   - Adenosine (if regular)
   - ß-Blocker or calcium channel blocker
   - Consider expert consultation
   - Yes
   - Synchronized cardioversion
     - Consider sedation
     - If regular narrow complex, consider adenosine
      - No
      - IV access and 12-lead ECG if available
      - Vagal maneuvers
      - Adenosine (if regular)
      - ß-Blocker or calcium channel blocker
      - Consider expert consultation

Doses/Details

Synchronized cardioversion:
- Initial recommended doses:
  - Narrow regular: 50-100 J
  - Narrow irregular: 120-200 J
  - Wide regular: 100 J
  - Wide irregular: defibrillation dose (not synchronized)

Adenosine IV dose:
- First dose: 6 mg rapid IV push; follow with NS flush.
- Second dose: 12 mg if required.

Antiarrhythmic Infusions for Stable Wide-QRS Tachycardia

Procainamide IV dose:
- First dose: 20-50 mg/min until arrhythmia suppressed, hypotension ensues, QRS duration increases >50%, or maximum dose 17 mg/kg given.
- Maintenance infusion: 1-4 mg/min.
- Avoid if prolonged QT or CHF.

Amiodarone IV dose:
- First dose: 150 mg over 10 minutes.
- Repeat as needed if VT recurs.
- Follow by maintenance infusion of 1 mg/min for first 6 hours.

Sotalol IV dose:
- 100 mg (1.5 mg/kg) over 5 minutes.
- Avoid if prolonged QT.

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