Tachycardia with a pulse algorithm

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

Identify and treat underlying cause
- Maintain patient airway; assist breathing as necessary
- Oxygen as indicated
- Cardiac monitor to identify rhythm; monitor blood pressure and oximetry

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

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

Wide QRS? >0.12 seconds

N
- IV access and 12-lead ECG if available
- Consider adenosine only if regular and monomorphic
- Consider antiarrhythmic infusion
- Consider expert consultation

Y

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:
- 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.

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)

Oxygen as indicated

Antiarrhythmic infusions
- Propranolol IV dose:
- Initial dose: 0.5–1 mg/min
- Maximum dose 1 mg/min
- Avoid if bronchial asthma or severe CHF

Procainamide IV dose:
- 20–50 mg/min until arrhythmia suppressed, maximum dose 17 mg/kg given.
- Maintenance infusion: 1–4 mg/min.
- Avoid if prolong QT or CHF
