Cardiac Dysrhythmias (Tachycardia) – 10.060

Treat per Universal Patient Care

Are signs or symptoms of poor perfusion caused by the dysrhythmia present?
(Altered mental status, ischemic chest discomfort, acute heart failure, hypotension or other signs of shock)
Rate related symptoms uncommon if HR<150 bpm. Consider other causes.

No – Pt Stable. Obtain 12-lead ECG

Narrow regular QRS (< 0.12 sec)
- Attempt vagal maneuvers
  - Adenosine 6 mg rapid IV
  - Adenosine 12 mg rapid IV

Irregular
- Consider:
  - Atrial fib
  - Atrial flutter
  - Multifocal atrial tachycardia
  - Diltiazem 0.25mg/kg IV over 2 minutes repeat 0.35 over 2 minutes

Wide regular QRS (> 0.12 sec)
- Amiodarone 150 mg IV over 10 min
- Amiodarone 150 mg IV over 10 min

Yes – Pt Unstable

- Immediate synchronized cardioversion
  - If pt is conscious consider sedation with Midazolam 2.5 mg IV, may repeat once to a maximum of 5 mg. Do not delay cardioversion.
  - Repeat synchronized cardioversions x 3 if no change in rhythm

Obtain post treatment 12-lead ECG
- Contact OLMC for advice
- Consider contributing factors and other treatments

- Narrow regular QRS (< 0.12 sec)
- Wide QRS
- Irregular
- Adenosine 12 mg rapid IV

- Obtain post treatment 12-lead ECG
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- Consider contributing factors and other treatments
Cardiac Dysrhythmias (Tachycardia) – 10.060

**PEDIATRIC PATIENTS:**

Treat per Universal Patient Care

Are signs or symptoms of poor perfusion caused by the dysrhythmia present?

No – Pt Stable. Obtain 12-lead ECG

- Narrow regular QRS (< 0.12 sec) HR ≥ 220 child < 2 HR ≥ 180 child 2-10
  Probable SVT

  - Attempt vagal maneuvers
    - Ice water to face children < 6 y.o.
    - Valsalva in older children

  - Adenosine 0.1 mg/kg rapid IV
  - Adenosine 0.2 mg/kg rapid IV

- Wide regular QRS (> 0.12 sec) HR > 150

- Irregular

- Consider:
  - Atrial fib
  - Atrial flutter
  - Multifocal atrial tachycardia

- Amiodarone 5 mg/kg IV over 10 min

Yes – Pt Unstable

- Immediate synchronized cardioversion 1 joule/kg.

- If pt is conscious consider sedation with Midazolam 0.1 mg/kg IV, or 0.2 mg/kg IM. Do not exceed adult dosing. Do not delay cardioversion for sedation.

- If no response repeat synchronized cardioversion at 2 joules/kg.

- Obtain post treatment 12-lead ECG

- Contact OLMC for advice

If patient is not symptomatic with a narrow regular QRS (< 0.12 sec) and has a HR < 220 (child less than 2) or HR < 180 (child 2-10) consider Sinus Tachycardia and treat possible causes (see Notes & Precautions below).
NOTES & PRECAUTIONS:
A. In stable narrow complex irregular tachycardia, consider Calcium Chloride 500 mg slow IV before Cardizem if systolic BP < 90mmHg. If patient become unstable at any time perform synchronized cardioversion.
B. In stable wide complex tachycardia which is monomorphic, consider adenosine if SVT with aberrancy is suspected.
C. If the patient is asymptomatic, tachycardia may not require treatment in the field. Continue to monitor the patient for changes during transport. The acceptable upper limit for heart rate for sinus tachycardia is 220 minus the patient’s age.
D. Other possible causes of tachycardia include:
   1. Acidosis
   2. Hypovolemia
   3. Hyperthermia/fever
   4. Hypoxia
   5. Hypo/Hyperkalemia
   6. Hypoglycemia
   7. Infection
   8. Pulmonary embolus
   9. Tamponade
   10. Toxic exposure
   11. Tension pneumothorax
E. All lidocaine doses after the initial bolus must be reduced to one-quarter (0.375 mg/kg) of the initial dose in patients with CHF, shock, hepatic disease, or in patients greater than 70 years old.
F. If pulseless arrest develops, follow Cardiac Arrest protocol.
G. All doses of adenosine should be reduced to one-half (50%) in the following clinical settings:
   1. History of cardiac transplantation.
   2. Patients who are on carbamazepine (Tegretol) and dipyridamole (Persantine, Aggrenox).
   3. Administration through any central line.
H. Adenosine should be given with caution to patients with asthma.
I. Patients with Atrial fibrillation duration of >48 hours are at increased risk for cardioembolic events. Electric or pharmacologic cardioversion should not be attempted unless patient is unstable. Contact OLMC.

KEY CONSIDERATIONS:
Medical history, medications, shortness of breath, angina or chest pain, palpitations, speed of onset

HEART MONITOR ADULT SYNCHRONOUS CARDIOVERSION SETTINGS
- Medtronics Lifepak® – 100j, 200j, 300j, 360j
- Philips MRX® – 100j, 120J, 150J, 150J
- Zoll E-Series® – 70j, 120j, 150j, 200j