Tachycardia

This protocol is used for the care of patients with persistent tachycardia (ventricular rate greater than 150/minute) where the tachycardia is believed to be the primary cause of the patient's symptoms. It is not intended to treat tachycardia that is secondary to underlying conditions (i.e., dehydration, trauma toxins). Consultation with online medical control should be considered for complex patients in whom the cause of the arrhythmia is not obvious. SYNCHRONIZED CARDIOVERSION PRECEDES DRUG THERAPY FOR UNSTABLE PATIENTS. Unstable patients may be defined as those suffering a tachycardia with: hypotension, acutely altered mental status, signs of shock, significant ischemic chest discomfort, shortness of breath, or pulmonary edema that is likely due to the arrhythmia. Adenosine is only used for regular monomorphic rhythm tachycardia.

Pre-Medical Control

PARAMEDIC

1. Follow the **General Pre-Hospital Care Protocol**.
2. Identify and treat reversible causes.
3. Determine if patient is stable or unstable.

UNSTABLE

4. If time and condition allow prior to cardioversion, sedate per MCA selection. Refer to **Patient Sedation Procedure**.
5. For unstable patients with a **REGULAR NARROW OR WIDE** rhythm, cardiovert beginning at 100 J, increasing to 200 J, 300 J, 360 J. (Use manufacturers suggested biphasic energy dose, 100 J).
6. For unstable patients with an **IRREGULAR NARROW** rhythm, cardiovert beginning at 200 J, increasing to 300 J, 360 J. (Use manufacturers suggested biphasic energy dose, 120 – 200 J).
7. For patients that are unstable with an **IRREGULAR WIDE** rhythm, cardiovert beginning at 200 J, increasing to 300 J, 360 J. (Use manufacturers suggested biphasic energy dose 150 – 200 J).

STABLE

8. DO NOT USE CAROTID MASSAGE. Have the patient attempt to bear down (a valsalva maneuver).
9. Start an IV NS KVO. A large bore antecubital IV should be secured whenever possible.
10. If the rhythm is regular, consider Adenosine 6 mg rapid IV push through the most proximal injection site. This should be followed immediately with 20 ml NS flush.
11. If conversion does not occur, administer Adenosine 12 mg IV using the same technique as stated above.
12. If rhythm is stable with narrow QRS contact medical control for possible orders.
13. If rhythm is stable with wide QRS administer Amiodarone ***OR*** Lidocaine per MCA Selection

Medication Options
(Choose One)

☐ Amiodarone - 150 mg IV over 10 minutes
OR
☐ Lidocaine – 1 mg/kg IV

14. If at any point a patient becomes unstable proceed to cardioversion.
15. Administer Magnesium Sulfate 2 gm IV/IO for suspected torsades de pointes.
16. Contact Medical Control

Post-Medical Control

17. Per MCA selection, administer additional Amiodarone 150 mg IV over 10 minutes as needed to a maximum of 450 mg OR Lidocaine 0.5 -1.0 mg/kg IV push every 5 - 10 minutes to a maximum of 3 mg/kg.

NOTES:

1. Administration of Amiodarone is best accomplished by adding Amiodarone 150 mg to 100 or 250 ml of NS and infusing over approximately 10 minutes.
2. Administration of Magnesium Sulfate is best accomplished by adding Magnesium Sulfate 2gm to 100 or 250 ml of NS and infusing over approximately 10 minutes.

This protocol is used for the care of patients with persistent tachycardia (with a ventricular rate greater than 150/minute) where the tachycardia is believed to be the primary cause of the patient's symptoms. It is not intended to treat tachycardia that is secondary to underlying conditions (i.e., dehydration, trauma toxins). Consultation with online medical control should be considered for complex patients in whom the cause of the arrhythmia is not obvious. SYNCHRONIZED CARDIOVERSION PRECEDES DRUG THERAPY FOR UNSTABLE PATIENTS. Unstable patients may be defined as those suffering a tachycardia with: hypotension, acutely altered mental status, signs of shock, significant ischemic chest discomfort, shortness of breath, or pulmonary edema that is likely due to the arrhythmia. Adenosine is only used for regular monomorphic rhythm tachycardia.

- Follow **General Pre-hospital Care Protocol**
- Identify and treat reversible causes

DETERMINE STABILITY

STABLE

- DO NOT USE CAROTID MASSAGE. Have patient attempt to bear down (a valsalva maneuver).
- Start an IV NS KVO. A large bore antecubital IV should be secured whenever possible.

Regular Rhythm?

REGULAR RHYTHM NARROW OR WIDE

REGULAR

- Consider Adenosine 6 mg rapid IV push through the most proximal injection site, followed immediately with a 20 ml NS flush.
- If conversion does not occur, administer Adenosine 12 mg IV using same technique as stated above.

NARROW QRS

Contact Medical Control

WIDE

Administer Amiodarone or Lidocaine per MCA selection

UNSTABLE

- If time and condition allow prior to cardioversion, sedate per MCA selection. Refer to **Patient Sedation Procedure**.
- For unstable patients with a **REGULAR NARROW or WIDE** rhythm, cardiovert beginning at 100 J, increasing to 200 J, 300 J, then 360 J. (Use manufacturers' suggested biphasic energy dose, 100 J).
- For unstable patients with an **IRREGULAR NARROW** rhythm, cardiovert beginning at 200 J, increasing to 300 J then 360 J. (Use manufacturers' suggested biphasic energy dose, 120 - 200 J).
- For unstable patients with an **IRREGULAR WIDE** rhythm, cardiovert beginning at 200 J, increasing to 300 J then 360 J. (Use manufacturers' suggested biphasic energy dose, 150 - 200 J).

Medication Options:
(Choose One)

☐ Amiodarone 150 mg IV over 10 minutes

OR

☐ Lidocaine 1 mg/kg IV

If at any point a patient becomes unstable proceed to cardioversion. Administer Magnesium Sulfate 2 g IV/IO for suspected torsades de pointes.

Contact Medical Control

Per MCA selection, administer additional Amiodarone 150 mg IV over 10 minutes as needed to a max of 450 mg OR Lidocaine 0.5-1.0 mg/kg IV push every 5-10 minutes to a max of 3 mg/kg

NOTES:

1. Administration of Amiodarone is best accomplished by adding Amiodarone 150 mg to 100 or 250 ml of NS and infusing over approximately 10 minutes.
2. Administration of Magnesium Sulfate is best accomplished by adding Magnesium Sulfate 2gm to 100 or 250 ml of NS and infusing over approximately 10 minutes.