

Tachycardia (Unstable) Protocol

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Preamble

In most cases, patients with tachycardia are hemodynamically normal and stable. These patients require only basic life support interventions and can be transported to hospital.

In contrast, EMS personnel must treat patients with sustained supraventricular or ventricular tachycardia with a pulse that is accompanied by signs or symptoms of hemodynamic instability. In this situation, cardioversion of the unstable tachycardia prior to transportation to hospital is preferred.

EMS personnel must ensure cardioversion is only attempted in the setting of sustained supraventricular or ventricular tachycardia with a pulse. EMS personnel must be able to distinguish between these two rhythms and sinus tachycardia, where cardioversion is not indicated.

Requirements

1. Fully licensed Technician-Paramedic.
2. Certification in tracheal intubation or one of the double-lumen airways protocol by the Medical Director.
3. Certification in tachycardia (unstable) protocol by the Medical Director.
4. Certification in the remaining "cardiac arrest" protocols by the Medical Director.
5. Certification in the midazolam administration protocol by the Medical Director.
6. Current certification as an advanced cardiac life support provider.

Indications

1. Sustained supraventricular or ventricular tachycardia (ventricular rate is regular and greater than 150 beats per minute) with a palpable pulse, systolic blood pressure less than 90 mm Hg, and any one of the following:
 - decreased level of consciousness
 - chest pain
 - signs / symptoms of congestive heart failure
 - signs / symptoms of shock

Contraindications

1. Patient age less than 16 years.
2. Known or suspected sinus tachycardia.

Procedure

1. Perform patient assessment and record vital signs.
2. Assess that patient meets criteria for this protocol.
3. Ensure there are no contraindications to use of this protocol.
4. Initiate basic life support treatment measures, including supplemental oxygen.
 - these take precedence over management using this protocol
5. Initiate cardiac monitoring. Confirm cardiac rate and determine rhythm. If, at any time, a rhythm other than tachycardia appears, continue as per protocol for that rhythm.
6. Intubate (using tracheal tube or double-lumen airway) if indicated.
7. Establish intravenous line of normal saline, TKVO.
8. If time permits, administer midazolam as per midazolam treatment protocol.
9. Engage defibrillator synchronization mode by pressing the “sync” button (or similar).
 - monitor’s display will show markers on R wave indicating synchronization mode is engaged
10. Cardiovert at 100 J monophasic (or biphasic equivalent as per manufacturer).

11. Repeat cardioversion at 200 J monophasic (or biphasic equivalent as per manufacturer), if required.
 - confirm synchronization mode is engaged prior to cardioversion
12. Repeat cardioversion at 300 J monophasic (or biphasic equivalent as per manufacturer), if required.
 - confirm synchronization mode is engaged prior to cardioversion
13. If at any time, a rhythm other than unstable supraventricular or ventricular tachycardia appears, treat as per the protocol for that rhythm.
14. Initiate transport, unless other emergency condition required immediate treatment.
15. Monitor and reassess patient en route.
16. Notify receiving facility of patient's condition and medication used.

Documentation Requirements

The following information must be documented on the patient care report form:

1. Patient's presenting signs and symptoms, including vital signs and initial cardiac rhythm.
2. Indications for protocol use.
3. All cardiac rhythm strips.
4. Repeat assessment and vital signs, as indicated.
5. Changes from baseline, if any, that occur during treatment or transport.
6. Signature and license number of EMS personnel performing any transfer of function skills.

Certification Requirements

1. Attend in-depth classes and lectures on static and dynamic rhythm interpretation.
2. Pass a written examination.
3. Pass practical scenarios incorporating variations of the tachycardia (unstable) protocol.

4. Certification is by the Medical Director.

Recertification Requirements

1. Review class and recertification is done every 12 months.
2. Current advanced cardiac life support provider certification.
3. A record will be kept to document all cases where this protocol is used.

Decertification

1. Decertification is at the discretion of the Medical Director or the Provincial Medical Director, Emergency Medical Services, Manitoba Health & Healthy Living.

Quality Assurance Requirements

1. Appropriate quality assurance policies must be in place. The Medical Director or designate must review all instances where this protocol is used. As a minimum, the following must be assessed:
 - i) appropriateness of implementation
 - ii) adherence to protocol
 - iii) any deviation from the protocol
 - iv) corrective measures taken, if indicated
2. Yearly statistics for protocol use compiled and forwarded to Emergency Medical Services, Manitoba Health & Healthy Living.