

Subject: Scope of Practice/Procedure - Paramedic  
**Cardioversion – Conscious Patient Protocol**

Associated Policies:

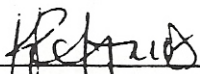
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- I. Indications
  - A. Inadequate cardiac output and signs of poor perfusion associated with tachycardia not due to hypovolemia, or primary respiratory insufficiency.
- II. Therapeutic Effects
  - A. Rapid termination of cardiac dysrhythmias associated with inadequate cardiac output.
  - B. Synchronized cardioversion is designed to deliver a shock at the peak of the R wave avoiding the vulnerable relative refractory period.
  - C. Synchronization may reduce the energy required to end the dysrhythmia.
- III. Contraindications
  - A. Absolute:
    - 1. Supraventricular tachycardia due to hypovolemic shock.
  - B. Relative:
    - 1. Suspected digitalis toxicity.
- IV. Adverse Effects
  - A. Erythema or irritation of skin will occur, particularly if good conductive medium and skin contact are not achieved.
  - B. Muscle cramps and pain.
  - C. Ventricular fibrillation and asystole.
- V. Equipment
  - A. Monitor/defibrillator with synchronizer and adult and pediatric paddles or adapters available.
  - B. Defibrillation pads or equivalent.
- VI. Procedure
  - A. Start IV prior to procedure if possible.
  - B. Attach monitor and select lead that gives upright QRS complex. Determine rhythm. Obtain 12 Lead ECG when possible.
  - C. In responsive patients and with IV access available, consider need for anesthesia.
  - D. Turn synchronizer switch to “on” position. Set the energy level as prescribed by protocol.
  - E. Verify that the monitor is detecting the R waves.
  - F. Place defibrillator pads. Apply paddles to chest as for defibrillation.

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- G. Charge capacitor.
  - H. Assure that all personnel are clear, depress and hold firing buttons until defibrillator delivers the shock.
  - I. If no shock is delivered increase the amplitude of the R wave and retry or turn off synchronizer switch and deliver the shock unsynchronized.
  - J. If synchronization fails to convert the rhythm, increase output for subsequent shocks.
  - K. If patient is cardioverted into or progresses to ventricular fibrillation, turn off synchronizer and defibrillate.
- VII. Special Instructions
- A. Cardioversion is rarely indicated in children. Dose for pediatric patients start at 0.5 J/kg. If rhythm persists double the dose.
  - B. The energy requirements for adults are based on the type of dysrhythmia being treated.

Approved: 

Approved as to Form: 