



**REGION 11
CHICAGO EMS SYSTEM
PROCEDURE**

Title: Synchronized Cardioversion - ALS

Section: Cardiac Management

Approved: EMS Medical Directors Consortium

Effective: March 6, 2025

SYNCHRONIZED CARDIOVERSION - ALS

INDICATIONS

- Narrow or wide complex tachyarrhythmia (heart rate typically $\geq 150/\text{min}$) causing the patient to be unstable with signs of shock including:
 - Hypotension (SBP < 100 mmHg)
 - Acutely altered mental status
 - Ischemic chest discomfort
 - Respiratory distress (acute heart failure)

CONTRAINDICATIONS

None

EQUIPMENT

- Cardiac monitor/defibrillator
- Cardiac leads
- Therapy electrode pads
- Therapy cable

PROCEDURE

1. Apply personal protective equipment: gloves.
2. Apply cardiac monitor leads to identify tachyarrhythmia that requires synchronized cardioversion (12-lead ECG if available).
3. Identify and treat underlying causes.
4. Assess adequate oxygenation.
5. Assess pulse and blood pressure.
6. Establish IV access.
7. Consider analgesia prior to procedure per Pain Management Protocol.
8. Attach therapy pads to therapy cable and connect to the cardiac monitor/defibrillator.
9. If necessary, clean and dry skin or remove excess chest hair with razor.
 - a. Apply pads in the Anterior-Posterior position. First, separate CPR device (puck) from back pad. Apply the back pad to the left of the spine just below the scapula at the heart level (as shown in the picture below). Apply CPR device aligned with the sternal notch. Apply the apex/front electrode over the

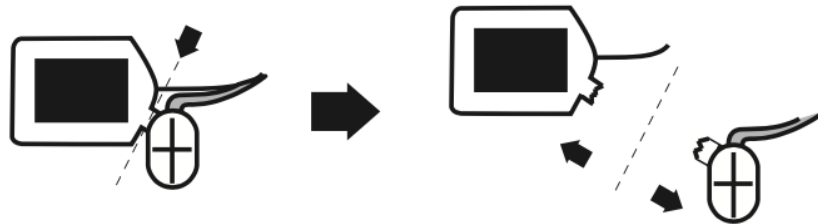
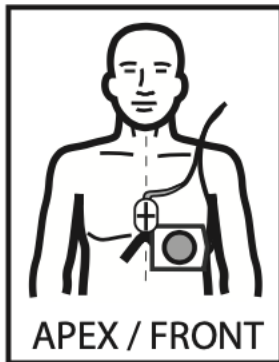
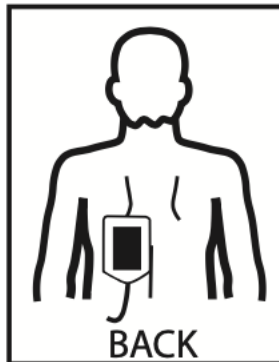


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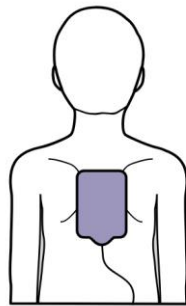
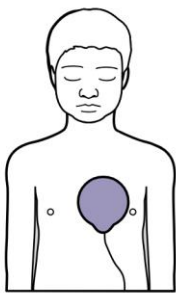
cardiac apex with the nipple under the adhesive area in a male. Position under breast in a female patient. For pediatric pads, attach as shown in the picture below.

Adult CPR Stat Padz Placement in Anterior-Posterior Position



CPR Device = puck

Pediatric OneStep Electrodes With Green Connector Placement



10. Assure safe environment – evaluate risk of sparks, combustibles, oxygen-enriched environment.
11. Activate synchronized mode to “SYNC”.
12. Confirm synchronized marker on QRS complexes.
13. Charge monitor to appropriate energy setting:



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- a. Adult patients: 100 J
 - b. Pediatric patients: 1 J/kg (See Pediatric Resuscitation Card)
14. Verbalize “all clear” and visually ensure that all individuals are clear of the patient, stretcher and any equipment connected to the patient.
15. Press the shock button to deliver synchronized shock to the patient.
16. Reassess rhythm, patient pulse and blood pressure.
17. For persistent tachyarrhythmia with signs of shock, administer a second and subsequent synchronized shock:
- a. Adult patients: 150 J then 200 J
 - b. Pediatric patients: 2 J/kg (See Pediatric Resuscitation Card)