Subject: Scope of Practice/Procedure - ALS
External Cardiac Pacing - Adult and Pediatric

Associated Policies:

I. Actions
A. Substitute for the heart's auto-depolarizing function

II. Indications
A. Symptomatic bradycardia unresponsive to Atropine and Dopamine.
B. Symptomatic bradycardia where Atropine is not indicated (including Beta-Blocker overdose).
C. Unstable Second-Degree Type II or Third-degree heart block

III. Contraindications:
A. Absolute:
1. Hypothermic patients, as the heart is unable to respond to the electrical impulses.
B. Relative:
1. Pediatric patients less than 55kg if Pediatric External Cardiac Pacing patches are unavailable for use. Adult patches can only be used if they do not touch or overlap each other. REQUIRES VERBAL BASE ORDER

IV. Adverse effects
A. Discomfort.

V. Procedure
A. Alert and oriented patients should have the procedure explained to them prior to initiation of External Cardiac Pacing in the field.
B. Sedation should be considered for conscious patients prior to field initiation of External Cardiac Pacing but should not take precedence over the procedure.

1. Adult External Cardiac Pacing.
a. Electrode placement should be "anterior-posterior" according to manufacturer recommendations.
b. Select for mode according to manufacture's recommendations.
c. Adjust rate from between 60 and 80 PPM.
d. Adjust current beginning at zero milliamperes (mA).
e. Increase current until proper sensing and electrical and mechanical capture has been identified.
f. Capture indicators include ECG changes (usually widening of the QRS and a tall, broad T-wave), corresponding pulse (should be palpated at the right carotid and confirmed with the presence of a femoral pulse) and signs of improved perfusion.

Subject: Scope of Practice/Procedure - ALS
External Cardiac Pacing - Adult and Pediatric

Associated Policies:

2. Pediatric External Cardiac Pacing: VERBAL BASE ORDER ONLY
   a. Electrode placement should be "anterior-posterior" according to manufacturer recommendations.
   b. Select for mode according to manufacture's recommendations.
   c. Adjust output rate based on age. Refer to a length-based resuscitation tape for appropriate starting output rate (i.e., normal heart rates for age).
   d. Set current beginning at zero milliamperes.
   e. Increase current until proper sensing and electrical and mechanical capture has been identified. Note: The amount of energy is not different from an adult procedure, but the Output Rate is.
   f. The final output rate should be titrated to an adequate systolic blood pressure to resolve perfusion problems, e.g., an improvement in mental status.
   g. Care should be taken to avoid tachycardic rates (for that age of child) or hypertension.

VI. Special Information:
   A. Document patient vitals and any signs or symptoms of symptomatic bradycardia when initiating External Cardiac Pacing in the field.
   B. Record a rhythm strip prior to initiating External Cardiac Pacing in the field.
   C. Document response to external pacing, including minimum energy level required for capture, rate applied, blood pressure, and other vital signs every ten (10) minutes.

VII.. Precautions
   A. Carefully monitor patient to ensure that mechanical capture is maintained.
   B. Terminate External Cardiac Pacing only after consultation with the base hospital.

Approved: _____ Date: _____

Approved as to Form: _____ Date: _____