Indications:
1. Hemodynamically unstable bradycardias (heart rate <60, blood pressure <90) that are unresponsive to ATROPINE.
2. Some cases of bradyasystolic arrests, including post-defibrillation asystole that are unresponsive to ACLS drug therapy.

Contraindications:
None when used in the emergency setting.

Procedure:
1. Apply external pacing electrodes in the proper position and connect to Zoll E or X Series via dual purpose cables. The 4 lead monitoring patches must be on and the lead selector must be in Lead I, II or III. The pacer will not function if using fast patch system for monitoring in "paddles" mode.
2. Apply external pacing pads according to the instructions on the product. Ensure that all electrodes are making good contact with the patient's skin and are not covering any part of the other electrodes.
3. If pacing a conscious patient, pain/discomfort from the pacing current may be excessive. Consider pain management protocol.
4. Turn selector switch to PACER.
5. Set PACER OUTPUT to 0 mA. If the unit has just been turned on, the PACER OUTPUT will automatically be set to 0 mA.
6. Set PACER RATE to a value of 60-70/minute, increase to maintain adequate blood pressure.
7. Increase PACER OUTPUT mA until stimulation is effective (capture)
8. Determine capture. Electrical capture is determined by the presence of a widened QRS complex, the loss of any underlying intrinsic rhythm, and the appearance of an extended, and sometimes enlarged T-wave. Mechanical capture is assessed by palpation of a peripheral
pulse. In order to avoid mistaking muscular response to pacing stimuli for arterial pulsations, the FEMORAL and RIGHT BRACHIAL or RADIAL arteries are the ONLY recommended locations for palpating a pulse during pacing.

9. Determine optimum threshold. The ideal output current is the lowest value that will maintain capture. This is usually about 10% above threshold. Typical threshold currents are between 40 and 80 mA. Location of pacing pads will affect the current required to obtain capture.

10. Constant monitoring for loss of capture should be performed.

**For sedation consider MIDAZOLAM 0.02 mg/kg IV if systolic blood pressure > 90.**

**Pediatric Pacing:**
Non-invasive pacing of pediatric patients is done using pediatric pads and in an identical manner to adult pacing.