

# Transcutaneous Pacing

**Indication:** Unstable bradyarrhythmia (HR < 50 bpm), as defined by altered mental status, loss of consciousness, or shock state (e.g. hypotension, diaphoresis, pallor, cool skin, etc.).

## GENERAL CONSIDERATIONS:

- High-grade AV blocks (2nd-degree type II and 3rd-degree) are unlikely to respond to anticholinergics (e.g. atropine).
- Always assess for STEMI with new onset bradycardia.
- If condition permits, it is reasonable to consider a 500mL fluid bolus in concert with transcutaneous pacing.
- If hemodynamics fail to improve with transcutaneous pacing and IV fluid bolus, it may be necessary to consider the use of a [Vasopressor](#).
- Transcutaneous pacing is not recommended for patients in cardiac arrest. In several studies, mortality benefit has not been demonstrated, and pacing may confuse the clinical picture and detract from other more valuable interventions.

## PROCEDURE:

1. Apply limb leads. Limb leads are necessary for LifePak to synchronize with the rhythm.
2. Administer analgesia with [Fentanyl](#) or [Ketamine](#).
3. If opiate analgesia is contraindicated, may consider [Midazolam](#) for sedation instead.  
**NOTE:** Do not administer both opiates and benzodiazepines to any patient.
4. Attach defibrillation / pacing pads to the patient and monitor rhythm.
5. Placement of pads can be in either anterior/lateral placement or anterior/posterior placement.
6. Push the **PACER** button on the monitor.
7. Confirm that the triangle sense marker (▼) has started to appear on the strip.
8. Push the **RATE** button and set the rate to 70 bpm.
9. Push the **CURRENT** button and increase the current until there is electrical capture (each pacer spike is followed by a wide [paced] QRS; see picture).
10. Assess for mechanical capture by feeling pulses in two limbs and confirming that the pulse rate matches the electrical rate.
11. If mechanical capture has not occurred, continue increasing the current by 10mA increments until mechanical capture occurs. Reassess hemodynamics (e.g. blood pressure, signs and symptoms) after mechanical capture.
12. If it is necessary to assess the underlying rhythm again, use the **PAUSE** button to start/stop the pacing.

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The diagram illustrates the steps for transcutaneous pacing, showing the monitor controls and corresponding ECG strips. The steps are numbered 1 through 12, corresponding to the procedure list.

**1 Turn on pacer**

**2 Set pacing rate**

**3 Increase current until full electrical capture.**

**Assess for mechanical capture.**

**Triangle sense markers appear.**

**Pacer spikes appear.**

**Partial capture.**

**Full electrical capture.**