INDICATIONS:

- Transcutaneous Pacing (TCP) is for temporary management of symptomatic bradycardia, including heart blocks (adults/adolescents and children with a heart rate less than 60 beats per minute).
    - Symptomatic includes poor perfusion related to the bradycardia as demonstrated by:
        - Hypotension (adult systolic blood pressure less than 90 mm Hg or children with systolic blood pressure less than 80 mm Hg).
        - Shortness of breath.
        - Acute altered level of consciousness.
        - Chest pain of suspected cardiac origin.
        - Skin signs suggestive of poor perfusion.
- TCP should be utilized prior to or simultaneous with medication administration, when indicated, for symptomatic bradycardia.

CONTRAINDICATIONS:

1. Asystole or PEA cardiac arrest.

PROCEDURE:

- All TCP equipment must be used and maintained as described in manufacturer's guidelines.
- Explain TCP procedure to patient, family member, or care giver.
- Place appropriate size pacing pads in anterior-posterior chest and back position.
- Attach pacing cables to pads.
- Activate the pacing module and set initial pacing rate at 70 bpm and current to 0 (zero) milliamperes (mA).
- Slowly increase the mA (current) delivered until electrical and mechanical capture is achieved as demonstrated by palpable pulses that correspond to electrical pacing spikes (maximum 120 mA).
- Once electrical and mechanic capture is achieved, slowly increase heart rate, if necessary, to relieve patient symptoms related to bradycardia (maximum rate of 100 bpm).
- Consider sedation if patient cannot tolerate discomfort after initiating pacing and systolic BP greater than 90:
    - Adult/Adolescent (may give as standing order):
        - Midazolam 5 mg IV once; OR
        - Midazolam 5 mg IN; if needed, may repeat once after approximately 3 minutes
    - Child (requires base order):
        - Midazolam 0.1 mg/kg IV/IN once (for greater than 13 months through 12 years)
- If electrical or mechanical capture does not occur, manage the patient with atropine or epinephrine per appropriate standing order SO-C-20 or SO-P-45 .

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DOCUMENTATION:

- Documentation should include:
  - Time TCP placed
  - Whether capture and pacing occurred
  - Rate and energy level used to obtain capture
  - Response if capture attained – BP, skin signs of perfusion, and mental status

NOTES:

1. TCP is not indicated for patients in asystole. Because of the importance of maximizing chest compression as well as lack of evidence to support pacing for asystole, withholding chest compressions to attempt pacing for a patient with asystole is not recommended (See *Circulation*, 2005;112:IV35 - IV46).

2. Do not delay TCP for vascular access if there will be delay in managing bradycardia for an acute patient.

3. If electrical or mechanical capture does not occur on a first attempt, repeated efforts to attain capture may be attempted after administration of medications and oxygen.

4. When indicated, TCP should not be delayed or interrupted in order to obtain a 12-lead ECG.

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