

**COASTAL ANESTHESIOLOGY MEDICAL ASSOCIATES**  
**Competent, Compassionate, Consistent and Comprehensive Anesthetic Care**

---

P.O. Box 1185 ~ San Luis Obispo, CA 93406-1185  
Phone (805) 783-1020 ~ Email [camaslo@camaslo.com](mailto:camaslo@camaslo.com)

## Pacemakers and Implantable Cardiac Defibrillators Guidelines

Patients with Cardiovascular Implanted Devices (CIEDs) have complicated pre-operative preparation, intraoperative management, and post-operative evaluation. To provide the safest anesthetic and perioperative outcomes for these patients, CAMA has created the following policy based upon the consensus guidelines created by the Heart Rhythm Society and the American Society of Anesthesiologists.

Patients with CIEDs scheduled for **elective** surgery will need the following documented in the chart before surgery can proceed:

1. **Prescription** for management of CIED from the cardiologist who manages the patient's device (see page 2)
  - A. Surgeon or his designee completes upper half of prescription and faxes it to cardiologist's office.
  - B. Cardiologist completes prescription and returns it, with recent interrogation, to surgeon's office.
  
2. **Interrogation** of CIED within 6 months of surgical date.

After the surgical procedure, need for reassessment and/or reprogramming of the CIED will be directed by the cardiologist's prescription.

In the setting of surgical urgency or emergency, it may not be possible to contact and acquire prescription from the managing cardiologist. In a true urgency or emergency, patient safety will be the primary concern. Risks of proceeding with incomplete information will be weighed against the risk of delaying surgery and will be collaboratively discussed by the operating surgeon and the anesthesiologist. (See page 3)

---

*Adapted from "2011 HRS/ASA Expert Consensus Statement on the Perioperative Management of Patients with Implantable Defibrillators, Pacemakers, and Arrhythmia Monitors: Facilities and Patient Management"*

# Perioperative CIED Prescription

*To be communicated by surgeon's office to Cardiologist:*

Patient Name \_\_\_\_\_ DOB: \_\_\_\_\_  
Surgical Procedure: \_\_\_\_\_ Date of Surgery: \_\_\_\_\_  
Is procedure above umbilicus?  Yes  No Surgeon \_\_\_\_\_  
Facility where surgery to be performed: \_\_\_\_\_

Procedure is below the umbilicus and does not involve radiofrequency ablation, cardioversion, or therapeutic radiation. No special perioperative management is required. No cardiologist prescription is required. Recent interrogation report is required.

*To be completed by Cardiologist:*

Device:  Pacemaker  ICD  Pacemaker/ICD

Pacemaker Dependent?  Yes  No

Reprogram device on day of surgery?  Yes  No

Underlying rhythm: \_\_\_\_\_

Place Magnet over device during surgical procedure?  Yes  No

If yes:  Magnet causes asynchronous pacing without inhibition  
 Magnet disables detection and treatment of VT and VF  
 Magnet causes: \_\_\_\_\_

Follow up interrogation before leaving hospital telemetry<sup>1</sup>  
 Follow up interrogation within one month as outpatient  
 Follow up as routinely scheduled

Signature: \_\_\_\_\_ Date/time \_\_\_\_\_

**Please fax to Primary Surgeon's Office:**

- 1. This Form**
- 2. Copy of most recent CIED interrogation within 6 months of date of surgery.**

<sup>1</sup> Follow up interrogation prior to leaving telemetry recommended for cardioversion, radiofrequency ablation, and therapeutic radiation.

## Approach to emergent/urgent procedures

### Identify the type of device

- ICD, pacemaker, CRT-ICD, or CRT-pacemaker.
  - Evaluate the medical record
  - Examine the patient registration card
  - Telephone the company to clarify device type
  - Examine the chest radiograph

### Determine if the patient is pacing

- Obtain a 12-lead electrocardiogram or rhythm strip documentation
- If there are pacemaker spikes in front of all or most P wave and/or QRS complexes, assume pacemaker dependency
  - **Pacemaker dependent?#**
    - **Yes:** pacemaker (not ICD) ; Use short electrosurgical bursts, place magnet over device for procedures above umbilicus or extensive electrosurgery, have magnet immediately available for procedures below umbilicus --- Monitor patient with plethysmography or arterial line
    - Transcutaneous pacing and defibrillation pads placed anterior/posterior
    - Evaluate the pacemaker before leaving a cardiac-monitored environment
    - **Yes:** ICD or CRT-D\* ; Place magnet over device to suspend tachyarrhythmia detection, use short electrosurgical bursts† --- Monitor patient with plethysmography or arterial line
    - Transcutaneous pacing and defibrillation pads placed anterior/posterior
    - Evaluate the ICD before leaving a cardiac-monitored environment
    - **No:** pacemaker (not ICD) ; Have magnet immediately available
    - Monitor patient with plethysmography or arterial line
    - Transcutaneous pacing and defibrillation pads placed anterior/posterior -
    - Evaluate the pacemaker before leaving a cardiac-monitored environment
    - **No:** ICD or CRT-D ; Place magnet over device to suspend tachyarrhythmia detection, use short electrosurgery bursts† --- Monitor patient with plethysmography or arterial line
    - Transcutaneous pacing and defibrillation pads placed anterior/posterior
    - Evaluate the ICD before leaving a cardiac-monitored environment

### Contact a member of the CIED team

A member of the CIED team should be contacted as soon as feasible

- Provide preoperative recommendations for CIED management if time allows
- Contact manufacturer representative to assist in interrogation of device pre- and/or post-operative (under the direction of a physician knowledgeable in CIED function and programming)
- Perform or review postoperative interrogation

---

\*A magnet placed over an ICD (or CRT-ICD) will not result in asynchronous pacemaker function. This can only be accomplished by reprogramming of ICDs (or CRT-ICDs) capable of this feature (majority of newer devices implanted).

†Long electrosurgery application (seconds and/or frequent close spaced bursts) may result in pacemaker inhibition, causing hemodynamic risk in a pacemaker-dependent patient. Long electrosurgery application in close proximity to the device generator may rarely result in power on reset or Safety Core™ programming (Appendix 4 for the pacemaker and ICD parameters associated with these features).

#Pacemaker dependency is defined as absence of a life-sustaining rhythm without the pacing system.