



Medtronic
Alleviating Pain · Restoring Health · Extending Life

Standard Letter
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ELECTROSURGERY

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PACEMAKER (IPG – IMPLANTABLE PULSE GENERATOR)

Medtronic provides the following considerations which may help to minimize interference with implanted pacing systems (not including the AT500) in the event that electrosurgery is necessary.

Careful attention needs to be paid to the placement of the grounding pad (also known as the indifferent electrode, electro-surgical grounding pad/plate, or return electrode) with respect to the implanted pacing system. Also consider the orientation of the surgical electrodes to the pacing system and the frequency of application of the electrosurgical currents. These measures, alone or in combination, can dramatically reduce effects on implanted pacing systems by reducing the likelihood of damaging the tissue at the lead-tissue interfaces. Damage to this tissue may result in a loss of sensing and/or an elevation of pacing thresholds.

ELECTROSURGERY CONSIDERATIONS

1. Have emergency pacing/defibrillation equipment available, as required or appropriate.
2. Always monitor the patient during electrosurgery. If the ECG tracing is not clear due to interference, the patient's rhythm should be monitored manually or by some other means such as ear or finger plethysmography, Doppler pulse detection, or arterial pressure display.
3. Do not perform electrosurgery within six inches (15 cm) of the device and lead system.
4. Use the minimum electrosurgical power settings required.
5. Use short, intermittent and irregular bursts (e.g. less than one second duration). If inhibition is occurring, a longer time between bursts may minimize hemodynamic effects.
6. If possible, bipolar cautery should be used. A bipolar system has a definite, short current path, which greatly reduces the area of interference. If unipolar cautery is used, the grounding pad should be placed such that the current flowing between the electro-surgical site and the grounding pad will not intersect the pacing system and that this same current will run directly away, as nearly as feasible, from the implanted pacing system
7. In patients who can tolerate it, asynchronous operation minimizes the potential for reversion or inhibition due to oversensing. For these tolerant patients, consider placing the device into an asynchronous mode of operation, e.g. DOO, VOO, or AOO, by either programming this in the Permanent Mode or by securing a magnet over the device.
8. Verify the function of the implanted pacing system after the procedure. Remember to reprogram out of asynchronous mode if it was programmed prior to the procedure.