

in greater anesthesiologist participation. All TIPS procedures at our institution are performed with the participation of an anesthesiology team. Sedation with monitored anesthesia care does not mean less anesthesiologist participation and, therefore, general anesthesia does not mean increased anesthesiologist participation. Our comment regarding "necessary support should inadvertently complications occur" refers to the need for the anesthesiology team to be prepared for anything, which includes emergency airway management, hemodynamic pressor support, and the possibility of massive transfusion in a

remote area that typically is devoid of intravenous pumps and fluid warmers.

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## Early Impressions of the Harmonic Scalpel

*To the Editor:*—Our institution recently acquired a new surgical instrument manufactured by Ultracision called the Harmonic Scalpel (Smithfield, RI) and we would like to relate our early experiences and possible advantages of this new device. The Harmonic Scalpel is an instrument that cuts and coagulates tissues *via* vibration at 55.5 kHz (*i.e.*, mechanical action). The device uses an acoustic transducer that consists of piezoelectric elements sandwiched between two metal cylinders to convert electrical energy into mechanical motion. The mechanical motion of the blade causes collagen molecules within the tissues to become denatured, forming a coagulum.\* Cutting and coagulation power can be adjusted. We have noted many potential advantages of this new system that may warrant some further investigation.

This unit does not rely on the flow of electrical current through the patient, which directly minimizes risks of improper grounding or arcing. Also, this increases patient safety when surgeons are working near central vascular catheters or pacemaker wires. Because no spark is created by this unit, it would decrease the risk of airway fire in patients undergoing tracheostomy.

We recently cared for a patient who presented for a right carotid endarterectomy; he was pacemaker dependent with an implanted device below his right clavicle. Because of the proximity to the surgical site, there was a significant risk that an electrocautery might reset

the device. We opted to use the Harmonic Scalpel for the surgery to avoid this. The surgery was successful and unremarkable in all aspects, and there was no interference with the pacer by this device. Also, the pulse oximeter, the arterial catheter transducer, and the electrocardiogram were completely unaffected by the Harmonic Scalpel—no noted interference at all.

During one open cardiac procedure, the Harmonic Scalpel was used while the aorta was being imaged with an Acoustic Imaging 5200B ultrasound device, and there was no noted interference with the image quality. Presumably, there would be little or no effect on a transesophageal echo, but we are not certain.

Another potential advantage is that this device may be safer in patients with implanted defibrillation devices—but this issue needs further study.

In conclusion, we see many potential advantages with the Harmonic Scalpel in the operating room. The lack of flow of electrical current through the patient improves our ability to monitor, appears to eliminate interference with implanted electrical appliances, and improves patient safety.

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\* Ultracision Harmonic Scalpel Service Manual, Ultracision Inc., 25 Thurber Boulevard, Smithfield, Rhode Island 02917