of pacemakers and implantable cardioverter defibrillators. Anesthesiology 2015; 123:1024–32

(Accepted for publication January 26, 2016.)

In Reply:

We thank you for your interest in our program for the perioperative management of pacemakers and internal cardioverter defibrillators (ICDs).[1] You and your colleagues are to be commended for taking on this often overlooked task.

Learning how to use the programming boxes was not a trivial process, at least for us. The screen appearance and the method of performing tasks not only differ among the device manufacturing companies, but also may vary from model to model. Videotaping the session for future use, including as a refresher, is a great idea that should be considered by programs taking on this task. Learning how to make basic programming changes is certainly possible with modest training, especially if all that is to be performed is the disabling of tachycardia sensing. The decision to convert to asynchronous pacing is sometimes more complicated, as it may require programming changes to determine the underlying rhythm, in addition to the consideration of the location and the extent of electrocautery. Additional device features, such as noise reversion and the mode switch response, may require further decision-making if demand pacing is used during the procedure. The individual providing the programming may have to reevaluate intraoperatively, as well. For example, our assessment of pacing dependency has occasionally proved wrong despite careful preoperative assessment, making intraoperative programming changes necessary.

An overarching goal of our program was to avoid making programming errors, especially with regard to restoration of the original device settings after surgery. Our caution was justified when we discovered that altered settings sometimes occur with restoration of demand pacing. It became quickly apparent that acquisition of complete device settings (baseline printout of all device settings) before making any programming changes is absolutely mandatory. We sincerely hope that any program performing this service, whether by anesthesiologists or cardiologists, takes such precautions. Our program faces the additional challenge of caring for surgical procedures that are not common to all practices, notably ventricular assist device implantation, during which pacing capture may fail due to lead dislodgement or tissue trauma. In such situations, intraoperative lead impedance, sensitivity, and threshold testing must be performed expeditiously to determine a solution. We wanted to be able to handle these more advanced tasks, something that may not be necessary in all practices.

Your process, whereby devices are evaluated well in advance of surgery, is an important aspect of appropriate management. Our preoperative clinic sees only a fraction of the patients with devices. Although all patients with these devices should have regular follow-up, that is not always the case. In consequence, when we interrogate the device in the preoperative holding area, we occasionally discover some level of device malfunction or low battery.

Finally, we completely agree with you that all practices should devise a system for managing devices that involves more than just "placing a magnet." What works best for a given institution will depend on the institution's patient population, case mix, system of preoperative assessment, and level of institutional support. No system, including ours, is likely to be perfect. But it will be better than no plan at all.

Competing Interests

Drs. Rooke and Poole were supported by Medtronic, Inc., Minneapolis, Minnesota, for a study of electromagnetic and cardiovascular implantable electronic devices. Dr. Poole has received honoraria for educational speaking from Biotronik, Lake Oswego, Oregon; Boston Scientific, Marlborough, Massachusetts; Medtronic, Inc.; and St. Jude Medical, St. Paul, Minnesota. Dr. Poole is also on the Medical Advisory Board for Boston Scientific. The other authors declare no competing interests.

G. Alec Rooke, M.D., Ph.D., Stefan A. Lombaard, M.B.Ch.B., F.A.N.Z.C.A., Gail A. Van Norman, M.D., Jörg Dziersk, M.D., F.R.C.A., Krishna M. Natrajan, M.B.B.S., F.R.C.A., Lyle W. Larson, Ph.D., P.A.-C., Jeanne E. Poole, M.D. University of Washington, Seattle, Washington (G.A.R.). rooke@uw.edu

Reference

1. Rooke GA, Lombaard SA, Van Norman GA, Dziersk J, Natrajan KM, Larson LW, Poole JE: Initial experience of an anesthesiology-based service for perioperative management of pacemakers and implantable cardioverter defibrillators. Anesthesiology 2015; 123:1024–32

(Accepted for publication January 26, 2016.)

Predilection for Poor Prediction with the Surgical Apgar Score

To the Editor:

I enjoyed the recent article by Terekhov *et al.*,[1] "Preoperative Surgical Risk Predictions Are Not Meaningfully Improved by Including the Surgical Apgar Score" (SAS). I value the contributions of these authors to this field of investigation, including their pioneering work with the SAS.[2] The authors made two methodological choices that may have contributed to the study concluding no improvement in prediction, so I humbly offer two suggestions to permit a more definitive test of their hypothesis.

First, would the authors consider performing their analyses using an alternative sampling interval for vital signs? The authors constructed the vital signs components of the SAS,