

Standardization of Intraoperative Neuromonitoring of Recurrent Laryngeal Nerve in Thyroid Operation: To the Editor

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Published online: 21 April 2010
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Standardization in surgery has been shown to be one of the major drawbacks of our discipline for many years. In the early 1900s Robert L. Dickinson gave a lecture on Standardization of Surgery and communicated his concern with these words:

The high average of equipment, dexterity, information, conscientious care and self-sacrificing humanity in operating rooms, great and small, here and abroad, are matters which some years of planned travel and laborious note-taking heartily attest; but evidence is not lacking that advance is very irregular where it might be all along the line, and erratic rather than on any studied and unified plan [1].

Standardization in surgery covers three major aspects: indications for treatment, surgical technique, and evaluation of the results. In detail, the standardization of intraoperative neuromonitoring of surgical technique in thyroidectomy proposed and applied by Chiang et al. [2], is of great usefulness in maintaining obtained standards, achieving better outcomes of surgical treatment, verifying safety of this new technology for technical training and surgical education, as well as for ratification, repeatability, and interoperability.

In surgery every new finding or innovation undergoes periodic cyclical variation that is reiterated approximately every hundred years. In recent times, however, the introduction of such variation has accelerated as never before. In fact, in the last 60 years an upsurge of new discoveries moved into the history of medicine and surgery, with, for

example, antibiotics, organ transplantation, artificial nutrition, extended surgical resections, chemotherapy, minimally invasive surgery, and digital imaging, among many others. This new era has been defined by Richard Satava as the BioIntelligence Age [3], the period during which surgery, more than any other medical discipline, has been enriched with countless innovations.

There are many definitions of “innovation” so far proposed and adopted. An excellent discussion on the definition of innovation in surgery was proposed by Riskin et al. [4]. In summary, these authors state that it can be defined

as a new procedure or modification of a technique already accredited, which differs from that traditionally accepted in a local context, whose long-term results have not yet been described and evaluated, and that may cause unexpected risks for the patient.

The main concern for the modern and updated surgeon is the awareness that, while most of the innovations have certainly contributed to better treatment of surgical diseases, these innovations are quite often difficult to make use of, and occasionally they do not produce the expected positive effects.

Therefore it's mandatory, even setting aside obvious legal implications, that every effort be made to ensure that our patients are never in the imprudent and unwished-for gray area where they are not properly protected from the uncertainties and the risks arising from innovative procedures.

The sensitivity and the relevance of this problem have been properly encouraged by the surgical community, so that global and national organizations in collaboration with scientific associations promote evaluation of the effectiveness of new technologies in their various aspects—patients, social impact, costs, etc. The purpose of this

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complex procedure of assessment is to systematize procedures and technologies in order to achieve the necessary standardization.

Although randomized controlled trials (RCTs) represent the only adequate method for evaluating the effectiveness of any therapeutic intervention, most surgeons do not disregard their theoretical role but consider RCTs not to have practical relevance and application. In recent years, although the surgical community has been shown to be more sensitive to the need for evidence-based health care—and surgical care—the frequency of RCTs has remained surprisingly low: 9% in 1993 and 8% in 2006 [5]. What are the reasons? First, the peculiarities of individual surgical patients, the complexity of the surgical procedures, the surgeon's perspective or temperament, the constant evolution of surgical techniques and, perhaps first and foremost, the fact that surgery very often require decisions that call for improvisation and creativity. The surgeon's attitude and disposition is probably one of the major factors in clinical surgery. In fact, many surgeons are keen on new technical developments, look forward to innovations and support their diffusion, whereas there are many others who adopt a more circumspect perspective and take a more conservative approach [1–8].

So, how do we achieve standardization? In our opinion, when RCTs are reasonably unfeasible, any surgical innovation or new finding, if proposed by highly regarded surgical research centers, and after due approval by the

global and national organizations, should be examined and evaluated by *periodical*—even *annual*—consensus conferences promoted by the major scientific-surgical associations.

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