



# ERAS: evidence-based medicine, results-based medicine, value-based medicine

*ERAS: medicina basada en evidencia, medicina basada en resultados, medicina basada en valor*

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<https://doi.org/10.35454/rncm.v3n1.013>

Since the mid-nineteenth century, advances in anesthetic techniques, the discovery of antimicrobial drugs, the uninterrupted rise in the volume of knowledge within the discipline of pharmacology, advances in the field of parenteral nutrition and intensive care medicine, and technological progress in surgical and optical instruments as a result of the military and space programs, have positioned surgery as an essential component of healthcare. Consequently, surgery has become the first-line treatment option for the management of patients with specific conditions.

These advances have forced health professionals to rapidly familiarize with the adoption strategies that were unthinkable for surgeons decades ago and which are now part of the standard of practice. This change has been accompanied by an explosive increase in the number of surgical procedures, which by 2012 reached 310 million surgeries<sup>(1)</sup>. The downside of this increase is the number of complications, present in 26.8% of patients, and death, occurring in 5% of patients. About 50% of adverse events in hospitalized patients are related to surgical care, and at least half of them are considered preventable<sup>(2)</sup>.

The attention has turned to the figure of the surgeon, who has demonstrated the ability to develop extraordinary skills that have not necessarily resulted in a decrease of complications, but that added to the introduction of necessary technologies, have resulted in cost increases year after year. All this has led to the emergence of health policies and clinical guidelines to guide the use of resources,

which unfortunately do not increase at the same rate as the expenses. This has forced the use of structured decision-making protocols based on the best available evidence<sup>(3)</sup>.

The objective of modern surgery is to offer quality of care, evaluate the use of new technologies and protocols, not only in terms of evidence but also of cost-effectiveness, minimize costs and costs/benefits, using economic health models based on statistical data to evaluate the financial impact of a disease or suggested treatment. Thus, when high-quality care is delivered, the patient is placed at the center of care, surrounded by a multidisciplinary team who supports their decision on the best evidence available and based on their best clinical judgment and critical thinking, and allowing surgeons to be measured and measurable. To complement the process, the quality management department must be involved. Initially, and due to our traditional way of working, we considered auditors and managers had arrived to “complicate” our work, but contrary to that first impression, they have supported us in structuring work processes and in evaluating effectiveness via quality indicators and improvement opportunities.

For the abovementioned reasons, Latin America is the perfect scenario for the adoption of cost-effective strategies aimed at improving health outcomes, ideally in the form of governmental and institutional health policies. In most Latin-American countries, clinical practice is of high quality and employs cutting-edge technology. In addition, health accreditation processes are encouraging a culture of quality hospital care. When resources for investment are limited, a good strategy is to design health programs that combine evidence-based medicine, outcomes-based medicine, and value-based medicine.

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Multimodal rehabilitation programs in surgical patients, such as the renowned Enhanced Recovery After Surgery (ERAS), have exerted a transformative power on medical practice. Initially developed for colorectal surgery, but currently applied to other types of surgical procedures, they use multiple evidence-based strategies merged into a single multidisciplinary protocol, which when applied has shown improvements in patient outcomes, such as reductions in postoperative complications, length of stay, and hospital care costs. The adoption of these programs has allowed us to achieve better control of surgical processes, protocolize procedures, and unify behaviors regarding the use of medications, consumables, and technology, take control over the quality of care, and an improved use of health resources.

The term ERAS was coined by group of European surgeons who created a study group in 2001 to develop optimal perioperative care pathways based on previous work conducted by Dr. Henrik Kehlet in 1995, and using the best literature and evidence currently available. Adherence to each strategy was recorded thoroughly, allowing for monitoring of progression or readjustment of recommendations if needed.

In 2010, the multiprofessional and multidisciplinary society ERAS<sup>(4)</sup> that we know today, which looks after the progress, education and research of perioperative care, was born. During these 18 years of work, the number of ERAS institutions in the world has increased consistently. In 2015, the Hospital Italiano de Buenos Aires received a certification, becoming the first ERAS institution to be accredited in Latin America. Currently Uruguay, Brazil, Mexico, and Colombia have also been accredited as ERAS institutions.

In this edition of the Journal, we are joined by specialists from Hospital Santa Casa de Porto Alegre, who will describe the process of implementing the ERAS protocol and the impact it has had on patient outcomes, such as decreases in length of stay and complications. Also, the team from the Hospital Italiano de Buenos Aires describes their experience and what they have achieved so far by using ERAS in Latin America as examples to develop research and quality programs.

Throughout these years, other groups have created similar recovery programs in surgery, such as the ACERTO Project from Brazil, which Dr. Aguilar-Nascimento reviews in this issue.

Nutritional intervention is one of the most relevant strategies to improve outcomes in ERAS, both in the preoperative period, which involves nutritional reple-

nishment and nutritional interventions as part of the pre-rehabilitation process, and in the postoperative period, which involves early initiation of oral feeding. Dr. Sánchez from Costa Rica, reviews the barriers to the implementation of aspects related to nutrition within the ERAS framework. In addition, the article written by our group from Clínica Reina Sofia Reina in Bogotá, describes the different preoperative nutritional strategies, their implementation and results obtained, providing us insights on how this remarkable program has been implemented in Latin America.

ERAS represents a whole new way of working. Although change is complex and sometimes challenging to accept, the strategies used in the protocol are simple and relatively easy to implement. Hence, willingness to improve plays a very important role in their deployment and success.

The discipline of medicine has become extremely extensive and equally diverse, forcing health professionals to consider many and varied elements when treating a patient. Strategies such as ERAS should be considered a standard for surgical practice individually by health institutions or collectively as a public health policy, consequently amplifying its benefits to patients, professionals, institutions and the whole Health System.



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