



## The Importance of Standardizing Surgical Methods for Comparison between Hospitals and Surgeon

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### Editorial

Different surgeons are using modified surgical procedures for similar indications. Many of these procedures are based on local traditions rather than on evidence-based studies. Valid comparison of surgical outcomes can only be done if the surgical method was standardized.

Meta-analyses are of importance where data from different institutions should be analyzed, mainly in cases where the numbers of procedures in a single institute are not enough for statistical evaluation. Meta-analyses are important, for example, where the outcome of laparoscopic vs. open surgery in rectal cancer should be compared [1], or to evaluate the outcome between laparoscopic and open Nissen fundoplication in the treatment of gastro esophageal reflux in children [2].

Different surgeons, even working in the same hospitals and departments, are using modified surgical methods even for the same indications. In case of open surgery, different types of abdominal incisions, and in endoscopy, different approaches concerning the place and number of ports [3], not to mention different types of anesthesia. These days, as most surgical procedures do have endoscopic alternatives, the Cesarean Section (CS) remains one of the few operations without endoscopic alternatives. Until today, despite being the most performed operation in the world, there is no standardized CS surgical method. Surgeons in different institutions vary in the mode of performing laparotomy (longitudinal vs. transverse incision, and if transverse incision, which kind), the exact location of the incision in the uterine wall (with or without omission of the bladder flap) [4], closing the uterine wall by single or double layers [5], leaving the peritoneum layers open or suturing them [6] and/or the way to close the abdominal incision [7]. The same concerns vaginal hysterectomy, where 6 different methods in different hospitals and countries are in use [8].

Many procedures are performed in surgical departments, not necessarily as an outcome of comparative studies, but as a result of local traditions. It is of utmost importance to be able to compare the outcome of surgical procedures in different institutions however the *conditio sine qua non* for reliable comparison is the standardization of the procedures done. Every step in each operation seems to have an influence on the short-term [9] or long-term outcome [10]. Even small details might influence the outcome, such as the choice of suture material in ophthalmological surgery as related to post-operative pain [11], or the size of the needle used to suture the uterus during CS [12], as the uterus contracts vigorously after the operation, and the bigger the needle is, the less suture material is used, therefore less foreign body reaction with all that is involved.

Attempts have been made to analyze each step of vaginal hysterectomy [13], or the optimal way to enter the abdomen when performing endoscopic procedures [14], in order to optimize these procedures. The optimization and standardization of surgical methods are expected not just to improve the postoperative outcome, but also to enable a comparison between different departments and surgeons. Only standardized methods enable comparison of performances of different surgeons, hospitals and countries and therefore only procedures that can be compared to each other should be used for meta-analysis or for comparison studies [15].

The New European Surgical Academy (NESA) is an international surgical academy based in Berlin, Germany with members in 54 countries. One of its aims is to evaluate surgical methods, standardize them and distribute surgical knowledge in countries with limited resources. The NESA is currently conducting an All-African Surgical Database where different surgical cultures can be

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observed. The first results of 1437 CSs performed at 20 different hospitals in the respective countries of Burkina Faso, Gabon, Guinea, Ivory Coast, Mali, the Central African Republic (RCA) and Senegal, show great differences among countries and institutions. Therefore, standardized methods for endoscopy, CS and vaginal hysterectomy were introduced and are now in practice.

## Conclusion

There are different ways and modifications for the same surgical indications. In order to compare the short and long term outcome among different surgeons, surgical institutions, and different countries, only standardized surgical methods should be used.

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