



The need for standardizing the reporting guidelines for surgical procedures: can SUPER be a universal guideline for the evaluation of surgical procedures?

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For surgical professionals, referring or reporting papers related to surgical procedures is an essential process to improve the standard treatment skills of the team, and the short- and long-term outcomes of the surgical treatment. Even if the name of surgical technique is the same, there are many individualities in procedure detail depending on the experience of the surgeon, the maturity of the surgical team, and the facilities in operating room or hospital. Sometimes, these subtle differences can have a significant impact on outcomes that are crucial to the patient, such as postoperative complications and long-term outcomes.

It is absolutely necessary to avoid causing disadvantage to patients due to differences in the content of surgery due to the circumstances of medical professionals, such as the facility in charge of treatment, individual surgeons, and surgical teams, and for this purpose, it is necessary for medical professionals to share the exact procedure for each surgical procedure by referring the articles, and to accurately perform the procedure to the patient. On the other hand, in many surgical papers, there are no strict regulations on how to describe surgical procedures, and it is difficult for readers to accurately understand what kind of surgery the reporter actually performed.

Several guidelines have been proposed for how surgical techniques should be described in papers (1-4) and also studies evaluating the validity of these guidelines have been reported (5). However, there is currently no universal guideline that many top surgical journals adopt. In addition, the points of interest in surgical techniques vary depending on the guidelines, and there are no reports that can be indicated for any field of surgery. This current situation prevents papers related to surgery from becoming universal scientific research, a problem that should be resolved as soon as possible. The Surgical technique rePorting checklist and standaRds (SUPER) Reporting Guideline is one of the studies that propose a solution and are notable for their comprehensive interpretation and implementation of the guidelines to date (6). This is a proposal for a new guideline on the proper description of surgical procedures in scientific articles, reported by Zhang *et al.* This guideline was developed by consensus of an interdisciplinary team using the three-round Delphi method. The authors emphasize that this guideline provide direction and specific benchmarks for detailed and comprehensive reporting of surgical procedures, and adoption of this guideline by surgeons, journal editors, reviewers, systematic reviewers, guideline

developers will help improve the transparency, availability, accessibility, and safety of surgical procedures, as well as the surgical procedures themselves, and may reduce waste of resources in surgical practice. Here, we examine the validity of the SUPER Reporting Guideline announced in 2023 and whether they can become universal guidelines in the future, referring to the guidelines on how to describe various surgical procedures and the papers evaluating their validity.

The method of describing the surgical procedure varies depending on the organ and field in which the surgery is performed. However, as a scientific paper, cross-sectional guidelines are essential regardless of which organs or fields they belong to. Among the guidelines proposed as reporting guidelines for whole surgical interventions, the SCARE 2020 Guideline on the procedure of case report (1), the PROCESS 2020 Guideline on surgical case series (2), the IDEAL Reporting Guidelines on new surgical technique reports (3), the STROCSS 2021 on cross-sectional and case-control studies (4) have been reported as having relatively high evidence.

Despite the large number of new surgical techniques and innovations described in the surgical literature, their quality description is often questionable and lacks solid informative robustness. Most studies that include a surgical technique do not follow a similar format with clear objectives. The recommendations proposed by the SUPER format, with more detailed information on “S”-surgical, “U”-technique, “P”-rePortation, “E”-chEcklist, “R”-standards facilitate their homogeneity. The objective of this checklist is that the surgical procedures can be reproduced by other researchers. A common objective immediately orients the reader towards a better understanding of the main objective of the surgical technique, which facilitates a more objective interpretation and evaluation of the study results. This checklist could improve the study methodology and facilitate the submission and peer review process of the new surgical techniques descriptions, being useful for authors, editors and reviewers. In order to report any type of research, it is essential to comply with a series of requirements depending on the characteristics of the research. For this reason, a series of recommendations should be included that can serve as a guide to improve the presentation of our data.

The only way to advance in surgery is by standardizing procedures. Abandoning subjectivity to prioritize a study methodology that allows a specific surgical technique to be extrapolated to the needs of each patient, professional and center depending on the resources of each region is the key. An exhaustive description of each procedure based on the

sequential and ordered data collection in a universal way, as has happened in other research disciplines, would facilitate the rigor of this transformation of interventions. The objective of standardize reporting guidelines for surgical procedures should be to guide authors towards a defined structure for the presentation of their descriptions and to facilitate their implementation.

More details are frequently required for a correct description of surgical procedures because they tend to be more complex to describe than pharmacological interventions (7). That is why, unlike other areas of medicine, surgical research has previously been questioned for using a less rigorous research methodology (8). An example of this is that the surgical literature has been characterized by a poor presentation of its data within its guide for authors (9). It is unquestionable that a change is necessary that allows an improvement in the reporting quality presentation of surgical procedures. An incomplete and non-rigorous presentation of the data contributes to the accumulation of misleading information that can harm its correct dissemination. There is a lack of training among surgeons on how to correctly report that information. In addition, this is not only a problem for the one who describes the surgical procedure, but also for the reviewer, editor, and reader themselves, who do not lack the necessary tools to be able to make a critical and objective analysis of what is being evaluated. A good external validation of what we are reporting is essential to be able to make differences if these study results can be extrapolated to our daily practice and have a true general interest.

The SUPER Reporting Guideline was developed through a very systematic process compared to conventional surgical procedure guidelines and is expected to be a highly reliable tool. However, this guideline has several problems that need to be resolved to become a universal guideline for scientific articles. In order to cover the items in this guideline, it is necessary to spend a great deal of time and effort by authors, regardless of the difficulty and complexity of the surgical procedures. Another important issue for journal editors is how to publish the descriptions of these procedures in a limited number of pages. To reduce the labor of authors, it is possible to make the descriptions in each section of this guideline in a selective format on the web. In other words, templates of possible procedures for each organ or field should be created, and authors should be able to select the one that matches their own procedure from these templates. If there is no matching option, space should be provided for a free description. To describe procedures in the limited space of the journal, for example,

only a summary such as the name of the procedure should be included in “materials and methods” section, while detailed descriptions in accordance with SUPER can be referred to on the web by attaching a link. As the author mentions in the text, visualization of the procedure using video and publication on the web would also be useful to share the details of the procedure with readers and editors.

There is currently an explosion of technology and innovation that favors the development of new surgical procedures. In this sense, it is necessary to standardize the terminology used for its reporting in order to facilitate its expansion in a homogeneous way thanks to the globalization of the media. We must avoid a “tower of babel” in the description of a new surgical technique and unify the same criteria to use the same language. The SUPER reporting guideline suggested for reporting of surgical technique is a step forward in this sense because it describes in a detailed, structured and systematic way the specific components that detail a surgical technique with the endorsement of a group of collaborators with great experience in this field. More prospective studies are needed in this direction where different authors put this checklist into practice to demonstrate its potential benefits in the dissemination of surgical procedures.

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