



## How we did it: The Process for Developing the ERAS Cardiac Expert Recommendations.

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When developing a formal consensus, we follow the guidelines set forth by The Institute of Medicine (IOM) 2011 *Clinical Practice Guidelines We Can Trust: Standards for Developing Trustworthy Clinical Practice Guidelines*. Consistent with the IOM guidance, our process included a formal assembly of a group of experts, formulation of key questions, assignment of subject champions to lead the discussions, a systematic review of the literature, selection and appraisal of the quality of the evidence, development of clear consensus recommendations that ultimately led to the drafting of this consensus statement. For our latest consensus, an open public organizational meeting in [April, 2017](#) where broad topics of ERAS in cardiac surgery were discussed, and public comment was solicited regarding approaches and protocols with the most merit. A multidisciplinary group of 16 individuals was ultimately selected that included cardiac surgeons, anesthesiologists and intensivists demonstrating expertise in subjects related to recovery, as well as specifically those who had experience with ERAS. Following the public meeting, the group narrowed down a list of 22 potential interventions for further consideration, divided into preoperative, intraoperative and postoperative phases of the patient's path through recovery.

After a selection of topics and assignment of group leaders, the principle literature search was conducted according to PRISMA guidelines of publications. Prospective randomized controlled trials (RCTs), meta-analyses and well designed, well executed non-randomized studies were given preference in developing these statements. In the case of multiple publications with overlap, the most recent reports were selected. Controversies were resolved through in-person meetings, conference calls, and electronic discussions. Individual subject champions advised if inclusion and exclusion were performed correctly and evaluated the degree of bias of each paper and then

made suggestions to consider statements with regard to class and level of evidence. Recommended statements were made to the panel by the subject champions based on the evidence supporting each ERAS-CS element and surveys were performed to gain consensus. After a minimum of 75% agreement on class and level was reached, consensus was considered achieved. Subject champions were responsible for facilitating exchange and discussion among the group, resolving any differences in class and level for each recommendation, and selecting the precise wording for each recommendation. Consistent with the IOM guidance, panel members with relevant conflicts of interest were identified and recused from voting on related recommendations. We used the STS/AATS updated “[Classification of Recommendations and Level of Evidence](#),” as published by the ACC/AHA, as well as the [suggested phrases for writing recommendations](#) used by these professional societies for each topic and about identification and management of conflict of interest.

### Class of Recommendation (COR)

Class (Strength) of Recommendation	Class I (Strong)
Class (Strength) of Recommendation	Class IIa (Moderate)
Class (Strength) of Recommendation	Class IIb (Weak)
Class (Strength) of Recommendation	Class III: No Benefit (Moderate)
Class (Strength) of Recommendation	Class III: Harm (Strong)

### Level of Evidence (LOE)

Level (Quality) of Evidence	Level A
Level (Quality) of Evidence	Level B-R (Randomized)
Level (Quality) of Evidence	Level B-NR (Non-randomized)
Level (Quality) of Evidence	Level C-LD (Limited Data)
Level (Quality) of Evidence	Level C-EO (Expert Opinion)

Using this process, the group presented its first [evidenced-based expert consensus statements](#) at the American Association for Thoracic Surgery (AATS) meeting on [April 28, 2018](#) and [May 2, 2018](#).

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