EXPERT OPINION

Braz J Cardiovasc Surg 2025;40(1):e20250900
https://doi.org/10.21470/1678-9741-2025-0900

Multisociety endorsement of the 2024 European guideline recommendations on coronary revascularization

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The American Association for Thoracic Surgery (AATS), the Society of Thoracic Surgeons (STS), the Latin American Association of Cardiac and Endovascular Surgery (LACES), and the Asian Society for Cardiovascular and Thoracic Surgery (ASCVTS).

The European Society of Cardiology (ESC) recently published their 2024 guidelines for the management of chronic coronary syndromes[1]. This was a collaborative multidisciplinary document authored by 28 experts from 13 countries in addition to the ESC Scientific Document Group. The document was reviewed by 43 experts from 22 countries. It received official endorsement by the European Association for Cardio-Thoracic Surgery.

The ESC document is based on the best-available evidence and provides an important and timely data-driven correction to the recent course of events in the coronary guideline arena. ***The surgical societies represented in this statement endorse the recommendations of the 2024 ESC guidelines for the management of chronic coronary syndromes.***

Historically, the American Association for Thoracic Surgery (AATS) and the Society of Thoracic Surgeons (STS) have worked closely with the American College of Cardiology (ACC) and the American Heart Association (AHA) on coronary and other cardiovascular guideline documents. This collaboration was created on the basis

Central Message

A critical review of the best-available evidence produces trustable, internationally endorsed coronary guidelines. Multidisciplinary collaboration is instrumental in guiding patient care.

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Received for publication Oct 24, 2024.

of mutual respect and a joint, rigorous scientific commitment with a common overarching goal of developing robust and high-quality guidelines that translate to improved patient care. However, in 2021, a disruption of this longstanding collaboration (hoped to be a temporary aberration) took place, with the ACC, AHA, and the Society of Cardiovascular Angiography & Interventions publishing their guideline for coronary revascularization without the endorsement of the AATS and STS[2]. Notably, the AATS and STS had identified significant issues relating to the scientific accuracy of some of the recommendations pertaining to coronary artery bypass grafting (CABG) and raised those during the development and review phases of the document, but unfortunately they were not addressed[3]. Professional cardiovascular societies from across the globe issued individual statements that echoed the concerns of AATS and STS[4-6].

Central to these concerns was a downgrade in the class of recommendation, from I to IIb, for CABG as a treatment to improve survival in patients with stable 3-vessel coronary artery disease (CAD), preserved left ventricular function, and no left main coronary artery stenosis. This downgrade was not supported by meaningful or relevant data and discounted previous well-established longitudinal evidence[7]. Subsequently, the 2023 AHA/ACC Guideline for the Management of Patients with Chronic Coronary Disease turned into a missed opportunity to move beyond the shortfalls of the 2021 guidelines[8,9]. The arguments of the worldwide critique of the ACC/AHA guidelines related to the indication for and the mode of revascularization for chronic CAD. The key aspects were these as follows:

- Diminishing the significance of the evidence supporting the survival benefit of CABG *versus* optimal medical therapy (OMT) alone.
- Disregarding the evidence for improved survival after CABG *versus* percutaneous coronary intervention (PCI) in patients with complex 3-vessel disease.
- Using the International Study of Comparative Health Effectiveness with Medical and Invasive Approaches (ISCHEMIA) study findings on a strategy of initial invasive *versus* conservative management of chronic coronary disease and inappropriately extrapolating them to compare CABG *versus* OMT. As is well known, the latter was not a randomized comparison in the ISCHEMIA trial.
- Applying results from revascularization meta-analyses that focused primarily on PCI *versus* OMT in lower risk patients in order to compare CABG *versus* OMT.
- Departing from a Heart Team approach in writing guidelines.

The 2024 ESC guidelines for managing chronic coronary syndromes provide a thoughtful perspective that aligns with the scientific arguments and considerations raised by multiple global professional societies.

Regarding the indication for revascularization in patients with 3-vessel disease, the 2024 ESC guidelines state: "In chronic coronary syndrome (CCS) patients with left ventricular ejection fraction >35%, myocardial revascularization is recommended, in addition to guideline-directed medical therapy, for patients with functionally significant 3-vessel disease to improve long-term survival and to reduce long-term cardiovascular mortality and the risk of spontaneous myocardial infarction" (class I, level of evidence A). Notably, the document denotes the consistent reporting of higher repeat revascularization rates with PCI independent of multivessel CAD anatomic severity.

Regarding the mode of revascularization, CABG and OMT is recommended over both PCI and OMT alone for patients with diabetes (class I, level of evidence A). In patients without diabetes, CABG is recommended over OMT alone to improve survival, symptoms, and major cardiovascular events (class I, level of evidence A). PCI is recommended along with CABG in patients with intermediate or low coronary complexity only if similar completeness in revascularization (compared with CABG) can be achieved (class I, level of evidence A). The justification in this scenario is that PCI is a less-invasive option that is noninferior in overall survival. CABG, however, is superior to PCI in reducing spontaneous myocardial infarction and cardiovascular death in the latter cohort. A major new recommendation is that when PCI and CABG have equal recommendations, a Heart Team discussion is needed and ad hoc PCI should not be performed (class I, level of evidence C).

We acknowledge the paucity of modern-day evidence on comparative effectiveness of CABG *versus* OMT, especially in patients with preserved left ventricular ejection fraction, while recognizing that the lack of equipoise in patients with severe multivessel CAD will make a randomized trial difficult if not impossible to do. However, contemporary evidence does provide reassuring data for the safety of initial medical management in patients with low atherosclerotic burden with close follow-up and future revascularization as clinically indicated[7].

In summary, until new evidence changes our current assessment, the surgical societies represented in this statement support the recommendations of the 2024 ESC guidelines for the management of chronic coronary syndromes. The consensus is that in patients with complex 3-vessel CAD on OMT, CABG is recommended to improve survival and decrease major adverse cardiovascular events and symptoms (compared with OMT alone or PCI), irrespective of left ventricular ejection fraction. The patient risk profile, Heart Team discussions, and informed patient preferences are all important qualifiers in the decision-making process.

Finally, the cardiothoracic surgical societies remain committed to future collaboration with our colleagues from various disciplines for the benefit of our patients and the betterment of our field. The importance of this collaboration was emphasized in a joint society Guideline Methodology Manual[10] based on the Institute of Medicine principles of trustworthy guidelines[11]. The Manual underscores the importance of fair representation on guideline writing and review committees and the use of a validated consensus-building process. It provides a framework that prioritizes transparency and safeguards against bias. Through adherence to these fundamental principles and a return to a Heart Team approach, it is sincerely hoped that all multidisciplinary specialty cardiovascular societies can once again align on future guideline documents for the common purpose of bettering the care of our patients.

Conflict of Interest Statement

Dr Moon reported Edwards, Surgical Advisory Board. All other authors reported no conflicts of interest.

The *Journal* policy requires editors and reviewers to disclose conflicts of interest and to decline handling or reviewing manuscripts for which they may have a conflict of interest. The editors and reviewers of this article have no conflicts of interest.

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Keywords: CABG, coronary artery bypass grafting, coronary artery disease, CAD, coronary guidelines, left ventricular ejection fraction, optimal medical therapy, OMT, percutaneous coronary intervention, PCI.

This paper was jointly developed by The Journal of Thoracic and Cardiovascular Surgery, The Annals of Thoracic Surgery, Brazilian Journal of Cardiovascular Surgery, Asian Cardiovascular and Thoracic Annals, European Journal of Cardio-Thoracic Surgery and jointly published by Elsevier Inc, Sociedade Brasileira de Cirurgia Cardiovascular, SAGE Publications and Oxford University Press. The articles are identical except for minor stylistic and spelling differences in keeping with each journal's style. Either citation can be used when citing this article.