

Criteria for recommendation, expert consensus, and appropriateness criteria papers: update from the European Association of Cardiovascular Imaging Scientific Documents Committee

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This is an update of the document published by the European Association of Cardiovascular Imaging (EACVI) establishing the criteria to write EACVI scientific and appropriateness criteria documents.^{1,2}

In the previous EACVI documents, recommendation papers, expert consensus documents, and position papers were the three different categories of scientific documents described.¹ In addition, the processes to plan and write new scientific documents were outlined. Particularly, the documents that need timely update and the topics/themes of new documents that need to be developed are proposed to the EACVI Scientific Documents Committee, and the writing task-forces is established according to specific regulations. The writing and publication processes were also defined. Several scientific documents have been published since,^{3–8} and the production of new documents

by the EACVI and in collaboration with other associations and councils of the European Society of Cardiology as well as non-European associations is growing. In this burgeoning field, the EACVI has faced several challenges that make necessary to update the previous recommendations.

When the EACVI joint forces with other associations to develop new scientific documents, an official proposal should be developed and officially approved by all the parts involved (Table 1).

For scientific documents developed by the EACVI, endorsement by other relevant scientific societies can be pursued. In addition, for documents published by other scientific societies where the EACVI endorsement is solicited, the EACVI President and Scientific Committee Chair have to approve, after consultation of the Scientific Committee members.

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Table 1 Planning of a new recommendation/expert consensus paper

- The EACVI Scientific Committee decides on the need to update or develop new version of guidelines, the topics as well as the title, definition, and possible cooperation with other associations or working groups.
- The EACVI President and Chair of the EACVI Scientific Committee elect the Task force chairperson(s) and, in collaboration with him/her/them, create a list of Task force members and identify potential collaborations with other Associations, Working Groups and Councils, and Scientific Societies.
- The criteria to chair a Task force are: recognized expertise in the field with a record of at least one important paper in that specific topic. He or she must have an accumulated impact factor >250 and a H-index >20.
- The criteria for being selected as a co-author in a Task force are at least one of the following: proven expertise (scientific publications in the area); coordination of cardiac imaging Associations or study groups in National Societies related to the field; major personal clinical experience.
- At least four persons from the EACVI Board/Scientific Committees must be members of the Task force.
- Official Task force list validated by Chair of the EACVI Scientific Committee, with Table of Contents and Timelines.
- A final approval of the topic, Table of Contents, and members of the Task force is needed by the ESC Committee for Practical Guidelines (CPG).
- When the EACVI joins forces with other associations to develop new scientific documents, an official proposal should be developed and officially approved by all the parts involved.
- The official invitation and Declaration of Interest (DOI) Form will be sent to potential Task force members by the EACVI Scientific Chair.
- Document elaboration (via meetings, emails, teleconferences, and web-boards) and a detailed timetable to develop and publish the document.
- Chairpersons send the final draft to review by the EACVI Scientific Committee.
- EACVI Scientific Committee, ESC Entities (from ESC Associations, Working Groups, and Councils), external reviewers, and National Societies experts, read and comment on the document.
- Guidelines endorsement forms are sent to National Societies and/or Working Groups of non-invasive imaging.
- Comments must be integrated into the document and the next draft must be produced (several rounds possible). Final draft approval by the Task force and submitted to the EACVI Scientific Committee for publication approval.
- Final draft officially approved for publication by the EACVI Scientific Committee.
- Final approved draft sent to the Editor-in-Chief of *European Heart Journal – Cardiovascular Imaging* (EHJ-CI) and other journals in case of joint publication.
- Recommendations published online and in EHJ-CI and other journals in case of joint publication.
- Beginning of implementation programme i.e. implementation meetings, joint sessions at ESC National Societies Annual Congresses, translations of EACVI Recommendations and Abridged recommendations, EACVI app, Newsletters, etc.
- Documents published by other scientific societies where EACVI endorsement is solicited, will have to be approved by the EACVI President and Scientific Committee Chair, after consultation of the Scientific Committee members.

Table 2 Writing a recommendation/expert consensus paper

- The title must contain EACVI and the phrases recommendations or expert consensus.
- The paper must have a table of contents.
- The abstract must reflect the main message of the paper.
- The introduction should be short and concise.
- The paper may include educational content about the disease but should be short and concise.
- Inclusion of educational content about the imaging method is appropriate.
- The paper should not be written as a review paper or a textbook chapter.
- The document should be short, avoiding repetitions.
- Grammar style—write in present.
- A 'summary box' with key points at the end of each important section including recommendations, is highly recommended.
- Include specific cut-off values—do not write general terms.
- The content should fit with the EACVI core syllabus.⁹
- The paper should contain clear answers and guidelines.
- Pitfalls are welcomed if relevant for the topic.
- Chair responsibility: writing style must be homogenous.
- References should be maximum 120.
- Maximum word count is 10 000 words (including references).
- Recommendations should be checked for consistency with other ESC-EACVI guidelines published <2 years. If there is a strong reason for discrepancy (new evidence or new opinion), the change in recommendation should be highlighted and justified.
- Add flow charts on the imaging modalities of first choice in the specific condition.
- List 10–15 topics as the most important recommendations at the end of the paper—'to do or not to do'.
- Conclusions should reflect what is considered correct—give the correct opinion.
- Use high quality figure panels as a complement of the content, by illustrating practical tips, spectrum of imaging findings or pitfalls, rather than as generic examples of the various imaging techniques.
- It is suggested to add examples (including movie files) as supplementary files.
- A slide set is welcomed and will further increase the utility of the recommendations.

Finally, an important addition to the writing regulations is the word count limit, which should be kept below 10 000 words (including references) (Table 2).

The need to develop documents on appropriateness criteria for cardiovascular imaging use in clinical practice requires the definition of specific regulations to plan and write these types of documents.² Table 3 outlines an important update on the specific criteria to plan and write appropriateness use criteria documents, in addition to those criteria already mentioned in the previous relevant publications.^{1,2}

The scientific documents published by the EACVI are landmark articles summarizing the most updated literature on specific, clinically

Table 3 Planning and writing documents on appropriateness criteria for use of cardiovascular imaging

- The clinical scenarios for which appropriate use criteria should be defined will be selected by the EACVI President and the Chair of the EACVI Scientific Committee.
- The EACVI President and the Chair of the EACVI Scientific Committee define a small Task Force in charge of appropriateness criteria documents within the Scientific Documents Committee.
- For each document proposed, the EACVI President and the Chair of the EACVI Scientific Committee elect the document Chairperson(s). In collaboration with him/her/them, they create the voting panel including experts from each cardiovascular imaging modality. The voting panel should involve well-recognized experts in the imaging field, but also non-imaging experts, clinicians, and scientists. A heterogeneous panel composition should be preferred, to assure a proper balance in terms of relevant expertise.
- The Imaging Working groups/Societies and National Societies propose members to be included in the voting panel.
- The literature review (including ESC guidelines, position, and recommendation papers) will be performed by members of the EACVI Scientific Committee and/or experts in the specific topic, selected by the document Chair(s), together with the EACVI President and the Chair of the EACVI Scientific Committee. These members will not be included as panellists.
- Evidence tables and a review summary will be generated to inform the definition of cardiovascular imaging indications.
- The cardiovascular imaging indications will be defined based on the taskforce and expert panel consensus during workshops.
- The panel members will vote anonymously the imaging technique for the selected cardiovascular imaging indications creating the appropriateness scoring.
- The results of the initial appropriateness scoring will be discussed by the panel, and a final round of independent scoring (modified Delphi method) should be accomplished.¹⁰
- Disagreements will be discussed with the sole purpose to validate them (i.e. to ensure they are not simply due to misunderstanding) and not to eliminate them. The IPRAS 'Interpercentile Range Adjusted for Symmetry' method could be used to assess 'disagreement' and not simply the use of the median which, in many cases, may lead to inappropriate decision.¹¹

relevant topics, helping physicians in the everyday clinical decision-making.

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