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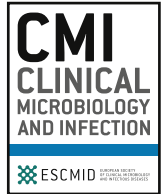
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## Guidelines

## ESCMID white paper: a guide on ESCMID guidance documents

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## ABSTRACT

**Background and aim:** The European Society of Clinical Microbiology and Infectious Diseases (ESCMID) aims to further develop its role in international medical and scientific guidance in the field of Clinical Microbiology and Infectious Diseases, where many types of guidance documents exist. The ESCMID Executive Committee and the *Clinical Microbiology and Infection* (CMI) editorial board wish to clarify the terminology and format to be used in ESCMID guidance documents submitted for publication in CMI, and to highlight the principles behind ESCMID guidance documents.

**Types of guidance documents:** There are five types of ESCMID guidance documents: White Papers, Clinical Practice Guidelines, Consensus Statements, State-of-the-Science Statements, and Position Papers. They differ in scope, methods of development, drafting group composition and preferred publication format. Guidance documents can be proposed, developed and published by ESCMID Study Groups, Committees and individual members; often, other scientific societies are involved. The full disclosure of potential conflicts of interest of all drafting group members is a requirement.

**Final remarks:** Guidance documents constitute a common cultural and scientific background to people in the same and related professions. Also, they are an important educational and training tool. Developing a guidance document is a scientific endeavour, where a sound and transparent development process is needed, requiring multidisciplinary and personal skills. **L. Scudeller, Clin Microbiol Infect 2018;•:1**

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## Introduction

The number of guidance documents being published is increasing: for instance the International Guideline Library (as of 1 July 2018) includes 6474 documents, from 96 organizations in 82 countries [1]. Almost 20 years ago, the Committee of Ministers of

the Council of Europe issued recommendations and explanations on the methodology for drawing up guidelines on best medical practices [2]. At that time, clinical practice guidance documents were developed using a variety of approaches: the traditional way of making medical recommendations was non-systematic, so was at risk of being biased [2]. Since 2001, many things have changed; focus on guideline quality is sharp [3], and a common framework for deriving evidence-based recommendations, such as the Grading of Recommendations Assessment, Development and Evaluation (GRADE) approach, is increasingly adopted by scientific societies and drafting groups [4]. The aim of this approach is to provide the best summary of the available evidence, appraise its quality, avoid

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**Table 1**  
Types of ESCMID guidance documents

Label	Definition/Scope	Preferred development methods	Proponents and drafting group composition	ESCMID officer(s) to contact	Example
ESCMID Clinical Practice Guidelines <sup>a</sup>	Detailed course of action or clinical algorithms in a clinical area	Evidence-based recommendations via the GRADE approach, AGREE II tool	Proposed by EC, Guidelines subcommittee, Study groups [6] Multidisciplinary composition (at least infectious diseases and clinical microbiology)	Medical Guidelines Director	Crobach MJT, Planche T, Eckert C et al. European Society of Clinical Microbiology and Infectious Diseases: update of the diagnostic guidance document for <i>Clostridium difficile</i> infection. Clin Microbiol Infect 2016;22 Suppl 4:S63–81 [13].
ESCMID Consensus Document	General guidance, particularly in areas in which a body of scientific evidence is available, but controversy exists	Consensus development method	Depending on scope, ESCMID Study Groups officially involved	Publication Officer, Scientific Affairs Officer, Medical Guidelines Director	Redelman-Sidi G, Michielin O, Cervera C et al. ESCMID Study Group for Infections in Compromised Hosts (ESGICH) Consensus Document on the safety of targeted and biological therapies: an Infectious Diseases perspective (Immune checkpoint inhibitors, cell adhesion inhibitors, sphingosine-1-phosphate receptor modulators and proteasome inhibitors). Clin Microbiol Infect 2018;24 Suppl 2:S95–S107 [14].
ESCMID State-of-the-Science Document	Summary of evidence and recommendation of future directions for research	Consensus development method	Depending on scope, ESCMID Study Groups officially involved	Publication Officer, Scientific Affairs Officer, Medical Guidelines Director	Sonneville R, Ruimy R, Benzonana N et al. An update on bacterial brain abscess in immunocompetent patients. Clin Microbiol Infect 2017;23:614–20 [15].
ESCMID Position Paper	Opinion about an issue or a course of action, with sound supporting arguments	Delphi/RAND, NGT, Consensus development method	Depending on scope, ESCMID Study Groups officially involved	Publication Officer, Scientific Affairs Officer, Medical Guidelines Director	Rello J, Solé-Lleonart C, Rouby JJ, Chastre J, Blot S, Poulakou G, et al. Use of nebulized antimicrobials for the treatment of respiratory infections in invasively mechanically ventilated adults: a position paper from the European Society of Clinical Microbiology and Infectious Diseases. Clin Microbiol Infect 2017;23:629–39 [16].
ESCMID White Papers	Policy documents to launch debate	Not applicable	ESCMID EC	EC	Poljak M, Akova M, Friedrich AW et al. ESCMID – an international Europe-based society committed to fostering cross-border collaboration and education to improve patient care. Clin Microbiol Infect 2018;24:1–2 [12].

EC, Executive Committee; NGT, nominal group technique.

<sup>a</sup> Clinical Practice Guidelines developed jointly with other societies may follow different procedures, provided that early agreement with ESCMID is sought via the ESCMID Medical Guidelines Director.

conflicts of interests seeping into the recommendation process and maintain complete transparency of the process. On the other hand, limitations of guideline recommendations are well recognized [5].

In 2017, the European Society of Clinical Microbiology and Infectious Diseases (ESCMID) adopted a new set of Standard Operating Procedures [6] for medical guidelines issued by the society alone or in cooperation with other scientific societies; however, also in the field of Clinical Microbiology and Infectious Diseases many types of guidance documents still exist and are being proposed for publication: consensus statements, appropriate-use criteria, practice bulletins, expert advice, quality measures, evidence-based recommendations and others [7]. The aim of this White Paper is to clarify the terminology and format to be used in guidance documents commissioned or endorsed by ESCMID and most often submitted for publication in the journal *Clinical Microbiology and Infection* (*CMI*), to provide guidance and to facilitate transparent reporting.

### Guidance documents issued or endorsed by ESCMID

Throughout the document, we will use the term *guidance* to indicate any document aimed at giving advice in the field on infectious diseases, clinical microbiology and infection control; hence, the phrase *guidance documents* has a broader meaning than 'Clinical Practice Guidelines' (CPGs) (see later) [7]. Of note, we imply that clinical practice embraces all activities related to diagnosis (including clinical laboratory activities), treatment, or prevention of infectious diseases or their consequences.

We envisage five types of ESCMID guidance documents (Table 1): White Papers, CPGs, Consensus Statements, State-of-the-Science Statements and Position Papers. They differ in scope, methods of development, drafting group composition, publication format, and ESCMID officer in charge of the procedure of endorsement. EUCAST guidance documents on susceptibility testing, though not covered in this document, are considered ESCMID guidance documents; when developed or updated they are subjected to general consultation on the EUCAST website with announcements from ESCMID and *CMI*. Guidance documents can be proposed, developed and published by ESCMID Study Groups, Committees and individual members; often, other scientific societies can be invited, or can approach ESCMID (ideally via the appropriate Study Group) for joint development or for endorsement [6]. ESCMID guidance documents undergo a public consultation phase (4 weeks) within all ESCMID members and relevant major stakeholders to safeguard transparency of procedures, reduce publication or committee biases, and ensure that they truly represent the position of ESCMID as a whole. Exceptions to the public consultation phase can be considered for White Papers (because they represent policy decisions taken by ESCMID Executive Committee) and Position Papers (because they do not represent the ESCMID position but those of the authors). During the period of public consultation, recommendations can be questioned and each question will receive a response from the writing group [6,8].

### Ethical considerations

Also, the full disclosure of potential conflicts of interest of all drafting group members is a requirement. All guidance documents are at risk of being driven by conflicts of interest [9]. ESCMID policy on conflicts of interest is explicit in the Standard Operating Procedure document [6] and discussed in detail in a 2015 Position Paper published in *CMI* [8]. This document relates to full clinical practice guidelines, but applies to any ESCMID guidance documents. Authors should thoroughly demonstrate the need for guidance and the usefulness of its format, the appointment of writing group chairpersons devoid of conflicts of interest related to the job at hand, and the selection of experts following proper

declarations of conflicts of interest [8]. Considering the often long-term need for the preparation of guidance documents, the disclosure of potential conflicts of interest of all drafting group members will be required again at the time of final request for approval or endorsement. It is also strongly recommended that conflicts of interest are discussed at each meeting of the drafting group [10].

### Publication

All ESCMID guidance documents shall ideally be published in *CMI* and on ESCMID's website, after approval by the ESCMID Executive Committee and (in most cases) by the Medical Guidelines Director in cooperation with the Guidelines Subcommittee. *CMI* reserves complete editorial independence from ESCMID (this includes decisions on whether to send for peer-review in addition to public consultation; to require revisions; to publish or not). Contact with the Editor in Chief of *CMI* should be sought at an early stage of development. All types of documents should be submitted to *CMI* under the heading 'guidelines'; the format is indicated in the *CMI* Instructions for Authors [11]. The title shall clearly indicate the type of ESCMID guidance document, the focus of the guideline and the target population (Table 1). ESCMID guidelines are published under an open-access policy, whereas the publication policy of all other documents needs prior agreement with the *CMI* Editor in Chief.

### Clinical Practice Guidelines

Clinical Practice Guidelines are statements (clearly distinguished from other forms of clinical guidance) that include recommendations intended to optimize patient care that are informed by a systematic review of evidence and an assessment of the benefits and harms of alternative care options [7]. Optimizing patient care means producing optimal patient outcomes, minimizing patient harm (including development of antimicrobial resistance), promoting cost-effective practice, and reducing inappropriate clinical care variations. Of note, this definition also entails an inherent educational perspective.

The ESCMID definition of CPGs is 'systematically developed statements to assist practitioner and patient decisions about appropriate healthcare for specific clinical circumstances.'

There are eight key attributes of CPGs: validity, reliability/reproducibility, clinical applicability, clinical flexibility, clarity, multidisciplinary process, scheduled review and documentation [7]. To qualify as CPGs, a guidance document must therefore include evidence-based recommendations; however, it can also include best practice statements, provided they are clearly labelled as such (Terminology Box 1) [17].

### Methods

Standard operating procedures for proposing, developing and publishing ESCMID CPGs can be publicly accessed on the ESCMID website [6]. This document is currently undergoing revision; drafting groups shall always look for the latest available version. ESCMID endorses the GRADE approach for guideline development (see Appendix A and Appendix B) [18].

Consensus methods (Terminology Box 2) enter into the CPGs' development process in several ways/steps, in order to achieve panel agreement on:

- initial decision about the clinical questions to be answered (Population, Intervention, Control, Outcome; PICO)
- CPGs' development methods themselves (e.g. systematic reviews, working subgroups, format of publication)
- quality of evidence behind each statement

**Terminology box 1**

## Types of sentences used in guidance documents

From the linguistic point of view, sentences in scientific papers can occur in one of three forms:

- Interrogative
- Statement
- Imperative

*Interrogative*

Questions are the foundation of scientific enquiry; in the medical field they not only drive research but also guidance documents (e.g. PICO questions in the GRADE approach) [27]. In ESCMID CPGs they should be classified as ‘background questions’ and ‘foreground questions’.

*Statement*

A ‘statement’ is a unit in physical or mental language that we would judge from our pre-theoretical perspective to be capable of truth or falsity. In medical guidance documents, we distinguish:

- Statements of facts are used to summarize an important topic discussed in the consensus when facts, rather than actions, are discussed and agreed
- Definitions are detailed explanations of a term, or a group of terms.

*Imperative*

Indications to act or not to act on a specific issue are written in the form of

- evidence-based recommendation [28]
- good practice statement [17] (based upon expert judgement) [24].

Wording includes strong or weak recommendation [29]. Other systems can adopt other wording [30].

‘Options’ are neutral with respect to recommending the use of an intervention: they merely note that different interventions are available, and different people make different choices [2].

- strength of each recommendation
- recommendations where no specific body of evidence exists [17].

*Reporting items for publication*

The template for reporting CPGs is available from the CMI website [11] and is derived from the AGREE II tool [19].

**Consensus and State-of-the-Science Statements**

The purpose of Consensus and State-of-the-Science Statements is to provide guidance in areas of medical and broader health

**Table 2**

Scope and purpose of Consensus Development and State-of-the-Science Statements

	Scope	Purpose
Consensus development	Areas of science and health practice for which a strong evidence base exists from randomized controlled trials and high-quality observational studies, but where controversy still exists	To address specific research questions and/or resolve controversies
State of the science	Science and health practice areas where an incomplete evidence base exists	To summarize the evidence and recommend directions for research

practice, particularly in areas in which a body of scientific evidence is available that can be scoped, explored, assessed and synthesized, but where still controversy exists [20]. Although the Consensus Statement may prompt reassessment of medical practice, it differs from a CPG in that it merely synthesizes the latest information, often from current and ongoing medical research, and reports clinical options; it cannot and does not recommend specific clinical actions in particular circumstances [7].

There are slight differences in scope and purpose between consensus development and State-of-the-Science documents (Table 2), but methods for preparation are essentially the same.

*Methods*

These are statements issued through the ‘consensus development panel’ method, formalized by the NIH in 1977 in the USA, within the Consensus Development Program (officially retired in 2013 by the US Office of Disease Prevention), which represents a dialogue method for research integration [21]. A Consensus Statement is therefore based on publicly available data and information, reflects the views of a panel of thoughtful people who understand the issue and who carefully examine and discuss the scientific data available on the issue.

Many aspects of this consensus development process are similar to that used in the development of high-quality CPGs: use of an unbiased, independent, expert panel including research investigators, health professionals, methodologists and representatives of the public without conflicts of interest; a systematic review; and opportunities for public input [7].

ESCMID Consensus Statements should involve a multidisciplinary panel from ESCMID Study Groups (at least one infectious disease and one clinical microbiology member), relevant committees and experts.

Performance of a systematic review and using the GRADE approach for evidence grading is advised [18]. The methods adopted to measure and reach consensus should be defined a priori and explicitly reported (see Terminology Box 2).

The creative work of the panel is to synthesize this information, along with sometimes conflicting interpretations of the data, into clear and accurate answers to the questions posed to the panel. The statement may reflect uncertainties, options or minority viewpoints [20]. Usually, a final conference is held to formalize and record consensus.

Although the statement is not updated after issuance, after 5 years it is considered ‘historical’ and the assumption is that more evidence has been developed and that much of the content is of questionable validity.

**Terminology box 2****Consensus, consensus methods and consensus documents**

The word 'Consensus' can indicate several related concepts: an objective, a process or a method. Moreover, in the medical literature it often indicates a type of document. We attempt here to clarify its meaning for ESCMID.

The term 'consensus' has two general meanings:

- general agreement about a decision in a group
- the method or process used to reach this agreement.

It represents one of the many decision-making processes. It is cooperative and non-coercive: in it, all group members provide input and a decision is made that is acceptable to all. It does not mean that everyone agrees with the decision, but it does mean that everyone can live with, support and implement it.

Consensus methods need qualitative or quantitative tools to measure the extent of agreement among a group (in the medical field, the group usually comprises clinical experts and other important stakeholders in the specific area) about a given issue [31].

Of note, they seek to overcome some of the disadvantages normally found with decision making in groups or committees, which are commonly dominated by one individual or by coalitions representing vested interests. In open committees, individuals are often not ready to retract long-held and publicly stated opinions, even when these have been proven to be false [31].

The term 'agreement' in turn has a dual meaning:

- the extent to which each respondent agrees with the issue under consideration (typically rated on a numerical or categorical scale)
- the extent to which respondents agree with each other, the consensus element of these studies (typically assessed by statistical measures of average and dispersion).

The three commonest consensus methods are:

- Delphi (+/- RAND, which includes numerical scoring)
- Nominal Group Technique (also known as the expert panel)
- Consensus development and State-of-the-Science panel (also known as consensus development conference)

Besides technical/methodological differences (for a short but clear review, see ref. [32]; for a more extensive review see ref. [20]), the consensus methods vary in the number of questions they can effectively address: in consensus development conferences a lower number of questions (fewer than ten) can be handled, the Delphi method can include a much large number, and the nominal group technique a somewhat intermediate number.

Consensus methods are used in the development of all types of guidance documents, including Clinical Practice Guidelines. For instance, even within the GRADE approach, consensus methods are employed to reach agreement among panel members about the quality of evidence, or about the strength of recommendation. The quality of reporting of consensus methods in scientific guidance documents is usually poor, with the possible exception of Delphi methods [33,34].

**Reporting items for publication**

This type of document is not intended as a practice guideline, or as a primary source of detailed technical information [20]. Its publication format is simpler than that of a CPG (Table 3).

**Position Papers**

Position Papers present an opinion about an issue or a course of action; the opinion is typically that of the author, an authoritative group, or a scientific society, backed by sound arguments and/or a report. As such, in the medical field it focuses on explaining, justifying or suggesting a specific form of patient care. The authoritativeness of a Position Paper strictly depends on that of the scientific panel that issues it. However, not being based on rigorous methods of literature search and synthesis, its value as a guidance document is inferior to that of a CPG or a Consensus Document.

Position Papers express the view of the panel (e.g. a group of ESCMID members) on a topic where there is no consensus in the scientific community.

**Methods**

Typically, Position Paper methods involve appropriate panel selection, definition of scientific questions, selection of the appropriate references needed to back up the position, consensus methods to reach agreement as to scope, wording, publication of the document and other issues.

In ESCMID Position Papers, inclusion of additional non-ESCMID members or societies is welcome and encouraged, to enhance multidisciplinary, representativeness and authoritativeness.

In the preparation of guidance documents, ESCMID strongly privileges systematic review methods for literature selection and

**Table 3**  
Preferred items for publication of Consensus Development and State-of-the-Science Statements

Title	Key information: Clinical area (scope), ESCMID Study Group involved, clearly indicate its nature (Consensus or State-of-the-Science Statement).
Authorship	ESCMID Study Group involved, panel composition, with the explanation for the choice of panel members; inclusion of additional non-ESCMID members/societies is welcome to enhance multidisciplinary, representativeness and authoritativeness. Conflicts of interest should be listed at the end of the document.
Abstract	Short version of the guidance; alternatively, brief explanation of the need for such a guidance.
Introduction	Present the background information to justify the need for the guidance.
Methods	Detailed methods should be presented, including those adopted for systematic review and appraisal of the literature; measures of agreement among panel members and definition of consensus should be explicitly stated. Details can be provided as online-only supplementary material.
Consensus statements	Indication for practice shall not be presented with a specific strength of recommendation but rather the document should highlight the degree of agreement among panel members about a specific course of action and its alternative options. In State-of-the-Science documents, recommendations for future research are pivotal.
Conclusion	The conclusion should be a brief summary of the paper and the position of ESCMID. If applicable, particularly important recommendations may be re-stated.
Contributors and other acknowledgements	All contributors who do not meet the criteria for authorship shall be listed in an Acknowledgements section at the conclusion of the manuscript.

**Table 4**  
Preferred items for publication of Position Papers

Title	Key information: Clinical area (scope), ESCMID Study Group involved, clearly indicate its nature (Position Paper).
Authorship	ESCMID Study Group involved, panel composition, with the explanation for the choice of panel members. Conflicts of interest should be listed at the end of the document.
Abstract	Short version of the position statement; alternatively, brief explanation of the need for such a guidance. This might not be necessary in the case of Letter-to-the-editor format.
Introduction	Present the background information to justify the need for the guidance.
Methods	Methods used to define and reach consensus should be presented. Details can be provided as online-only supplementary material.
Position	Statement of the position and detailed explanation of the chain of reasoning leading to it, with sufficient supporting information.
Conclusion	The conclusion (if needed) should be a brief summary of the position of the panel.
Contributors and other acknowledgements	All contributors who do not meet the criteria for authorship shall be listed in an Acknowledgements section at the conclusion of the manuscript.

synthesis. However, in Position Papers other knowledge synthesis methods are often used [22,23].

#### Reporting items for publication

A clear statement of the need for the Position Paper should precede the position statement(s) (Table 4). Also the consensus method(s) followed for the preparation of the document (see Terminology Box 2) and whenever relevant the explicit criteria used for expert judgement should be reported [24]. Most relevantly, the detailed explanation of the chain of reasoning, with sufficient supporting information to present the rationale behind the position adopted, shall be reported [25].

There is not a specific reporting format of Position Papers: it may range from a simple letter to the editor to a commentary, or a review with position statement/s; depending on content, the *CMJ* Editor might indicate a specific format.

#### White Papers

White Papers are policy documents containing proposals by an authoritative group or scientific society in a specific area [25,26]. ESCMID White Papers aim to underline major topics relevant for professionals in the field of ID, CM, and IC and express the Society view and political strategy.

#### Methods

In the medical field, the panel issuing a White Paper is usually the executive committee of a scientific society. There is no clear indication as to the methods required for its development; typically, nominal group technique, Delphi or (more frequently) informal methods are adopted.

#### Reporting items for publication

White Papers represent ESCMID's official position on scientific and policy issues. They will usually contain statement of the position, policy and future directions endorsed by the Society, supporting information for the policy adopted, and (if any) official recommendations.

#### ESCMID final remarks

ESCMID principles in the development of guidance documents need to be highlighted.

First, despite their well-known drawbacks [5,8], and their lack of legal bearing, guidance documents constitute a common framework against which clinical practice is conducted and evaluated, and represent an important educational and training tool for health practitioners.

Second, developing a guidance document is a scientific endeavour. As such, its foundation lies in the explicit justification and explanation of why a guidance is needed.

Third, guidance documents can only be effective if a sound and transparent development process is adopted, and if the guidance brought forth is accepted by a large majority of the target group; hence, the process for consultation with colleagues in the development of the final product is of utmost importance.

Fourth, the process of developing guidance requires complex medical, scientific, organizational and personal skills (e.g. aptitude for team work, problem-solving ability, and capacity to focus on relevant issues).

ESCMID aims to further develop our global role as medical and scientific guides in the field of Clinical Microbiology and Infectious Disease, adopting any measures that can facilitate the practical implementation of these principles.

## Transparency declaration

All authors have completed the ICMJE form for Conflict of Interest statements. None has conflict of interest related to this work.

## Funding

No external funding was received.

## Contributions

LS drafted the manuscript, all other authors revised it critically for important intellectual content, and gave final approval of the version to be submitted.

## Acknowledgements

Since the writing of the manuscript, Emmanuelle Cambau and Önder Ergönül have been elected to the ESCMID Executive Committee. The current ESCMID EC endorses this White Paper.

## Appendix A

ESCMID quality of evidence and type of recommendation.

*Quality (certainty) of evidence:*

- High
- Moderate
- Low
- Very low

The quality of evidence per recommendation should be justified by a summary of finding table, provided per recommendation:

- Type/s of studies: if different study types contributed to the recommendation please specify all designs.
- Quality assessment, each item classified as not serious, serious or very serious risk.
  - Risk of bias: addressing the internal risk of bias of the studies contributing to the recommendation. Preferably provide in an appendix the risk of bias assessment for the main studies used to devise the recommendations. Using the risk-of-bias scores, low risk of bias would translate to 'not serious'; unclear risk of bias would translate to 'not serious' or 'serious' as judged by the guidelines panel; and high risk of bias would translate to 'very serious' risk.
- Inconsistency: exists when the summary of evidence is heterogeneous and the guidelines panel fails to explain it (e.g. with a dose–response relationship). The guideline panel should use judgement in appraising statistical heterogeneity; for example evidence from studies showing heterogeneous magnitudes of effect all in the same direction can be judged as less inconsistent than studies pointing at different directions of effect.
- Indirectness: examines the directness of the evidence substantiating the recommendation and asks whether studies were conducted addressing the precise comparison, the relevant patient population, intervention or outcomes.
- Imprecision: is defined by the confidence intervals surrounding the effect estimate and is dependent on whether optimal information size was met when compiling the overall evidence of the recommendation.
- Other considerations
  - Publication bias: will downgrade the evidence if strongly suspected

- Large effect: will upgrade the evidence if existent. Risk ratios of  $>2$  or  $<0.5$  are suggested to denote a large effect and risk ratios of  $>5$  or  $<0.2$  a very large effect, if no plausible confounding exists.
- Plausible confounding: relevant only for observational studies not downgraded on other factors and can increase the level of evidence if the influence of all plausible confounding would reduce a demonstrated effect or suggest a spurious effect when results show no effect
- Dose–response gradient: will upgrade the evidence if existent.

*Type of recommendations:*

- Strong recommendation
- Conditional recommendation
- Conditional recommendation for either the intervention or the comparison
- Conditional recommendation against
- Strong recommendation against

## Appendix B

Resources for authors of clinical practice guidelines.

- Alonso-Coello P, Oxman AD, Moberg J, Brignardello-Petersen R, Akl EA, Davoli M, Treweek S, Mustafa RA, Vandvik PO, Meerpohl J, Guyatt GH, Schünemann HJ; GRADE Working Group. GRADE Evidence to Decision (EtD) frameworks: a systematic and transparent approach to making well informed healthcare choices. 2: Clinical practice guidelines. *BMJ*. 2016 Jun 30;353:i2089. doi: 10.1136/bmj.i2089.
- GradePro: available at: <http://gdt.guidelinedevelopment.org/app/handbook/handbook.html> for the handbook and <http://gradepro.org/> for the generation of summary of findings tables
- The interactive EtD (<http://ietd.epistemonikos.org/>)
- The interactive Summary of Findings (iSoF; <http://isof.epistemonikos.org/>)
- AGREE II: the new (2010) international tool to assess the quality and reporting of practice guidelines (<https://www.agreertrust.org/agree-ii/>)
- MAGIC ([www.magicapp.org](http://www.magicapp.org)).

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