

ASCO[®] Guidelines

Methodology Manual

Application:

Applies to the Society and its affiliates

History:

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1. BACKGROUND

The American Society of Clinical Oncology (ASCO) Guideline Program Methodology Manual is designed to transparently communicate the methods in which ASCO develops clinical practice guidelines, provisional clinical opinions, endorsements and adaptations. The ASCO Guideline Program falls under the auspices of the ASCO Clinical Practice Guidelines Committee (CPGC) which acts on behalf of the ASCO Board of Directors on matters of clinical guidance (See CPGC R&A document, which may be updated from time to time at the discretion of the Board). The CPGC oversees topic prioritization, development, the formation and progress of expert panels, and is the review and approval body of all guideline products.

All funding for the Guidelines Program is provided by ASCO and expert panels are populated according to [ASCO's Conflict of Interest Policy Implementation for Clinical Practice Guidelines](#). ASCO follows guideline development procedures as outlined by the [Counsel of Medical Specialty Societies \(CMSS\)](#) and the [Institute of Medicine \(IOM\)](#).

2. HOW TOPICS ARE SELECTED

ASCO strives to offer a comprehensive portfolio of practice guidelines to meet the needs of its members and the clinical oncology community. The CPGC selects and approves topics for which ASCO will develop guideline products. ASCO Guideline Advisory Groups make recommendations to the CPGC on identifying and prioritizing topics for guideline development or update. As delegated by the CPGC, Guideline Advisory Groups review the progress and direction of ASCO clinical practice guidelines relating to a disease site or cancer topic. Currently, Advisory Groups have been assembled in each of the following areas to oversee the portfolio of ASCO guidelines in the applicable disease state: breast cancer, gastrointestinal cancer, genitourinary cancer, thoracic cancer, head and neck cancer, gynecologic cancer, supportive care, survivorship, resource stratification, and multi-site cancer topics.

ASCO Guideline Advisory Groups review and prioritize guideline topic proposals submitted through an online survey on an annual basis. Each spring, survey responses are solicited to provide individuals the opportunity to submit topics for guideline development. The survey asks questions such as:

- Is there uncertainty or controversy about the relative effectiveness of available clinical strategies for the condition(s) for which guideline is proposed?
- Is there perceived or documented variation in practice in the management of a given condition/use of health care intervention?

The Topic Submission and Selection Guide ([Appendix I](#)) may help in the assessment of the need for a guideline on a given topic. Factors considered when selecting and prioritizing topics include the burden or importance of the condition/intervention, the degree of uncertainty or controversy about the relative effectiveness of existing clinical options, and/or variation in practice in the management of the condition/intervention. In the fall, topics are submitted to the appropriate Guideline Advisory Group (AG) for review during their annual priority setting

process ([Appendix II](#)). To submit a topic at any time throughout the year, please visit <https://www.surveymonkey.com/s/ascoguidelinesurvey>.

3. GUIDANCE PRODUCTS

In addition to the development of Clinical Practice Guidelines, ASCO also provides clinical guidance through other products such as:

- Provisional Clinical Opinions
- Guideline Endorsements
- Guideline Adaptations
- Resource-Stratified Guidelines

The Provisional Clinical Opinion (PCO) offers timely clinical direction 1) following the publication or presentation of potentially practice-changing data from major studies, 2) in areas of emerging evidence, or 3) as interim direction pending the development or updating of an ASCO clinical practice guideline. In contrast to practice guidelines, PCO's are characterized by a different level of user obligation (clinical opinions versus recommendations), smaller expert panels, targeted systematic literature reviews, concise manuscripts, and expedited review and approval by the CPGC leadership (Past-Chair, Chair, Chair-Elect, and Board Liaison) if needed ([Appendix III](#)).

Endorsement ([Appendix IV](#)) or Adaptation ([Appendix V](#)) of guidelines developed by other organizations, is considered if the guidelines are judged to be of interest to the ASCO membership and align with the priorities of the CPGC. Endorsement by ASCO indicates that an independent ASCO Expert Panel agrees with all the recommendations as drafted by the developing organization, whereas for Adaptations, an ASCO Expert Panel adds qualifying statements or alters recommendations. ASCO uses a formal review process for endorsing and adapting clinical practice guidelines developed by other health professional organizations (Shah et al¹.) Organizations seeking Endorsement or Adaptation by ASCO may submit a request for endorsement or adaptation through the ASCO Guideline Endorsement/Adaptation Request form ([Appendix VI](#)) and guidelines are assessed by content experts using the ASCO Expert Reviewer Content Review Form ([Appendix VII](#)).

Resource-Stratified Guidelines provide expert guidance for settings in which maximal resources are not available to complement local guidelines. These guidelines use ASCO's systematic review processes, formal consensus methodology, and modified ADAPTE methodology to developed stratified recommendations for the basic, limited, and enhanced settings (Al-Sukhun et al²).

4. PANEL COMPOSITION

Once a topic is approved for development by the CPGC, an Expert Panel is assembled. All ASCO systematic review-based guideline products are developed by a multidisciplinary Expert Panel supported by ASCO guidelines staff with health research methodology expertise. The Expert Co-Chairs and ASCO staff assemble a list of Expert Panel members which the CPGC leadership reviews and approves. Each Expert Panel should have a

¹ Shah MA, Oliver TK, Peterson DE, Einhaus KE, Schneider BJ, Denduluri N, Chavez-MacGregor M. [ASCO Clinical Practice Guideline Endorsements and Adaptations](#). J Clin Oncol. 2019 Dec 16 epub ahead of print

² Al-Sukhun S, Temin S, Chavez-MacGregor M, Denduluri N., Oliver TK, Pyle D, Shah MA, Gralow G. [ASCO Resource-Stratified Guidelines: Methods and Opportunities](#). J Glob Oncol. 2018 Dec; 4: 1-8

representative from the ASCO Practice Guidelines Implementation Network (PGIN) and at least one patient representative. Prospective members are sent an invitation to join the Expert Panel, along with the Expert Panel Responsibilities and Authorities ([Appendix VIII](#)) document. In addition, slide sets have been developed for the roles of [Co-Chair](#), [Member](#), [PGIN Representative](#), and [Patient Representative](#) to further explain the responsibilities and processes.

Guideline expert panels are assembled in accordance with ASCO's Conflict of Interest Policy Implementation for Clinical Practice Guidelines and the CMSS Code for Interactions with Companies. ASCO requires disclosure by individuals involved in drafting, reviewing, and approving guideline recommendations and sets limits on the financial relationships that panel members and reviewers can have with Companies that could reasonably be affected by care delivered in accordance with guideline recommendations. To carry out this policy, potential panel members must complete a conflict of interest disclosure form prior to formal invitation to serve on the panel. Following the COI policy, ASCO develops a list of “affected companies”. A Company is an “affected Company” if there is a reasonable likelihood of direct regulatory or commercial impact (positive or negative) on the entity as a result of care delivered in accordance with guideline recommendations. Decisions to invite Expert Panel members and evaluations of any actual or perceived conflict of interest are made at the full discretion of ASCO.

Once the Expert Panel is assembled, guideline development can begin. The work of a panel is confidential. The materials members receive, any discussions, and the decisions made by the panels are subject to ASCO's policies on Confidentiality and may not be shared with anyone outside the ASCO leadership and staff. Some of the materials may be highly sensitive and there could be legal penalties for using or disclosing the information inappropriately. Non-authors, including but not limited to third parties are not permitted prepublication access to ASCO-approved clinical practice guidelines or related materials developed for ASCO publication and public dissemination. An exception is individuals solicited by ASCO for the purposes of invited and confidential peer review. In certain cases, ASCO will share draft guideline documents with outside parties. In these select cases, the parties are required to sign a Non-Disclosure Agreement.

5. PROTOCOL

The Protocol specifies the purpose of the guideline product, target patient population, clinical outcomes of interest, and their importance for decision-making, key features of the systematic literature review, and a proposed timeline for completion. ASCO staff, the Expert Panel Co-Chairs, and possibly other panel members selected by the Co-Chairs (the Expert Panel Steering Committee), will typically draft the protocol for full panel review. For consistency a Protocol Worksheet ([Appendix IX](#)) is used.

Once the Co-Chairs have approved a first draft of the Protocol, the Protocol will be shared with the full Expert Panel. At the discretion of the Guidelines Director, the CPGC leadership and/or the CPGC Methodology Subcommittee may review the Protocol to make suggestions for revision intended to clarify aspects of the plan for developing the guideline. These suggestions are sent to the Expert Panel Co-Chairs. Work on the systematic literature review can proceed upon the sign-off of the Protocol by the Expert Panel.

6. SYSTEMATIC LITERATURE REVIEW

Upon approval of the Protocol, a systematic review of the medical literature is conducted. ASCO staff use the information entered into the Protocol, including the clinical questions, inclusion/exclusion criteria for qualified studies, search terms/phrases, and range of study dates, to perform the systematic review. Literature searches of selected databases, including The Cochrane Library and Medline (via PubMed) are performed. Working with the Expert Panel, ASCO staff complete screening of the abstracts and full text articles to determine eligibility for inclusion in the systematic review of the evidence.

7. UNPUBLISHED DATA FROM MEETING PROCEEDINGS (ABSTRACTS)

Approved by the ASCO Board of Directors September 7, 2017

Unpublished data from meeting abstracts are not generally used as part of normal ASCO guideline development (“Meeting Data”). However, abstract data from reputable scientific meetings and congresses may be included on a case-by-case basis after review by the CPGC leadership. Expert Panels should present a rationale to support integration of abstract data into a guideline. The CPGC leadership will consider the following inclusion criteria for the unpublished scientific meeting data: 1) whether the data were independently peer reviewed in connection with a reputable scientific meeting or congress; 2) the potential clinical impact of the unpublished data; 3) the methodological quality and validity of the associated study; 3) the potential harms of not including the data; and 4) the availability of other published data to inform the guideline recommendations.

8. SUMMARIZING THE EVIDENCE

After the systematic review is completed, a GRADE evidence profile and summary of findings table is developed to provide the guideline panels with the information about the body of evidence, judgments about the quality of evidence, statistical results, and certainty of the evidence ratings for each pre-specified included outcome. Example templates of these summary tables are provided in Appendix XV.

9. FORMULATING RECOMMENDATIONS

After the systematic review of the literature is completed, Expert Panel members review the evidence profile and summary of findings and draft the guideline recommendations for clinical practice.

Evidence-Based Approach to Guideline Development

ASCO guideline recommendations are developed using the **GRADE** (Grading of Recommendations Assessment, Development and Evaluation) methodology

(<https://gdt.gradeapro.org/app/handbook/handbook.html>) This method helps Guideline Expert Panels systematically develop evidence-based, clear, transparent, and implementable recommendations. The wording of recommendations is intentional to aid in understanding and interpretation for end users. The process of developing recommendations incorporates specifying the patients or population, detailing the intervention, and specifying the comparator, when appropriate. The words “must”, “should”, “may”, “may not”, “should not”, and “must not” are often used to describe the level of obligation for the recommendation and correspond with recommendation strength.³ In addition to strong or weak recommendations, there may be a recommendation to use interventions only in research. If there is insufficient evidence to support a decision for or against an intervention, further research could reduce the uncertainty about the effect of the intervention, and this research is thought to be of high value. Expert Panels may also choose not to make a recommendation for or against an intervention. Additionally, Expert Panels may choose to issue good practice statements. These statements represent the guideline panel's view of optimal practice, but are not graded.⁴ Panels should use good practice statements when high quality indirect evidence is available, but it would not be a good use of the panel's limited resources to conduct formal evidence summaries. These good practice statements should be used sparingly.⁵ This process for recommendation formulation helps the Expert Panel focus the discussion, avoid using unnecessary and/or ambiguous language, and clearly state its intentions.

Consensus-Based Approach to Guideline Development

Approved by the ASCO Board of Directors 2010

In clinically important areas where there is limited evidence or a lack of high-quality evidence to inform clinical guidance recommendations, ASCO uses a formal consensus methodology based on the modified Delphi technique ([Appendix XI](#)) (Loblaw et al.)⁶.

10. CERTAINTY OF EVIDENCE AND STRENGTH OF RECOMMENDATIONS

The quality and usability of ASCO's guidelines is enhanced by transparency about the quality and strength of evidence that informs guideline recommendations. ASCO adopted the GRADE Methodology as the recognized standard in guideline development methodology. The ASCO Clinical Practice Guideline Committee voted to adopt the use of GRADE methodology for grading the certainty of evidence and strength of recommendations (<http://www.gradeworkinggroup.org/>). The [GRADE Handbook](#) details the approach for grading the quality of

³ Schiffman RN, Michel G, Rosenfeld RM, Davidson C. Building better guidelines with BRIDGE-Wiz: development and evaluation of a software assistant to promote clarity, transparency, and Implementability. *J Am Med Inform Assoc.* 2012 Jan-Feb; 19(1):94-101

⁴ Guyatt GH, Schünemann HJ, Djulbegovic B, Akl EA. Guideline panels should not GRADE good practice statements. *J Clin Epidemiol.* 2015 May; 68 (5) 597-600

⁵ Guyatt GH, Alonso-Coello P, Schünemann HJ, Djulbegovic B, Nothacker M, Lange S, Murad Hasan M, Akl EA. Guideline panels should seldom make good practice statements: guidance from the GRADE Working Group. *J Clin Epidemiol.* 2016 Dec; 80, 3-7

⁶ Loblaw DA, Prestrud AA, Somerfield MR, Oliver TK, Brouwers MC, Nam RK, Lyman GH, Basch E. [American Society of Clinical Oncology Clinical Practice Guidelines: formal systematic review-based consensus methodology.](#) *J Clin Oncol.* 2012 Sep 1;30(25):3136-40.

evidence and strength of recommendations, and its application to ASCO Guidelines is summarized below, additional details are available in Appendix XII.

- Certainty of evidence.* The quality of evidence used to inform a given recommendation is assessed to evaluate its validity, reliability, and consistency. The quality of evidence is rated for each outcome across studies. Factors assessed when rating the quality of evidence include study design, consistency of results, directness of evidence, precision, publication bias, magnitude of effect, confounding, and dose-response gradient. This assessment considers the individual study quality ratings, the overall risk of bias, and the overall validity and reliability of the total body of evidence. The summary rating is an indication of the Expert Panel’s confidence that an estimate of the effect is adequate to support a particular recommendation. The certainty of the evidence is defined as one of four grades: high, moderate, low, or very low. Definitions are available in Table 1.

Table 1. Definitions for Quality of Evidence Grades⁷

Grade	Definition
High	We are very confident that the true effect lies close to that of the estimate of the effect.
Moderate	We are moderately confident in the effect estimate: The true effect is likely to be close to the estimate of the effect, but there is a possibility that it is substantially different
Low	Our confidence in the effect estimate is limited: The true effect may be substantially different from the estimate of the effect.
Very Low	We have very little confidence in the effect estimate: The true effect is likely to be substantially different from the estimate of effect

- Strength of recommendations.* The Expert Panel provides a rating of the strength of each recommendation. This assessment reflects the extent to which a guideline panel is confident that desirable effects of an intervention outweigh undesirable effects, or vice versa, across the range of patients for whom the recommendation is intended. Recommendations may fall into two categories; strong and weak. Factors determining the strength of a recommendation include balance between benefits and harms, certainty of evidence, confidence in values & preferences, and resource use. Recommendations may be made for or against the use of an intervention.

11. ADDITIONAL TOPICS

Cost Considerations

Costs considerations and/or commentary about published cost-effectiveness analyses relative to the clinical question may be included in ASCO guidelines. When guidelines address questions where cost is a consideration (e.g. anti-emetics), then a table may be included that lists the drug acquisition costs of the available therapies (See [Sample Cost Table](#)).

Other examples of where a cost table may be considered are for comparisons of alternative diagnostic procedures where there are commonly available billing codes used for reimbursement. For complex multi-

⁷ Balshem H, Helfand M, Schünemann HJ, Oxman AD, Kunz R, Brozek J, Vist GE, Falk-Ytter Y, Meerpohl J, Norris S, Guyatt GH. GRADE guidelines: 3. Rating the quality of evidence. J Clin Epidemiol. 2011 Apr; 64(4): 401-6

faceted procedures (i.e., sentinel lymph node biopsy, laparoscopic colectomy) there are many dimensions that must be evaluated, and a cost section should be considered carefully before inclusion in a guideline.

Cost-effectiveness of therapies can be a cancer policy issue, but such analyses are not the primary focus of ASCO clinical guidance. If economic analyses (cost-effectiveness, cost-utility, cost-benefit) are identified in the systematic literature review, then that evidence should be included as a distinct commentary in a cost section of the guideline. At present, no endorsement or rejection of the relative value of identified economic analyses are reflected in the recommendations generated by the expert panels.

Health Disparities

Disparities are addressed in the systematic review and specific studies should be referenced in the guidelines. Efforts are underway to expand this section of the guideline.

Patient-Clinician Communication

ASCO has incorporated a patient communication section into each guideline. This section presents possible options on how oncologists can communicate with their patients. In many cases, the patient representative assists in drafting this section.

12. OPEN COMMENT

Approved by the ASCO Board of Directors September 7, 2017

ASCO Guidelines are available for open comment for a 2 to 3-week period. Guideline recommendations available for open comment are posted on [asco.org/open-comment-guidelines](https://www.asco.org/open-comment-guidelines). Prospective reviewers must contact ASCO to request to review the draft guideline recommendations and are required to sign a non-disclosure and confidentiality agreement before receiving the draft guideline recommendations. Reviewers must identify themselves by name and affiliation; anonymous comments will not be accepted. Guidelines staff review and summarize comments and bring relevant comments to the Expert Panel Co- chairs, and to the entire panel if necessary. Any changes made from the open comment process will be reviewed by the entire panel prior to CPGC approval. Comments are advisory only and ASCO is not bound to make any changes based on feedback from open comment. ASCO does not respond to reviewers or post responses to comments; however, major edits to the draft will be reflected in the open comment discussion.

13. REVIEW PROCESS

ASCO has a rigorous review process for guidelines. After the draft has been approved by the Expert Panel, the guideline is independently reviewed and approved by the CPGC. Select members of the CPGC are asked to critically review the guideline prior to the next scheduled CPGC meeting. The CPGC members then present the results of their reviews to the full committee, discuss the review with the full committee, and the CPGC votes on whether to approve the guideline (with recusals from members who have relationships with affected companies).

Approved ASCO Guidelines are then submitted to the *JCO* for consideration of publication. Submitted guidelines are subject to an embargo policy and cannot be posted publicly prior to publication.

14. DISSEMINATION AND IMPLEMENTATION: CLINICAL TOOLS AND RESOURCES

ASCO produces Clinical Tools and Resources to more widely disseminate, in a practical and user-friendly form, the recommendations contained in the guidelines. These CT&Rs include:

1. **Patient Material:** Each guideline is accompanied by a short summary containing information such as: key messages, questions to ask your doctor, and what this means for patients. The patient guides are developed by ASCO's Communication Department and are available on cancer.net.
2. **Power Point Slide Set:** Slides containing sections like Clinical Questions, Background, Methodology, Evidence, Recommendations, and Implications. These slides are designed to be used during Tumor Boards, Grand Rounds, and similar lectures. A slide set is developed for every guideline. An example is the [Treatment of Malignant Pleural Mesothelioma Slide Set](#)
3. **Flow Sheet or Algorithm:** These tools could be used by clinical practices in their daily activities and included in patients' records. The intent is to create a practical product that will facilitate guideline adherence in day-to-day situations for the practicing clinician. An example is the [Outpatient Management of Febrile Neutropenia in Adults Treated for Malignancy Algorithms](#)
4. **Tables:** If applicable, ASCO will develop tables with the recommendations and other information like dosing, for example: [ASCO's Antiemetics Drug, Dose, and Schedule Table](#).
5. **Decision Aid/Discussion Guide:** The Decision Aids discuss benefits and risks of interventions from the Guidelines and include opportunities for patients to weigh their options. ASCO's [Prostate Cancer Screening with PSA Testing Decision Aid Tool](#) is an example.
6. **Guidelines App:** ASCO's guidelines are disseminated through the ASCO Guidelines App (available for download on [iOS](#) and [Android](#)).
7. **Podcasts** ASCO Guidelines Podcast Series (available on [Apple Podcasts](#), [Google Play](#), or on the [Podcast Page](#)). Each guideline product is accompanied by a podcast interview with a panel member(s) highlighting key recommendations from the publication.
8. **Webinars**
9. [Guideline Pocket Cards](#)

15. GUIDELINE UPDATE PROCESS

ASCO is committed to the currency and validity of its guidelines, an annual assessment, review, and approval strategy has been established. ASCO adapted a signals approach⁸ to ensure a consistent approach to the updating

⁸ Shojania KG, Sampson M, Ansari MT, Ji J, Doucette S, Moher D. How quickly do systematic reviews go out of date? A survival analysis. *Ann Intern Med*. 2007 Aug 21;147(4):224-33. Epub 2007 Jul 16

of guidelines. The goals of this effort are a) to keep guideline products up to date within 3 years of publication (or time of last update), b) have readers aware of the status of the guidelines, and c) to be responsive to new and emerging evidence that can alter guideline recommendations. This can be done by:

1. Guideline Co-Chairs conducting annual assessments of updating need
2. Guidelines Advisory Groups conducting regular assessments and prioritization of updating need
3. Having an expedited response for important recommendation-altering evidence
4. Communicating the status of guideline products on the ASCO Website
5. Archiving guidelines that are no longer of relevance

Guideline Assessment by Co-Chairs

ASCO staff request that guideline Co-Chairs assess the currency of their guidelines on an annual basis, or sooner as circumstances warrant, based on their content expertise and any supporting evidence provided by ASCO Staff. The assessment includes the need for an update as well as the type of update. For example:

Do you think that the guideline should be updated at this time (either because of the availability of new evidence that may alter the recommendations or based on the date of publication with the goal of keeping all of the ASCO guidelines up to date)?

- **Yes:** an update is needed at this time
- **No:** an update not needed at this time
- **Unsure:** if an update is needed at this time

If an update were to be considered at this time, please assess how you would prioritize an update

- **High:** New evidence has been published; one or more recommendations require substantive revision, new recommendations may be needed, or recommendations may be invalidated
- **Medium:** New evidence has been published; recommendations require revision or new recommendations may be needed, but not imminently
- **Low:** New evidence may have been published, but the recommendations are still valid
- **Very low:** No new evidence has been published and/or the recommendations are still valid. An update would only be conducted to keep the guideline current to within 3 years of publication)

If an update were to be considered at this time, what type of update ASCO should consider:

- **Full:** The full guideline requires review and many of the recommendations will need updating
- **Partial:** Portions of the guideline requires review and one or more recommendations will need updating
- **Minor:** Very little of the guideline requires review and while minor edits or clarifications may be needed, the recommendations do not need updating. The guideline may need to be updated to confirm the recommendations are valid to the present day.
- **Expedited:** Important new evidence has emerged that will alter one or more recommendations
- **Archive:** The guideline is deemed no longer relevant and should not be used to guide practice

Guideline Assessment and Prioritization by Guidelines Advisory Groups

Once the individual guideline assessment by the Co-Chairs is completed, the Guidelines Advisory Groups assess the updating status of the guidelines on an annual basis and prioritize non-urgent updates. The updating priority list is reviewed and approved by the CPGC at the annual fall meeting. Urgent update priorities are reviewed and approved by the CPGC leadership as they arise throughout the year.

Expedited Review

Once a high-priority and urgent update is identified and approved for development by the CPGC leadership, a plan for expedited review should be established. ASCO staff can work with the Expert Panel Co-Chairs and CPGC leadership to establish the development, approval and publication strategy for each expedited review. The plan could include:

- A smaller update panel to adhere to expedited timelines established by the Expert Panel Co-Chairs
- A targeted data review and extraction process to focus on recommendation-changing data
- The CPGC agrees to expedite review and approval (including leadership review and approval)
- JCO publication and JOP summary using a minimal component template.
 - The full set of recommendations are provided within the expedited review

In rare cases, bypass publication and post directly to ASCO Website. The threshold for embarking on ASCO guideline updates that translate into new or revised recommendations include:

- a potentially invalidating change in evidence: opposing findings, evidence of substantial harm, evidence of a superior new treatment; and
- A major change in evidence: important changes in efficacy but not opposing findings, expansion of treatment such as evidence of efficacy in a new population, important caveat.

Of note, there can be reasons other than the scientific literature to initiate a guideline update, including regulatory decisions that affect existing practice recommendations and can require rapid, ad hoc updates.

Response to Requests for Revising Guidelines or Adding New Material

Individuals may submit comments or new evidence at any time regarding existing guidelines via the [online form](#). All submitted evidence is reviewed by ASCO guidelines staff, the Expert Panel Co-Chairs, and the entire panel, if needed. All submissions are considered carefully and evidence that may alter one or more recommendations may be used to prompt an update. ASCO is not able to respond to those who submit information or convey any information around decisions made regarding the evidence submission.

Guideline Status

ASCO notes the current guideline status on the respective page on asco.org as Current, Affirmed, Review in Progress, or Archived. Please find a brief description of these terms below:

- **Current:** The guideline was published within the last 3 years. The recommendations are current, accurate, and valid
- **Affirmed:** The guideline was published more than 3 years ago, and the recommendations are current, accurate, and valid

- **Review in Progress:** The guideline is being assessed for currency or an update is in progress. The status of the guideline and recommended care options may change as a result
- **Archived:** The guideline recommended care options are no longer current or valid. This guideline should be used for historical purposes only.

16. REQUESTS FOR OFFICIAL REPRESENTATIVES

ASCO receives requests from other organizations to appoint Official ASCO Representatives to participate in guideline development panels or other related activities. While serving on guideline development bodies outside of ASCO, the representatives can bring the clinical oncology perspective to the developing guideline. The representative can inform ASCO staff and the CPGC Leadership on the guideline development progress.

To request Official ASCO Representatives, guideline developing organizations must complete the [ASCO Representative Form \(Appendix XIII\)](#) and submit it to guidelines@asco.org. If the initiative is in alignment with ASCO's guideline development strategy or the overall goals of ASCO, the CPGC Leadership will approve and appoint the member.

Conversely, organizations may also be asked to nominate representatives to serve on an ASCO guideline Expert Panel on behalf of their organization.

Requesting or receiving a representative for a guideline panel IS NOT an endorsement of the guideline or of the requesting organization by ASCO. ASCO does not review or approve guidelines as a result of nominating representatives unless a separate endorsement or joint development agreement is in place.

17. JOINT GUIDELINE DEVELOPMENT

ASCO and other organizations may also opt to jointly develop a guideline ([Appendix XIV](#)). The Expert Panel membership may be split, as appropriate for the subject matter, between ASCO representatives and representatives from the partnering organization. Depending on the type of joint initiative, the costs of development are shared according by the respective organizations. Organizations participating in joint guideline development sign a legal agreement to memorialize decisions about costs, copyright ownership, panel membership, publication processes, conflict of interest management, and other matters. The organizations also must agree on a conflict of interest policy to follow. Typically, the most stringent policy is followed. ASCO's policy can be found at: <https://asco.org/rwc>. Requests for joint guideline development can be sent to guidelines@asco.org.

APPENDIX I: TOPIC PRIORITIZATION: TOPIC SUBMISSION AND SELECTION GUIDE

ASCO[®] Guidelines

G	<p>Guidelines</p> <p>Are there existing systematic-review based guidelines on the proposed topic? If yes, consider what extra value an ASCO guideline would add to the existing guidelines.</p>
U	<p>Uncertainty</p> <p>Is there uncertainty or controversy about the relative effectiveness of the available clinical strategies for the condition(s) for which guideline is proposed? Consider providing examples or an assessment of this uncertainty.</p>
I	<p>Impact</p> <p>If a guideline were to be developed, assuming appropriate dissemination, consider whether it would make a significant impact on clinical decision-making/clinical outcomes and/or reduce practice variation.</p>
D	<p>Differences</p> <p>Are there perceived or documented differences in practice in the management of a given condition or health care intervention? Consider providing an assessment or references related to variations in practice patterns and whether disparities in access or delivery of care is based on factors such as: race/ethnicity, age, geographic location, gender, cost, etc.</p>
E	<p>Evidence</p> <p>Is there scientific evidence of good quality to allow development of an evidence-based guideline? Please provide references if available and note that the absence of evidence does not disqualify topics for consideration (See ASCO’s Consensus Methodology).</p>
D	<p>Disease Burden</p> <p>Is the disease burden/importance of the health care intervention large enough to warrant guideline development? Consider providing an estimate of the burden (e.g. incidence, prevalence, costs).</p>

Please provide as much detail as possible. If the proposed topic does not fit these criteria, consider how an ASCO guideline would still be of significant utility to ASCO members.

APPENDIX II: TOPIC SUBMISSION: PRIORITY SETTING

ASCO[®] Guidelines

Guideline Advisory Groups (AGs) review priorities after the ASCO Annual Meeting on a yearly basis. This coincides with the rotation of the Guideline AGs' membership. The process is annotated below.

1. Topic submission is open access year-round through the ASCO website. Every spring a communications outreach invites the ASCO membership to submit topics for guideline development. In addition, various Committees, including the Quality of Care Council (QCC), the Clinical Practice Committee (CPC), and the Cancer Research Committee (CRC) are invited to submit topics.
2. Staff will survey the AG members for new topics.
3. Staff will contact colleagues from other guideline development organizations (e.g. Ontario Health (Cancer Care Ontario), American Urologic Association, College of American Pathologists, American Society of Radiation Oncology, etc.) on the status of related guidelines in progress or recently completed.
4. If applicable, staff will contact the Measures Steering Group liaison for information on the corresponding measures panel's priorities
5. Simultaneously, staff survey Guideline Panel Co-Chairs on the validity of recommendations of published guidelines/endorsements/adaptations/Provisional Clinical Opinions (Updating Assessment Form).
 - a. ASCO staff review a list of guidelines for which they are responsible for assessing updating status (not necessarily conducting the update). Typically, this will be the last person to work on the effort or the person assigned to a specific AG.
 - i. Assessment of the recommendations by Co-Chairs should occur after the one-year anniversary of the publication date of the guideline product
 - ii. Assessment of the literature search results should be provided to the Co-Chairs after the 3-year anniversary of the publication date of the guideline product. At this time, consideration of updating should be placed higher in the priority queue.
 - b. Staff who are assigned the assessment of a guideline will contact the guideline Co-Chairs and ask them to assess the status of the recommendations as follows:
 - i. Recommendations still valid no changes needed (candidate for non-substantive update)
 - ii. Some recommendations in need of updating (candidate for rapid update)
 - iii. A moderate number of recommendations in need of updating (candidate for focused update)
 - iv. Full update required (candidate for substantive update)
 - c. The Co-Chairs are also asked their opinion on the importance of an update at that time: High, Medium, or Low
 - d. Staff assigned to AGs will compile all updating assessments for AG review and prioritization for updating during the annual review process.

Sample Updating Assessment Form

Topic	Date of Publication	Assessment Assigned to:	Guideline AG	Type of Product	Type of Update Recommended					Priority High, Med, Low
					None	Non-substantive	Rapid	Focused	Substantive	

6. Staff will provide AG members with the current list of priorities; the list of guidelines in need of updates; results of the topic submission, including the rationale for the topic and any additional context provided by survey respondents; and endorsement requests.
7. AGs meet by teleconference to discuss all potential topics. Topics can be eliminated or deferred by the AG members.
8. Staff ask the AG members to independently rank the remaining topics. Results of the ranking exercise are provided to the AG members. A conference call may be scheduled to discuss the results, if needed.
9. The priority list of new guideline topics, updates, and endorsements is provided to the CPGC at its fall meeting for review and approval. An AG member/CPGC liaison present the results of the ranking exercise and the rationale for the topics selected to the CPGC.

APPENDIX III: PROVISIONAL CLINICAL OPINIONS

ASCO[®] Guidelines

Provisional Clinical Opinion Procedures

Background and Overview

The Provisional Clinical Opinion (PCO) is intended to offer timely clinical direction to the ASCO membership 1) following the publication or presentation of potentially practice-changing data from major studies, 2) in areas of emerging evidence, or 3) as interim direction to the membership pending the development or updating of an ASCO clinical practice guideline. In contrast to practice guidelines, PCO's do not make formal recommendations, are compiled by smaller expert panels, targeted systematic literature reviews, concise manuscripts, and if needed, expedited review and approval by the CPGC leadership and any invited content experts or ASCO Leadership/Board members.

Provisional Clinical Opinion Topic Selection

Topic selection will generally follow the ASCO guideline topic prioritization strategy; however, in cases of new or emerging topics where an expedited approach is needed, the CPGC leadership (Chair, Immediate Past-Chair, Chair-Elect, CPGC Board liaison) is responsible for accepting, reviewing and approving proposed PCO topics. PCO topic selection may be guided by the Topic Submission and Selection Guide that is used by the CPGC to guide the selection of topics for ASCO clinical practice guidelines. The guide prompts users to consider the burden or importance of the condition or intervention, the degree of uncertainty or controversy about the relative effectiveness of existing clinical options, the perceived or documented variation in practice management of the condition or the use of the intervention, the availability of evidence to inform practice recommendations, and the existence of other high-quality guidelines on the topic ([Appendix I](#)).

Evidentiary Basis for the PCO

Provisional clinical opinions are informed by a targeted systematic review of the literature. Only evidence that can inform the PCO is searched for as part of the systematic review; however, it is recognized that evidence is often lacking or emerging for these products and often expert consensus opinion is needed to inform the PCO.

Provisional Clinical Opinion Expert Panel

Once a PCO topic is approved by the CPGC, or CPGC leadership, an Expert Panel is assembled. All ASCO PCOs are developed by a multidisciplinary Expert Panel and are supported by ASCO guidelines staff with health research methodology expertise. The Expert Panel Co-Chairs and ASCO staff assemble a panel of content experts with approximately 10 or fewer members. Each Expert Panel should have a community oncologist representative from the Practice Guidelines Implementation Network (PGIN) and at least one patient representative. The membership of the expert panel is chosen in accordance with the panel composition requirements of [ASCO's Conflict of Interest Policy Implementation for Clinical Practice Guidelines](#). The COI Procedures call for the majority of panel members to have no relationships with companies potentially affected by the PCO, and generally require panel Chairs and Co-Chairs to be free from relationships with affected companies.

Provisional Clinical Opinion Manuscript Format

The PCO document will include a general introduction that will; define the concept of a provisional clinical opinion, and provide an overview of the issue at hand; include a brief methodological section and a legal disclaimer section akin to the standard section in ASCO practice guidelines; provide a summary of the evidence and the expert panel's deliberations; and, finally, it will summarize the provisional clinical opinions.

Review and Approval of the PCO

ASCO has a rigorous review process for PCO's. After the draft has been approved by the Expert Panel, the PCO is reviewed and approved independently by the CPGC. Although the CPGC meets on a regular basis throughout the year, if expedited review and approval is needed, the PCO may be approved by the CPGC leadership (Past-Chair, Chair, Chair-Elect, and Board Liaison) and if needed, any invited content experts or select ASCO Leadership or Board members.

Publication of the PCO

PCOs are submitted for consideration of publication in one or more of ASCO's journals and are posted online at asco.org. The PCOs are formatted to reflect journal formatting and the ASCO brand. Derivative products such as slide sets, recommendations table, and patient materials may be developed, and re-prints are available for PCOs.

APPENDIX IV: ENDORSEMENT

ASCO[®] Guidelines

Endorsement Procedures

Overview

ASCO endorses clinical practice guidelines developed by other organizations to recognize the high-quality work of other guideline-developing organizations, avoid duplication of effort, and promote harmonized recommendations across guideline development groups.

The ASCO CPGC evaluates endorsement opportunities to determine whether the guideline addresses a gap in ASCO's guideline portfolio and is a topic of interest to the ASCO membership. If the guideline meets these criteria, an Expert Panel is convened to formally assess the content, level of agreement with the evidence, and resulting recommendations presented within the guideline. An endorsement manuscript is prepared by the Expert Panel for CPGC review and approval.

ASCO Endorsements are submitted for consideration of publication in one or more of its journals, and recommendations are formatted to reflect journal formatting and the ASCO brand. Derivative products such as slide sets, recommendations table, and patient materials may be developed, and re-prints are available for endorsement materials.

ASCO's updating procedures apply for endorsements (see ASCO's Updating Policy and Procedures).

Endorsement Procedures

Organizations may submit guidelines for endorsement consideration by submitting the following to guidelines@asco.org:

1. Endorsement/adaptation Request Form
2. Copy of the guideline (published or unpublished)
3. Conflict of Interest Policy/procedures followed during development
4. Additional supporting documents as appropriate

At the time of submission, organizations are asked to indicate whether an Endorsement only approach is preferred, which indicates that no changes to the recommendations are requested, but other edits such as discussion points are considered part of the process. Alternatively, organizations may elect to pursue an Endorsement or Adaptation option, in which changes to the recommendation(s) are acceptable, if needed. It is possible that ASCO may reject the guideline for endorsement or adaptation.

Under the Endorsement option:

- Applicant organizations indicate they prefer no changes are made to the recommendations.
- ASCO edits such as clarifications, qualifying statements, or discussion points are considered an acceptable part of the process and can be included as part of the discussion.
- Guidelines undergo a more thorough triage process. It is understood that fewer endorsement

only requests will be selected for ASCO endorsement since there needs to be unanimous strong agreement with the recommendations among the initial content expert reviewers asked to assess the guideline (Appendix II. ASCO Expert Reviewer Content Review Form).

- An update of the literature search will not be performed for endorsement only requests. This means that the existing literature search of the candidate guideline must be current to within 1 year since the time of publication.
- Endorsements should be completed within an approximate 3-6 month timeframe.

Under the Endorsement or Adaptation option:

- Although initial submissions begin as an endorsement request, applicant organizations can indicate that revisions to recommendations are acceptable if deemed necessary by the ASCO Expert Panel, if so, an adaptation approach can be utilized. In addition to the conditions listed above for endorsements, edits could include the introduction of new evidence, revisions to existing recommendations, or additional recommendations offered by ASCO to further inform the ASCO membership.
- It is understood that a unanimous, strong agreement with the recommendations is not necessary among the initial content expert reviewers (ASCO Expert Reviewer Content Review Form).
- An update of the literature search will be performed.
- There is no set time frame for completion of guideline endorsement or adaptation development.

Upon submission to ASCO, candidate guidelines are assessed for methodological rigor by ASCO Staff. Guidelines meeting methodological criteria are assessed for content, scope and applicability by the leadership of an ASCO Guideline Advisory Group (AG) and later by the full AG during topic prioritization. In addition, a gap analysis is performed to determine the overall need for a guideline topic in the context of other guidelines at ASCO. Topics that are considered relevant to the mission of ASCO will be prioritized by the Guideline AG along with new guideline topics and guidelines in need of an update. The list of prioritized products is then further reviewed, prioritized and ultimately approved by the CPGC.

Guidelines considered for endorsement should be based on a systematic review. If the quality of the evidence identified through the systematic review is insufficient to inform recommendations, a consensus methodology may be utilized. There should be an explicit link between the evidence and the recommendations. Preferably, each recommendation will reflect the strength of the evidence and the strength of the recommendation. If consensus is used, a consensus methodology that limits the potential for bias (e.g. modified Delphi approach) is preferred. The guideline should report the conflict of interest procedures and the majority of expert panelists should be considered free from conflicts of interest. There should be no industry involvement of any nature supporting the development of the guideline.

Once a guideline is approved to be considered for endorsement (or adaptation), the original authoring organization and/or the copyright holder(s) is/are contacted for consent to proceed, and an ASCO expert panel is formed. If endorsement is not approved by the CPGC, the original authoring organization is informed of ASCO's decision and the supporting rationale.

An ASCO Expert Panel of approximately 10 volunteer members is formed to review a guideline to be considered for endorsement. The expert content reviewers are typically invited and at least one of the original guideline authors is invited to serve on the Expert Panel. Multidisciplinary content experts, patient representatives, community oncologists, and other topic-relevant health providers comprise the remainder of expert panel.

As part of the organizational review and approval process, ASCO endorsements are reviewed independently of the expert panel by select members of the CPGC. The CPGC members present the results of the review to the full committee and the CPGC votes on whether to approve the guideline for endorsement. In cases where the expert panel and/or the CPGC cannot reach agreement on endorsement, ASCO may opt to discontinue development.

ASCO endorsements are submitted to the original authoring organization and copyright holder for review and permission to reprint any copyright material. Guideline endorsements are then submitted for consideration of publication to the *Journal of Clinical Oncology* (JCO). Although editorial revisions may be made through the publication process, the endorsement format is written according to a specific journal template. Typically, the JCO publication contains the following information: title and the group responsible for development of the original guideline, purpose and rationale, methods used, target population, endorsed recommendations and commentary summarizing the ASCO perspective including any additions or modifications specific to the ASCO membership.

A summary of the endorsement is also submitted to the *Journal of Oncology Practice* (JOP) for consideration of publication. The summary consists mainly of the recommendations and any relevant discussion points. Derivative products such as slide sets, recommendations tables, and patient materials may be developed, and reprints are available for adaptation materials.

Updating procedures for all ASCO guideline products follow an established updating process (see ASCO's Updating Process and Procedures). If the need for an update is identified, ASCO staff will reach out to the originating guideline organization to assess their interest in updating the original guideline. If a guideline update is planned, ASCO may opt to wait for the guideline update or may release a provisional update until the guideline update is completed. If there are no plans to update the guideline, ASCO will undergo an update and release it as an adaptation. ASCO will share the update evidence and recommendations with the originating guideline organization.

APPENDIX V: ADAPTATION

ASCO[®] Guidelines

Adaptation

Overview

ASCO engages in the adaptation of clinical practice guidelines to recognize the high-quality work of other guideline-developing organizations, avoid duplication of effort, and promote harmonized recommendations across guideline development groups.

ASCO adaptations are informed by the ADAPTE methodology (the ADAPTE process: Resource toolkit for guideline adaptation, version 2.0.; <http://www.g-i-n.net>). The objective of the ADAPTE process (<http://www.adapte.org/>) is to take advantage of existing guidelines in order to enhance efficient production, reduce duplication, and promote the local uptake of quality guideline recommendations. Adaptation occurs either as part of ASCO *de novo* guideline development or upon formal submission by another organization.

A guideline submitted by another organization must be determined by the CPGC to address a current gap in ASCO's guideline portfolio and address a topic of interest to inform the ASCO membership. Upon approval, a multidisciplinary expert panel is convened to formally assess the content, level of agreement with the evidence, and resulting recommendations presented within the guideline. The expert panel then drafts an adaptation manuscript for the CPGC to review and approve.

ASCO adaptations are submitted for consideration of publication in one or more of its journals, and recommendations are formatted to reflect journal formatting and the ASCO brand. Derivative products such as slide sets, recommendations table, and patient materials may be developed, and re-prints are available for adaptation materials.

Established updating procedures apply for ASCO adaptations (see ASCO's Updating Process and Procedures).

Adaptation Procedures

Adaptation as part of ASCO De Novo Guideline Development

Topic Development and Systematic review

As part of *de novo* guideline development, choice of topic, question, study selection criteria and literature search are conducted; starting with the protocol. If existing guidelines are identified in the course of the systematic review, then adaptation of one or more guidelines is considered.

- The guideline(s) are submitted to expert content reviewers to assess applicability
- The decision to adapt a specific guideline or guidelines, is based on:
 - The results of the content review and the level of agreement with the recommendations
 - A quality appraisal of available guideline(s) (see below)
 - The time since completion of the best available guideline(s)
- After selecting guideline(s) to adapt, a search for relevant new evidence (RCTs, systematic reviews, &/or meta-

analyses) that might modify recommendation(s) is conducted after the closing date of the guidelines' literature searches (if available) or their publication dates.

Quality Appraisal of Clinical Practice Guidelines and Systematic Reviews

- The Appraisal of Guidelines for Research and Evaluation (AGREE II) Instrument is used to appraise clinical practice guidelines. Guideline(s) to adapt would be selected in descending order of preference, as follows:
 - systematic review-based
 - formal consensus-based
 - informal consensus (opinion)-based
- The Assessment of Multiple Systematic Reviews (AMSTAR) measurement tool is used to appraise the methodological quality of systematic reviews

Synthesizing the Evidence

Recommendations and the level of supporting evidence are extracted into a matrix.

- New recommendations are accepted by the Panel Co-chairs or writing groups as is or are adapted from the selected guidelines.
- The full Panel reviews each recommendation and modifies them according to their level of agreement (acceptability and applicability)

Adaptation as part of a Submission by Another Organization

Organizations may submit guidelines for adaptation consideration by submitting the following to guidelines@asco.org:

1. Endorsement/adaptation Request Form
2. Copy of the guideline (published or unpublished)
3. Conflict of Interest Policy/procedures followed during development
4. Additional supporting documents as appropriate

At the time of submission, organizations may elect to pursue Adaptation as an option, in which changes to the recommendation(s) are acceptable, if needed.

Under the Adaptation option:

- Applicant organizations can indicate that revisions to recommendations are acceptable if deemed necessary by the ASCO Expert Panel and, in which case, an adaptation approach can be utilized. Edits could include the introduction of new evidence, revisions to existing recommendations, or additional recommendations offered by ASCO to further inform the ASCO membership.
- Guidelines undergo a less thorough triage process with this option. It is understood that a unanimous, strong agreement with the recommendations is not necessary among initial content expert reviewers.
- An update of the literature search will be performed.

Once a guideline is approved for adaptation, the original authoring organization and/or the copyright holder(s) is/are contacted for consent to proceed, and an ASCO expert panel is formed. An ASCO Expert Panel of approximately 10 volunteer members is formed to review a guideline to be considered for adaptation. The expert content reviewers are typically invited and at least one of the original guideline authors is invited to serve on the Expert Panel.

Multidisciplinary content experts, patient representatives, community oncologists, and other topic-relevant health

providers comprise the remainder of expert panel.

Guidelines considered for adaptation should be based on a systematic review. If the quality of the evidence identified through the systematic review is insufficient to inform recommendations, a consensus methodology may be utilized. There should be an explicit link between the evidence and the recommendations. Preferably, each recommendation will reflect the strength of the evidence and the strength of the recommendation. If consensus is used, a consensus methodology that limits the potential for bias (e.g. modified Delphi approach) is preferred. The guideline should report the conflict of interest procedures and the majority of expert panelists should be considered free from conflicts of interest. There should be no industry involvement of any nature supporting the development of the guideline.

As part of the organizational review and approval process, ASCO adaptations are reviewed independently of the expert panel by select members of the CPGC. The CPGC members present the results of the review to the full committee and the CPGC votes on whether to approve the draft as an ASCO guidance product.

ASCO adaptations are submitted to the original authoring organization and copyright holder for review and permission to reprint any copyright material. Guideline adaptations are then submitted for consideration of publication to the *Journal of Clinical Oncology* (JCO). Although editorial revisions may be made through the publication process, the adaptation format is written according to a specific journal template. Typically, the JCO publication contains the following information: title and the group responsible for development of the guideline, purpose and rationale, methods used, target population, adapted recommendations and commentary summarizing the ASCO perspective including any additions or modifications specific to the ASCO membership.

A summary of the adaptation is also submitted to the *Journal of Oncology Practice* (JOP) for consideration of publication. The summary consists mainly of the recommendations and any relevant discussion points. Derivative products such as slide sets, recommendations tables, and patient materials may be developed, and reprints are available for adaptation materials.

Updating procedures for all ASCO guideline products follow an established updating process (see ASCO's Updating Policy and Procedures). If the need for an update is identified, ASCO staff will reach out to the originating guideline organization to assess their interest in updating the original guideline. If a guideline update is planned, ASCO may opt to wait for the guideline update or may release a provisional update until the guideline update is completed. If there are no plans to update the guideline, ASCO will undertake an update. ASCO will share the update evidence and recommendations with the originating guideline organization.

APPENDIX VI: ASCO Endorsement/Adaptation Request Form

ASCO® Guidelines

Thank you for your interest in submitting your organization’s guideline for potential ASCO endorsement. ASCO will consider endorsing clinical practice guidelines developed by other guideline development organizations when relevant to the mission and interests of ASCO and its membership.

Please complete and e-mail the following documents to guidelines@asco.org.

- Endorsement Request Form
- Copy of the guideline
- Conflict of Interest Policy/procedures followed during development.
- Additional supporting documents as appropriate.

Type of endorsement request (Please select option 1 or 2):

1. Endorsement
 - a. It is preferred that no revisions are made to the recommendations however discussion points, qualifying statements, or additional commentary may be added as part of the ASCO endorsement. It is understood that endorsement only requests preclude consideration of adaptation by ASCO.
 - b. It is understood that fewer endorsement only requests will be selected for ASCO endorsement since there needs to be unanimous strong agreement with the recommendations among three initial content expert reviewers.
2. Endorsement or Adaptation
 - a. Either endorsement or adaptations to the recommendations are acceptable, if needed. If recommendation changes are made, the product will be considered an adaptation rather than an endorsement. Discussion points, qualifying statements, or commentary may be added to the draft.
 - b. It is understood that more endorsement or adaptation submissions will be selected for ASCO development since there does not need to be unanimous strong agreement with the recommendations among two initial content expert reviewers.

1. Organization: _____
2. Staff Contact (Name and Email Address): _____
3. Title of the Guideline: _____
4. Journal Citation if applicable: _____
5. Is this guideline based on a systematic review? _____
6. Did industry involvement direct the development of the guideline? _____
7. What years do the literature search span? _____
8. Can ASCO reproduce guideline copyright materials to accompany an endorsement? _____
9. Is an updating plan in place for this guideline? _____

Are there other comments or details about this guideline that you would like to share?

APPENDIX VII: ASCO Expert Reviewer Content Review Form

ASCO[®] Guidelines

Guideline Title: _____
Reviewer Name: _____
Organization: _____

Background and Instructions. ASCO reviews clinical practice guidelines developed by other organizations for consideration of endorsement or, in some cases adaptation. As a content expert, you have been asked to provide a content review of a guideline that is under consideration by ASCO.

Please Note: The applicant guideline organization has requested that the attached guideline be considered for:

- Endorsement – no changes to the recommendations are requested, however revisions may include discussion points, clarifications, or qualifying statements for context, new evidence, etc.
- Endorsement or Adaptation – changes to the recommendations are acceptable if determined necessary by an ASCO expert panel. In addition to revisions that may include discussion points, clarifications, or qualifying statements for context, new evidence, etc., changes to the recommendations will result in an adaptation rather than an endorsement.

Please indicate your level of agreement that best applies for each of the following items.

According to your understanding of the topic:	1 Strongly Disagree	2	3	4	5	6	7 Strongly Agree
Overall there are no substantive concerns with the methods used to develop this guideline							
No important studies are missing from the summary of the evidence described in this guideline							
The evidence described in this guideline was interpreted according to my understanding of the data							
The recommendations in this report are clear and unambiguous							
The recommendations are consistent with the results of the evidence review							
I agree with the recommendations in the guideline							
One or more recommendations require minor clarification that could be included in the discussion							
One or more recommendations require major revision							

In your estimation, based on your level of agreement with the items above, do you feel this guideline should be considered by ASCO as (please pick one):

- Endorsement - the guideline recommendations would likely be endorsed as written.
- Endorsement or Adaptation – revisions may need to be made to the recommendations
- Not Considered for Endorsement or Endorsement or Adaptation

If this guideline is approved for endorsement or adaptation development as an ASCO guideline product, please note the capacity in which you'd like to potentially participate on the Expert Panel.

- Member
- Co-Chair
- I am not interested in participating on the panel

Are there other comments or details about this guideline that you would like to share?

APPENDIX VIII: CLINICAL PRACTICE GUIDELINE COMMITTEE: RESPONSIBILITIES AND AUTHORITIES

Updated by the ASCO Board of Directors March 8, 2018

COMMITTEE:	Clinical Practice Guideline
DEPARTMENT:	Policy and Advocacy
DEPARTMENT STAFF:	Policy and Advocacy

PURPOSE

To oversee ASCO's Clinical Practice Guideline Program, which includes the development of clinical practice guidelines, provisional clinical opinions, endorsements, adaptations, clinical tools and resources, and any derivative products for the promotion of quality cancer care. By contributing to the continuing education of ASCO members regarding health services issues and methods, the Committee hopes to enhance the quality, effectiveness, and appropriateness of cancer services from prevention through palliative care.

COMPOSITION OF COMMITTEE

The Committee is composed of 25 to 35 members, who may include oncologists with academic and private practice representation, as well as expertise in clinical trial design and analysis. The Committee should include members with expertise in medical oncology, radiation oncology, surgical oncology, biostatistics, quality of life, supportive care, survivorship, the patient perspective, and liaison relationships with the Board of Directors. Liaisons relationships should be established with other committees such as: Clinical Practice, Cancer Education, Quality of Cancer Care, Professional Development, Cancer Survivorship, and Health Disparities. Expertise across a broad spectrum of diseases should be represented on the Committee. The Committee should not exceed 35 members (which includes Chair(s), Board Liaison, and other committee liaisons).

COMMITTEE MEMBER'S APPOINTMENT AND TERM

Committee members will be appointed by the ASCO Board of Directors, each to serve for a three-year term. Committee members may be re-appointed to serve one additional term on occasion with approval from the Board. Any Committee member may be removed by the Board of Directors in its sole discretion.

COMMITTEE CHAIR'S TERM

One-year consecutive terms as Chair-Elect, Chair, and Immediate Past Chair.

COMMITTEE

RESPONSIBILITIES/AUTHORITIES:

- Provide review and approval of topics for clinical practice guidelines and other related projects as appropriate.
- Provide review and approval of guidelines and other related projects as appropriate.
- Review and approve items proposed by the Methodology Subcommittee and Practice Guideline

Implementation Dissemination Network (PGIN) related to guideline development, updating, dissemination, and implementation.

COMMITTEE CHAIR

RESPONSIBILITIES/AUTHORITIES:

- Disclose potential conflicts of interest and comply with applicable ASCO conflict of interest policies.
- Oversee the delegation of responsibility for guideline development, and other related projects as appropriate, to Expert Panels.
- Follow Board-approved procedures for review and approval of guidelines and other related projects as appropriate.
- Oversee the delegation of identifying and prioritizing topics for guideline development and strategic assessment of needed guidelines to Guideline Advisory Groups (“Advisory Groups”), consistent with the Committee Description (“Responsibilities and Authority”) of Guideline Advisory Groups to the Clinical Practice Guidelines Committee.
- In consultation with the Chair-Elect, Immediate Past Chair, and Board liaison, approve composition of expert panels charged with developing guidelines and other related projects as appropriate.
- In consultation with the Chair-Elect, Immediate Past Chair, and Board liaison, identify and approve ASCO representatives appointed to the guideline panels of other organizations or appointments for other similar initiatives.

CHAIR-ELECT

RESPONSIBILITIES/AUTHORITIES:

- Disclose potential conflicts of interest and comply with applicable ASCO conflict of interest policies.
- In Chair’s absence, serve as Chair at Committee meetings.
- Assist the Chair in carrying out the mission and the objectives of the Committee.
- With the Chair, Immediate Past Chair, and Board liaison approve composition of expert panels charged with developing guidelines and other related projects as appropriate.

COMMITTEE MEMBERS

RESPONSIBILITIES/AUTHORITIES:

- Disclose potential conflicts of interest and comply with applicable ASCO conflicts of interest policies.
- Suggest guideline topics, and other related projects as appropriate, for consideration by the Committee.
- Suggest potential Expert Panel members.
- Suggest potential Advisory Group members.
- Review and approve guidelines and other related projects as appropriate.
 - Participate in Guideline Panels, Advisory Groups, and other associated groups of the Committee as requested by the Chair.

EXPERT PANELS

RESPONSIBILITIES/AUTHORITIES:

- Complete the work of guideline development, and other related projects as appropriate, as specified in the Policy and Procedures for the Practice Guidelines Committee.

- Chair(s) works independently in overseeing and facilitating the performance of the logistical tasks of guideline development as specified in the Policies and Procedures for the Practice Guidelines Committee.
- Members carry out the logistical and substantive work of completing guidelines, and other related projects as appropriate, as overseen by the Expert Panel/ Chair(s) as specified in the Policies and Procedures for the Practice Guidelines Committee.
- Perform additional duties included in the attached document entitled “ASCO Clinical Practice Guideline Committee Expert Panels Responsibilities & Authorities”

GUIDELINE ADVISORY GROUPS

RESPONSIBILITIES/AUTHORITIES:

- Provide recommendations to the Committee on updating and maintaining an overall strategic assessment of what guidelines, and other related products, are needed in the disease site.
- Provide recommendations to the Committee on determining and prioritizing guideline topics, and other related products, within the disease site.
- Provide recommendations to the Committee on strategic direction for Expert Panels in the relevant disease site or cancer topic.
- Provide recommendations and reports to Committee Leadership and the ASCO Board as needed.
- Provide recommendations to Committee regarding possible guideline endorsement and joint guideline endeavors.
- Carry out other activities delegated by the Committee.
- Additional duties included in the Committee Description (“Responsibilities and Authority”) of Guideline Advisory Groups to the Clinical Practice Guidelines Committee.

STAFF

RESPONSIBILITIES/AUTHORITIES:

- Disclose potential conflicts of interest and apply/implement applicable ASCO conflicts of interest policies.
- Conduct systematic reviews and draft documents relevant to guideline development and other related projects as appropriate.
- Participate in the development of products related to guideline development, updating, dissemination, and implementation.
- Serve as resource in methodology to Expert Panels.
- Serve as resource for Advisory Groups.
- Ensure consistent application of standardized format for guidelines and other related projects as appropriate.
- Collate and edit revisions to the guidelines and other related projects as appropriate.
- Ensure proper legal review of guidelines and other related projects as appropriate.
- Be responsible for the assessment of new evidence and the timely updating of the guidelines and other related projects as appropriate.
- Provide expert consultation to the Committee, to which the Board of Directors has granted authority to convene and oversee the substantive work of practice guideline development.
- Provide support to the Methodology Subcommittee and Practice Guideline Implementation Network (PGIN).
- Support the independence of the guideline development process and resulting guidelines as well as

other related projects as appropriate.

- Assist leadership of the Committee in supporting the development of guidelines and other related projects as appropriate.

CLINICAL PRACTICE GUIDELINES COMMITTEE CALENDAR

Fall	Committee meets in-person
Ad Hoc	Committee meets multiple times throughout the year via teleconference
Spring	Committee meets in-person

NOTES: The Committee meets a minimum of three times a year. The need for

APPENDIX VIII: PANEL COMPOSITION: EXPERT PANEL RESPONSIBILITIES AND AUTHORITIES

ASCO[®] Guidelines

VOLUNTEER GROUP:	Expert Panels of the Clinical Practice Guidelines Committee
DEPARTMENT:	Policy & Advocacy
DEPARTMENT STAFF:	Guidelines Staff

PURPOSE

Clinical Practice Guidelines Committee (CPGC) Expert Panels create clinical guidance on specific topics as prioritized by ASCO. ASCO develops clinical practice guidelines, provisional clinical opinions, guideline endorsements, standards, and guideline adaptations. These evidence-based clinical guidance products serve as a guide to outline appropriate methods of treatment and care for oncology health care practitioners, patients, and caregivers.

COMPOSITION OF EXPERT PANELS

Expert Panels include topic-specific content experts with an interdisciplinary focus (medical oncology, community oncology, radiation oncology, surgery, health services researchers, pathology, and other experts applicable to the topic). Expert Panels also have representation from the Practice Guidelines Implementation Network and at least one patient advocate or representative. Members of the CPGC and Guideline Advisory Groups (AGs) may also serve on the expert panels.

PANEL CO-CHAIR'S APPOINTMENT AND TERM

The CPGC Leadership (Chair, Chair-Elect, Immediate Past Chair, and Board Liaison), in consultation with the appropriate Guideline AG Co-Chairs, and at the discretion of ASCO, will typically appoint two Co-Chairs for each Expert Panel. Expert Panel Co-Chairs will serve a term of no more than three years; however, the CPGC Leadership may appoint panel Co-Chairs to additional terms on a case-by-case basis.

PANEL MEMBERS' APPOINTMENT AND TERM

The Co-Chairs of each Expert Panel will recommend Expert Panel members to the CPGC Leadership. The CPGC Leadership is responsible for appointing Expert Panel Members at the discretion of ASCO. Expert Panel Members will serve a term of no more than three years; however, the CPGC Leadership may appoint panel members to additional terms on a case-by-case basis.

PANEL (CO-CHAIRS AND MEMBERS)

RESPONSIBILITIES AND AUTHORITY:

- Participate in drafting the protocol, systematic review, recommendations and other elements of clinical guidance
- Assist in dissemination and implementation efforts
- Provide guidance to the CPGC and Guideline AGs on updating and maintaining the guideline
- Provide guidance and reports to CPGC, Guideline AGs, and the ASCO Board as needed.
- Carry out other related activities as delegated by the CPGC.
- Assure meetings and discussions take place in an environment that welcomes opposing views and allows for evidence-based resolution of disagreements in a respectful manner.

- Acknowledge that participation on ASCO Expert Panels does not confer authority to speak or provide communication on behalf of ASCO without express permission from ASCO.

Confidentiality Policy and Disclosure of Potential Conflicts of Interest

- Must observe a strict policy of confidentiality of documents, draft and final, pending publication and are required to keep content of panel deliberations confidential.
- Must adhere to the ASCO Conflict of Interest Policy Implementation for Clinical Practice Guidelines by disclosing all conflicts of interest, including commitments that might be perceived as conflicts prior to initiating work on the guideline; and are asked to apprise ASCO staff of any changes that arise over the course of the project. Refrain from initiating new relationships with companies that may create a conflict under ASCO’s Conflict of Interest Policy Implementation for Clinical Practice Guidelines for the duration of the panel term.

PANEL MEMBERS

RESPONSIBILITIES AND AUTHORITY:

Role in the Development of the Systematic Review of the Literature and Formulation of Recommendations

- Collaborate with the ASCO Guidelines Co-Chairs and Staff to develop a systematic review.
- Substantively contribute to interpretation of the evidence in formulating guideline recommendations and other clinical guidance

Meeting Attendance and General Responsibilities

- Attend Expert Panel meetings to synthesize the results of the systematic review, discuss the structure of the guideline, and to formulate consensus recommendations. These meetings may be held face-to-face or via webinar.
- Be prepared for the meeting by reviewing the materials in advance.
- Meet deadlines for literature review, manuscript drafting, and manuscript editing within a reasonable timeframe.
- Panel members who are unable to adhere to the project timeline/work schedule are asked to notify ASCO staff and Panel Co-Chairs. They may be asked to resign to ensure the timely development of guideline product and to allow for recruitment of an alternate member to prevent an additional workload burden on the remaining panel members.

Manuscript Development, Guideline Authorship Policies, and Dissemination

- Actively participate in the development of recommendations
- Critically edit and review drafts.
- Panel members who have attended meetings, participated in the review of evidence and helped draft and edit the guideline are eligible to serve as authors on the published product provided they meet ASCO’s journal authorship policies.
- Upon request, participate in, or provide feedback on, the development of clinical tools and resources such as summary tables, charts or pocket cards designed to facilitate implementation into practice.
- Upon request, review measures developed from the recommendations for use as quality indicators.

Role in Guideline Updates

- At the discretion of the CPGC Leadership, panel members may be invited to serve on an update panel after publication. Regular reviews of guidance recommendations may identify the need for an update. In this case,

the Panel may reconvene to discuss whether an update is appropriate. Panel members are expected to participate in the meetings and to volunteer literature that may expedite the update process.

PANEL CO-CHAIRS

RESPONSIBILITIES AND AUTHORITY

Role in the Conduct of the Systematic Review of the Literature

- Work with ASCO staff in development of the protocol, which includes specific criteria for project development, the systematic review, and timelines.
- Plan a strategy for the Panel to complete and review the results of the systematic review, as well as a plan for the formulation of recommendations. They assume responsibility for deciding what components of the work can be completed in-person versus via electronic communication or conference calls.

Meeting Attendance and General Responsibilities

- Depending on the scope of the project, Panel Co-Chairs may hold regular meetings with ASCO staff (outside of the full Panel meeting) in order to move the project to completion.
- As the leaders of the effort, Co-Chairs are expected to meet the commitments and timelines that they establish at the onset of the project during protocol development.

Manuscript Development, Guideline Authorship Policies, and Dissemination

- Assume primary responsibility for drafting the manuscript but may divide the work by having specific panel members draft sections. It is recommended that no more than three to four people assume responsibility for initially drafting the manuscript.
- Typically serve as first and last authors of the finished product, although there can be exceptions to this at the discretion of the Co-Chairs.
- Determine order of authorship.
- All authorship determinations must meet ASCO journals' requirements for authorship.
- At ASCO's explicit invitation in each instance, they may interface with the media at the time of publication and assist ASCO in the development of press releases, materials suitable for use with patients, and publication on the cancer.net website. Co-Chairs are not expected to draft these documents, but to critically review them to ensure that the content is accurate and clear.
- Upon request, provide feedback regarding or input into the development of clinical tools and resources such as summary tables, charts or pocket cards that are designed to facilitate implementation into practice.
- Upon request, review measures developed from the recommendations for use as quality indicators.

Role in Guideline Updates

- With ASCO Staff assistance, decide when to reconvene the panel and have responsibility for updating the guideline recommendations and for developing the manuscript that results from any changes to these recommendations.
- With assistance from ASCO Staff, responsible for reviewing a set of abstracts from an updated literature search to identify potentially practice-changing data based on defined criteria.

STAFF

RESPONSIBILITIES AND AUTHORITY:

Administrative Support

- Coordinate meetings and conference calls for Panel members.
- Coordinate mailing of both traditional and electronic of documents/manuscripts that require review

- Coordinate adherence to a timeline by helping with scheduling and reminders.
- Manage references, confirm guideline references through electronic databases for accuracy and completeness, and obtain articles, compile and distribute as appropriate.
- Field inquiries regarding the ASCO Clinical Practice Guideline Program, and other related information from members
- Special project management when necessary
- Assist the Co-Chairs with meeting organization, the development and preparation of meeting agendas and reports, maintenance of responsibilities, and evaluation of materials.
- Manage Conflicts of Interest disclosures

Systematic Review/Methodological Support

- Conduct literature searches, systematic literature reviews, and meta-analyses as needed
- Monitor published literature and coordinate updating schedules
- Facilitate adherence to ASCO policy and procedure on guideline development

Editorial Support

- Contribute to the editing of documents
- Maintain standardized formatting of products
- Collate and assemble revisions submitted by Panel members
- Coordinate communication with ASCO media affairs
- Coordinate communication with ASCO staff in the development of patient materials, office practice tools and web-based versions, power point summaries, etc.

General CPGC and Subcommittee Support

- Provide status reports to the CPGC and the Board as needed
- Attend Expert Panel and Working Group meetings and serve as primary staff liaison to Expert Panels and Working Groups
- Assist the CPGC in developing a program of guideline implementation and evaluation strategy
- Ensure proper legal review of guidelines
- Monitor all conflict of interest statements for Committee and Panel members
- Facilitate adherence to ASCO policies and procedures on authorship and conflict of interest

PANEL CALENDAR

The Expert Panels will meet on an as needed basis.

APPENDIX IX: PROTOCOL WORKSHEET

ASCO® Guidelines

ASCO CLINICAL PRACTICE PROTOCOL WORKSHEET **<insert title>**: American Society of
 Clinical Oncology Clinical Practice Guideline **(or Guideline Update)**

A. Title of Guideline

<insert title>: ASCO Guideline **(or Guideline Update)**

B. Expert Panel Membership

Name Sub-specialty Email Institution State/Province/District (Indicate Co-Chairs and preference for First and Last)	Geographic Location Including International (e.g. Pacific West, West, Central, Mid-West, Mid-South, North East, Mid Atlantic, South East, Canada, Germany, Mexico)
<i>Medical Oncology</i>	
<i>Radiation Oncology</i>	
<i>Surgical Oncology</i>	
<i>Community Oncology (PGIN Representative)</i>	
<i>Other Disciplines (as needed)</i>	
<i>Patient Representatives</i>	
<i>Organizational Representatives</i>	

C. Overarching Guideline Question

Guideline question:	
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D. Overarching Inclusion Criteria (criteria that would apply to all research questions)

Inclusion Criteria:	
---------------------	--

E. Overarching Exclusion Criteria (criteria that would apply to all research questions)

Exclusion Criteria:	
---------------------	--

F. Definition of Terms

Term	Definition

G. Searching the Literature

Generally speaking, only the top three tiers of evidence should be considered in an ASCO guideline product to make strong evidence-based recommendations (this includes evidence-based practice guidelines from other guideline development organizations). Inclusion of evidence below that threshold should to be justified with a compelling rationale (e.g. inclusion of cohort studies for diagnostic utility guidance) and generally should be followed by lower strength recommendations.



Question 1

Research Question:	
Population:	
Intervention:	
Comparison:	
Outcomes:	
<ul style="list-style-type: none"> • Critical 	
<ul style="list-style-type: none"> • Important but not critical 	
<ul style="list-style-type: none"> • Of limited importance 	
Time:	
Health setting:	
Study designs:	

Publication date from:		to:	
Languages:			
Study Selection Criteria: (applies only to this research question)			
Inclusion Criteria:			
Exclusion Criteria:			
Concepts:			
Evidence sources:			
PubMed:			
Cochrane:			
GIN:			
ECRI:			
AiCPG:			
Other (specify):			
Other (specify):			

Question 2

Research Question:	
Population:	
Intervention:	
Comparison:	
Outcomes:	
<ul style="list-style-type: none"> • Critical 	
<ul style="list-style-type: none"> • Important but not critical 	
<ul style="list-style-type: none"> • Of limited importance 	
Time:	
Health setting:	
Study designs:	

Publication date from:		to:
Languages:		
Study Selection Criteria: (applies only to this research question)		
Inclusion Criteria:		
Exclusion Criteria:		
Concepts:		
Evidence sources:		
PubMed:		
Cochrane:		
GIN:		
ECRI:		
AiCPG:		
Other (specify):		
Other (specify):		

Question 3

Research Question:	
Population:	
Intervention:	
Comparison:	
Outcomes:	
<ul style="list-style-type: none"> • Critical 	
<ul style="list-style-type: none"> • Important but not critical 	
<ul style="list-style-type: none"> • Of limited importance 	
Time:	
Health setting:	
Study designs:	

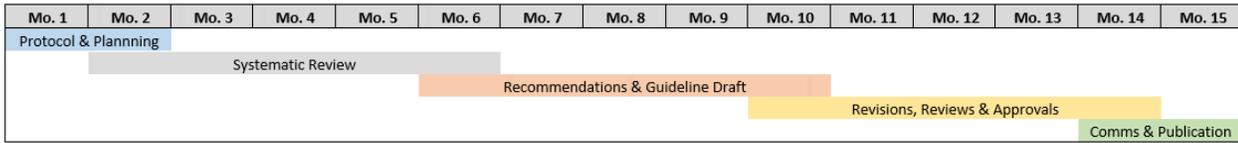
Publication date from:		to:	
Languages:			
Study Selection Criteria: (applies only to this research question)			
Inclusion Criteria:			
Exclusion Criteria:			
Concepts:			
Evidence sources:			
PubMed:			
Cochrane:			
GIN:			
ECRI:			
AiCPG:			
Other (specify):			
Other (specify):			

Question 4

Research Question:	
Population:	
Intervention:	
Comparison:	
Outcomes:	
<ul style="list-style-type: none"> • Critical 	
<ul style="list-style-type: none"> • Important but not critical 	
<ul style="list-style-type: none"> • Of limited importance 	
Time:	
Health setting:	
Study designs:	

Publication date from:		to:	
Languages:			
Study Selection Criteria: (applies only to this research question)			
Inclusion Criteria:			
Exclusion Criteria:			
Concepts:			
Evidence sources:			
PubMed:			
Cochrane:			
GIN:			
ECRI:			
AiCPG:			
Other (specify):			
Other (specify):			

H. Timeline



Development Step	Target Date
Expert Panel Assembled	
Initial Panel meeting - Protocol Finalized	
Systematic Review draft completed	
Second Panel Meeting – Draft recommendations	
Revisions to Manuscript Draft	
Open Comment	
Panel Approval	
Internal & CPGC Review	
Final report with revisions completed	
Manuscript Submission to JCO	
Manuscript Publication	

I. Additional topics for discussion (no formal literature search to be performed)

J. List of Affected Companies

Class of drug	Agent (generic/trade)	Affected company

Date search for affected companies completed: _____

APPENDIX XI: CONSENSUS METHODOLOGY

ASCO® Guidelines

The decision to use formal consensus for one or more recommendations in a guideline generally occurs following completion of the literature search for the systematic review and the evidence is limited, inconsistent, indirect, or of poor quality. While the decision to incorporate consensus recommendation(s) may vary, the common thread is recommendations are needed to inform clinical practice however there is lack of sufficient evidence. Table 1 provides an abbreviated depiction of the modified Delphi consensus process.

Participants

Steering Committee

A Steering Committee, including the Expert Panel Co-chairs and one or two additional panel members, is formed for any guideline that will include formal consensus. For guideline topics relevant to multiple specialty areas, the Steering Committee should include representatives from other specialties if possible.

Consensus Group

The consensus group includes all Expert Panel members who are not members of the Steering Committee, as well as other subject-matter experts and community-based practitioners. Sources for potential members include experts who could not participate in the Expert Panel, members of ASCO’s Practice Guideline Implementation Network (PGIN), and members of other ASCO Committees, particularly the Clinical Practice Committee. The suggested target number of participants in the Consensus Group is between 30 and 40. Participation of non-physicians will be considered on a case-by-case basis.

Table 1. Consensus-Based Guidance Process based on a Modified Delphi Approach

Generate Draft Recommendations	<ol style="list-style-type: none"> 1. Define clinical questions, comparisons of interest - Steering Committee (SC) 2. Conduct systematic review of the literature - ASCO Staff 3. Draft consensus recommendation(s) and clinical rationale - SC 4. Formulate Consensus Group - ASCO Staff
Panel Meeting	<ol style="list-style-type: none"> 5. Review literature and consensus recommendations – Expert Panel (EP) 6. Revise consensus recommendations - EP 7. Approve sending draft recommendations to the Consensus Group.
Consensus Round One, Ratings	<ol style="list-style-type: none"> 8. Obtain anonymous ratings, written feedback - Consensus Group (CG)^a 9. Compile ratings and comments – ASCO Staff
Consensus Round One, Review Results	<ol style="list-style-type: none"> 10. Ratings that meet pre-defined threshold for consensus are accepted - SC^b <ol style="list-style-type: none"> a. A minimum of 75% is required for consensus; a higher threshold may be prospectively defined by the Steering Committee or Panel b. Only changes to recommendation content are returned to the Consensus Group for additional rating rounds

	<p>11. If consensus was not achieved, recommendations are revised with particular attention to comments from the Consensus Group – SC</p> <p>a. The Panel may be consulted when rewriting recommendations</p>
Consensus Round Two, Ratings	<p>12. Consensus recommendations are sent to the Consensus Group– ASCO Staff</p> <p>a. Both new and the previous iteration of recommendations are presented</p> <p>b. Recommendations with style or wording modifications may be sent for rating, though this is not required</p> <p>13. Ratings and comments are compiled – ASCO Staff</p>
Review Results and Evaluation of Consensus	<p>14. Ratings are accepted if consensus is achieved.</p> <p>a. Revisions to style or wording are accepted based on a simple majority.</p> <p>15. If consensus has still not been achieved, the recommendation can again be rewritten, or left unanswered</p>

^a Consensus Group includes Expert Panel Members and ~20-25 other members, such as subject matter experts or community-based practitioners. Creation of the Consensus Group follows ASCO COI policy.

^b Percent agreement is based on the number of individuals that respond with either “strongly agree” or “agree” on either a five- or seven-point Likert scale; where “strongly agree” rated as a one and “strongly disagree” rated as a five.

Conflict of Interest Policy

Consensus Group invitees will be asked to complete the same disclosure form that prospective members of an Expert Panel complete. The requirement for an unconflicted majority, noted in [ASCO's Conflict of Interest Policy Implementation for Clinical Practice Guidelines](#), also applies to the Consensus Group.

Recommendation Development

Drafting Consensus Recommendations and Clinical Considerations

The Expert Panel is responsible for developing preliminary consensus recommendations a summary of any included evidence, and clinical considerations for each of the consensus recommendations. The evidence and clinical considerations document describe the underlying logic or justification for a given recommendation. A Consensus Group then rates their agreement with each of the recommendation statements using a ratings form for Round One.

The Expert Panel will revise any consensus recommendation with substantive lack of agreement and/or feedback from the Consensus Group. Recommendations that do not receive 75% consensus agreement are revised before the Consensus Group begins another round of ratings.

Expert Panel Meeting

Draft consensus recommendations and clinical considerations are presented at the panel meeting. Discussion of supporting evidence (e.g., epidemiologic data, clinical experience, trial data of study designs excluded from the systematic review) among Expert Panel members may require modification of either the draft consensus recommendations and/or the clinical considerations. Both are updated, as necessary, before sending materials to the Consensus Group for the Consensus Rating.

Rating of Recommendations

Members of the Consensus Group are asked to rate their agreement with each consensus recommendation on a five- or seven-point Likert scale ranging from strongly agree to strongly disagree, as depicted in Table 2 (lower score corresponds with a higher agreement). The rating form includes additional space for raters to provide free-text comments. Each round of ratings is referred to as a Consensus Round.

Table 2. Round One Rating Form Example

	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree
Clinical Question					
Consensus Recommendation Text	□	□	□	□	□

For subsequent rounds, Consensus Group members are provided with the previous iteration of the recommendation and the ratings distribution, along with the revised recommendation, as depicted in Table 3. Modifications to text style (bold, italics) may be made to highlight changes in the recommendation language. Consensus Group members are again asked to rate their level of agreement with the recommendation text on a five-point Likert scale.

Table 3. Subsequent Rounds Rating Form Example

Clinical Question	Rating Frequency					Percent Agree	Median
	Agree → Disagree						
	1	2	3	4	5		
Previous iteration	10	10	5	5	0	66%	2
<u>Updated</u> recommendation text							

Assessment of Ratings

Collection of Ratings Data

Ratings will be collected from Consensus Group members either by sending individual emails to each member of the group or an online survey tool.

Review of Ratings

The percent agreement and median score for each question is calculated, as is the overall response rate. The percent agreement refers to the number of raters who indicated either “agree” or “strongly agree” divided by the total number of raters for the round. Non-responders are not included in the denominator. A frequency table depicting the collective ratings is then prepared for review by the Steering Committee, as in Table 4. Free-text comments from the Consensus Group members are also compiled into a single document, organized by question.

The Steering Committee then meets to discuss results from the Consensus Group ratings and make revisions accordingly.

Table 4. Results - Round One Example

<i>Clinical Questions</i>	<i>Score Frequency (all N=31)</i>					<i>% Agree</i>	<i>Median</i>
	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>5</i>		
(1) Question	15	13	1	1	1	90.3	2
(2) Question	11	16	2	2	0	87.1	2

Defining Consensus

Threshold for Adoption of a Consensus Recommendation

Compiled ratings from a Consensus Round must meet a minimum threshold in order for a recommendation to be adopted, listed below. The Expert Panel should prospectively determine if the consensus threshold for a given recommendation or set of recommendations is to be higher than the minimum listed below.

- **Strong Consensus:** If $\geq 90\%$ of the respondents from the Consensus Group rate a recommendation as either “strongly agree” or “agree” and the median score is 1, the recommendation is adopted.
 - This assumes that “strong agreement” on the Likert scale is scored as a one.
 - Only “strongly agree” and “agree” are included in the percent agreement calculation
 - If a 7-point Likert scale is utilized, “minimally agree” is not considered in the percent agreement, only “strongly agree” or “agree”
- **Consensus:** If $\geq 75\%$ and $< 90\%$ of the respondents from the Consensus Group rate a recommendation as either “strongly agree” or “agree” and the median is either 2 or 1, the recommendation is adopted.
- **No Consensus:** If consensus is not achieved following two rounds of ratings, then the Steering Committee may opt to leave a clinical question unanswered and state, “Consensus could not be achieved.”

Revising Recommendations

Content Modifications

Following the first round of ratings, the Steering Committee must revise consensus recommendations that do not meet the pre-defined threshold criteria. Free-text comments from the Consensus Group are carefully considered when making revisions. The Steering Committee chooses whether to solicit input from the Expert Panel when re-drafting consensus recommendation. The Expert Panel must be consulted if the Steering Committee chooses to revise the recommendation following two unsuccessful consensus rounds. The alternative is to leave the clinical question unanswered

Style Modifications

The Steering Committee may modify either the style or language of the recommendation, without changing the content of the recommendation. The Steering Committee can, but is not required, query the Consensus Group to

determine which option is preferred. Raters are simply asked which iteration they prefer, and a simple majority determines which recommendation text is included in the guideline.

APPENDIX XII: GRADE APPROACH FOR RATING CERTAINTY OF EVIDENCE AND STRENGTH OF RECOMMENDATIONS

Section 1: Certainty of Evidence

The quality of evidence is first assessed for each patient-important outcome, then an overall quality of evidence is determined across outcomes. There are four grades used to delineate the quality of evidence: high, moderate, low, and very low.

There are several factors determining the quality of evidence.⁹ Factors that can reduce the quality of evidence by one or two levels include risk of bias, inconsistency of results, indirectness of evidence, imprecision, or publication bias. Factors that can increase the quality of evidence by one level include the dose-response gradient, effect of plausible residual confounding. A large magnitude of effect may also increase the quality of evidence by one or two levels. As the evidence ratings are a continuum, decisions about upgrading or downgrading the quality are made in the context of other judgements. Additional details about each of these elements is provided:

Step 1: Assess the Quality of Evidence for Each Outcome

- 1.1 Review study design
 - Randomized trials provide high quality evidence
 - Observational studies provide low quality evidence
 - Limitations or special strengths can result in upgrading or downgrading of the evidence
- 1.2 Review factors that can reduce the quality of evidence
 - Risk of bias¹⁰
 - Evaluate the risk of bias¹¹ by assessing the study limitations
 - Inconsistency of results¹²
 - Inconsistency in effect size of relative measures; risk ratios and hazard ratios without explanation
 - Indirectness of evidence¹³
 - Assess applicability of evidence if there are differences in populations, interventions, surrogate outcomes, or indirect comparisons
 - Imprecision¹⁴

⁹ Balshem H, Helfand M, Schünemann HJ, Oxman AD, Kunz R, Brozek J, Vist GE, Falk-Ytter Y, Meerpohl J, Norris S, Guyatt GH. GRADE guidelines: 3. Rating the quality of evidence. *J Clin Epidemiol*. 2011 Apr; 64(4): 401-6

¹⁰ Guyatt GH, Oxman AD, Vist G, Kunz R, Brozek J, Alonso-Coello P, Montori V, Ak EA, Djubegovic B, Falck-Ytter Y, Norris SL, Williams JW, Atkins D, Meerpohl J, Schünemann HJ. GRADE guidelines: 4. Rating the quality of evidence - study limitations (risk of bias). *J Clin Epidemiol*. 2011 Apr; 64(4) 407-15

¹¹ Higgins JPT, Thomas J, Chandler J, et al (eds): *Cochrane Handbook for Systematic Reviews of Interventions* (ed 2). Chichester, UK, Wiley, 2019. <http://handbook.cochrane.org>

¹² Guyatt GH, Oxman AD, Vist G, Kunz R, Woodcock J, Brozek J, Helfand M, Alonso-Coello P, Glasziou P, Jaeschke R, Akl EA, Norris S, Vist G, Dahm P, Shukla VK, Higgins J, Falck-Ytter Y, Schünemann HJ. GRADE guidelines: 7. Rating the quality of evidence - inconsistency. *J Clin Epidemiol*. 2011 Dec; 64(12): 1294-1302

¹³ Guyatt GH, Oxman AD, Vist G, Kunz R, Woodcock J, Brozek J, Helfand M, Alonso-Coello P, Falck-Ytter Y, Jaeschke R, Vist G, Akl EA, Post PN, Norris S, Meerpohl J, Shukla VK, Nasser M, Schünemann HJ. GRADE guidelines: 8. Rating the quality of evidence - indirectness. *J Clin Epidemiol*. 2011 Dec; 64(12): 1303-10

¹⁴ Guyatt GH, Oxman AD, Vist G, Kunz R, Brozek J, Alonso-Coello P, Rind D, Devereaux PJ, Montori VM, Freyschuss B, Vist G, Jaeschke R, Williams JW, Murad MH, Sinclair D, Falck-Ytter Y, Meerpohl J, Whittington C, Thorlund K, Andrews J, Schünemann HJ. GRADE guidelines: 6. Rating the quality of evidence - imprecision. *J Clin Epidemiol*. 2011 Dec; 64(12): 1294-1302

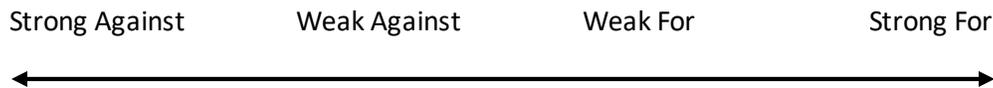
- Consider the boundaries of the confidence interval, and if the recommendation would change if the upper or lower boundary represented the true effect.
 - Assess the optimal information size
 - Publication bias¹⁵
 - Consider extent of uncertainty of the magnitude of the effect due to study design, study size, lag bias, search strategy, and asymmetry in funnel plot
- 1.3 Review factors that can increase quality of evidence¹⁶
 - Large magnitude of effect
 - Observational studies with no other limitations may be increased one level due to a large magnitude of effect (RR > 2 or < 0.5), or two levels due to a very large magnitude of effect (RR > 5 or < 0.2)
 - Dose-response gradient
 - May increase confidence in the findings of observational studies
 - Effect of plausible residual confounding
 - If all plausible residual confounders would result in an underestimate of the effect, the actual effect may be larger than data suggest

Step 2: Rating the Overall Quality of Evidence¹⁷

Review the quality of evidence for each pre-specified critical outcome. If the quality rating is the same for each outcome, the same is true for the overall quality of evidence. If the quality rating differs, the lowest quality of evidence for any critical outcome determines the overall quality. Exceptions may apply if an outcome becomes irrelevant or not necessary.

Section 2: Strength of Recommendations

Guideline recommendations fall along a continuum depicted below; the strength of recommendations fall into two categories: strong and weak.¹⁸



Strength of Recommendation	Definition
Strong	A strong recommendation implies that most or all individuals will be best served by the recommended course of action.

¹⁵ Guyatt GH, Oxman AD, Montori V, Vist G, Kunz R, Brozek J, Alonso-Coello P, Djulbegovic B, Atkins D, Falck-Ytter Y, Williams JW, Meerpohl J, Norris SL, Akl EA, Schünemann HJ. GRADE guidelines: 5. Rating the quality of evidence – publication bias. J Clin Epidemiol. 2011 Dec; 64(12): 1277-82

¹⁶ Guyatt GH, Oxman AD, Sultan S, Glasziou P, Akl EA, Alonso-Coello P, Atkins D, Kunz R, Brozek J, Montori V, Jaeschke R, Rind D, Dahm P, Falck-Ytter Y, Hassan Murad M, Schünemann HJ. GRADE guidelines: 9. Rating up the quality of the evidence. J Clin Epidemiol. 2011 Dec; 64(12): 1311-6

¹⁷ Guyatt GH, Oxman AD, Sultan S, Brozek J, Glasziou P, Alonso-Coello P, Atkins D, Kunz R, Montori V, Jaeschke R, Rind D, Dahm P, Akl EA, Meerpohl J, Vist G, Berliner E, Norris S, Falck-Ytter Y, Schünemann HJ. GRADE guidelines: 11. Making an overall rating of confidence in effect estimates for a single outcome and for all outcomes. J Clin Epidemiol. 2013 Feb; 66(2): 151-7

¹⁸ Andrews JC, Guyatt G, Oxman AD, Alderson P, Dahm P, Falck-Ytter Y, Nasser M, Meerpohl J, Post PN, Kunz R, Brozek J, Vist G, Rind D, Akl EA, Schünemann HJ. GRADE guidelines: 14. Going from evidence to recommendation: the significance and presentation of recommendations. J Clin Epidemiol. 2013 July; 66(7): 719-25

Weak	A weak recommendation implies that not all individuals will be best served by the recommended course of action. There is a need to consider more carefully than usual the individual patient’s circumstances, preferences, and values. When there are weak recommendations caregivers need to allocate more time to shared decision making, making sure that they clearly and comprehensively explain the potential benefits and harms to a patient.
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Additionally, recommendations to use interventions only in research may be made, or no recommendation can be made by a panel. Expert Panels may also choose to issue good practice statements. These statements represent the guideline panel's view of optimal practice, but are not graded.¹⁹ Panels should use good practice statements when high quality indirect evidence is available, but it would not be a good use of the panel’s limited resources to conduct formal evidence summaries. These good practice statements should be used sparingly.²⁰

To determine the strength and direction of recommendations, guideline panels assess several factors within four domains to indicate their certainty, included below.²¹ Generally, when the certainty of evidence is low or very low, the GRADE approach discourages guideline panels from making strong recommendations.

Domain	Comment
Balance between desirable and undesirable outcomes (trade-offs) taking into account: best estimates of the magnitude of effects on desirable and undesirable outcome importance of outcomes (estimated typical values and preferences)	The larger the differences between the desirable and undesirable consequences, the more likely a strong recommendation is warranted. The smaller the net benefit and the lower certainty for that benefit, the more likely a weak recommendation is warranted
Confidence in the magnitude of estimates of effect of the interventions on important outcomes (overall quality of evidence for outcomes)	The higher the quality of evidence, the more likely a strong recommendation is warranted
Confidence in values and preferences and their variability	The greater the variability in values and preferences, or uncertainty about typical values and preferences, the more likely a weak recommendation is warranted
Resource use	The higher the costs of an intervention (the more resources consumed), the less likely a strong recommendation is warranted

¹⁹ Guyatt GH, Schünemann HJ, Djulbegovic B, Akl EA. Guideline panels should not GRADE good practice statements. *J Clin Epidemiol.* 2015 May; 68 (5) 597-600

²⁰ Guyatt GH, Alonso-Coello P, Schünemann HJ, Djulbegovic B, Nothacker M, Lange S, Murad Hasan M, Akl EA. Guideline panels should seldom make good practice statements: guidance from the GRADE Working Group. *J Clin Epidemiol.* 2016 Dec; 80, 3-7

²¹ Andrews JC, Schünemann HJ, Oxman AD, Pottie K, Meerpohl JJ, Alonso Coello P, Rind D, Montori VM, Pablo Brito J, Norris S, Elbarbary M, Post P, Nasser M, Shukla V, Jaeschke R, Brozek J, Djubegovic B, Guyatt G. GRADE guidelines: 15. Going from evidence to recommendation – determinants of a recommendation’s direction and strength. *J Clin Epidemiol.* 2013 July; 66(7): 726-35

APPENDIX XIII: OPTIONS FOR COLLABORATION: ASCO REPRESENTATIVE REQUEST FORM

ASCO[®] Guidelines

In order to facilitate the nomination of ASCO representatives for organizations' guideline panels, please complete this form and submit it to guidelines@asco.org.

PLEASE BE ADVISED: Requesting or receiving a representative for a guideline panel IS NOT an endorsement of the guideline or of the requesting organization by ASCO. ASCO does not review or approve guidelines as a result of nominating representatives unless a separate endorsement or joint development agreement is in place. Please contact ASCO if your organization wishes to consider joint development or endorsement of a guideline.

Name:

Title:

Organization:

Email:

1. Guideline Title:
2. Number of ASCO representatives requested:
3. Please note the type of expertise or subspecialty requested (e.g. Medical oncologist with expertise in breast cancer specializing in young adults):
4. Please list any geographic preferences (e.g. within the USA, international, or specific geographical locations):
5. Is travel anticipated? If so, are travel costs covered by your organization?
6. Please indicate any known limitations that would preclude a nominated representative from participating on this guideline, such as specific disclosures.
7. Suggested Representatives (Optional). Please note, while suggested representatives will be considered, it is not a guarantee of nomination by ASCO.

Name:

Specialty:

Institution:

Email:

Name:

Specialty:

Institution:

Email:

Name:

Specialty:

Institution:

Email:

Name:

Specialty:

Institution:

Email:

8. Please provide a short summary on the guideline topic.

APPENDIX XIV: OPTIONS FOR COLLABORATION: JOINT GUIDELINES

ASCO[®] Guidelines

ASCO welcomes the opportunity to collaborate in the development of evidence-based clinical practice guidelines. Collaborative guidelines are intended to minimize duplication of effort, increase guideline production, and harmonize recommendations for the benefit of oncology professionals and patients. ASCO develops guidelines with other organizations under one of two models:

ASCO Leads

- ASCO collaborates with one or more organizations that take a participating role.
- Topic has been scheduled for development via ASCO's regular topic selection and prioritization process.
- ASCO provides the resources to support developing the guideline, such as its own staff support, research, and financial support for volunteers to attend guideline panel in-person meeting(s). Participating organizations pay their own costs related to their participation in the guideline, such as their own staffing, review, approval and publication requirements.
- The guideline development process follows ASCO's methodology, policies and procedures.
- The conflict of interest process follows ASCO's policy.

ASCO Joins

- Another organization leads the guideline development and ASCO takes a participating role.
- Topic is not under development by ASCO or planned for ASCO development within the next year.
- Lead organization provides funding and staff support. ASCO may commit in-kind support such as meeting space toward completion of the effort.
- Development process meets systematic review-based methodology and guideline development transparency standards.
- Lead organization guideline panel is multidisciplinary and includes diverse expertise and experience, along with patient representation.
- Conflict of interest and funding policies meet CMSS Code standards for independence and transparency.

This document lays out criteria that apply to the second model, "**ASCO Joins.**"

Guideline Development Methodology

ASCO is pleased to consider invitations to join guidelines that are currently in development or slated for development if the following criteria are met:

- The lead organization is an established developer of high-quality clinical practice guidelines and/or shows a commitment to a rigorous and independent process for guideline development.
- Guideline Panels are multidisciplinary and include diverse expertise and experience, including patient representation, related to the topic.
- Guideline recommendations are actionable and clearly presented.
- Guidelines are developed using a systematic review-based method.
- Evidence is quality appraised.
- Recommendations reflect the strength of the evidence as well as the strength of the recommendation.
- Consensus recommendations will be considered only if a lack of suitable evidence was identified in the course of the systematic review.

- Other aspects of the collaboration, including authorship and publication, are set out in a Memorandum of Understanding.

Conflict of Interest Disclosure and Management

In a joint development effort, ASCO will follow the lead organization's conflict of interest procedures as long as the organization has a written Conflict of Interest Policy in place that meets the requirements of the [CMSS Code](#) as they relate to guideline development. Guideline provisions of CMSS Code include:

- Guideline panel members, contributors and reviewers must disclose potential conflicts of interest before and during guideline development.
 - Disclosures of panel members must be provided to ASCO for consideration prior to ASCO joining a guideline and when changes occur.
- Speaker's bureau, ownership above a set amount, or employment with an affected company by any Panel Member precludes ASCO's participation in joint guideline development.
- All disclosures must be published in conjunction with the guideline.
- A majority of Guideline development panel members must be free of conflicts of interest relevant to the subject matter of the guideline.
- The panel Chair, or at least one Co-Chair, must be free of conflicts of interest relevant to the subject matter of the guideline and remain free for one year after publication.

If the lead organization does not have a conflict of interest policy or its policy does not conform to the CMSS Code, ASCO's [Conflict of Interest Policy Implementation for Clinical Practice Guidelines](#) policy and procedures will apply to the entire guideline development process.

Financial Independence

For ASCO to join a guideline initiative, the project must meet the financial independence and transparency standards of the CMSS Code. These include:

- No organization participating in the joint guideline will accept direct financial support from for-profit health care companies for initial development of the guideline or for guideline updates.
 - Support from non-profit foundations (other than the foundations of for-profit health care companies), government bodies, or individuals is acceptable as long as the supporter does not have the ability to influence the guideline (see next bullet).
- Guideline development must be independent from influence of funding sources. Independence from funding sources means that the funders do not have any ability to influence topic selection, prioritization or timing of topic development, clinical questions to be addressed, panel composition, review of drafts, publication, or any content of the guideline.

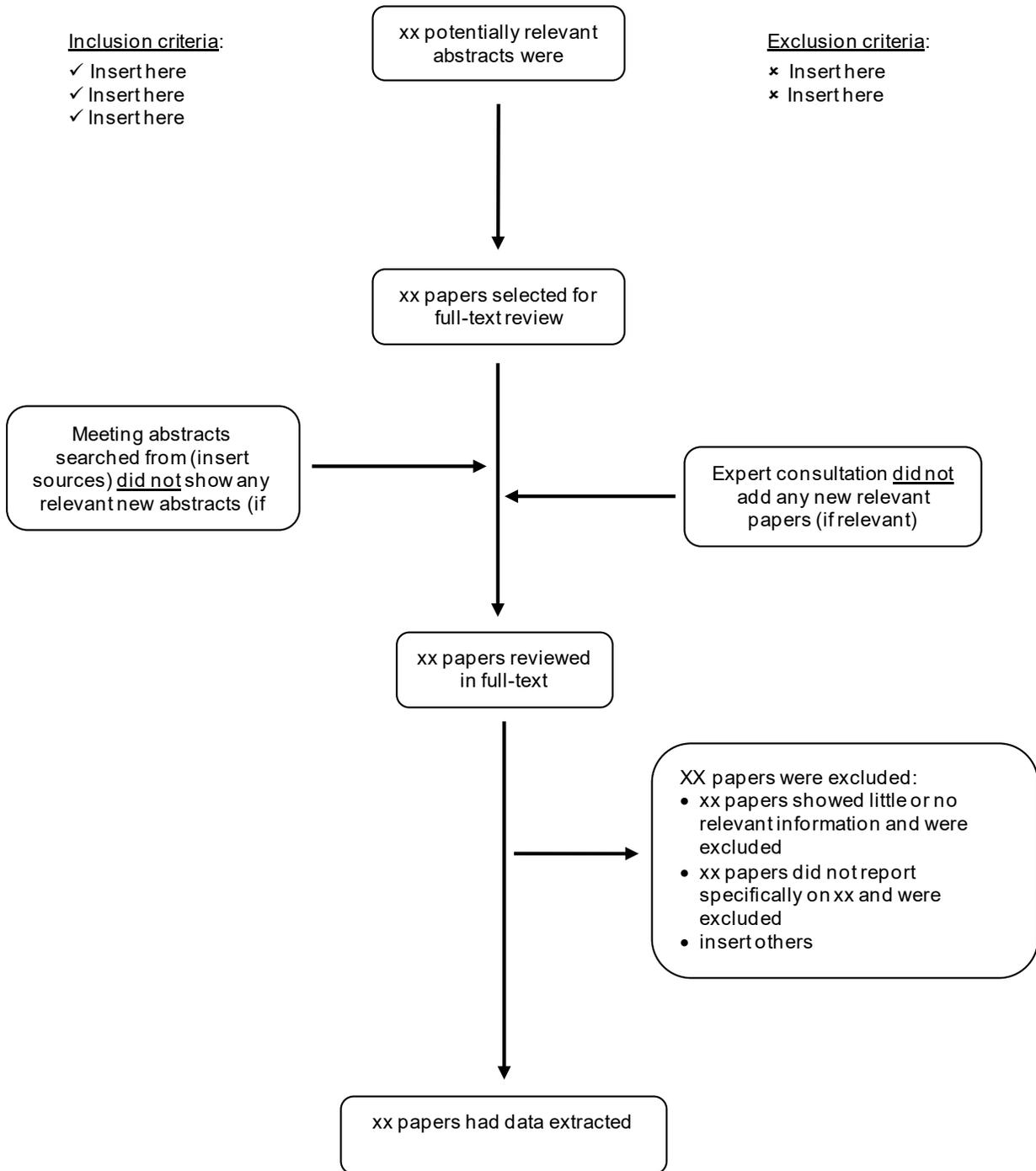
Approval

Once the Expert Panel approves the guideline draft, each participating organization will follow their own guideline review and approval process within a mutually agreed upon time.

Publication

ASCO guidelines are submitted to the *Journal of Clinical Oncology* and the *Journal of Oncology Practice* for consideration of publications, any exceptions must be outlined in a Memorandum of Understanding.

Appendix XVI: Additional Sample Tables and Figures
 QUOROM Diagram



Cost

Agent	Dose	Schedule	Price Per Dose (USD)	Total Cost Per Treatment Cycle (USD)
5-HT₃ receptor antagonists				
Ondansetron IV	8 mg /0.15 mg/kg	Prechemotherapy, one dose	1.10	1.10
Ondansetron oral (generic)	8 mg	Twice daily on days 1-3	6.50	6.50
Ondansetron oral (brand)	8 mg	Twice daily on days 1-3	45.55	268.28
Ondansetron oral dissolving tablet (generic)	8 mg	Every 12 hours as needed, days 1-3	6.50	6.50
Ondansetron oral dissolving tablet (brand)	8 mg	Every 12 hours as needed, days 1-3	85.05	253.14
Ondansetron oral soluble film (brand)	8 mg	Every 12 hours as needed, days 1-3	75.82	225.46
Granisetron IV	1 mg or 0.01 mg/kg IV	Prechemotherapy, one dose	3.13	3.13
Granisetron oral	1 mg	Once (2 mg) on day 1, 1 mg twice daily on days 2, 3	6.50	14.36
Granisetron transdermal	3.1 mg	Prechemotherapy, up to 7 Days	467.00	467.00
Granisetron extended-release injection, for subcutaneous use†	10 mg	Prechemotherapy, and not more frequently than once every 7 days		
Dolasetron oral	100 mg	Once daily on days 1-3	100.83	330.50
Palonosetron IV	0.25 mg	Prechemotherapy, one dose	228.80	228.80
NK₁ receptor antagonists				
Aprepitant oral	125 mg	Prechemotherapy, one dose	284.01	284.01
Aprepitant oral	80 mg	Once daily on days 2, 3	182.14	364.28
Fosaprepitant IV	150 mg	Prechemotherapy, one dose	299.87	299.87
Rolapitant	180 mg	Prechemotherapy, one dose	610.50	610.50
Combination products				
Netupitant/palonsetron)	300 mg/0.5 mg	Prechemotherapy, one dose	632.35	632.35

Antipsychotics

Olanzapine (generic)	5 mg	Once daily on days 1-3	6.50	6.50
Olanzapine (generic)	10 mg	Once daily on days 1-3	6.50	6.50
Olanzapine (brand)	5 mg	Once daily on days 1-3	15.07	43.22
Olanzapine (brand)	10 mg	Once daily on days 1-3	22.21	64.62
Dopaminergic antagonists				
Metoclopramide IV	1 to 2 mg/kg	Prechemotherapy, one dose	99.50	99.50
Metoclopramide oral (generic)	0.5 mg/kg	Every 6 hours, days 2-4	6.50	6.50
Metoclopramide oral (brand)	0.5 mg/kg	Every 6 hours, days 2-4	65.00	192.99
Prochlorperazine IV	5-10 mg	Prechemotherapy, every 6-8 hours, maximum 40 mg	11.93	11.93
Prochlorperazine oral	10 mg	Every 6 to 8 hours as needed	6.50	6.50
Cannabinoids				
Nabilone oral	1-2 mg	Twice daily, days 1-3	75.38	249.63
Dronabinol oral (generic)	5 mg/m ²	Every 2-4 hours as needed	184.70	223.94†
Dronabinol oral (brand)	5 mg/m ²	Every 2-4 hours as needed	314.60	941.80‡

*Schedules were those recommended as antiemetic drug doses as of October 4, 2016. Prices per dose were for a single infusion or per pill for orally administered medications. Prices for infused drugs reimbursed through Medicare Part B only were identified from the 2016 Medicare Part B Drug Average Sales Price Data (<https://www.cms.gov/Medicare/Medicare-Fee-for-Service-Part-B-Drugs/McrPartBDrugAvgSalesPrice/index.html>). Prices for orally administered drugs reimbursed through Medicare Part D were identified in the PlanFinder for a beneficiary living within ZIP code 10065 (www.medicare.gov). To remain as consistent as possible with prior methodology, we selected a Humana PDP plan with the lowest cost for beneficiaries to identify the full cost of each drug (Bach PB. Limits on Medicare's ability to control rising spending on cancer drugs. The New England Journal of Medicine. 2009;360(6):626-33. AND <https://www.mskcc.org/sites/default/files/node/25097/documents/methods-for-drug-price-calculations-12.9.15.pdf>).

Drug costs may vary by plan and by pharmacy where a prescription is filled (eg, preferred or nonpreferred pharmacies). In some cases, antiemetic coverage for orally administered drugs may be covered by either Part B or Part D. We have selected the Medicare Part D price in these cases. Note: drug prices are dynamic and the prices listed in the table may not reflect current prices. In some cases, the recorded out-of-pocket price per dose is equivalent to the price per cycle. This may represent a minimum price per fill set by the health plan.

† Price information not yet available through Medicare.

‡ Assume 3 days use, 12 pills per day.