American College of Gastroenterology
Practice Parameters Committee

ACG Guideline Creation Process

The steps to guideline creation are as follows:

1) Authors will have an initial teleconference with the GRADE team and the Practice Parameters Committee Monitor. During this call, the group will isolate the central issues in the diagnosis and management of the relevant disease state, for example, "what is the role of biological agents in the maintenance of remission of Crohn's disease?" These pragmatic issues will serve as the headings of the sections of the document. Generally, they will number between 8-12 items, collapsing issues into larger headings as needed.

2) Formulate PICO questions and review the literature:

    a. For each of the crucial clinical questions, the authors will develop a PICO question and identify recent, relevant *systematic reviews* of the evidence.
    b. In cases where a recent systematic review is available, the authors will cite and use this review as evidence for the questions to be addressed. When a recent systematic review is not available, the authors will perform an explicit review of the literature, stating search terms, databases accessed, period searched, "hits" obtained, relevant papers extracted, and describe the process by which the content was filtered for relevant articles (for example, "we considered only randomized controlled trials and case-control studies"). Because there is substantial heterogeneity in the literature with respect to available data for clinically relevant questions, , it is expected for some questions that cohort studies and even case series may be the only data available. For other questions, the authors may be able to limit their data to randomized controlled trials and meta-analyses. Whatever the state of the evidence, the authors will describe how they found it, and that they did it. In some circumstances, the authors may wish to perform formal systematic review of the literature, with two abstractors independently extracting the evidence. While this process is time-consuming and costly, and not feasible for every clinical question posed, it may be desirable for certain highly contentious, rapidly evolving, or extremely important issues.

3) Generate recommendations:

    a. After assimilating and reviewing the data, the authors will generate a number of recommendations regarding the diagnosis and management of subjects with the condition. Generally, it is expected that between 1-4 recommendations will be generated from each document section, although more or fewer may be appropriate in unusual situations.
    b. Flow diagrams showing recommended diagnostic and/or therapeutic algorithms are encouraged.

c. To facilitate GRADE review, the authors will create folders in Dropbox for each recommendation and upload the articles with the highest level of evidence for each recommendation (i.e. meta-analysis if available followed by systematic review, randomized controlled trials, and so forth). The recommendations and their attendant articles will then be analyzed by the GRADE team (as outlined below) for verification of the authors' GRADE grading.

d. The team will set up monthly conference calls to discuss and debate these recommendations and the level of supporting evidence. The PPC Monitor can assist in setting up these conference calls.

4) GRADE recommendations:

a. Concurrent with the generation of the recommendation statements, the statements are also graded for both *strength of evidence*, and *strength of recommendation*. These ratings are related, but distinct. For instance, a recommendation that has a great deal of high quality evidence substantiating a very small benefit at some cost or risk to the patient may generate only a weak recommendation. Alternatively, a recommendation based on only weak evidence, but with little risk or cost may still generate a strong recommendation in its favor.

b. The authors will categorize recommendations using the GRADE system rankings. This system grades evidence into the following categories:
   i. High - further research is very unlikely to change our confidence in the estimate of effect;
   ii. Moderate - further research is likely to have an important impact on our confidence in the estimate of effect and may change the estimate;
   iii. Low - further research is very likely to have an important impact on our confidence in the estimate of effect and is likely to change the estimate; and,
   iv. Very low - any estimate of effect is very uncertain.

c. The recommendations are then categorized into two areas: **strong** or **conditional.**

d. Each recommendation statement will have verification of the evidence grading performed by members of the ACG GRADE team using the software program GRADEPro and RevMan. The GRADE team will analyze the articles uploaded to Dropbox by the authors for each statement. Tables will be created to justify the grading for each statement.

5) Timeline:

The following table illustrates the suggested timeline for guideline tasks and items to discuss during the conference calls. We would advise setting up conference calls at the same time of the month for 6 months. While the main goal of the calls is to discuss and critique the summary recommendations and level of evidence, the authors should be writing their sections during this time.

Month #1	Perform literature search, assign 2-3 subtopics to each author, determine who will format references and program used for references
Month #2	Review summary recommendations and evidence ratings for subtopics 1-2
Month #3	Review summary recommendations and evidence ratings for subtopics 3-4
Month #4	Review summary recommendations and evidence ratings for subtopics 5-6
Month #5	Review summary recommendations and evidence ratings for subtopics 7-8
Month #6	Review final document, create and format tables, insert references