FAQs About UpToDate® Evidence-Based Decision Support

What makes UpToDate® an evidenced-based resource?
UpToDate has a systematic process for identifying, reviewing and synthesizing new clinical evidence as it applies to a clinical question. More than 50 in-house physician deputy editors, all of whom receive training in clinical epidemiology, oversee the integrity and consistency of our editorial process.

How does UpToDate decide which evidence to use?
UpToDate follows a hierarchy of evidence consistent with most evidence-based resources and we always use the highest quality clinical evidence available.

To create and update the clinical topics in UpToDate with new clinical evidence, our editorial staff performs comprehensive reviews of the medical literature and considers the quality of the study, the hierarchy of evidence, and its clinical relevance. When current, high-quality systematic reviews are available, UpToDate topics and recommendations rely heavily on these reviews. When such reviews are unavailable, UpToDate summarizes the key studies bearing on the clinical issues at hand. Systematic reviews and the design of primary studies (e.g., randomized trials, observational studies) are often identified explicitly in the text, with the relevant data provided. However, in cases where either the type of study or the data are not stated explicitly, users can click on the reference and bring up the Medline abstract to obtain this information. Evidence is derived from a number of resources, including but not limited to:

- Hand-searching of more than 430 peer-reviewed journals
- Electronic searching of databases including Medline, The Cochrane Database, Clinical Evidence and ACP Journal Club

What is Evidenced-based Medicine (EBM)?
The standard definition of EBM — from Dr. David Sackett, who is well-known as a pioneer in the field — is:

“The judicious use of the best available evidence in making decisions about the care of the individual patient.”
BMJ 1996;312:71-72 (13 January)
ment strategies, and in doing so consider the patient’s values.” Expertise is thus required to move from evidence to recommendations.

Because recommendations for care need to account for all of the factors cited above, many evidence-based resources avoid making specific recommendations for patient care. UpToDate has taken a different approach. It is the policy of UpToDate to make specific recommendations for patient care whenever possible.

Recommendations in UpToDate are based on a synthesis of evidence, including that obtained from clinical trials as well as clinical experience. And, whenever possible, the evidentiary basis for recommendations is stated explicitly. When there is no published systematic evidence available (e.g., prednisone dosing regimen in pulmonary sarcoidosis), recommendations are based on the unsystematic clinical observations of our experts and reviewers, and on pathophysiologic rationale. Our multiple layers of peer review prevent individual opinion from becoming a part of any recommendation in UpToDate.

**How does UpToDate create treatment recommendations?**

Each recommendation in UpToDate is structured around a specific clinical question that clearly defines the patient population of interest, the alternative management strategies, and the outcomes of importance to patients (PICO format: Population, Intervention, Comparators, Outcomes).

Our treatment recommendations identify situations in which treatment may vary based on patient values and preferences. It is up to the clinician using UpToDate to evaluate the recommendations in light of the individual circumstances of his or her patient. Nevertheless, UpToDate feels that providing recommendations based on a sophisticated understanding of the clinical issues, the best available clinical evidence, and a consideration of patient values and preferences, allows clinicians to make more informed management decisions.

UpToDate commonly uses the terminology “We recommend...” or “We suggest...” when describing recommended courses of action because our recommendations generally reflect a consensus of the author(s) and editors of a topic. When there are disagreements, this same wording is used; however, the recommendations are those of the author(s),

- Guidelines that adhere to principles of evidence evaluation described above
- Published information regarding clinical trials such as reports from the Food and Drug Administration, as well as other sources of information produced by federal agencies such as the Centers for Disease Control and Prevention and the National Institutes of Health
- Proceedings of major national meetings
- The clinical experience and observations of our authors, editors and peer reviewers

**Are the recommendations in UpToDate based on evidence or expert opinion?**

UpToDate makes clinical recommendations that are always based on the best available evidence. Unsystematic clinical observation (i.e., clinical experience) is the weakest form of evidence, but it is evidence nonetheless. A critical component of our recommendations is that we are transparent about the quality of the evidence and the strength of each recommendation. In instances where there is poor, limited, or no data available, we still feel compelled to answer a clinical question based on clinical experience or pathophysiologic reasoning rather than avoid answering it altogether. Most clinical resources do not have the depth of expertise from their contributors that UpToDate has, and therefore cannot adequately answer clinical questions that don’t have a strong evidence base (which accounts, unfortunately, for a substantial proportion of clinical questions).

Our world-renowned physician authors and editors use their expertise to understand the impact of new evidence on existing best practices. Their clinical knowledge enables UpToDate to apply new evidence to specific situations that arise during clinical practice. This does not mean that they express opinions that supersede the available evidence — their experience simply makes them better qualified to interpret new findings in the context of patient care.

In fact, a fundamental principle of evidence-based medicine — as described by Dr. Gordon Guyatt, who is credited with coining the term and is a thought leader in the field of EBM — is “Evidence alone is never sufficient to make a clinical decision. Decision makers must always trade the benefits and risks, inconvenience, and costs associated with alternative manage-
and the disagreement among experts is discussed within the text.

**Are all recommendations in UpToDate graded?**

Since 2001, UpToDate has worked extensively with Dr. Guyatt to improve the clarity and transparency behind the clinical evidence we use and the strength of our recommendations. Dr. Guyatt is a founding member of the GRADE Working Group, which was created to develop “a common, sensible and transparent approach to grading quality of evidence and strength of recommendations.” Many international organizations, including the World Health Organization, Cochrane and the British Medical Journal, collaborated in the development of this system and have adopted it. The GRADE system and its modifications have become the most widely used clinical recommendation grading systems in the world.

In 2006, UpToDate began grading recommendations using the GRADE format. This is a continuing process, with thousands of graded recommendations in the program. Graded recommendations appear in the Summary and Recommendations sections of each topic.

UpToDate dedicates considerable resources to ensuring that our recommendations are clear, complete, and correct. In addition to our routine peer review process, our Co-Executive Editor and/or Deputy Editors review all assigned grades to confirm that they accurately reflect the quality of the evidence and the strength of the recommendation. In addition, Dr. Guyatt comes to Massachusetts regularly to continue to educate our physician editors about evidence-based medicine and grading.

It is important to understand the difference between grading evidence and grading recommendations. UpToDate does both, which makes it unique among point-of-care resources, which typically grade only the quality of evidence or even just individual studies. However, there are occasions when strong recommendations may be made in the face of low-quality evidence, or weak recommendations in the face of high-quality evidence. For example:

Weak recommendations with high-quality evidence occur when individual patient values and preferences make a decision a close call. For example, we have high-quality evidence that lifelong anticoagulation after idiopathic DVT reduces the risk of recurrence, but many patients are unwilling to accept the ongoing burdens of warfarin therapy in return for such a benefit. In this case, UpToDate makes a weak recommendation for anticoagulation based on high-quality evidence.

Strong recommendations based on low-quality evidence most often occur when there is high or moderate-quality evidence for either benefits or harms of a therapy but not for both. For example, we have moderate to high quality evidence that a number of different classes of antihypertensives are similarly effective, and low-quality evidence that ACE inhibitors are harmful in pregnancy. In such a situation, we would make a strong recommendation based on low-quality evidence not to treat hypertensive pregnant women with ACE inhibitors.

The GRADE system allows transparency in all of these situations.

**Why doesn’t UpToDate grade diagnostics?**

UpToDate only grades recommendations about treatment or screening because we feel that no existing system for grading diagnostic recommendations works well enough to be useful to clinicians. Rather than grade diagnostic recommendations, UpToDate describes the evidence underlying such recommendations in the text of the topic. UpToDate is participating in efforts to come up with a clinically useful system for grading diagnostic recommendations.

**How often is UpToDate content updated?**

UpToDate is updated daily following a continual comprehensive review of the resources listed on the second page (peer-reviewed journals, clinical databases, etc.). Topics in UpToDate are revised whenever important new information is published, not according to any specific time schedule. Updates are integrated carefully, after extensive peer review, with specific statements as to how the new findings should be applied to clinical practice.

Updates that are deemed particularly important by our authors and editors (i.e., those that may change practice, drug alerts, etc.) are highlighted in our “What’s New” section and a subset that are considered practice-altering are featured in our “Practice Changing UpDates” section.
