Using Evidence-Based Medical Resources

FSU College of Medicine
2014–2015

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<td>Highly respected, EBM tool, published by the BMJ. Summarizes the current state of knowledge and uncertainty about the prevention and treatment of clinical conditions. For each of the 200 or so clinical conditions in the reference, recommendations are summarized as Beneficial, Likely to be beneficial, Trade off between benefit and harm, Unlikely to be beneficial, Harmful.</td>
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<td>DynaMed—Web version</td>
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<tr>
<td>Huge disease, condition and medical topics database that systematically surveys the literature for latest information.</td>
<td></td>
</tr>
<tr>
<td>DynaMed—Mobile version</td>
<td>27</td>
</tr>
</tbody>
</table>
Off Campus Access to the Virtual Medical Library

From off campus to use the Library resources you must do the following:

1. Click on the **EZProxy** red button at the top of Library page: [www.med.fsu.edu/library](http://www.med.fsu.edu/library).

2. Then, click the **Login to College of Medicine EZProxy** button.
   a. Type your FSU COM UserID and Password in the blanks provided (firstname.lastname). If you do not know your FSU COM UserID and Password, contact the IT helpdesk (644-3664) OR regional campus ET staff:
   - **Orlando**: Claudin Pierre-Louis (407) 835-4103 x405
   - **Pensacola**: Chris Clark (850) 494-5939 x125
   - **Tallahassee**: Mark Hughes (850) 645-1257
   - **Sarasota**: Chip Orth (941) 316-8120 x311
   - **Ft Pierce**: David Thoreson (772) 464-0034 x503
   - **Daytona Beach**: Bijan Fallahi (386) 252-0601
   - **Main Campus**: Help Desk (850) 644-3664

3. If you get a security messages, just click **YES**. This site is safe.

4. This takes you back to the Library Homepage. Notice that all URLs now contain the phrase: "... ezproxy.med.fsu.edu/.

You must **follow links from the Library page** to get to resources and make sure this phrase stays in the URL. If it links you out, and that phrase vanishes, you are no longer connected to EZProxy. You will know you are kicked out of the proxy if a site asks you for a UserID and Password. If you think this should not have happened (you didn’t manually type in a link, etc.) contact the Medical Library immediately. We have discovered some sites that do this and have fixed them as they are brought to our attention.
Evidence Based Medicine Links

- On the Library Web Site look under Clinical Tools for EBM Tools. Expand that to see Summaries, Guidelines, Reviews of the Literature, and Instructional. Click on any of these to go to the EBM Tools pages.
The Evidence Based Medicine Process

The most current and widely accepted definition of evidence-based medicine is "the integration of the best research evidence with clinical expertise and patient values." This reflects a systematic approach to clinical problem solving.

The following diagram illustrates this systematic process for implementing evidence based medicine into clinical practice:

1. The patient
2. The question

1. Start with the patient -- a clinical problem or question arises out of the care of the patient

2. **Construct a well built (PICO) clinical question** derived from a patient case, and identify the **Patient**, population, or problem, the **Intervention** being considered, the **Comparison** you are considering, if any, and the desired **Outcome** you would want, then identify the type of question: background, diagnosis, treatment/prevention, prognosis or harm

<table>
<thead>
<tr>
<th>Patient (P)</th>
<th>Interventions (I)</th>
<th>Comparison (C)</th>
<th>Outcome (O)</th>
</tr>
</thead>
<tbody>
<tr>
<td>“How would I describe a group of patients similar to this particular patient?”</td>
<td>“Which treatment, test or other intervention?”</td>
<td>“Compared to what other treatment, test, or perhaps compared to doing nothing”</td>
<td>What is the patient oriented outcome – better prognosis? Higher rate of cure? Etc.?</td>
</tr>
</tbody>
</table>

Examples of PICO questions:

**Therapy Question**
In patients with migraine headaches without auras, is Depakote more effective than Inderal for prophylaxis of headaches?

**Prognosis Question**
In diabetic patients with foot ulcers, is the diagnosis of osteomyelitis with MRI as predictive of healing as an audible pulse on Doppler examination?

**Diagnosis Question**
In geriatric patients with suspected carotid stenosis, is duplex ultrasound as good as magnetic resonance angiography in detecting significant carotid stenosis?

**Harm Question**
For pregnant patients, does the consumption of large amounts of coffee, (compared to non-coffee drinkers) increase the rate of spontaneous abortion?
The Evidence Based Medicine Process continued

3. **Select the appropriate resource** and conduct a search. Go to the appropriate topic which is then broken down for you into categories: diagnosis, treatment, prognosis, prevention/screening...

![Resource Selection Diagram]


Attempt to find the best evidence with the highest quality and reliability first, such as a Cochrane review or POEM review of a study. If not available, drill down to an expert opinion level resource, such as a textbook or manual. As a last resort with time permitting, search Medline, find a full text article, and review it yourself for validity, rigor and study design.

4. **Appraise that evidence** for its validity (closeness to the truth) and applicability (usefulness in clinical practice). Look for the **Level of Evidence** or **Strength of Recommendation** provided by the resource selected. See next page for explanation of these terms.

5. **Return to the patient** -- integrate that evidence with clinical expertise, patient preferences and values and apply it to practice.

6. **Evaluate your performance** — How can you be more efficient in the future? For example: Was it a vague question? Did you use optimal resources?

“Level of Evidence” (LOE) and “Strength of Recommendation” (SOR) Scales

Definitions

Level of Evidence (LOE): The validity of an individual study based on an assessment of its study design. The essence of levels of evidence is that, in general, controlled studies are better than uncontrolled studies, prospective studies are better than retrospective studies, and randomized studies are better than nonrandomized studies.¹

Strength of Recommendation (SOR): The strength of a recommendation for clinical practice (guideline, etc.) based on a body of evidence, usually based on more than one study. This takes into account the level of evidence of individual studies; the type of outcomes measured by these studies (patient-oriented or disease-oriented); the number, consistency, and coherence of the evidence as a whole; and the relationship between benefits, harms, and costs.¹

How are these Assigned?

A LOE or SOR is assigned to a specific recommendation, guideline, or research article by one or more experts in the field of research design and critical appraisal of the literature working for either a journal, an association, or medical reference like ACP Smart Medicine or DynaMed using a carefully defined criteria. Most LOE scales, like the one Essential Evidence Plus uses, are roughly based on the scale developed by the Oxford Centre for Evidence Based Medicine.  http://www.cebm.net. There are different criteria for each type of recommendation: therapy, diagnosis, prognosis, etc. (below) The SOR scales used by various EBM resources are listed on the next page for comparison.

<table>
<thead>
<tr>
<th>Oxford Centre for Evidence-Based Medicine 2011 Levels of Evidence</th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Question</td>
<td>Step 1 (Level 1)</td>
<td>Step 2 (Level 2)</td>
<td>Step 3 (Level 3)</td>
<td>Step 4 (Level 4)</td>
<td>Step 5 (Level 5)</td>
</tr>
<tr>
<td>How common is the problem?</td>
<td>Local and current random sample surveys (or censuses)</td>
<td>Systematic review of surveys that allow matching to local circumstances</td>
<td>Local non-random sample</td>
<td>Case-series</td>
<td>n/a</td>
</tr>
<tr>
<td>Is this diagnostic or monitoring test accurate? (Diagnosis)</td>
<td>Systematic review of cross sectional studies with consistently applied reference standard and blinding</td>
<td>Individual cross sectional studies with consistently applied reference standard and blinding</td>
<td>Non-consecutive studies, or studies without consistently applied reference standards</td>
<td>Case-control studies, or &quot;poor or non-independent reference standard&quot;</td>
<td>n/a</td>
</tr>
<tr>
<td>What will happen if we do not add a Therapy? (Prognosis)</td>
<td>Systematic review of inception cohort studies</td>
<td>Inception cohort studies</td>
<td>Cohort study or control arm of randomized trial</td>
<td>Case-series or case-control studies, or &quot;poor quality prognostic cohort study&quot;</td>
<td>Mechanism-based reasoning</td>
</tr>
<tr>
<td>Does this Intervention help? (Treatment Benefits)</td>
<td>Systematic review of randomized trials or n-of-1 trials</td>
<td>Randomized trial or observational study with dramatic effect</td>
<td>Non-randomized controlled cohort/follow-up study</td>
<td>Case-series, case-control, or historically controlled studies</td>
<td>n/a</td>
</tr>
<tr>
<td>What are the common harms? (Treatment harms)</td>
<td>Systematic review of randomized trials, systematic review of nested case-control studies, n-of-1 trial with the patient you are raising the question about, or observational study with dramatic effect</td>
<td>Individual randomized trial or (exceptionally) observational study with dramatic effect</td>
<td>Non-randomized controlled cohort/follow-up study (post-marketing surveillance) provided there are sufficient numbers to rule out a common harm. (For long-term harms the duration of follow-up must be sufficient.)”</td>
<td>Case-series, case-control, or historically controlled studies</td>
<td>Mechanism-based reasoning</td>
</tr>
<tr>
<td>What are the rare harms? (Treatment harms)</td>
<td>Systematic review of randomized trials or n-of-1 trial</td>
<td>Randomized trial or (exceptionally) observational study with dramatic effect</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Is this (early detection) test worthwhile? (Screening)</td>
<td>Systematic review of randomized trials</td>
<td>Randomized trial</td>
<td>Non-randomized controlled cohort/follow-up study</td>
<td>Case-series, case-control, or historically controlled studies</td>
<td>Mechanism-based reasoning</td>
</tr>
</tbody>
</table>


# Strength of Recommendation Scales

<table>
<thead>
<tr>
<th></th>
<th>ACP Smart Medicine</th>
<th>USPSTF</th>
<th>EE+</th>
<th>DynaMed</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>the preponderance of data supporting this statement is derived from level 1 studies, which meet all of the evidence criteria for that study type</td>
<td>A. There is good evidence to support the recommendation that the condition be specifically considered in a periodic health examination</td>
<td>A. There is good research-based evidence to support the recommendation.</td>
<td>A. Consistent high-quality evidence</td>
</tr>
<tr>
<td>B</td>
<td>the preponderance of data supporting this statement is derived from level 2 studies, which meet at least one of the evidence criteria for that study type</td>
<td>B. There is fair evidence to support the recommendation that the condition be specifically considered in a periodic health examination.</td>
<td>B. There is fair research-based evidence to support the recommendation.</td>
<td>B. inconsistent or limited evidence</td>
</tr>
<tr>
<td>C</td>
<td>the preponderance of data supporting this statement is derived from level 3 studies, which meet none of the evidence criteria for that study type or are derived from expert opinion, commentary or consensus</td>
<td>C. There is insufficient evidence to recommend for or against the inclusion of the condition in a periodic health examination, but recommendations may be made on other grounds.</td>
<td>C. The recommendation is based on expert opinion and panel consensus.</td>
<td>C. lacking direct evidence</td>
</tr>
</tbody>
</table>

## Level of Evidence or Strength of Evidence Scales

<table>
<thead>
<tr>
<th></th>
<th>DynaMed</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Level 1 (likely reliable) Evidence - representing the most valid reports addressing patient-oriented outcomes. Examples include rigorous randomized trials, inception cohort studies for prognostic information, and systematic reviews of level 1 evidence reports.</td>
</tr>
<tr>
<td>2</td>
<td>Level 2 (mid-level) Evidence - representing reports addressing patient-oriented outcomes, and using some method of scientific investigation, yet not meeting the quality criteria to achieve level 1 evidence labeling. Examples include randomized trials with less than 80% follow-up, non-randomized comparison studies, and diagnostic studies without adequate reference standards. Level 2 evidence does not imply reliable evidence.</td>
</tr>
<tr>
<td>3</td>
<td>Level 3 (lacking direct) Evidence - representing reports that are not based on scientific analysis of patient-oriented outcomes. Examples include case series, case reports, expert opinion, and conclusions extrapolated indirectly from scientific studies.</td>
</tr>
</tbody>
</table>
Major EBM Databases—(Foraging Efforts)

A high-quality foraging tool employs a transparent process that
1. Systematically surveys or reviews the literature
2. Filters out disease-oriented research and presents only patient-oriented research outcomes
3. Demonstrates that a validity assessment has been performed using appropriate criteria
4. Assigns levels of evidence, based on appropriate validity criteria, to individual studies
5. Provides specific recommendations, when feasible, on how to apply the information, placing it into clinical context
6. Comprehensively reviews the literature for a specific specialty or discipline
7. Coordinates with a high-quality hunting tool


Cochrane Database of Systematic Reviews

The Cochrane Collaboration is an international non-profit and independent organization, dedicated to making up-to-date, accurate information about the effects of healthcare readily available worldwide. It produces and disseminates systematic reviews of healthcare interventions and promotes the search for evidence in the form of clinical trials and other studies of interventions. The Cochrane Collaboration was founded in 1993 and named for the British epidemiologist, Archie Cochrane.

The major product of the Collaboration is the Cochrane Database of Systematic Reviews which is published quarterly as part of the Cochrane Library. Members of the Collaboration systematically review the entire English publications on a topic. Abstracts are free at their website. Full text is available through Wiley Interscience. (see link on library webpage). Cochrane Systematic Reviews on therapy topics only contain randomized clinical trials.

Those who prepare the reviews are mostly health care professionals who volunteer to work in one of the many Collaborative Review Groups, with editorial teams overseeing the preparation and maintenance of the reviews, as well as application of the rigorous quality standards for which Cochrane Reviews have become known.

ACP Journal Club

Critical appraisals of studies from two journals, the ACP Journal Club and Evidence Based Medicine. ACP Journal Club's general purpose is to select from the biomedical literature articles that report original studies and systematic reviews that warrant immediate attention by physicians attempting to keep pace with important advances in internal medicine. These articles are summarized in value-added abstracts and commented on by clinical experts.

http://www.acpjoc.org
Daily POEMS

Patient Oriented Evidence that Matters. Published daily, and ongoing since 1996, editors review more than 1,200 studies monthly from 100+ medical journals, presenting only the best as InfoPOEMs. The acclaimed POEMs process applies specific criteria for validity and relevance to clinical practice. About 1 in 40 studies reviewed qualifies for inclusion.

Database of Abstracts of Reviews of Effectiveness

DARE contains summaries of systematic reviews which have met strict quality criteria. Included reviews have to be about the effects of interventions. Each summary also provides a critical commentary on the quality of the review. The database covers a broad range of health and social care topics and can be used for answering questions about the effects of interventions, as well as for developing guidelines and policy making. (DARE) is currently available through Ovid.

National Guideline Clearinghouse

A public resource for evidence-based clinical practice guidelines. NGC is an initiative of the Agency for Healthcare Research and Quality (AHRQ), U.S. Department of Health and Human Services. NGC was originally created by AHRQ in partnership with the American Medical Association and the American Association of Health Plans (now America’s Health Insurance Plans [AHIP]).

US Preventative Services Task Force (USPSTF)

The USPSTF, first convened by the U.S. Public Health Service in 1984, and since 1998 sponsored by the Agency for Healthcare Research and Quality (AHRQ), is the leading independent panel of private-sector experts in prevention and primary care. The USPSTF conducts rigorous, impartial assessments of the scientific evidence for the effectiveness of a broad range of clinical preventive services, including screening, counseling, and preventive medications. Its recommendations are considered the "gold standard" for clinical preventive services.
EBM Hunting Tools combine many of the major EBM foraging tools into one tool that searches multiple resources, then organizes the results by category representing the type of question you have. The chart above summarizes the tools that can be found in Essential Evidence Plus, DynaMed and Wiley. Wiley currently contains the full text versions of the Cochrane Reviews, plus DARE. Each of the following are available on the web and all except ACP Smart Medicine are available on the mobile device for all CoM faculty and students:

**ACP Smart Medicine**

The ACP Smart Medicine is an evidence-based "System" of actionable information about health conditions and interventions. It builds on other ACP-ASIM publications including ACP Journal Club and MKSAP, enabling users to drill down to the evidence-synopses supporting recommendations.

**Clinical Evidence**

Evidence-based evaluations of interventions for common clinical conditions developed in collaboration with the American College of Physicians, the American Society of Internal Medicine and BMJ.

**Essential Evidence Plus (EE+)**

Includes the Cochrane abstracts, InfoPOEM reviews, guidelines, USPSTF recommendations, clinical prediction tools, 5 Minute Clinical Consult, Coding tools, images, and much more.

**DynaMed**

DynaMed contains clinically organized summaries of nearly 3,200 topics and is updated daily from review of the research literature. Links out to specific articles. It also includes the Cochrane abstracts, ACP Journal Club, guidelines, USPSTF recommendations, POEMs, their own reviews, as well as extensive background materials.
**ACP Smart Medicine**

ACP Smart Medicine is an evidence based, decision-support tool designed for rapid point-of-care delivery of up-to-date guidance for clinicians. Formatted for viewing on a mobile device, information in Smart Medicine is presented in a "drill down" format, in which the user clicks from an opening guidance statement through to more specific information.

**Disease-based Modules**

The disease-based modules are Smart Medicine's core. Each module presents summaries of the evidence on each topic for prevention, screening, diagnosis, therapy, and consultation. There are links to abstracts and the full text of carefully selected references; to Clinical Pharmacology drug resource; other ACP knowledge resources including its guidelines, MKSAP, Annals of Internal Medicine, and ACP Journal Club; and other resources including PubMed and various Web sites. Tables, figures, algorithms, and video and audio clips are also included.

**Tables**

One of the most useful aspects of Smart Medicine are the tables that display recommendations. Each disease module includes five standard tables (history and physical examination, laboratory and other studies, differential diagnosis, drug treatment, and elements of follow-up).

Here you can see the module on **Migraine**. By following the links down, you can see the table for Laboratory and other Studies as well as a table of Acute Drug Treatment.
Clinical Evidence - iPhone Version

Clinical Evidence is a highly respected, evidence-based medicine tool, published by the British Medical Journal. It summarizes the current state of knowledge and uncertainty about the prevention and treatment of clinical conditions, based on thorough searches and appraisal of the literature. It is neither a textbook of medicine nor a set of guidelines. It describes the best available evidence from systematic reviews, RCTs and observational studies where appropriate, and if there is no good evidence it says so. For each of the 200 or so clinical conditions in the reference, the literature is systematically reviewed. Recommendations are summarized into the following categories:

<table>
<thead>
<tr>
<th>Intervention</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Beneficial</td>
<td>for which effectiveness has been demonstrated by clear evidence from RCTs, and for which expectation of harms is small compared with the benefits.</td>
</tr>
<tr>
<td>Likely to be beneficial</td>
<td>for which effectiveness is less well established than for those listed under “beneficial”.</td>
</tr>
<tr>
<td>Trade off between benefits and harms</td>
<td>for which clinicians and patients should weigh up the beneficial and harmful effects according to individual circumstances and priorities.</td>
</tr>
<tr>
<td>Unknown effectiveness</td>
<td>for which there are currently insufficient data or data of inadequate quality.</td>
</tr>
<tr>
<td>Unlikely to be beneficial</td>
<td>for which lack of effectiveness is less well established than for those listed under “likely to be ineffective or harmful”.</td>
</tr>
<tr>
<td>Likely to be ineffective or harmful</td>
<td>for which ineffectiveness or harmfulness has been demonstrated by clear evidence.</td>
</tr>
</tbody>
</table>

Using Osteoarthritis of the Knee as our example, you can search the Topic Index or use Contents and drill down to a topic inside the classification/organ system, Musculoskeletal. The topic opens up to the Treatment Summary section which is organized like the table above.
Monographs are actually one long page, so you can scroll down. The Pop-up box in the bottom right corner will take you quickly to one of the other sections.

**Background** information on each condition is almost a complete disease reference with epidemiology, etiology, diagnosis, prognosis, outcomes and goals information.

**Key Points** nicely summarizes the condition and treatment options.

Tap an option to read a monograph about that option. At left is the details on the option for **Topical Steroids** with a **Summary** and considerations, harms, benefits discussion.
Clinical Evidence - Web Version

The web version of Clinical Evidence is also in the uCentral resource. Look up the topic via Contents by type of condition, or use the Topic Index to locate your topic alphabetically.

Each recommendation is linked to detailed information on the studies found in support of their recommendation.
Essential Evidence Plus—Web Version

- 104 journals surveyed for Evidence-Based Practice Newsletter
- Over 1300 article synopses/POEMS
- Cochrane abstracts
- Selected evidence-based guidelines (USPSTF, CDC, JNC7, others)
- Basic drug info
- Clinical calculators/prediction rules
Searching or browsing will eventually require browsing down to answer your question. Here is an example:

**Sample Question**
Do survivors of childhood cancers like leukemia have an increased risk of developing other cancers?

1. Select subject area Neoplasms or search for leukemia

2. Under Type of Result, select Prognosis

3. Select appropriate item

**POEM** stands for “patient oriented evidence that matters”
Web Version of Essential Evidence
Plus links out to multiple respected resources such as:
- PubMed with links to full text articles
- National Guidelines Clearinghouse
- Patient Education Handouts at FamilyDoctor.org
The Evidence Based Medicine Process Using Essential Evidence Plus Mobile Formatted Version

The Steps in the EBM Process

The patient
1. Start with the patient -- a clinical problem or question arises out of the care of the patient

The question
2. Construct a well built (PICO) clinical question derived from a patient case, and identify the Patient or problem, the Intervention being considered, the Comparison you are considering, if any, and the desired Outcome you would want, then identify the type of question: background, diagnosis, treatment/prevention, prognosis or harm

The resource
3. Select the appropriate resource (EE+) and conduct a search. Go to the appropriate topic which is then broken down for you into categories: diagnosis, treatment...

The evaluation
4. Appraise that evidence for its validity (closeness to the truth) and applicability (usefulness in clinical practice). Essential Evidence Plus provides the Level of Evidence for every resource using one of the four taxonomies:
   - Centre for Evidence-Based Medicine, Oxford (1a-5)
   - SORT: Strength-of-Recommendation Taxonomy (A,B,C)
   - GRADE: Grading of Recommendations Assessment, Development and Evaluation (A,B,C,D)
   - Practice Guidelines rating scales (various)

   5. Tap the level of evidence [SORT 2] to go to a page that explains these.

The patient
5. Return to the patient -- integrate that evidence with clinical expertise, patient preferences and apply it to practice. Many of Essential Evidence Plus’s clinical decision rules are useful within the patient interaction.

Self-evaluation
6. Evaluate your performance with this patient

Sample Question
In patients with migraine headaches without auras, is divalproex (Depakote) more effective than Inderal for prophylaxis of headaches?

\[ \text{P} = \text{patients with migraines without auras} \]
\[ \text{I} = \text{Depakote (divalproex sodium)} \]
\[ \text{C} = \text{Inderal (propanolol)} \]
\[ \text{O} = \text{prophylaxis of headaches} \]

Type of question:
Tx: Drug Treatment

Method
1. Search the Essential Evidence Plus collection for Migraine.
2. Tap Refine Results and scroll for Treatment. Select Drug Treatment.
Continued on next page...
3. Review results titles for appropriate reference. [Advance page if none are on first page.]

4. Read resource. Note Level of Evidence on likely resource.

**Answer to Question:**
No, Depakote is not more effective than Inderal.

**Level Of Evidence (LOE):**
1b = one randomized control trial with narrow confidence interval

**Resource Type:**
InfoPOEM

**Essential Evidence Plus: Browse Selected Resource**

Select a specific database when you have a specific need, such as using a calculator or getting an E/M code. We will look at the newest addition to EE+ called Essential Evidence and the valuable Decision Support Calculators.

**Essential Evidence**

Essential Evidence is the unique, easy-to-use resource of Essential Evidence Plus. It comprehensively and concisely covers the most common conditions and diseases. It collects and synthesizes the best available evidence in one place. All content is richly hyperlinked to the other evidence-based medicine resources within Essential Evidence Plus including the decision support tools, diagnostic calculators, Cochrane Abstracts, POEMs, and practice guidelines. Continuously updated, Essential Evidence follows the latest developments in clinical medicine and brings evidence into practice.

**Purpose:** A quick, comprehensive evidence-based reference to assist clinicians with clinical questions concerning diagnosis and treatment at the point of care.

**Example:** Clinicians can use Essential Evidence to not only save time but more importantly improve health outcomes, efficiency, and treatment because it makes the best available evidence accessible in one place by topic.

**Detailed Description:** Essential Evidence Plus is designed to join the best available evidence in a single database. Essential Evidence summarizes the best available evidence on many common clinical topics, providing information about prevention, screening, symptoms, treatment, prognosis, and more.
**Decision Support Tools**

These calculators are truly decision support tools in that they influence how a case is managed. Examples might include the Ottawa Ankle Rule calculator below that tells whether an x-ray is necessary for an ankle sprain or a calculator that assigns the NIH Stroke score.

The complete Essential Evidence Plus database is available on either the web, desktop or the mobile versions. Essential Evidence Plus has a large number of calculator like tools which can be incorporated into the decision making process of the clinical encounter. Let’s look at each of these types of tools.

**Decision Support Tools**

More than 225 calculators are provided that are designed to help estimate the likelihood of a diagnosis, calculate a patient’s risk for disease, estimate a prognosis, or calculate a drug dose.

**Purpose:** To support the clinical decision making of a healthcare professional by offering risk and probability assessments

**Example:** The clinical decision rules can help evaluate patients with ankle sprains, (Ottawa Ankle Rule at right), estimate the risk of stroke in patients with atrial fibrillation, or assist in determining doses of drugs like warfarin.

**Detailed Description:** These clinical decision rules are created based on results of valid and relevant studies. Each calculator has a more information button that references the study and outlines its characteristics. Each calculator asks users to provide patient information and leads to a result that is specific for the patient.


**Finding the Decision Support Tools**

On the mobile device, pick **Decision Support Tools**. The categories are somewhat different from the systems that are used in the Browse screen. There are so many cardiovascular calculators that these have been divided up into ten separate categories. At right, see the Neurology calculators.
Dementia search

Refine Results

Refine by Topic

Overviews and practice guidelines (66)
Practice guidelines (39)
Overview: EBM Guidelines (67)
Epidemiology (5)
Risk factors for disease (3)
Practice Administration/Health Systems (2)
Screening and Prevention (11)
Screening for disease (3)
Prevention (primary) (5)
Diagnosis (41)

Refine by Resource

Cochrane

NGC Guideline

Propentofylline for dementia
Cochrane Database of Systematic Reviews
2008-04-16

Propentofylline is a novel therapeutic agent for dementia that readily crosses the blood-brain barrier and acts by blocking the uptake of adenosine and inhibiting the enzyme phosphodiesterase. In vitro and in vivo its mechanism of action appears to be theracut; it inhibits the production of free radicals and reduces the activation of monocyte cells. It therefore interacts with the inflammatory processes that are thought to contribute to dementia, and given its mechanism of action is a possible disease.
DynaMed - Web Version

Select DynaMed from the Library webpage list of resources.

DynaMed is a huge, evidence based reference designed to provide the most useful and current disease information at the point-of-care for health care professionals. Where available, links are provided to full-text electronic resources, including all FSU-available e-journals via a PubMed reference and patient education handouts. Information on diseases and conditions are organized into categories for ease of use and quick answers to clinical questions. In addition to disease information, there are monographs on medical topics of interest such as the cost of medications and procedures.

To find a topic, you can either use the alphabet to browse to the topic or type the topic into the Search box. The Search function will pull up a list of all the monographs that contain the word or phrase you typed.
**DynaMed — Mobile Version**

*DynaMed* is a huge, evidence-based disease reference that has been popular on the web for years. Systematic surveillance of the medical literature by an army of editors is used to keep DynaMed constantly updated. The *mobile app* was released in October of 2005. It uses *Skyscape’s Medical Library* interface, so using it is easy for those familiar with this interface. There are some tricks to navigation which will cover in this handout. It is also available in the new OMNIO app from Skyscape.

When you first open *DynaMed*, it takes you to the Index page. *(Figure 2)* If the program opens in the Table of Content, tap the Index button to return there. On the Index page, tap in the Look for: box and use the keyboard to put in GERD. The index will jump to that spot in the list. Tap on GERD in the Index list. Since the monograph is under a different name, it will give you a choice of possible matching topics. *(Figure 3)* Tap *gastroesophageal reflux disease*.

The topic monograph opens to the Causes, Risk Factors section. *(Figure 4)* Monographs are divided into categories/sections for ease of use similar to the web site. You can pull up the Sections list by tapping the little box with the arrow next to the Section Title. *(Figure 5)* Each of the major sections for a topic is divided into subsections to further facilitate finding the answer to specific clinical questions quickly. To see the subsections once into a major section, tap *Click Here to View Outline*.

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**Figure 1**

**Figure 2**

**Figure 3**

**Figure 4**

**Figure 5**

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