Chapter 4

Access & Appraise:

Evaluating Information and Evidence for Quality and Relevance

(JTASS)
Introduction:

Evaluating quality and relevance of health information websites

Objectives:

1. Develop the medical informatics skills to effectively and efficiently seek the best available evidence from the research literature.

2. Develop and demonstrate skills necessary to access and evaluate high quality, relevant biomedical literature that addresses a specific patient oriented clinical question.

Over forty million Americans use the internet as their "primary source of news and information about science" according to the 2006 Pew Internet and American Life Project report, The Internet and Science News and Information (Pew / Internet, 2006). Billions of web pages are viewed each year by consumers searching for information and answers to health-related questions. In a survey of NUHS associated DCs (clinic instructors and practitioners, alumni and interns), approximately one of every 5 patients bring information regarding a medical issue to the clinician from magazines, professional journals, newspapers, product pamphlets or the internet.

In a study to determine the information needs of doctors, experienced clinicians encountered some aspect of scientific uncertainty three times for every two patients (Covell, 1995). Interns & residents encountered uncertainty up to five times per patient in similar studies by David Sackett at McMaster University (Sackett 2000).

Some of the information retrieved from internet searches is high quality, professional, factual, objective, and current. Other information can be inaccurate, driven by the desire to sell a product or service and even dangerous information. Often, a health care professional is faced with the need for a quick on-the-spot evaluation of information supplied by a patient.

The Medical Library Association (MLA) has devised an internet accessible guide to assist patients and health care professionals search for, access and find high quality information supporting clinical and scientific decision making. The guide has proven to be a quick check list that will help health care professionals quickly evaluate the quality and applicability of the information.

This guide outlines the collective wisdom of medical librarians who surf the Web every day to discover quality information in support of clinical and scientific decision making by doctors, scientists, and other health practitioners responsible for the nation's health. This guide is supported by the Medical Library Association (MLA), the library organization whose primary purpose is promoting quality information for improved health and whose members were the first to realize that not all health information on the Web is credible, timely, or safe.

- Medical Library Association 2000
Evaluating Health Information Websites


• What is the purpose of the site?

• Who runs this site?
  ➢ Are there links to a home page or about us page that provide clear information about the publisher, authors, editors, professional organizations, institutions and sponsors?

• Who pays for the site?
  ➢ The source of a web site’s funding should be clearly stated or readily apparent.
  ➢ Is the site supported by advertising, educational institution, government, grant, organizational dues or subscription fees?

• What is the basis of the information?
  ➢ Does the site make health claims that seem too good to be true?
  ➢ Does the information use deliberately obscure, "scientific" sounding language? ("recent research studies show...")
  ➢ Are literature citations and / or links to the original research studies provided?
  ➢ Does the information promise quick, dramatic, miraculous results? Is this the only site making these claims?

• Where does the information come from?
  ➢ Are references and original sources provided?
  ➢ Does the site rely on rely on testimonials?
  ➢ Are the authors identified? What are the author(s) credentials?

• How is the information selected?
  ➢ Does the site have an editorial board? Is the information reviewed before it is posted or published?

• How current is the information? How often is the site updated?

• How does the site choose links to other sites?

• What information about users does the site collect? Why?
  ➢ Is there a privacy policy?
  ➢ Is there a membership requirement? Is it a paid subscription?

• Can you contact the site management with questions, feedback and information?
  Are discussion boards monitored and reviewed?
Evaluating the results from a search of the biomedical literature databases for quality and relevance using “JTASS”

David Sackett and colleagues found that nearly 60% of the clinical questions generated by patient visits needed a structured search for evidence from the professional biomedical literature (Sackett 2000). In an NUHS survey, 100% of the students and interns surveyed noted their search for clinical information and evidence started with internet search engines (e.g., Google, Yahoo) and electronic, internet based biomedical literature databases such as PubMed, EBSCOhost and Ovid.

Often, health care practitioners are forced to search for information and evidence in order to make a decision regarding the next step in a therapeutic or diagnostic plan or to determine the etiology or prognosis of a health issue. The search for evidence requires knowledge, skill and practice. Once a practitioner finds search “results,” he or she must quickly evaluate results for quality and relevance to the patient focused clinical question.

The JTASS evaluation uses five key characteristics of a biomedical citation to determine if an article is of high quality, relevant and applicable to a specific, patient oriented clinical question. A JTASS evaluation, a classic, quick evaluation method developed before electronic databases were readily available, uses characteristics of a literature citation that are “indexed” or used as identifiers of quality and to categorize a citation or article. These characteristics are known through the acronym “JTASS,” standing for Journal, Title, Authors, Site where the study was performed and Summary.

Electronic databases contain links to data fields such as the journal, title key words, author, site or location where the study was performed as well as the location of contributing authors, and access to the summary or article abstract. (The JTASS characteristics can be used to evaluate a citation, abstract or article without the attributes of an electronic database. However, finding the information is a little more difficult without the links in an electronic database.)

Using the JTASS method, a reader can quickly evaluate the value of a citation in a few minutes, allowing a reader to be selective in accessing and reading the full text of an article. If the JTASS evaluation indicates the citation is for a high quality, highly relevant article, the reader knows he or she should go forward. If the JTASS indicates the citation is not high quality or not relevant to the particular patient, the reader should skip the article (for the time being, of course). Thus, the JTASS method helps the clinician searching for high quality, relevant evidence quickly and efficiently make a decision whether or not to access and read a particular result from a search of the biomedical literature.

Practice makes perfect. After a few JTASS evaluations of search results using the detailed JTASS Guide, the clinician will be able to evaluate a citation in a few minutes, saving hours of reading “not quite relevant” or “not what I needed” literature.
Determining the Quality and Relevance of PubMed Search Results

A. Performing the Search
2. Identify the key concepts (terms) for your search from your PICO question.
3. Enter the terms in the search box. (fig. 1)
4. Click Go.

B. Checking the Authors
1. In the Abstract View, Click on any of the author names (fig. 2)
2. This will open up a list of all of the titles that the author has published.

C. Checking the Journal
1. MEDLINE journals are peer-reviewed
   - Click on the journal link from the abstract view to see if journal is indexed in MEDLINE (fig. 2)
2. But, not all peer-reviewed journals are indexed in MEDLINE
   - Click on journal link to go to journal website; check “about us” or similar – look for “peer-reviewed”, editorial board, or similar

D. Use the JTASS Guided Questions and Selection Rationale (JTASS) form to summarize quality and relevance of a selected citation.
Determining the Quality and Relevance of EBSCOhost Search Results

E. Performing the Search

2. Identify the key concepts (terms) for your search from your PICO question.
3. Enter the terms in the search box. (fig. 1)
4. Click Go.

F. Checking the Authors

1. In the Abstract View, you can see the authors’ affiliations
2. Click on any of the author names to open up a list of all of the titles that the author has published. (fig. 2)

| Title: Anthropometric risk factors for patellar tendon injury among volleyball players. |
| Author(s): Malliaras P, Cock JL, Kent PM |
| Affiliation: Brunel University, West London, UK. peter.malliaras@brunel.ac.uk |

G. After Performing your Search – Check the Journal

1. Most EBSCOhost databases list journal titles link on “Select Database” page (fig. 3)
2. Click “titles” >> click specific journal >> look for info (fig. 4)
   - CINAHL contains a list of peer-reviewed journals

H. Use the JTASS Guided Questions and Selection Rationale (JTASS) form to summarize quality and relevance of a selected citation.
JTASS Guided Questions

JTASS: Journal, Title, Author(s), Site and "Summary"

Answer the following questions to determine the quality, relevance, and applicability of an article. Do not cut and paste or copy text directly from the abstract or article.

NOTE: “Summary” in this context is synonymous with “Abstract”

Journal Understand and appraise the quality of the journal.
Are you familiar with this journal?
Is it peer-reviewed? Is it indexed? If indexed, where is it indexed? (Note where and how you obtained information about the journal)
(Why is it important that journal articles be peer-reviewed and indexed?)
Note other quality characteristics of the journal: publishing history, professional affiliation, availability, etc.

Title Evaluate the title and determine relevance to your patient question.
What are the key works that attracted your interest? How much information is available in the title alone?
What key words are relevant to your clinical question (PICO)?
Is this study potentially interesting or possibly useful in your clinical practice? Why (or why not?)

Author(s) Determine the experience & expertise of the authors.
Is the track record of the authors one of careful, thoughtful work that has stood the test of time?
What areas of expertise do the authors bring to this study? Is there any indication that methodologic and/or statistical expertise was utilized for this study?

Site Compare the site where the study was performed to your practice.
Where is the site where the study was performed?
Is the site considered primary (a private practice office), secondary (a medical center clinic or consulting health professionals), or tertiary care (specialty care)?
Is the site sufficiently similar to your own practice location so that results, if valid, would apply to patients in your practice?
Is your access to the required facilities, expertise and technology sufficient to allow you to implement the maneuver(s) therapy or tests described in the article?
Are the patients seen in the facility where the article was written likely to be similar to your patients in disease severity, treatment, age, sex, race or other key features that have an important bearing on clinical outcomes?
In areas where the site is not similar, what are the potential consequences as to how you will read the results?

Summary From the abstract body, determine which, if any, of the outcome measures, results and other aspects in the abstract are clinically important to you and applicable to your patient. State why.
Succinctly synthesize and summarize the key characteristics that are relevant to your clinical question (PICO), your patient and your practice.
Do not cut and paste or copy text from the abstract.
Selection Rationale (JTASS)

JTASS stands for: Journal, Title, Author(s), Site, and Summary
Please note: Summary in this context is synonymous with "Abstract.

Do not cut and paste or copy text from the abstract.
Succinctly synthesize and summarize the key characteristics which indicate quality and that are relevant to your clinical question (PICO) and patient.

PICO Question:

Article Citation (Bibliographic citation [Vancouver format] and Static URL to the abstract):

<table>
<thead>
<tr>
<th>J</th>
<th>(Journal)</th>
</tr>
</thead>
<tbody>
<tr>
<td>T</td>
<td>(Title)</td>
</tr>
<tr>
<td>A</td>
<td>(Authors)</td>
</tr>
<tr>
<td>S</td>
<td>(Site)</td>
</tr>
<tr>
<td>S</td>
<td>(Summary)</td>
</tr>
</tbody>
</table>
References


