Surgery and evidence-based practice

Judy Spak and Caitlin Meyer

Yale Harvey Cushing/John Hay Whitney Medical Library
Evidence-based clinical practice

- Clinical state & circumstances
- Patient preferences & actions
- Clinical expertise
- Research evidence

Haynes RB, ACPJC. 2002; PMID: 11874303
Clinical Scenario:

A 45 year old man is undergoing liver resection surgery. You are aware that this patient is likely to need blood transfusions during the surgery. You hope to minimize the possibility of postoperative infections, but you wonder if red blood cell transfusions given during the perioperative period may increase his risk of infection.

Intent on practicing evidence-based medicine, you decide to search the literature to find the best answer for this clinical scenario.
ask → acquire → appraise → apply
What: General knowledge of disease processes or clinical issues

Where: Textbooks (like Sabiston or Greenfield’s), UpToDate, ClinicalKey

Examples: What are the primary causes of hepatocellular carcinoma? What diagnostic tests should be used to confirm the need for liver resection surgery?
foreground questions

What: More complex than background questions; address specific knowledge to inform clinical decisions and actions

Where: The biomedical literature

Example: Is argatroban a safe therapeutic option in patients with heparin-induced thrombocytopenia?
ask the clinical question

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Based on this PICO, what’s the clinical question?

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In patients undergoing liver resection surgery, do red blood cell transfusions affect post-op infection rates?

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ask → acquire → appraise → apply
the evidence: types of information

Filtered information

Less work

Unfiltered information

More work

acquire
the evidence: key resources

<table>
<thead>
<tr>
<th>Core Biomedical Database</th>
<th>Total Journals</th>
<th>Years Covered</th>
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<tbody>
<tr>
<td>MEDLINE (via PubMed or OvidSP)</td>
<td>5,600</td>
<td>1946 - present</td>
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<tr>
<td>EMBASE</td>
<td>8,500</td>
<td>1947 - present</td>
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<tr>
<td>Web of Science</td>
<td>18,200</td>
<td>1900 - present</td>
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<tr>
<td>Scopus</td>
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<td>1946 - present</td>
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<tr>
<td>Google Scholar</td>
<td>unknown</td>
<td>unknown</td>
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the evidence: controlled vocabularies

What is this?
the evidence: controlled vocabularies

acquire

grinder
sub
hero
hoagie
filled roll
wedge
spukkie
zep
blimpie
gatsby
the evidence: controlled vocabularies

acquire

sandwich

grinder
sub
hero
hoagie
filled roll
wedge
spukkie
zep
blimpie
gatsby
Practice time!

acquire the evidence
Validated filters; best for when you find little in the filtered resources and need to look at original research to answer your question quickly

Cons: More work on your part

How to find: PubMed > PubMed Tools > Clinical Queries