Study Design - Review

- Systematic Reviews
- Critically Appraised Synopsis/Synthesis
- Randomized Controlled Trials
- Cohort/Case-Controlled Studies, Guidelines
- Case Reports/Series
- Review Articles
- Background Information: Textbooks, Wikipedia/Google

Amount of Information

Quality of Evidence
**Starting at the Top**

Systematic Reviews

- Explicit design criteria focusing on strong methodological construct of reviewed studies.
- Explicit design criteria leads to less potential bias.
- Structured format for consistent presentation of information.
- **WHERE TO FIND:** Cochrane Database of Systematic Reviews, PubMed, using the “Clinical Queries Systematic Reviews” filter
Meta-Analysis

- Sub-set of a systematic review.
- If possible, data from reviewed studies quantitatively pooled to address global outcomes.
- Often represented visually in a Forest Plot
- WHERE TO FIND: Cochrane Database of Systematic Reviews.
A critically appraised synopsis is an article, often in a structured abstract format, reviewing all evidence on a clinical topic.

- **WHERE TO FIND:** DynaMed, UpToDate
• A summary review of a single Evidence-Based journal article or systematic review.
• Often presented in a structured abstract.
• WHERE TO FIND: ACP Journal Club, BMJ “Evidence-Based” series
A clinical study with at least **two** arms — an intervention arm and a control arm.

Usually blinded, if possible, in order to lessen bias by those conducting the research.

WHERE TO FIND: PubMed, using the “Clinical Queries Clinical Studies” filter.
Cohort Studies

- Prospective studies looking at a diseases-free population over a period of time.
- Classic example = Framingham Heart Study, assessing cardiac risk.
- WHERE TO FIND: In PubMed – use a search term followed by AND cohort studies
Case-Controlled Studies

- Retrospective studies looking at a series of patients and matching them against controls to identify potential exposures and outcomes.
- Classic example: Studies identifying risks of smoking.
- WHERE TO FIND: In PubMed – use a search term followed by AND case-control studies
• Presentation of small set or individual cases.
• Observational – often presenting reactions to medications, treatments or other unique findings.
• WHERE TO FIND: In PubMed – use a search term followed by AND case reports.
Review Articles/Background Information

- Summary of literature on specific topic over a certain time frame.
- Often includes author recommendations which can increase bias.
- WHERE TO FIND: PubMed, Textbooks, Google, Wikipedia
Evidence-Based Medicine

Use this list as you would a ladder, working your way from the top down. Look for best evidence first in Cochrane Database and if you can't find good evidence there, continue down the list, understanding that the farther down you travel, the weaker the evidence you will find. This list mirrors the EBM Pyramid on the left of this page.

- Cochrane Database of Systematic Reviews (Full-text) – Via Ovid, A collection of structured systematic reviews and protocols (which are systematic reviews in process) Often include meta-analysis (statistical analysis) in the form of visual “forest plots.”
- Cochrane Database of Systematic Reviews (Browse only - no full text) – Use this site, hosted by The Cochrane Collaboration, to browse Cochrane Systematic Reviews by topic/Cochrane Review Group.
- DynaMed – Evidence-based clinical review summaries.
- DARE (Database of Abstracts of Reviews of Effects) – Abstracts of non-Cochrane systematic reviews.
- ACP Journal Club – Abstracts of articles containing strong evidence from within the primary literature.
- U.S. Preventive Services Task Force – Database of evidence-based recommendations in areas of prevention and screening.
- PubMed Clinical Queries – Pubmed/MEDLINE search feature that filters results in order to display only articles backed by good evidence. NOTC. At the PubMed homepage, choose the Clinical Queries option from the choices under “PubMed Tools.”
- National Guideline Clearinghouse – Collection of guidelines from the federal government Agency for Healthcare Research and Quality (AHRO) and professional medical societies.
- TRIP Database – An EBM search engine that searches across multiple Evidence-Based information sites. While not all findings are full-text, TRIP includes many unique resources such as “Bandolier” and guidelines not found through National Guidelines Clearinghouse.

For more information - http://libraryguides.umassmed.edu/EBM