Evidence-Based Medicine Resources

Cochrane Database of Systematic Reviews
ACP Journal Club

PubMed (MEDLINE) – “AND” meta-analysis into your search. This will pick up Meta-Analysis as a MeSH term and as a publication type.

Cochrane Database of Systematic Reviews / ACP Journal Club

PubMed (MEDLINE) – Use the “Find Systematic Reviews” filter under Clinical Queries, or “AND” systematic[sb] into your search. (Note: the systematic reviews subset includes meta-analyses.)

ACP Journal Club / Cochrane Central Register of Controlled Trials (CCTR)

PubMed (MEDLINE) – Use the “Therapy” filter under Clinical Queries, or “AND” randomized controlled trial into your search. This will pick up Randomized Controlled Trials as a MeSH term and Randomized Controlled Trial as a publication type.

PubMed (MEDLINE) – “AND” cohort study into your search. This will pick up the MeSH term Cohort Studies and the more specific MeSH terms Follow Up Studies, Longitudinal Studies, and Prospective Studies under it.

PubMed (MEDLINE) – “AND” case control study into your search. This will pick up the MeSH term Case-Control Studies and the more specific MeSH term Retrospective Studies under it.

PubMed (MEDLINE) – “AND” case report into your search. This will pick up Case Reports as a publication type.
**COMMON TYPES OF QUESTIONS:**

- **Therapy** -- how to select treatments to offer patients that do more good than harm and that are worth the efforts and costs of using them

- **Diagnostic Test** -- how to select and interpret diagnostic tests, in order to confirm or exclude a diagnosis, based on considering their specificity, sensitivity, likelihood ratios, expense, safety, etc.

- **Prognosis** -- how to estimate the patient's likely clinical course over time and anticipate likely complications of disease

- **Harm/Etiology** -- how to identify causes for disease (including iatrogenic forms)

- **Prevention** -- how to reduce the chance of disease by identifying and modifying risk factors and how to diagnose early by screening

- **Cost-Analysis** -- how to compare the cost and consequences of different treatments and tests

<table>
<thead>
<tr>
<th>Type of Study</th>
<th>Suggested best type of Study</th>
</tr>
</thead>
<tbody>
<tr>
<td>Therapy</td>
<td>RCT (Randomized Controlled Trial)</td>
</tr>
<tr>
<td>Diagnostic Test</td>
<td>prospective, blind comparison to a gold standard</td>
</tr>
<tr>
<td>Prognosis</td>
<td>cohort study &gt; case control &gt; case series</td>
</tr>
<tr>
<td>Etiology/Harm</td>
<td>RCT &gt; cohort &gt; case control &gt; case series</td>
</tr>
<tr>
<td>Prevention</td>
<td>RCT &gt; cohort study &gt; case control</td>
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<tr>
<td>Cost-analysis</td>
<td>economic analysis</td>
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**Note:** Questions of therapy and prevention, which can best be answered by an RCT, can also be answered by a meta-analysis or systematic review.

**TYPES OF STUDY DESIGNS:**

- **A Meta-analysis** takes a systematic review one step further by combining all the results using accepted statistical methodology.

- **Systematic Reviews** usually focuses on a specific clinical question and conducts an extensive literature search to identify studies with sound methodology. The studies are reviewed, assessed, and the results summarized according to the predetermined criteria of the review question.

- **Randomized, controlled clinical trials.** A prospective, analytical, experimental study using primary data generated in the clinical environment. Individuals similar at the beginning are randomly allocated to two or more groups (treatment and control) and the outcomes of the groups are compared after sufficient follow-up time.

  A study that shows the efficacy of a diagnostic test is called a **prospective, blind comparison to a gold standard study.** This is a controlled trial that looks at patients with varying degrees of an illness and administers both diagnostic tests -- the test under investigation and the "gold standard" test -- to all of the patients in the study.

- **Cohort studies** identify a large population who already has a specific exposure or treatment, follows them over time (prospective), and compares outcomes with another group that has not been affected by the exposure or treatment being studied. Cohort studies are observational and not as reliable as randomized controlled studies, since the two groups may differ in ways other than in the variable under study.

- **Case control studies** are studies in which patients who already have a specific condition or outcome are compared with people who do not. Researchers look back in time (retrospective) to identify possible exposures. They often rely on medical records and patient recall for data collection. These types of studies are often less reliable than randomized controlled trials and cohort studies because showing a statistical relationship does not mean one factor necessarily caused the other.

- **Case series** and **Case reports** consist of collections of reports on the treatment of individual patients or a report on a single patient. Because they are reports of cases and use no control groups with which to compare outcomes, they have no statistical validity.