

THE EVIDENCE PYRAMID

JEFFLINE

Scott Memorial Librarians often get asked: **“What is the best type of evidence for answering a clinical question?”** This handout will show the hierarchy of evidence for selecting the best study for answering a clinical question. The pyramid may be used as a guideline.

TIPS: Keep in mind that as you move up the pyramid fewer studies are available, but the literature increases in relevance to clinical setting. You may not find the highest level of evidence to answer your question. In that case, move down the pyramid to other types of studies.



Meta-Analysis: Systematic methods that use statistical techniques for combining results from different studies to obtain a quantitative estimate of the overall effect of a particular intervention or variable on a defined outcome. This combination may produce a stronger conclusion than can be provided by any individual study (also known as data synthesis or quantitative overview).

Source: <http://www.nlm.nih.gov/nichsr/hta101/ta101014.html>

Systematic Reviews: A summary of the medical literature that uses explicit methods to perform a thorough literature search and critical appraisal of individual studies and that uses appropriate statistical techniques to combine these valid studies. Systematic reviews are not all equal, and quality issues are important.

Source: <http://www.medicinesox.ac.uk/bandolier/booth/diagnos/glossary.html>

Randomized Clinical Trials: A study in which the participants are assigned by chance to separate groups that compare different treatments; neither the researchers nor the participants can choose which group. Using chance to assign people to groups means that the groups will be similar and that the treatments they receive can be compared objectively. At the time of the trial, it is not known which treatment is best. It is the patient's choice to be in a randomized trial.

Source: <http://www.cancer.gov>

Cohort Studies: A research study that compares a particular outcome (such as lung cancer) in groups of individuals who are alike in many ways but differ by a certain characteristic (for example, female nurses who smoke compared with those who do not smoke).

Source: <http://www.cancer.gov>

Case-Control Studies: A study that compares two groups of people: those with the disease or condition under study (cases) and a very similar group of people who do not have the disease or condition (controls). Researchers study the medical and lifestyle histories of the people in each group to learn what factors may be associated with the disease or condition. For example, one group may have been exposed to a particular substance that the other was not. Also called a retrospective study.

Source: <http://www.cancer.gov>

Case Report: A detailed report of the diagnosis, treatment, and follow-up of an individual patient. Case reports also contain some demographic information about the patient (for example, age, gender, ethnic origin).

Source: <http://www.cancer.gov>

Animal Research: Information begins at the bottom of the pyramid. This is where ideas and laboratory research take place. Ideas turn into therapies and diagnostic tools, which then are tested with lab models and animals.

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