Journal Club Article Review

Detailed Template

A. Authors, institution, funding source, conflicts of interest: Who are the authors? Do you know of any of their previous work, and has it been reliable? Who paid for the study? Are there any other conflicts of interest? It's not that research sponsored by industry is necessarily untrustworthy, but knowing who sponsored it, just like knowing the study design, gives you a head start at knowing what sorts of biases to look for.

B. Research Question: What is the question this study was designed to answer? Sometimes it helps to picture a clinical situation you'll be better able to handle if the study is valid. Often the last line of the abstract gives the author's answer to the research question.

C. Study Design and Level of Evidence: What type of study is this? Randomized blinded trial? Cohort study? Case-control study? Cross-sectional study? Case series? Refer to Google "Users Guides to the Medical Literature" where you can find a series of articles that discusses different types of studies in greater depth.

D. Study subjects: Who was in the study? How were they selected? Who was excluded? How many subjects were there? Knowing how they selected the subjects is important in order to know whether the study results are valid (internal validity) and whether they are generalizable to other subjects or patients (external validity).

E. Predictor variable(s):

1. What they are: Sometimes called "independent variables," predictor variables are what the authors think might cause or predict changes in the outcome variable. For example, in a randomized trial, the main predictor variable is group assignment: i.e., whether the subjects were randomized to get the test drug or the placebo.
2. How they are measured: For example, passive smoking may be measured crudely by asking the number of adults in the house who smoke or the amount the mother smokes. Sometimes problems with how the variables are measured invalidate the study.

F. Outcome variables:

1. What they are: the clinically significant phenomena the investigators are trying to predict, prevent, or treat. Examples are presence or absence of disease, measures of symptom burden, survival time, etc. Watch for studies that show an effect on an outcome variable that is only marginally relevant. Outcome variables may be classified into 4 domains: technical, functional, satisfaction, and cost.
2. How they are measured: If it's a disease, what are criteria for diagnosis? Are those determining clinical improvement blinded to the treatment group of the subjects?

G. Results: What did they find? Usually the key results are summarized in tables or figures.

H. Conclusions: What do the *authors* think the results mean?

I. Validity:

1. Identify possible biases or flaws in the study. Was the sampling scheme reasonable? Were the measurements valid? Is the study design appropriate to answer the research question?
2. For each one, estimate how likely it is to have affected the validity of the results, and figure out in what direction it would affect the results. No study is perfect. When identifying a possible problem, discuss whether this is something that is really important, and how it would affect the results.

J. Summary: The determination of the "bottom line." Is it new (adds to the body of knowledge)? Is it true (valid)? Will it change what I do (clinically relevant)?