

HOW TO APPRAISE AN ARTICLE ON HARM

GUIDE	COMMENTS
Are the results of this harm study valid?	
1. Were there clearly defined groups of patients, similar in all important ways other than exposure to the treatment or other cause?	<ul style="list-style-type: none"> Ideally you can find a systematic review or randomized trial. More often you will find a cohort or case-control study. Case reports or case series of potential harm may be useful if the outcome is rare or dramatic. Otherwise case reports may serve as hypothesis generation since no comparison group is available. Cohort studies compare groups of individuals who have been exposed versus those who have not been exposed. Case-control studies compare patients with and without the outcome. Exposure to the risk factor is obtained by interviewing the patient and thus susceptible to recall bias.
2. Were treatments/exposures and clinical outcomes measured in the same ways in both groups (was the assessment of outcomes either objective or blinded to exposure)?	<ul style="list-style-type: none"> Individuals who have an adverse effect may think about potential exposures more than individuals who don't. One way to minimize bias is to 'blind' subjects to the study hypothesis.
2. Was the follow-up of study patients complete and long enough?	<ul style="list-style-type: none"> Study duration should be sufficiently long for the outcome (harm) to develop. The results of studies where > 20% of the subjects are lost to follow-up are suspect.
4. Do the results satisfy some "diagnostic tests for causation"? <ul style="list-style-type: none"> Is it clear that the exposure preceded the onset of the outcome? Is there a dose-response gradient? Is there positive evidence from a "dechallenge-rechallenge" study? Is the association consistent from study to study? Does the association make biological sense? 	<ul style="list-style-type: none"> Self-explanatory. The more questions that are yes, the stronger the evidence of cause & effect.
Are the valid results from this harm study important?	
1. How is the magnitude and precision of the association between the exposure and outcome?	<ul style="list-style-type: none"> Relative risk (RR) (for cohort studies) or Odds Ratio (OR) (for case-control studies) are the traditional measures of risk. Number needed to harm (NNH) can be calculated from the absolute risk. NNH can be calculated from an OR. Case-control studies are inherently susceptible to greater bias than cohort studies. For ball park numbers, an OR > 20 means causality. An OR of ~ 4 is probably significant for a minor adverse affect. For a significant effect, set the OR at lower levels as the severity of the effect increases. For a cohort study, a RR > 3 is clinically significant. Look for 95% confidence intervals. Confidence intervals are the measure of precision The wider the confidence intervals, the less precise the measurement. This is relative.
Should these valid, potentially important results change the treatment of our patient?	
1. Is our patient so different from those in the study that its results cannot apply?	<ul style="list-style-type: none"> Our patient does not have to fit all the inclusion criteria of this study. Consider whether our patient's sociodemographic features or pathobiology are so different from those in the study that its results are useless to us and our patient.

<p>2. What is our patient's risks of the adverse event? What is our patient's potential benefit from the therapy?</p>	<ul style="list-style-type: none"> • Will need to be able to estimate your patient's risk. Is it higher or lower than that reported? • If a treatment has both benefits and harms, will need to balance these taken into consideration the patient's preferences
<p>3. What are our patient's preferences, concerns and expectations from this treatment?</p>	<ul style="list-style-type: none"> • Need to ascertain a patient's preferences as mentioned above.
<p>4. What alternative treatments are available?</p>	<ul style="list-style-type: none"> • Are there alternative treatments that would be more acceptable to the patient.