

Project/Topic of your Clinical Question: \_\_\_\_\_  
Reviewer: \_\_\_\_\_ Today's Date: \_\_\_\_\_ Final Evidence Level: \_\_\_\_\_  
Article Title: \_\_\_\_\_  
Year: \_\_\_\_\_ First Author: \_\_\_\_\_ Journal: \_\_\_\_\_

Do the study aim/purpose/objectives and inclusion/exclusion criteria assist in answering your clinical question?  
 Yes  No  Unknown

- Study Aim/Purpose/Objectives:
- Inclusion Criteria:
- Exclusion Criteria:

Is a case-control study congruent with the author's study aim/purpose/objectives above?  
 Yes  No  Unknown

Comments:

When reading the bolded questions, consider the bulleted questions to help answer the main question.  
If you are uncertain of your skills in evidence evaluation, please consult a local evidence expert for assistance:

CCHMC Evidence Experts: <http://groups/ce/NewEBC/EBDMHelp.htm>  
Unfamiliar terms can be found in the LEGEND Glossary: <http://groups/ce/NewEBC/EBCFiles/GLOSSARY-EBDM.pdf>

### VALIDITY: ARE THE RESULTS OF THE CASE–CONTROL STUDY VALID OR CREDIBLE?

1. Were there clearly defined groups of patients, matched on factors or exposures other than the hypothesized association?  
 Yes  No  Unknown

- Were cases and controls at similar risk of developing the outcome?

Comments:

2. Was there a plausible association between exposure and outcome?  
 Yes  No  Unknown

- Is it clear that the exposure preceded the onset of the outcome?
- Does the association make biological sense?
- Was the amount of exposure associated with the severity of outcome (*i.e.*, dose-response)?

Comments:

3. Were treatments/exposures and clinical outcomes measured in the same way in both groups?  
 Yes  No  Unknown

Comments:

4. Was the assessment of outcomes either objective or blinded to exposure?  Yes  No  Unknown  
*Comments:*
5. Was the interval between exposure of study patients and measurement of outcome long enough to determine the hypothesized association?  Yes  No  Unknown  
*Comments:*
6. Was there freedom from conflict of interest?  Yes  No  Unknown
- Sponsor/Funding Agency or Investigators
- Comments:*

**RELIABILITY: ARE THESE VALID STUDY RESULTS IMPORTANT?**

7. Did the study have a sufficiently large sample size?  Yes  No  Unknown
- Was a power analysis described?
  - Did the sample size achieve or exceed that resulting from the power analysis?
  - Did each subgroup also have sufficient sample size (*e.g., at least 6 to 12 participants*)?
- Comments:*
8. Were the statistical analysis methods appropriate?  Yes  No  Unknown
- Were the statistical analysis methods clearly described?
  - If subgroups were evaluated, was a statistical adjustment made for the differences?
- Comments:*
9. What are the main results of the study? (*e.g., Helpful data: Page #, Table #, Figures, Graphs*)  
*Comments:*
- **For an Etiology study:** How strong is the association/correlation between exposure and outcome?
  - **For an Prevalence study:** What is the rate (*e.g., number per population*)?
  - What were the measures of statistical uncertainty (*e.g., precision*)?  
(*Were the results presented with Confidence Intervals or Standard Deviations?*)

**10. Were the results statistically significant?** Yes  No  Unknown*Note: This question may not be applicable in all prevalence studies.**Comments:***11. Were the results clinically significant?** Yes  No  Unknown

- If potential confounders were identified, were they discussed in relationship to the results?

*Comments:***APPLICABILITY: CAN I APPLY THESE VALID, IMPORTANT STUDY RESULTS TO TREATING MY PATIENTS?****12. Can the results be applied to my population of interest?** Yes  No  Unknown

- Is the setting of the study applicable to my population of interest?
- Do the patient exposures and outcomes apply to my population or question of interest?
- Were the patients in this study similar to my population of interest?

*Comments:***13. Are my patient's and family's values and preferences satisfied by the knowledge gained from this study?** Yes  No  Unknown*Comments:***14. Would you include this study/article in development of a care recommendation?** Yes  No  Unknown*Comments:***ADDITIONAL COMMENTS OR CONCLUSIONS ("TAKE-HOME POINTS"):**

**QUALITY LEVEL / EVIDENCE LEVEL**

- Consider each “No” answer and the degree to which this limitation is a threat to the validity of the results, then check the appropriate box to assign the level of quality for this study/article.
- Consider an “Unknown” answer to one or more questions as a similar limitation to answering “No,” if the information is not available in the article.

**THE EVIDENCE LEVEL IS:**

	<b>Good Quality Case-Control Study:</b>	<input type="checkbox"/> [4a]	<b>Prevalence</b>
	<b>Lesser Quality Case-Control Study:</b>	<input type="checkbox"/> [4b]	<input type="checkbox"/> [2a]
	<input type="checkbox"/> <b>Not Valid, Reliable, or Applicable</b>		<input type="checkbox"/> [2b]

Table of Evidence Levels															
DOMAIN OF CLINICAL QUESTION	TYPE OF STUDY / STUDY DESIGN														
	Systematic Review Meta-Analysis	RCT <sup>+</sup>	CCT <sup>+</sup>	Cohort – Prospective	Cohort – Retrospective	Case – Control	Cross – Sectional	Descriptive Study Epidemiology Case Series	Mixed Methods Study	Decision Analysis Economic Analysis Computer Simulation	Guidelines	Case Reports N-of-1 Study	Bench Study	Published Expert Opinion	Local Consensus Published Abstracts
Etiology / Risk Factors	1a	2a	3a	3a	4a	4a	4a	4a	2/3/4	5a	5a	5a	5a	5a	5
	1b	2b	3b	3b	4b	4b	4b	4b	a/b	5b	5b	5b	5b	5b	
Prevalence	1a					2a	3a	4a			5a	5a	5a	5a	5
	1b					2b	3b	4b			5b	5b	5b	5b	

<sup>+</sup> RCT = Randomized Controlled Trial; CCT = Controlled Clinical Trial

Development for this appraisal form is based on:

1. Guyatt, G.; Rennie, D.; Evidence-Based Medicine Working Group.; and American Medical Association.: Users' guides to the medical literature : a manual for evidence-based clinical practice. *Users' guides to the medical literature : a manual for evidence-based clinical practice*: "JAMA & archives journals." Chicago, IL, 2002
2. Melnyk, B. M. and E. Fineout-Overholt (2005). Evidence-based practice in nursing & healthcare : a guide to best practice. Philadelphia, Lippincott Williams & Wilkins.
3. Phillips, et al: Oxford Centre for Evidence-based Medicine Levels of Evidence, 2001. Last accessed Nov 14, 2007 from <http://www.cebm.net/index.aspx?o=1025>.
4. Fineout-Overholt and Johnston: Teaching EBP: asking searchable, answerable clinical questions. *Worldviews Evid Based Nurs*, 2(3): 157-60, 2005.