

**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 the study methods appropriate for the question?**  Yes  No  Unknown

- Were the study methods clearly described (*e.g., setting, sample population*)?
- Were cases and controls matched appropriately for confounders or comorbidities?
- Were appropriate numbers of control participants matched to the case participants?

*Comments:*

**2. Were instruments used to measure the outcomes valid and reliable?**  Yes  No  Unknown

- Were the instruments tested to be reliable?

*Comments:*

**3. Were all appropriate variables (*e.g., potential confounders, exposures, predictors*) and interventions clearly described?**  Yes  No  Unknown

*Comments:*

**4. Were all appropriate outcomes clearly described?**  Yes  No  Unknown

*Comments:*

5. Were all participants accounted for at the conclusion of the study?  Yes  No  Unknown
- Were missing data explained?
- 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. Were the statistical analysis methods appropriate?  Yes  No  Unknown
- Were the statistical analysis methods clearly described?
- Comments:

8. 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 6-12 participants)?
- Comments:

9. What are the main results of the study? (e.g., Helpful data: Page #, Table #, Figures, Graphs)

- What is the effect size? (How large was the treatment effect?)
- 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
- Comments:

11. Were the results clinically significant?  Yes  No  Unknown
- If potential confounders were identified, were they discussed in relationship to the results?
- Comments:

12. Were adverse events assessed?

Yes  No  Unknown

*Comments:*

**APPLICABILITY: CAN I APPLY THESE VALID, IMPORTANT STUDY RESULTS TO TREATING MY PATIENTS?**

13. Can the results be applied to my population of interest?

Yes  No  Unknown

- Is the treatment feasible in my care setting?
- Do the patient outcomes apply to my population or question of interest?
- Are the likely benefits worth the potential harm and costs?
- Were the patients in this study similar to my population of interest?

*Comments:*

14. Are my patient's and family's values and preferences satisfied by the treatment and its consequences?

Yes  No  Unknown

*Comments:*

15. Would you include this study/article in development of a care recommendation?

Yes  No  Unknown

*Comments:*

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**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:**

- Good Quality Case–Control Study** [4a]  
 **Lesser Quality Case–Control Study** [4b]  
 **Not Valid, Reliable, or Applicable**

**Table of Evidence Levels**

DOMAIN OF CLINICAL QUESTION	TYPE OF STUDY / STUDY DESIGN																	
	Systematic Review Meta-Analysis	RCT <sup>*</sup>	CCT <sup>*</sup>	Qualitative Study	Cohort – Prospective	Cohort – Retrospective	Case – Control	Longitudinal (Before/After, Time Series)	Cross – Sectional	Descriptive Study Epidemiology Case Series	Quality Improvement (PDSA)	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
<b>Intervention</b>																		
<i>Treatment, Therapy, Prevention, Harm, Quality Improvement</i>	1a 1b	2a 2b	3a 3b	4a 4b	3a 3b	4a 4b	4a 4b	4a 4b	4a 4b	4a 4b	4a 4b	2/3/4 a/b	5a 5b	5a 5b	5a 5b	5a 5b	5a 5b	5

<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. Lohr, K. N. and T. S. Carey (1999). "Assessing "best evidence": issues in grading the quality of studies for systematic reviews." *Joint Commission Journal on Quality Improvement* 25(9): 470-9.
4. Fineout-Overholt, E. and L. Johnston (2005). "Teaching EBP: asking searchable, answerable clinical questions." *Worldviews Evid Based Nurs* 2(3): 157-60.
5. Jerosch-Herold, C. (2005). "An evidence-based approach to choosing outcome measures: a checklist for the critical appraisal of validity, reliability and responsiveness studies." *British Journal of Occupational Therapy* 68(8): 347-53.
6. 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>.
7. Fineout-Overholt and Johnston: Teaching EBP: asking searchable, answerable clinical questions. *Worldviews Evid Based Nurs*, 2(3): 157-60, 2005.