LEGEND: Evidence Appraisal of a Single Study
Intervention

Systematic Review / Meta-Analysis

Reviewer: **Today's Date:** **Final Evidence Level:**

Project/Topic of your Clinical Question:

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:

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

Unfamiliar terms can be found in the LEGEND Glossary.

Validity

Are the results of the systematic review or meta-analysis valid?

1.	**Did the overview address a focused clinical question?**	☐ **Yes**	☐ **No**	☐ **Unknown**
2.	**Was the search for relevant studies detailed and exhaustive?** • Was it *unlikely* that important, relevant studies were missed?	☐ **Yes**	☐ **No**	☐ **Unknown**
3.	**Did the systematic review use RCTs** *(randomized controlled trials)***?** • Were the criteria used to select articles for inclusion appropriate? • Was the assignment of patients to treatments randomized?	☐ **Yes**	☐ **No**	☐ **Unknown**
4.	**Were the included studies appraised and assigned a high level of quality?**	☐ **Yes**	☐ **No**	☐ **Unknown**
5.	**Were the methods consistent from study to study?** • Were populations among the included studies comparable and appropriate? • Were the outcomes, interventions, and exposures measured in the same way in the groups being compared?	☐ **Yes**	☐ **No**	☐ **Unknown**
6.	**Was there freedom from conflict of interest?** • Sponsors, Funding Agency, Investigators	☐ **Yes**	☐ **No**	☐ **Unknown**

Comments on Study Validity:

Reliability

Are these valid study results important?

7. **What were the main results of the systematic review/meta-analysis?** *(e.g., Helpful data: Page #, Table #, Figures, Graphs)*
   - What was 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?

8.	**Were the results statistically significant?**	☐ **Yes**	☐ **No**	☐ **Unknown**
9.	**Were the results clinically significant?** • If potential confounders were identified, were they discussed in relationship to the results?	☐ **Yes**	☐ **No**	☐ **Unknown**
10.	**Were adverse events discussed?**	☐ **Yes**	☐ **No**	☐ **Unknown**

Comments on Study Reliability:

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Applicability *Can I apply these valid, important study results to my patients?*

11.	**Can the results be applied to my population of interest?** • 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? • Are the patients in this study similar to my population of interest?	☐ **Yes**	☐ **No**	☐ **Unknown**
12.	**Are my patient's and family's values and preferences satisfied by the treatment and its consequences?**	☐ **Yes**	☐ **No**	☐ **Unknown**
13.	**Would you include this study/article in development of a care recommendation?**	☐ **Yes**	☐ **No**	☐ **Unknown**

Comments on Study Applicability:

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 Systematic Review** [**1a**]
☐ **Lesser Quality Systematic Review** [**1b**]
☐ **Not Valid, Reliable, or Applicable**

Table of Evidence Levels

DOMAIN OF CLINICAL QUESTION	TYPE OF STUDY / STUDY DESIGN																	
	Systematic Review Meta–Analysis	RCT +	CCT +	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
Intervention *Treatment, Therapy, Prevention, Harm, Quality Improvement*	**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**

+ *RCT = Randomized Controlled Trial; CCT = Controlled Clinical Trial*

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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.
8. Clark, E., Burkett, K., & Stanko-Lopp, D. (2009, Dec). Let Evidence Guide Every New Decision (LEGEND): an evidence evaluation system for point-of-care clinicians and guideline development teams [CCHMC LEGEND development]. J Eval Clin Pract, 15(6), 1054-1060.