

MOOSE Guidelines for Meta-Analyses and Systematic Reviews of Observational Studies*

	Topic	Page number
Title	Identify the study as a meta-analysis (or systematic review)	
Abstract	Use the journal's structured format	
Introduction	Present:	
	The clinical problem	
	The hypothesis	
	A statement of objectives that includes the study population, the condition of interest, the exposure or intervention, and the outcome(s) considered	
Sources	Describe:	
	Qualifications of searchers (eg, librarians and investigators)	
	Search strategy, including time period included in the synthesis and keywords	
	Effort to include all available studies, including contact with authors	
	Databases and registries searched	
	Search software used, name and version, including special features used (e.g. explosion)	
	Use of hand searching (e.g. reference lists of obtained articles)	
	List of citations located and those excluded, including justification	
	Method of addressing articles published in languages other than English	
	Method of handling abstracts and unpublished studies	
	Description of any contact with authors	
Study Selection	Describe	
	Types of study designs considered	
	Relevance or appropriateness of studies gathered for assessing the hypothesis to be tested	
	Rationale for the selection and coding of data (eg, sound clinical principles or convenience)	
	Documentation of how data were classified and coded (eg, multiple raters, blinding, and inter-rater reliability)	
	Assessment of confounding (e.g. comparability of cases and controls in studies where appropriate)	
	Assessment of study quality, including blinding of quality assessors; stratification or regression on possible predictors of study results	
	Assessment of heterogeneity	
	Statistical methods (eg, complete description of fixed or random effects models, justification of whether the chosen models account for predictors of study results, dose-response models, or cumulative meta-analysis) in sufficient detail to be replicated	
Results	Present	
	A graph summarizing individual study estimates and the overall estimate	
	A table giving descriptive information for each included study	
	Results of sensitivity testing (eg, subgroup analysis)	
	Indication of statistical uncertainty of findings	
Discussion	Discuss	
	Strengths and weaknesses	
	Potential biases in the review process (eg, publication bias)	

	Assessment of quality of included studies	
	Consideration of alternative explanations for observed results	
	Generalization of the conclusions (ie, appropriate for the data presented and within the domain of the literature review)	
	Guidelines for future research	
	Disclosure of funding source	

*Modified from Stroup DF, Berlin JA, Morton SC, Olkin I, Williamson GD, Rennie D, et al. Meta-analysis of observational studies in epidemiology: a proposal for reporting. Meta-analysis Of Observational Studies in Epidemiology (MOOSE) group. JAMA 2000;283:2008–12. Copyrighted © 2000, American Medical Association. All rights reserved.