

Critical Evaluation of Papers.

How to do itⁱ ii!

General:

Is the source reputable?	Journal, Author
Is the article interesting and/or relevant?	To me as a GP, in my particular practice:
Is it an original question?	But: <ul style="list-style-type: none"> • Is it bigger, longer or better? • Is it more rigorous? • Is it the same study population • Is there sufficient doubt to justify another study?
Is the layout helpful?	E.g. Structured summary

Title and Introduction:

Are the objectives clearly stated?	
Is an answerable question posed?	
Is the basis for the study described?	

Study Design & Methodology:

What sort of study is it?	<ul style="list-style-type: none"> • Prospective/retrospective • Observational or interventional • Open, single or double blind
Population	<ul style="list-style-type: none"> • How is it defined? • How were they recruited (?bias)? • Who was excluded (?bias)? • Is it typical of a/my general practice population? More ill/less ill?, Different ethnic group or lifestyle, given more(or different) attention than you could ever hope to give yours, co-morbidity?, only non-smokers, non-drinkers, not on cocp... • Is it large enough to show an effect? The “power” of a study. (key phrase) • Is there a control group? • If so is it comparable with the study

	<p>group? Problems with randomisation? Concurrent selection?</p> <ul style="list-style-type: none"> • Blinding?
Problems?	Are they discussed?
Information Collection	<p>Are objective measurements used? Duration of follow up? Refusal rate? Completeness of follow up? Drop out rates (reasons for dropping out, too high, too low) Possible bias. Are all patients accounted for? If questionnaire: Response rates are non-responders examined, are the questions really not biased? Are sources of error discussed? Is relevant information obtained? Is irrelevant information included?</p>

Results.

Are they clearly stated?	
Are the tables well set out?	
Do text and figures correspond?	
Are ALL the entry population accounted for?	
Do they answer the original question?	
Are they statistically valid?	<ul style="list-style-type: none"> • Appropriate Stats? • Trustworthy referees?! • (p values and confidence limits most helpful) • Is allowance made for “drop outs” • Is there an “intention to treat” analysis.

Conclusions.

Are the conclusions clearly stated?	
Do they relate to the objective of the paper?	
Are they justified by the results?	
Are alternative explanations discussed?	
Do the conclusions fit with common sense? Your own experience?	
Are they generalisable?	

Discussion/Recommendations

Are the recommendations justified?	<ul style="list-style-type: none">• From the results and conclusions.• What is the likely effect on workload, finance, energy! (i.e. opportunity cost)• Are they justified in the light of potential harms?
Are the results discussed in the light of previous research?	
Is the question of further research raised appropriately?	
Are negative results given (publication bias)	

General: ?Reputable journal
 ?Interesting topic
 ?Good Layout

Design: ?Clear Objectives
 ?Good Basis for study

Method: ?Population
 ?Similar to my practice
 ?Study type/Hierarchy
 ?Randomised/Blinded
 ?Power
 ?Control Group

Data Collection: ?Bias
 ?Problems/Errors discussed
 ?Dropouts included

Results: Presentation
 Intention to treat
 Significance

Conclusions: ?Valid
 ?Relate to initial question
 ?Generalisable

Recommendations ?Reasonable
 ?Attainable