CRITICAL APPRAISAL WORKSHEET

	The 8 key questions	In detail	Does this affect validity?
1. THE RESEARCH QUESTION	**1a.** What question did the researchers want to answer?	About the magnitude of health problem? About the impact of a therapy of some sort? About whether a specific agent causes a health problem? About the accuracy of a diagnostic test? About the prognosis of a disease?	Any differences between the two questions?
	1b. What is the research question actually posed in the paper?		

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2. STUDY DESIGN	**2a.** What is the best study type to answer this question? RCT? Cohort? Case-control? Descriptive? Other?	Why?	Any problem with the study type the researchers used?
	2b. What study type was used? RCT? Cohort? Case-control? Descriptive? Other?	Why?	How useful are the results likely to be?

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3. RECRUTIMENT AND ALLOCATION	**3a.** Who are the authors interested in, and who actually were enrolled in the study?	Are the people in the study good representatives of the population of patients the authors were interested in?	Any threat to external validity (the extent to which the result will apply widely)?
	3b. If the subjects were assigned to groups, how was this done?	Was allocation random? Was allocation made after the decision to enter the trial?	Any threat to internal validity (the validity or correctness of the study methods)?

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4. ETHICS AND FUNDING	**4a.** Who are the authors / researchers?	Check out the authors' names, qualifications, where they work and what organisations they are connected to.	Any threat to internal validity?
	4b. Who is funding the research?	Where did the research funding come from? *Health Care Funding/? Direct Government Grant? Pharmaceutical company? Private? Or a mixture of these?*	
	4c. Who is publishing this?	Which journal is this study published in? Is it peer reviewed?	

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5. DATA AND OUTCOMES	**5a.** What exactly is the factor being studied? E.g. the new drug (generic name, dose and route of administration), or the risk factor for a disease.	Is this new drug / test / therapy available to your patient? Could there be any problem with how it was measured?	Any threat to usefulness? Any threat to making sure your patient gets the correct dose?
	5b. What exactly is the main outcome being used?	Are these the best outcomes to use? Any important ones missing? Could there be any problem with how they were measured?	Any threat to external validity?
	5c. What are the main confounders the authors have identified?	How did they deal with them and were they dealt with adequately? Any important confounders missing?	Any threat to internal validity? Any threat to external validity?

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6. RESULTS	**6a.** What is the main result given? Does it make sense when you think of what it means to your patients?	Is it reasonable to accept these results are not due to chance?	Is the study conclusive or inconclusive in answering the question in 1 above?
		Is the difference reported likely to be important to your patients?	
	6b. Are confidence intervals given? If the study does not give a 'significant' result, is the power given?	Did the study have enough people in it to get a reliable answer?	

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7. CONCLUSIONS	**7.** What is the conclusion of the authors?	Have the authors correctly interpreted the results? Are the conclusions reasonable and justified by the data? Have they considered the limitations of the study (including possible confounders)?	Was the study type used the best possible to answer this question and if not what would have been better?

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8. APPLYING BACK TO PICO	**8a.** Is the answer useful to answer your question?	What is the ARR (absolute risk reduction) and hence the NNT value (Number needed to treat)? http://www.cebm.net/index.aspx?o=1044	What is your overall judgement of this study re validity and its usefulness to you and to the patient or population you have in mind?
	8b. How will you apply it back to your patient / population?		

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