

Improving Journal Club Presentations, or, I can present that paper in under 10 minutes

Fifteen years ago we sought a method for teaching residents how to make lean, pithy journal club presentations. Our aim was to help them distill an article down to its core while systematically reviewing its validity and telling a compelling story. Others have created successful journal clubs by explicitly linking the educational experience to questions raised in caring for patients (1).

Brief article presentations are structurally similar to the brief case presentations we do all the time. On work rounds, morning report, or sign-out, the goal is to communicate the essential information about a patient in a concise, mostly standardized format that is easily digested by the listener. We reasoned that, just as learners progress from meandering and imprecise case presentations on clinical clerkships to brief, utilitarian sign-outs as senior residents, journal club presenters can learn to efficiently convey the essence of an article.

We introduce this model of journal club presentation to medical residents in a small-group workshop early during internship and then deepen residents' skills during our clinical epidemiology course in the second year (2). Residents' skills are reinforced and refined throughout residency at a weekly journal club attended by 10 to 20 residents, fellows, and faculty.

We use the following 10-step guideline to help presenters increase efficiency in assessing a study's validity and results and to increase confidence in limiting a presentation to the core essentials. Faculty members model the process, and residents learn through reflective practice.

1. DESCRIBE THE CASE OR PROBLEM THAT ATTRACTED YOU TO THIS PAPER.

Start your article presentation with a brief case presentation, or briefly explain how the article is relevant to a patient or problem you are considering. This helps listeners more fully engage with your presentation and makes it more of a story.

For example, *"An otherwise-healthy 68 year-old man came to see me after he suffered a transient ischemic attack [TIA], and I wondered if he should be on a statin even though his risk for cardiac disease was low."*

2. EXPLAIN HOW YOU CAME ACROSS THIS ARTICLE.

Very briefly describe the search strategy you used to track down this particular article.

"I found this paper by searching Medline using the terms Cerebrovascular Accident, Hydroxymethylglutaryl-CoA Reductase Inhibitors, and the Clinical Query for therapy (maximizing specificity) which identified 9 articles."

3A. DESCRIBE THE STUDY.

In a case presentation we start with some standard descriptors of the patient followed by the chief complaint or statement of the clinical problem. For example: *"This is a 55 y/o male smoker from Bangladesh who presented within 2 hours of burning chest pain and is admitted as a rule out."*

When presenting an article we can think of some standard descriptors. Here are some examples: What type of question was asked (e.g., diagnostic, therapeutic, prognostic, etiologic, or eco-

nomic)? What type of study (method) was used (e.g., randomized controlled trial [RCT], retrospective cohort, case-control, meta-analysis, cross-sectional, descriptive, decision analytic, or cost-effectiveness)? Where was the study done (if relevant) (e.g., multicenter, Veterans' Affairs [VA], population-based, Antarctica, NYC, academic medical center, subspecialty clinic)? Are there any other outstanding features (well-known author, first of its kind)?

So we might start by saying *"This was a multinational, randomized, controlled trial of therapy, and the first study designed to answer the question ..."*

3B. DESCRIBE THE RESEARCH QUESTION.

The chief complaint of an article is the research question or hypothesis to be tested. A well-built research question has 4 basic components (PICO) (3):

Population: Who was studied?

Intervention (or exposure): What therapy, risk factor, tests?

Comparison or control: What alternative to intervention or exposure?

Outcome: Clinical, functional, economic?

"Over a 5-year period, does high-dose atorvastatin reduce the incidence of stroke among patients with recent stroke or TIA who have no known coronary heart disease?" (4)

4. STATE THE IMPORTANCE/RELEVANCE/CONTEXT OF THE QUESTION.

Following this 1-line description of the study and statement of the question, concisely state the importance of the question. This information can usually be found in the introduction, where the authors put their study in the context of other literature. This can be described in 1 to 3 sentences.

"Therapy with statins reduces the risk for stroke among patients with coronary heart disease and those at increased risk for cardiovascular [CV] disease. No studies thus far, however, show that statin treatment decreases the risk for recurrent stroke among otherwise-healthy patients with a history of stroke or TIA."

5. DESCRIBE THE METHODS BY GIVING MORE DETAIL ON THE COMPONENTS OF THE QUESTION.

Following this brief background, 1 way of briefly describing the methods is to give slightly more detail on the Patients, Intervention, Comparison, and Outcomes (PICO) related to the question:

P: *"The study included 4371 patients, 60% men with an average age of 63 years and mean low-density-lipoprotein (LDL) cholesterol of 133 mg/dL. All patients had a recent stroke (69%) or TIA (31%). Those with atrial fibrillation, embolism from other cardiac sources, and subarachnoid hemorrhage were excluded."*

IC: *"Atorvastatin 80 mg daily or identical placebo."*

O: *"After a median of 4.9 years of follow up, the primary outcome was incidence of fatal or nonfatal stroke, and all-cause death. Secondary endpoints included a composite endpoint of stroke or TIA, major coronary event, major CV event, acute coronary event, any coronary event, revascularization, and any CV event."*

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6. STATE YOUR ANSWERS TO THE CRITICAL APPRAISAL QUESTIONS ON VALIDITY.

Next, briefly answer the appropriate critical appraisal questions on validity by using the *JAMA Users' Guides to the Medical Literature* (5). Elaborate with some explanation, questions, or concerns if needed. Although it is a bit formulaic to go through each question, it is a good habit to develop, and use of the GATE frame makes it easier (6). Remember, if you suspect bias, consider not only its possible presence, but also its direction, magnitude, and impact on the study's conclusions—not all flaws are fatal. Be cautious not to get lost in the statistics/analysis section. Remember, “Statistics are a tool while study methods rule!”

For a study of the efficacy of therapy, use these questions:

Did the experimental and control groups start out with a similar prognosis?

Were patients randomized?

Was randomization concealed?

Were patients analyzed in the groups to which they were randomized?

Were groups similar regarding known prognostic factors?

Did the experimental and control groups retain a similar prognosis after the study started?

Were patients, clinicians, and outcome assessors aware of group allocation?

Was follow-up complete?

7. SUMMARIZE THE PRIMARY RESULTS.

At last, the results. Some like to present the bottom-line result right away in their presentation titles, similar to the format of *ACP Journal Club*. Alternatively, you can report the results after the descriptors and research question. We find that when browsing through a journal our eyes go from the title (if it sounds interesting) to the conclusions in the abstract. The inner question is, “If this is true (valid), would it be interesting or important to me?” Or, if you prefer to keep people in suspense, save the bottom-line answer for the results:

“Atorvastatin reduced the rate of fatal and nonfatal stroke from 13.1% on placebo to 11.2%, a statistically significant 16% relative reduction in risk over 5 years. There was no difference in overall mortality.”

Limit your summary of the results to the primary question and only present secondary results if they are relevant. It is helpful to bring your listeners' eyes to a particular row on a table or a bar on a graph to illustrate your point. You will not insult anyone by taking them by the hand and leading them through the paper. And feel free to play with the numbers.

“As you can see under secondary outcomes in Table 2, major coronary events were reduced by 35% from 5.1% to 3.4%. The primary result suggests an absolute reduction of 2% in fatal and nonfatal stroke so that we would need to treat 50 patients with 80 mg of atorvastatin for 5 years to prevent 1 event, a modest impact.”

8. DESCRIBE WHY YOU THINK THE RESULTS CAN OR CANNOT BE APPLIED TO YOUR PATIENTS/SITUATION.

Finish with your assessment of the study's external validity: Can you apply these results to your patients? Better yet, are the patients or setting so different from your own that the findings are useless to you? How much would you have to adjust the study findings to compensate for the differences between the study's patients or setting and your own?

“Would the efficacy be larger or smaller in older patients? In addition, the authors excluded patients at higher risk for hemorrhagic stroke and, in fact, atorvastatin may have increased the risk for hemorrhagic stroke in this study.”

9. CONCLUDE WITH YOUR OWN DECISION ABOUT THE UTILITY OF THE STUDY IN YOUR PRACTICE—RESOLVE THE CASE OR QUESTION WITH WHICH YOU BEGAN.

If you started your presentation with a case, be sure to leave time to come back to the case at the end and try to apply the study's findings to your patient or problem. Give your listeners a sense of closure:

“Atorvastatin may modestly reduce the risk for recurrent cerebrovascular events in patients with recent ischemic CVA or TIA. I will offer this medication to such patients but still focus more on those at higher risk for cardiac events.”

10. PREPARE A 1-PAGE SUMMARY OF THE OUTLINE ABOVE AS A HANDOUT.

The summary will serve as your notes for the presentation and will help guide the group's attention. It also provides a storable record of the article, similar to critically appraised topics, or CATs (7).

Believe it or not, you can do all this in 10 minutes easy, 5 minutes with very tight editing, and 2 to 3 minutes if you just hit the highlights.

These guidelines have dramatically improved the enthusiasm for, quality of, and attendance at our journal clubs, which have now been running continuously for more than 15 years. Residents are expected to present the paper in 10 minutes, provide a concise 1-page summary using the outline above, and lead a 20-minute discussion on the clinical and methodological issues. As a result, residents have improved both their presentation and critical appraisal skills. In our experience, this approach, familiar to residents because it is parallel to patient case presentations, is easily learned and portable. Developed for a smaller group of primary care residents, the model is now used for all medical residents and fellows. Slides from these workshops are available at www.evidence-basedmedicine.com. We believe this model has contributed to the long-running success of our journal club and made it a lively, relevant, and fun way to simultaneously explore methods and medicine.

Remember, “The conclusions giveth but the methods taketh away!” *Caveat lector*: Reader beware!

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