

# How to Organize a Journal Club for Fellows and Residents

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The information explosion in the medical field posts a challenge on how to extract useful resources among a multitude of publications daily. A journal club is an effective approach to tackle these issues; therefore, it has already become an integral element of residency and fellowship training in almost every medical specialty. In this article, we will give a general introduction of a journal club as a concept and provide some suggestions on how to organize a journal club for residents and fellows.

## History of Journal Club

A journal club is a form of meeting regularly held among health practitioners to discuss recently published related literature. The first organized journal club is credited to Sir William Osler in Montreal, Canada, in 1875, although Sir James Paget described a kind of club among some pupils at St Bartholomew's Hospital in London to read journals together in the period 1835 to 1854. Approximately a decade later, Osler started the first journal club in the United States at the Johns Hopkins Hospital (in 1889).<sup>1</sup> During the next 100 years after, it has flourished in various disciplines in the medical field in many countries.

## Aims of Journal Club

Although the impetus for a journal club was to share and optimize limited educational resources, the purpose of a journal club in the present time has shifted. Nowadays, one of the big challenges in medical education is the efficient selection and refinement of pertinent literature, among a plethora of available information. A current journal club, therefore, serves for multiple objectives including but not limited to (1) improvement of critique skills, (2) keeping up-to-date with the recently published literature, (3) translating forefront knowledge to guide clinical practice, and (4) maintaining reading habits.

## Formats of Journal Club

The formats of a journal club have evolved over time. The most commonly recognized formats include a traditional journal club format and a more recently introduced evidence-based format.<sup>2</sup> In the traditional journal club, 1 trainee presents the previously selected article(s), then attendees discuss the results and findings. Senior faculty give comments mainly

based on their expertise and clinical experience, whereas in the evidence-based journal clubs, papers are chosen based on clinical questions arising from clinical practice. Discussions include the critical appraisal of biostatistical and methodological aspects of the literature and whether the findings would modify clinical practice. Recently, an innovative flipped journal club was introduced.<sup>3</sup> This format requests senior faculty to select an important clinical topic and a related landmark article, and trainees to select an accompanying background paper and a social medical piece, while also preparing an in-depth discussion in advance. In recent years, a virtual online journal club has become increasingly popular. An example is the online journal club organized by the National Institutes of Health StrokeNet involving >200 hospitals across the United States. Large institutions usually decide the topics for discussion and organize the journal club, whereas participants from other centers that are part of the StrokeNet network contribute to the discussion. This format provides great opportunities for practitioners in community hospitals to get updated. Each journal club format has its advantages and disadvantages (Table); therefore, the flexible integration of different formats needs to be considered to fulfill various objectives.

## Steps to Starting and Running a Journal Club

There is no one-size-fits-all solution on how to organize a journal club successfully in an individual group, while some general advice may be helpful when starting a journal club. We summarize several key elements for this process.

### Step 1: Setting Up the Aim of a Journal Club

The emphasis of aims may change over time if a journal club is merged into the residency/fellowship training curriculum. For instance, for the first-year residents, the primary goal of a journal club might include gaining knowledge in biostatistics and epidemiology, together with improving presenting and communication skills. Later, practice-based learning and keeping up-to-date with medical knowledge may become the core objective of a journal club once the basic skills are acquired. Moreover, residents and fellows may organize separate journal clubs for their own specific interest, or they could work together to choose the common topics they are all interested in.

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**Table. Advantages and Disadvantages of Different Formats of a Journal Club**

Formats of a Journal Club	Specific Aim(s)	Advantage(s)	Disadvantage(s)
Traditional format	Keep up-to-date with recent literature	No need to prepare in advance for the attendees	Quality of selected articles is inconsistent; audiences might be ill prepared and disengaged
		Grasp clinical updates in an efficient way	
Evidence-based format	Improve critique skills	Promote critical appraisal skills and research skills	Basic biostatistical and methodological knowledge is needed
Flipped format	Engage all learners	Provide in-depth discussions	Spend more time on organizing and preparing
		All learners are involved	
Virtual online format	Make the journal club more accessible	Easy to access without location restriction	Interaction among attendees is limited
		Encourage communication among multiple centers	

### Step 2: Establishing the Leadership of a Journal Club

Previous studies reported that having a designated host for a journal club was significantly associated with high effectiveness,<sup>4</sup> and other studies showed the residents' active involvement on planning and operating a journal club could increase the longevity and success of the club.<sup>5</sup> The combination of both factors is a practical strategy to run a successful journal club. The host of a journal club is the primary person responsible for the coordination of time, location, frequency, and decision on the format of a journal club, while ideally all participants should contribute in suggesting topics and providing feedback. Faculty involvement is not mandatory, although it was reported to increase the success of journal club in surgical training.<sup>6</sup> In the monthly vascular Neurology Journal Club in Massachusetts General Hospital stroke service, the active involvement of Dr Marc Fisher, Chief Editor of *Stroke*, has been helpful on deepening the overall discussion of study methodology, the main results, and its implications.

### Step 3: Choosing Pertinent Articles

Selected papers need to be relevant to the attendees. Articles may be selected based on their clinical relevance or educational value. Individual strategies to choose papers may differ based on reading habits. Some may focus on a few key journals in their fields and follow the updates. Others may prefer purposeful search on topics encountered in clinical practice. After prescreening potential journal club articles, the next step is deciding on articles to be presented and discussed. A 5-crucial-steps method to scan a paper has been proposed,<sup>7</sup> including screening of (1) title, (2) authors, (3) references, (4) abstract, and (5) figures and tables of a paper. Either one or a few related articles can be selected in addition and presented in the journal club. Original articles are suitable material for improving critique skills, whereas reviews, including meta-analysis reviews, are also great resources for a quick review of the background information and keeping medical knowledge up-to-date.

### Step 4: Circulating the Articles

Articles should be distributed by email or printout 1 or 2 weeks in advance for prereading. There are some no-preparation journal clubs, which do not require any preparation

beforehand to avoid adding to the already heavy workload in residency training.<sup>8</sup> In the flipped journal club, not only the prereading of selected materials but also the preparation of an in-depth discussion is requested.<sup>3</sup> In some programs, a structured critical appraisal sheet is used to guide the trainees on how to assess a paper.<sup>9</sup> Practically, the time spent on prereading is primarily dependent on the goals of a journal club and the available time during individual training programs.

### Step 5: Conducting a Journal Club Session

The diverse instructional formats and the lack of specific curricula are regarded as the major disadvantage of a journal club. Starting a journal club in a relatively structured frame may be feasible although the emphasis may vary in different journal club formats. A journal club could be structured through a series of questions. Why was this article or why were these articles chosen? What question(s) were addressed in the article? What was the main aim and hypothesis? How was the study performed? Were the methods sound? What are the results? How to interpret these results? How do the presented results and conclusions fit into the context of the current literature? Will the results change current practice? What other studies need to be conducted to elucidate the question(s) in the future? A formal presentation may be useful to inform the audience in a big group of attendees, whereas an informal short introduction of the paper may be more suitable in a smaller group setting.

### Step 6: Soliciting Feedback

A formalized anonymous comment sheet may elicit objective responses, but the attendees are always encouraged to provide feedback through any medium. This is an effective way of determining the most appropriate format for a certain group and adjusting it in accordance with the changing goals throughout the training period.

### Obstacles to a Successful Journal Club

A successful journal club is commonly regarded as having a high attendance rate, longevity, and satisfaction among the attendees, although there is no uniform definition. There are some well-recognized obstacles to a journal club, including lack of time, loss of interest on the topics, and insufficient skills on critical appraisal. Therefore, send out a survey in advance and find out the common available time for most audiences,

and keep a journal club in a reasonable time, around 30 to 60 minutes, once per month or biweekly. Let residents select the topics and articles, with the approval from faculty. A series of lectures on critical appraisal skills may be recommended in the beginning of a journal club. Moreover, mandatory attendance, serving food or lunch, and having faculty present were reported to be associated with longer, new journal clubs, continuous existence, and high resident/fellow attendance.<sup>5</sup>

### Neurology Journal Club

In 2011, the journal *Neurology* started a new subsection Neurology Journal Club for residents and fellows to publish examples of structured critical appraisals of medical literature.<sup>10</sup> The suggested outline of journal club may be utilized in all specialties and can help guide the organization of a journal club. The increasing interdisciplinary communication in neurology research and practice poses some challenge in Neurology Journal Club. The literature we have presented in our own journal club at our institution includes a wide range of articles from various disciplines, including neuroimaging, electrophysiology, genomics, neuropathology, psychiatry, and neuropsychology. Techniques and methods used in different studies may be challenging to grasp for a novice or trainees. Therefore, the presence of faculty experts with in-depth knowledge in the specific area would efficiently facilitate the understanding and discussion in a journal club.

### Conclusions

As described above, the main purpose and formats of journal club may vary across different training programs, based on specific educational goals and training objectives in each

program. However, the journal club itself has been recognized as an efficient tool in graduate medical training. The above suggested steps provide general tips on starting a journal club. Modification may be needed to fulfil specific needs at individual institutions.

### Disclosures

None.

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