

Crafting a Compelling Abstract That Gets Accepted

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Presenting an abstract at the Society of Nuclear Medicine and Molecular Imaging annual meeting is an opportunity to gain peer recognition and share knowledge. This article explains how to craft a winning conference abstract. The goal of an abstract is to summarize the main points of a research project or topic. There are 2 types of abstracts: scientific and educational. Scientific abstracts generally involve data collection or a survey and follow a specific formula. The introduction provides a brief background and states the research question. The methods describe the study design and variables. The results present key findings, and the conclusion summarizes the findings' implications and significance. Educational abstracts are unstructured and usually describe a single topic, such as a case study, literature review, or new technique. Crafting an abstract requires clear communication, attention to detail, and an emphasis on practical applications. Effectively structuring a compelling abstract increases your abstract's acceptance chances.

Key Words: abstract; medical conference; writing

J Nucl Med Technol 2023; 00:1–4

DOI: 10.2967/jnmt.123.266475

The Society of Nuclear Medicine and Molecular Imaging annual meeting provides a crucial platform for sharing research findings, innovative techniques, and advancements in the field. Presenting an abstract at the annual meeting allows you to gain recognition among your peers and contributes to the collective knowledge of the nuclear medicine community. However, with numerous submissions vying for limited slots, creating an exceptional abstract that stands out and increases your chances of acceptance is essential. This article describes how to craft a winning conference abstract.

WHY WOULD ANYONE WANT TO SUBMIT AN ABSTRACT?

Why would anyone want to submit an abstract to a conference? First, there is the obvious fame and fortune. Okay, perhaps no real fame, but professional pride and satisfaction are plausible outcomes. You likely will not make a fortune,

either. However, presenting an abstract can help to advance your career with the possibility of a raise or brownie points at your next performance evaluation. To boot, many institutions will pay for their technologists to attend a conference and present an abstract. Finally, submitting a conference abstract is an easy way to get published.

WHAT IS AN ABSTRACT?

The word *abstract* comes from 2 Latin words: *ab* (out) and *trahere* (pull). Put together, the word *abstractus* means to pull out or extract from a more extensive work (1). Thus, an abstract pulls out the main points to briefly summarize a research project or topic. The intent of an abstract is for it to stand on its own. It should contain one clear message covering key points and omitting unnecessary details. The abstract and title may often be the only part of an article someone reads. Finally, electronic search engines and bibliographic databases use the words in an abstract to identify key terms to index an article (2).

HOW DOES ONE WRITE AN ABSTRACT?

There are 2 main types of abstracts: scientific and educational, also referred to as informational and narrative, respectively (3). Scientific abstracts are the typical type that comes to mind following the formula of introduction, methods, results, and conclusion. They generally involve data collection from an experiment or a survey (Fig. 1).

Educational abstracts are unstructured, meaning there are no mandatory headings, and they usually describe a single topic, such as a case study, literature review, new technique, or experience. For example, at the 2023 Society of Nuclear Medicine and Molecular Imaging annual meeting, one author presented a fascinating abstract on challenges related to theranostics administration.

Scientific Abstracts

The 4 main sections of a scientific abstract detail why the study was performed (introduction), how it was done (methods), what was found (results), and the answer to the research question (conclusion) (3).

Introduction. An abstract introduction usually comprises 2–3 sentences. The key elements include a brief background, rationale for the study, and research question or objective. Start with what is known about the subject and then describe what is unknown. In other words, what is the knowledge gap, question, or problem to be solved? Next,

Received Jul. 31, 2023; revision accepted Sep. 26, 2023.
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Published online Oct. 18, 2023.

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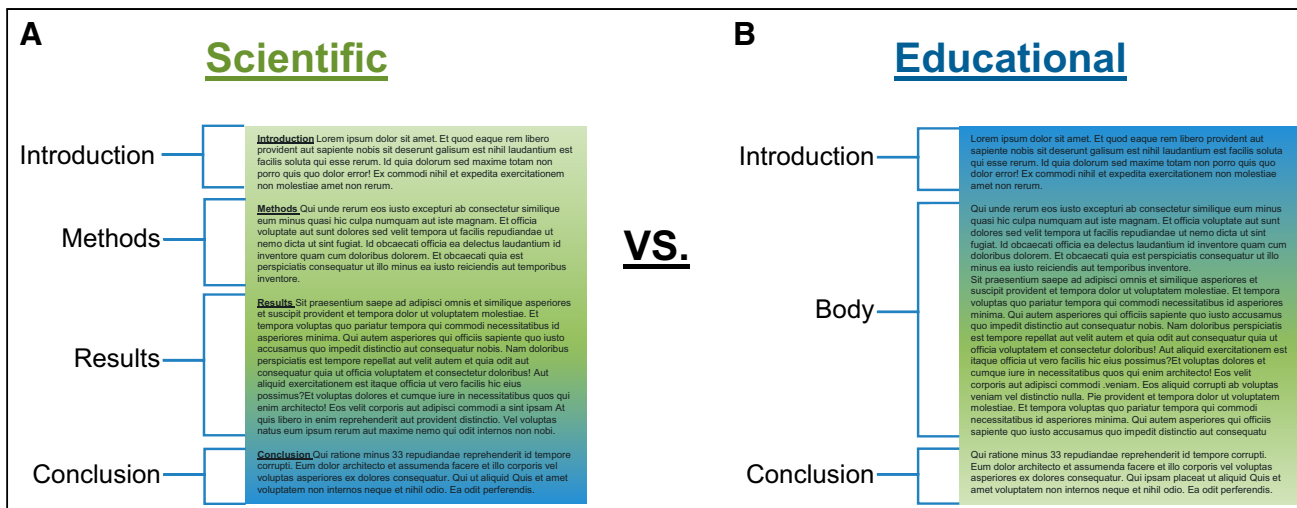


FIGURE 1. Two types of abstracts can be submitted for Society of Nuclear Medicine and Molecular Imaging annual meeting. (A) Scientific abstracts follow typical scientific method format of introduction, methods, results, and conclusion. (B) Educational abstracts are not required to follow standard format but should include introduction and conclusion along with body of text.

clearly state the purpose of the study or project and its relevance. If it is a scientific study (e.g., following the scientific method), this is where to state the hypothesis. If the study is descriptive (e.g., a survey), the aim of the study must be clearly expressed.

For example, a few years ago, publication by the *New York Times* (*NYT*) of several stories about radiation exposure from medical procedures created a public uproar (4). Nuclear medicine departments in New York City were concerned the news stories might make patients more reluctant to undergo scans, potentially increasing no-show rates. Thus, one department conducted a survey to assess patients' level of alarm and willingness to undergo scans.

What was known was the public concern created by these stories. What was not known was how they affected patients. The aim of the survey was to assess the effect on patients' willingness to undergo nuclear medicine procedures. That is an example of an introduction with 3 sentences.

Methods. The methods section describes the study design, sample size, participant demographics, data collection methods, and other variables. There is no need to be overly detailed in the methods section of an abstract, unlike the methods section of a full manuscript. Simply provide an outline or logical presentation of information related to the project goals or purpose previously stated in the introduction. Usually, the methods section accounts for around 20% of an abstract.

Using the previous scenario, here is an example: "An email invitation to an online survey was sent to chief technologists and medical directors at 57 local nuclear medicine departments in New York City on July 1, 2023. The survey contained 15 questions categorized into 5 groups: equipment and department (3), patient/safety/practice (4), patient issues (5), and radiation reduction techniques (3)."

Results. The results section is ideally the longest section of an abstract, or about 40%–50%. Highlight the most

significant finding (not every finding) or the outcomes related to the purpose. The findings presented should be factual and unbiased. Avoid talking about the significance of the results in this section; that is the purpose of the conclusion section.

Also, be concise. Get a bang for every buck, or word in this instance. For example, instead of stating, "The response rates were significantly different between technologists and physicians," state, "The response rate was higher for chief technologists than medical directors (70% and 30%, respectively, $P < 0.05$)."

Tables and Figures. Tables and figures add a little spice to an abstract (Fig. 2). Tables give precise values and can be used to display several values or variables. Figures provide visual impact. They can be used to demonstrate trends or patterns quickly. Figures should tell a quick but complete story or be used to highlight a particular result. A word of caution: tables and figures may or may not be included in the total word count restrictions. Therefore, it is prudent to review the submission guidelines before crafting an abstract.

Conclusion. The conclusion answers the why or question presented in the introduction. It summarizes the implications and significance of the findings and emphasizes the potential impact on clinical practice or the field. There should be a take-home message that resonates with readers. The conclusion for the *NYT* scenario could be, "Although the *NYT* article appeared to create a public outcry, the effects on nuclear medicine patients and departments were minimal. Despite the lack of patient alarm or no-shows, nuclear medicine departments should have strategies to educate concerned patients about procedure radiation exposure."

Educational Abstracts

Educational abstracts are submissions that can represent a broad array of topics relevant to nuclear medicine. As the

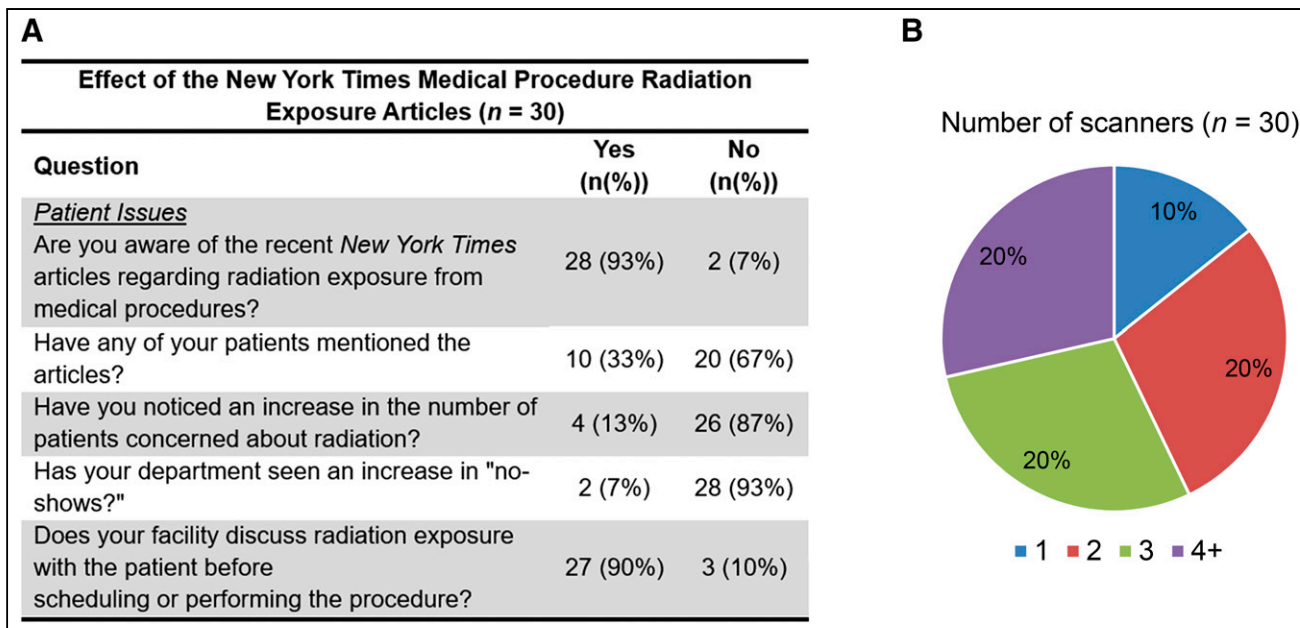


FIGURE 2. Example of table (A) and figure (B), which not only provide information but also enhance abstract's visual appeal.

name implies, they strive to teach or inform. They are unstructured narratives with considerable flexibility in presenting the message. However, most follow the format of introduction, body, and conclusion. Many of the same instructions for introducing and concluding a scientific abstract also work well for educational abstracts.

Introduction. For educational abstracts, the primary purpose of the introduction is to show the topic's context and relevance to the reader. Thus, plainly state the topic in the opening sentence. Then provide a little background information to help the reader appreciate the abstract's significance. Next, articulate the primary educational objective. Ask yourself, "What do I want the readers to learn from this abstract?" Although being concise and straightforward is necessary, it is also crucial to grab the readers' attention early.

An educational abstract could easily be written related to the *NYT* expose. For example: "The *NYT* recently published a series of feature articles regarding the potential hazards of medical radiation exposure. Those articles had the potential to alarm patients. The aim of this abstract is to describe methods to ascertain and assuage patients' concerns related to radiation from nuclear medicine procedures."

Body. The body of an educational abstract is where you provide the message to the readers. As space is limited, you cannot give much detail. Therefore, briefly outline the key points or main ideas. Use short paragraphs to make it easy for readers to grasp content quickly and to save them from searching for the main points buried in a long paragraph. Bullet points can be helpful.

Emphasize the topic's practical implications so the readers will see what is in it for them. Highlight information

applicable to real-life situations demonstrating how that information may impact a technologist's everyday work life.

Again, using the example of the *NYT* expose, the body of the abstract could include instructions to ask probing questions and provide examples. The body could also offer tips about how to explain to patients the radiation risks from nuclear medicine procedures.

Conclusion. In the conclusion section, reinforce the main takeaway messages you want the reader to learn. What should the reader remember later? In our case, the main takeaway message is that in light of the *NYT* articles, technologists should be prepared to discover patient radiation concerns and empathetically address those concerns.

Title

Whether for scientific or educational abstracts, the title is much more important than one might think. It may be the only part of an abstract that is read. Decisions on whether to read the abstract are based on the title. Therefore, the title should be engaging. For example, "How nuclear medicine departments can deal with fallout from the *NYT* articles."

The title should mention the purpose of the abstract and contain keywords that will produce search engine hits. Hence, it is usually easier to save creating the title for last. A fair guideline is that the title should contain 12 words or less. It is probably too long if you cannot read it aloud in one breath.

Tips

There are a plethora of tips and tricks for creating a conference abstract that can increase the likelihood that your

abstract will be accepted as a poster or oral presentation or win an award.

Review the submission guidelines for word counts and deadlines. Start early, and plan on the process's taking twice as long as you expected. If you are new to writing abstracts, read those from the previous year that won an award.

Remember your target audience—in this case, other technologists; no one wants to read about some tedious iterative reconstruction algorithm using terms they have never heard.

Clearly define the abstract's purpose and key message, which should be evident from the start and supported by evidence. Start with a figure or table; focusing on a single figure or table helps limit the abstract to one central point. Provide sufficient data, and avoid making broad claims without the data to back them up; strong evidence bolsters the credibility of an abstract.

Be concise and well organized while focusing on readability; readers tend to skip over long rambling paragraphs of text. Use clear but engaging language to capture the reader's attention. Edit the abstract several times, getting rid of clutter or unnecessary information; read it aloud to ensure it makes sense. Use a spelling and grammar checker to ensure there are no errors that could distract the reader.

Ask for feedback from several people, as a fresh set of eyes can provide valuable insight into things you might have overlooked; the more others critique your abstract, the better it will be.

Become a peer reviewer for the *Journal of Nuclear Medicine Technology* to improve your skills and learn more about abstracts and manuscripts.

CONCLUSION

Crafting an abstract requires clear communication, attention to detail, and an emphasis on practical applications. By following these steps, effectively structuring your abstract, and focusing on the reader, you can create a compelling abstract and significantly improve the chances that your abstract will be accepted and showcased at the Society of Nuclear Medicine and Molecular Imaging annual meeting.

DISCLOSURE

No potential conflict of interest relevant to this article was reported.

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