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SPECIAL ARTICLE

Oral Presentations for Surgical Meetings

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Each year the Association for Academic Surgery sponsors the "Fundamentals of Surgical Research" course which is established for residents who are beginning research training. A lecture outlining various aspects of effective scientific presentations, such as that delivered at a national or regional surgical meeting, is part of the course. Faculty from our institution have organized this lecture for several years. The lecture content has been revised each year to reflect the recommendations of the participating residents and faculty. Herein, we summarize the requirements for composing and delivering a scientific surgical presentation that is noted for its clarity, easily understood methods, interpretable data, and scientific and/or clinical implications.

INTRODUCTION

Current scientific presentations are more difficult for audiences of today to understand than years ago. In the past, surgical research was more limited in scope. Today, we are witnessing a progressively expanding body of scientific and clinical knowledge. In addition, the current trend is toward specialization within surgery, with each specialty having its own terminology, jargon, and acronyms. Such information further compounds the ability of the presenter to effectively communicate with a broad, heterogeneous group of surgeons. Presenting educational material or research data in a manner that is clearly understood requires significant planning and preparation, analyzing, interpreting, organizing, and delivering the message. Herein, we analyze various components of a scientific presentation, such as that for a national surgical meeting, and provide recommendations for the preparation of a message that is noted for its clarity, easily understood methods, interpretable data, and potential scientific and/or clinical implications.

ORGANIZATION OF MESSAGE

Oral presentations at national or regional surgical meetings are usually limited to only 10 min, but the presenter may have data that have taken months or even years to generate. To compress these data into minutes, the presenter must therefore focus the message on a central theme. No matter how well organized, too many ideas presented too quickly will not be understood, even to the most well-informed and intelligent audience.

SPEAKER–AUDIENCE RELATIONSHIP

The speaker's first mission is to establish the speaker–audience relationship [1]. This is best accomplished by eye-to-audience contact during the first few seconds of the presentation. The presentation should begin politely with a phrase acknowledging the moderator and the audience and then immediately introduce a "story" that proceeds in the same logical fashion as one would in writing a manuscript. It is not appropriate to attempt jokes, amusing anecdotes, or other forms of humor at a formal scientific meeting. The presenter should resist the temptation to ask, "May I have the first slide." The use of slides at this point only distracts the audience from recognizing the presenter. The presenter who walks immediately to the lectern, turns out the lights, then asks for the first slide becomes an anonymous voice from the corner of the lecture hall. The effective speaker should first be seen, then heard. By speaking face-to-face, the speaker personally imprints the source of this new information in the mind of the listener.

THE PRESENTATION

Introduce the Subject

After establishing the speaker–audience relationship, the speaker must then introduce the subject at hand to the audience. The speaker must know how to accentuate the presentation toward the general intellectual background of the audience. The presentation should be a story told in a straightforward, easily un-

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TABLE 1

Checklist for the Lecturer

Date _____
Time of talk _____
Place/room _____
Slides correct in carousel
Meet projectionist/turn over slides
Test microphone
Review lectern mechanics
  Slide projection
    Forward/reverse
    Focus
  Laser pointer
  Lighting for podium notes
  Clock/warning light
Lecture hall lighting

derstood manner. It is important to provide sufficient background for the rationale of the study, keeping in mind that long introductions can be annoying, especially when repeating the same theme. When the audience specializes in the same field of expertise as the subject at hand, the accepted acronyms may be used. One must remember that the audience usually knows less about the topic presented than the presenter. On the other hand, the presenter must be careful not to be condescending and annoy the audience. If the audience becomes annoyed, they will not listen, no matter how important the message. The introduction should conclude by outlining the hypotheses and aims of the study in three to four sentences.

Methods: Define Models and Experimental Protocols

The speaker next should define his/her models and outline the experimental protocol used in testing the hypothesis. One should recognize that an oral presentation is not a written manuscript. Each has different goals and different constraints apply. The greatest distinction is in detail. The published paper must contain the full experimental protocol. This fundamental requirement of a manuscript allows for experimental reproducibility by other investigators. The oral presentation, on the other hand, need not, and should not, contain all of the experimental detail. For describing methods, the speaker should use text slides, cartoon graphics, and photographs to convey the "big picture" of how the study was carried out.

Results: Report Your Findings but Spare the Details

Simply report the results of your findings in easily interpretable, preferably graphic form. Strict pruning of all unnecessary results is essential. The objective is to convey a novel idea or concept as an important message, while providing distilled, but convincing supporting data. A variety of bar graphs, pie charts, line graphs, and photographs are among the most effective means of presenting data.

Concluding Comments

A final statement on the importance of the work should be clearly and concisely presented. One or two slides that briefly summarize the findings refocus the audience on the important aspects of the work. A few moments should also be spent outlining the significance of the work. One should not provide an exhaustive literature review during the discussion, but rather give the findings and speculate as to the potential significance. A strong clear ending is often the most remembered portion of a presentation. The last sentence needs to be as thoughtful and planned as the first.

THE SPEAKER

The speaker's appearance and dress should be consistent with the expectations of the audience. As a professor of surgery recently explained, "If the audience expects to see a peacock, then they should see a peacock and not a duck." Certainly clothing or jewelry that draws the attention of the audience away from the content of the message is undesirable. The speaker should, of course, stand still. Visual mannerisms are distracting. Repetitive movements, such as jingling coins or keys or moving one's hands in and out of pants pockets, will disturb and distract the audience.

The delivery of the speech should be slow enough to be understood and loud enough to be heard. There is an insidious, underlying common cause of all boredom—sameness. Make sure there is enough variation throughout all aspects of the presentation so as not to be monotonous. Change the tone of your voice. Change the speed of your delivery. The pace should be varied, being slower for emphasis.

Always refer to research in terms of what "we" have done rather than what "I" have accomplished. Surgical research is rarely accomplished by one person. In a previous address to the "Fundamentals of Surgical Research" course sponsored by the Association for Academic Surgeons, Dr. James C. Thompson, one of the most prolific and successful surgeons and scientists in history, repeatedly referred to his work as that which "we" accomplished. He showed three slides of the members of his entire laboratory group during a 45-min talk.

Many ask (usually when giving their first few presentations) whether the talk should be read. Reading is, in general, a bit impersonal. The speaker should practice to the point that the address can be delivered without reading so that the talk is prompted by an outline. The natural rhythm of telling a story with its pauses and eye-to-eye contact with the audience is lost when the talk is read. The primary reason speakers read papers at the lectern is a lack of confidence in speaking skills or because they have not practiced adequately. The talk should be typed and read repeatedly, until the script becomes unnecessary. It is important to recognize that the language used in speaking is distinct from that of writing. John Hilton was a radio broadcaster in London before World War II and arguably the most popular radio announcer in broadcast history. He had a unique ability to make reading sound like conversa-

TABLE 2

Organization of Slides for a 10-min Presentation

Category	Number of slides
Introduction	1–2
Hypothesis/Aims	1–2
Methods	2–4
Results	4–6
Summary/Conclusion	1–2
Total	9–16

tional speaking. While his contemporaries read prepared text in monotones, he sounded as if he was having a one-on-one conversation with his audience. In discussing his universal appeal, Hilton said, "To read as if you were talking, you must first write as if you were talking. What you have on paper in front of you must be talk stuff, not book stuff" [2].

The presentation should be rehearsed aloud and timed to preclude the embarrassment associated with speaking past the allotted time. Allow for a 1- or 2-min margin of safety. Many lecterns are installed with a light system that serves as a valuable warning when the allotted time is about to expire. Reputations may be tarnished by the rudeness and arrogance of speaking too long. The audience will judge the quality of the presentation by the value and clarity of presented data, not its volume.

PREVENTING TECHNICAL PROBLEMS

Modern technology, while improving efficiency in the communication of data, has made scientific presentations more complex. This, coupled with highly variable technical support and unique equipment within particular auditoriums and institutions, presents a potential disaster for the inadequately prepared presenter. Anything that can go wrong, just may. The most common problems originate with slide projection; mismanagement or malfunction of the microphone and components of the lectern, including the laser pointer; and lighting controls that do not work properly (Table 1). These potential pitfalls may easily be avoided by arriving early at the lecture hall and testing all equipment.

There are seven incorrect ways to position a slide in a carousel, but there is only one correct way. Slides should be properly oriented, in the correct order, and should always be shown by a properly trained projectionist who can also quickly install a spare light bulb for the projector. Frequent refocusing taxes the patience of the audience. Uniform thickness of each slide casing prevents the need for most refocusing, and frequent refocusing taxes the patience of the audience!

The first requirement for a slide is legibility. Slides should be designed simply, with the goal of presenting the information in as clear a manner as possible. Some speakers who do not wish to read their talk from the lectern assume a compromise position by typing the prose of the talk onto the slides. The audience can read faster than the speaker can talk, and this makes the speaker an irrelevant source of noise. Slides should have a running heading that identifies the topic of the presentation. A subtitle that explains the purpose of each slide is also helpful. Ideally, each text slide should contain three to four lines of key text to prompt the presenter. No more than about seven lines of text should be used on any one slide. Any slide that requires the introductory phrase, "I don't know if those of you at the back of the room can see this," should be eliminated from the presentation. Slides showing graphs should be limited to a maximum of three or four line curves. The use of a title effectively focuses the attention of the audience on the proper conclusion and message from graphically displayed data. Tables should have no more than four columns and four rows. Statistical data are generally best illustrated in graphic form as histograms, bar graphs, or other diagrams rather than tabular form [3, 4] (Table 2). With the advent of excellent software for computer-generated slides, there is no excuse for poor quality slides. However, overburdening the slides with excessive backgrounds, embossed images, and color schemes is annoying. While color scheme is a matter of personal preference and style, some colors work better than others. Usually, a dark background (blue works well) with light, very brightly colored text or figures (white, yellow, orange, or bright pink) is clear and pleasing. Specific color schemes to avoid are a dark blue or black background with red, blue, or green text. While this may appear pleasing on the computer screen and when projected at close range, these combinations prove difficult to see clearly in a large room.

TABLE 3

Fundamentals for Delivering Effective Oral Presentations

Do	Don'
Practice use of the lectern equipment	Tell a joke
Establish the audience–speaker relationship	"Wing it"
Present material as a "story"	Read your talk
Rehearse your talk	Make apologies
Succinctly define your models and experimental protocol	Overwhelm with acronyms and jargon
Stay within the time limit	
Use simple slides	
Use graphic presentation of data	

Microphones are a frequent distraction. The stationary microphone may cause voice fluctuations as the speaker moves. Even a slight turn of the head to glance at a slide may lower projected volume by several decibels. The mobile microphone that is hung around the neck, while having less fluctuation in volume, may produce noise from the friction between the microphone and speaker's clothes, especially as the speaker moves to glance at the lectern or screen. A microphone clipped to a tie, shirt, or blouse is the best arrangement. The speaker's strategy to minimize the distractions of even the most inferior equipment can be achieved by identifying equipment limitations well in advance of the presentation.

Lecterns vary in size and shape. The lectern may be as simple as a wooden structure with an attached lamp or as complex as a console with multiple electronic switches. Many have 15 or more electronic switches, often unlabeled. It is important to master the lectern lights and projector switches well in advance of the presentation. The lectern light may have to be switched off to avoid interference with the slide projection.

SUMMARY

Clearly much is required of the speaker for the composition and delivery of an effective oral presentation. By adhering to the principles outlined herein (Table 3), the authors hope that many, if not most, of the pitfalls for effective communication may be avoided.

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