Education in Internal Medicine

Presentations at professional meetings: notes, suggestions and tips for speakers

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Abstract

Professional meetings are an important way of educating, communicating and sharing updated information. After having attended dozens of medical and scientific meetings and conferences, the authors realized that many lectures are not appropriately presented due to a lack of proper speaking skills or inadequate facilities. Although the art of speaking is, to some degree, an inborn talent, speaking skills can be learned, exercised and put into practice. The current article summarizes the authors’ thoughts and opinions about what makes a medical or scientific lecture a good or bad one, and it provides suggestions for improving a speaker’s performance. Common mistakes are discussed, along with tips and recommendations on how to prepare and provide an interesting, professional, entertaining and attractive lecture. Guidelines are given on how to structure and balance a lecture. A special segment is devoted to speaker–audience relations. A detailed chapter emphasizes rules for preparing good slides. Finally, some recommendations are made regarding facilities in the lecture hall. The authors believe that if the proposed suggestions were applied, more presentations would be successful.

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1. Introduction

Professional meetings, even in the era of computers and the internet, are still an important way of educating, communicating and sharing updated information. Both speakers and audiences are interested in having a highly interesting session, and the more entertaining the better. This takes on even greater importance at a 3–5-day congress, where participants attend many lectures during each hectic day.

After having attended dozens of medical and scientific meetings and conferences, the authors have come to the conclusion that many lectures are not appropriately presented due to a lack of speaking skills or inadequate facilities. The price one pays as a result of these shortcomings is that valuable information is not imparted to bored and non-attentive audiences. Although the art of speaking is, to some degree, an inborn talent [1], speaking skills can be learned, exercised and put into practice. Surprisingly, there is a paucity of published material on the topic. Moreover, what little there is, focuses on teaching medical students. The skills that are unique to medical and scientific lectures at professional meetings are hardly mentioned [1,2].

The current article summarizes the authors’ thoughts and opinions about what makes a medical or scientific lecture a good or bad one, and it provides suggestions for improving a speaker’s performance.

2. The structure of a lecture

A successful lecture is one in which the speaker is able to strike a balance between conveying ideas in a serious manner and doing so in an entertaining style [3] in order to maintain the audience’s attention. It is essential that each
lecture be tailored to the particular audience at hand: the background, data, results and conclusions can be different, depending upon whether the audience consists of students, primary physicians, internists, specialists, research scientists, the general public or a mixed population. For example, slides that relay the message clearly and succinctly to one audience may be incomprehensible to another.

The time frame is crucial to the type of the lecture. A long lecture requires going into detail, the level of which is determined by the nature of the audience. Pre-lecture preparation is always important, but a trained speaker can also adjust the level of detail as the presentation progresses. A long lecture allows the speaker some flexibility, but it requires greater effort to maintain the audience’s level of concentration. On the other hand, it is easier to maintain the listener’s attention for a short presentation, but the speaker has little time to deliver his ideas and must exploit this time to his greatest advantage in order to get the entire message across. In other words, he has to be short, sharp and clear.

The title of the talk should be short—no more than 8–10 words—and just suffice to convey the main idea. Potential listeners may avoid showing up if they see a long title. A lecture should start with an introduction that takes up no more than 15–20% of the time allotted to the whole presentation. It should review the background of the talk and provide outlines of the contents and objectives [2,4]. It should not disclose the results or conclusions, but can hint at them to pique the audience’s curiosity.

The core of the lecture, comprising 50–75% of the talk, follows the Introduction. It should include the Materials and Methods section but concentrate on the Results. The data must be clear and understandable. Again, it will be the nature of the particular audience that decides the appropriate level of detail that should be provided. For example, if the speaker is introducing a new anti-cancer agent, primary physicians might be interested in knowing whether the agent is regarded as standard therapy for one or more malignancies and which patients should be referred to specialists for such therapy. Oncologists, on the other hand, might be interested in specific details such as response rate and duration, response criteria, survival, adverse effects and a comparison to other currently available agents, including detailed statistics, etc. An audience of biologists might be interested in the mechanism of action of the new drug.

The final part of the talk should summarize the lecture, emphasizing the highlights of what has been said. The speaker should emphasize the conclusions, which, in essence, constitute the main ideas of the lecture. This section should be crystal clear so as to allow the listener to absorb the “take-home message”. Some attendees who might have “lost contact” with the speaker during the talk may now “wake up” during the final comments and still get the essential points. When appropriate, it is a good idea to close with a short prediction of future directions of the topic of the specific research presented.

Time is always a critical consideration. Speakers should comply with time limitations [2]; unfortunately, many speakers who have not adequately prepared their talk go beyond their time limit. The result is often an annoyed chairman, an irritated audience and a disrupted presentation schedule. Alternatively, sometimes when speakers realize that they are running short on time, they speak too quickly in order to get everything in and they lose points in the quality of their presentation.

Most professional presentations include the use of slides, shown either on the traditional slide projector or as a computer (laptop) presentation, often created by power point. In general, about 1 min (give or take a few seconds) should be devoted to each slide [4]. This time frame should be sufficient for the speaker to convey his ideas and for the audience to follow them. For a 10-min presentation, 8–10 slides should be appropriate; a 45-min talk should be accompanied by no more than 35–40 slides. As the lecture progresses, the audience is more likely to become restless, tired and less alert. Thus, the number of slides presented should be kept to a minimum.

3. Speaker–audience relations

The role of the speaker is to enlighten the audience rather than to gratify his own ego [5]. The major limitation of establishing productive interrelations between the speaker and the audience is the unilateral nature of the relationship. The speaker is active and defines the “show” while the audience is passive with a substantial risk of becoming bored [2]. The speaker’s way of speaking, his authority, expertise, behavior, body language, enthusiasm and style of dress, as well as the environment and atmosphere, are additional factors that may influence the success of the presentation.

A lecture should be as clear as possible and consist of appropriate, but not complex, language, with short, concise sentences [5]. Long sentences are tiring, especially when a lecturer includes parenthetical remarks. As with everything else, the language should fit the specific audience. Using terminology that is unknown to the listeners may lead to a loss of their attention. Speakers are advised to stand up rather than sit; moving across the podium is preferred, although moving too much across a stage or “dancing” is not desirable. It is also recommended to avoid reading and to try to talk to the audience, to watch the people and to allow them to see the speaker’s facial expressions and body language. The speaker should look at different parts of the audience in order to give individuals the feeling that he is talking to them all. One should also bear in mind that it can be embarrassing for a speaker when there is no correlation between what he is saying and the message on the slide behind him, not to mention the confusion this causes the audience! The audience expects to see the speaker’s face, not his back or his shadow in the dark hall. Appropriate gestures help
maintain some direct contact with the audience [3]. The speaker’s written notes should be kept for emergency assistance, not as a guide for the presentation. It should be possible to skip a slide during the talk if the speaker feels that it is irrelevant to the particular audience.

The speaker’s voice, tone and inflection are powerful tools for attracting an audience. The speaker should be fluent, clear, relatively slow and audible, and he should use simple and understandable language [2,3]. Speakers are advised to refrain from speaking in a low, monotonous style and from taking long breaks with fillers such as “uh...uh...”. Quite the contrary: changes in inflection are recommended, especially raising one’s voice to emphasize points and for occasional dramatization. Sometimes, stopping the lecture for a few seconds may help to build up the drama [3]. The best tone to maintain for the most part is a conversational one. The pace of the talk should be adjusted according to the specific audience and its reactions. The speaker should remember that a good lecture resembles a show in many senses. The speaker should also be careful when it comes to pronunciation [5]. Regardless of his having an accent, should he be lecturing in a language other than his own, he must ensure that difficult to distinguish words, such as “inter” and “intra”, are not misinterpreted.

The speaker’s responsibility for maintaining the audience’s interest is no small task. This requires a considerable expenditure of emotional energy, especially from the untrained lecturer. He should use a pointer in one hand and change slides with the other hand. It would be wise to practice that kind of coordination before the actual lecture. One should try to avoid waving a laser pointer around, something that results in a rapidly migrating red dot on the screen (or on people), which bothers the audience and interferes with their concentration.

The speaker must bear in mind the importance of projecting real expertise in the field. Frequently, the audience can instinctively tell who is a genuine expert and who is not. Therefore, careful preparation, including appropriate citations of the literature, is critical for the success of the presentation.

Finally, a bit of humor can always help attract the audience and assist in maintaining their alertness while helping to emphasize certain points. Relevant jokes, funny slides or cartoons are welcome. On the other hand, a lecturer is not expected to be a comedian and exaggeration may be deleterious. Again, it is a matter of who is sitting in the audience. Like pornography, humor is also a matter of geography, culture and society. One must make sure that the audience understands the speaker’s humor and, most importantly, that they are not insulted or offended by it.

4. Slides

Slides are a major tool at professional meetings [4]. They help to convey ideas and emphasize certain points. The recent strategy of using laptop and computerized presentations has technically facilitated things, but it has not changed the nature of commonly made mistakes. We have listed below a few suggestions for preparing appropriate slides (“The 10 commandments for good slides”):

1. **Spare the use of colors**: One of our mentors used to say, “A good lecture is recognized by the paucity of colored slides”. In fact, there is neither a need nor an advantage in using colored slides. On the contrary, black and white (or dark writing on a clear background) slides are preferred. In our opinion, the only exceptions are: (a) curves, especially if there are three or more lines, (b) a theoretical model or hypothesis (cartoons) and (c) original pictures (e.g., blood smears, pathological specimens, specific stains, hybridization, etc.).

![Table: Anemia - types](image)

<table>
<thead>
<tr>
<th>ANEMIA - TYPES</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Microcytic</td>
</tr>
<tr>
<td>a. Iron deficiency</td>
</tr>
<tr>
<td>b. Hemoglobinopathies</td>
</tr>
<tr>
<td>2. Macrocytic</td>
</tr>
<tr>
<td>a. Megaloblastic</td>
</tr>
<tr>
<td>b. Hemolytic</td>
</tr>
<tr>
<td>c. Myelodysplastic</td>
</tr>
<tr>
<td>3. Normocytic</td>
</tr>
<tr>
<td>4. Others</td>
</tr>
</tbody>
</table>

Fig. 1. (a) An example of a slide with red writing on a dark background. (b) The same content is presented in a black on white pattern. (For interpretation of the references to colour in this figure legend, the reader is referred to the web of this article.)
2. *Keep the background clear*, preferably white. A dark background interferes with the ease of reading the slide and requires the lights to be dimmed, an undesirable feature, as described earlier (resulting in a dark hall and loss of communication). For example, slides with red print on a purple or dark blue background are difficult to understand and are impossible for color-blind individuals to read (27% of the male population is color-blind.). It is surprising how often such slides are still shown (Fig. 1a). In a recent international meeting, a distinguished speaker spoke to more than 4000 people in the plenary session and showed a series of such slides. He apologized because he, himself, could not read the slides and he went on to explain what was being projected on them. Blue (clear) on a dark blue background, green on blue, purple on blue and several other combinations that are poorly visible are also to be discouraged. On the other hand, black or blue writing on a clear white or yellow background is always visible (Fig. 1b) in a well-lit lecture hall where people can take notes and the lecturer can maintain links of communication with his audience.

3. *Keep the slides uncluttered* (Fig. 2a). Slides are supposed to enhance the talk, not replace it. Often, when a slide is cluttered with too much information, either the speaker attempts to read everything on the slide, or the audiences attention is drawn to reading the slide instead of listening to the speaker. Cluttered slides are a good way to lose contact with the audience. No more than 7–8 words per line and 5–7

![Table](image)

**Table.** Most common causes of the encephalopathy syndrome

<table>
<thead>
<tr>
<th>Systemic causes</th>
<th>Endogenous</th>
</tr>
</thead>
<tbody>
<tr>
<td>Liver failure</td>
<td></td>
</tr>
<tr>
<td>Hypoxia or carbon dioxide narcosis</td>
<td></td>
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<tr>
<td>Kidney failure</td>
<td></td>
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<tr>
<td>Heart failure</td>
<td></td>
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<tr>
<td>Severe anemia</td>
<td></td>
</tr>
<tr>
<td>An excess or deficiency of thyroid hormone, parathyroid hormone (and calcium from other sources), or adrenal or pituitary hormones</td>
<td></td>
</tr>
<tr>
<td>Electrolyte, acid-base, and metabolic disturbance (abnormalities of electrolytes, glucose, ketones, or vitamins)</td>
<td></td>
</tr>
<tr>
<td>Exogenous (toxins)</td>
<td></td>
</tr>
<tr>
<td>Alcohol and drugs</td>
<td></td>
</tr>
<tr>
<td>Heavy metals and hydrocarbons</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Primary nervous system causes</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Meningitis (viral, bacterial, or fungal)</td>
<td></td>
</tr>
<tr>
<td>Encephalitis (usually viral)</td>
<td></td>
</tr>
<tr>
<td>Multifocal cerebral lesions</td>
<td></td>
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<tr>
<td>Hemorrhages and infarcts</td>
<td></td>
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<tr>
<td>Tumors</td>
<td></td>
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<tr>
<td>Inflammatory or demyelinating lesions</td>
<td></td>
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<tr>
<td>Infectious lesions such as abscesses</td>
<td></td>
</tr>
<tr>
<td>Traumatic lesions</td>
<td></td>
</tr>
</tbody>
</table>

![Figure 2](image)

**ENCEPHALOPATHY**

**Causes – Systemic (I)**

1. Endogenous
   - liver failure
   - hypoxia
   - kidney failure
   - anemia
   - hormonal
   - metabolic

2. Exogenous
   - alcohol, drugs
   - heavy metals

**ENCEPHALOPATHY**

**Causes – CNS (II)**

1. Meningitis
2. Encephalitis
3. Multifocal
   - Stroke
   - Tumors
   - Inflammatory
   - Infectious
   - Trauma

Fig. 2. An example of a table recently published in a journal. Such a table, which should be detailed in a manuscript, is, often erroneously, replicated exactly as is onto a slide. (a) The slide turns out to be too crowded and “burdensome”. (b, c) This kind of slide should be divided and only highlights should appear.
lines (maximum 40 words) per slide are recommended (Fig. 2b,c). Most of the current graphic programs help, since they do not accommodate busy compositions. The text should be short and clear. The speaker’s job is to provide more details and to “walk” the audience through the slide. Abbreviations should be kept to a minimum since the audience may not be familiar with them. The problem of too much information on a slide can be overcome by splitting the message into two or more slides (Fig. 2).

4. **Avoid capital letters**: Conclusions are better understood and more easily read in a less cluttered slide that is not written in capitals (Fig. 3a) but rather in lower case letters (Fig. 3b).

5. **Help the audience interpret the results of experiments** that are presented in curves, columns, bands, etc. by using simple footnote symbols (i.e., asterisks, daggers, etc.).

6. **Avoid using complicated original figures from printed matter**, as well as those whose legends are in small print. Refrain from using figures that contain material irrelevant to the lecture.

7. **Avoid using cluttered original tables from printed matter**. Refrain from using tables that contain material irrelevant to the lecture. Often, such tables are too busy and include details and surrogate data that may be important for the article but are irrelevant to the audience. The speaker should prepare a slide of his own that will fit the specific audience. The purpose of the lecture is to convey the message and, in contrast with papers, not all of the results should be provided.

8. **When statistical analysis is reported**, the P-value is often enough. The values of standard deviation, range, confidence limits and other parameters are important in a manuscript, but not in a lecture [5].

9. **When showing two slides simultaneously** for the purposes of comparison, take special care that they match appropriately and that it will not be difficult for the audience to follow a double presentation. It is advised, however, to avoid such a presentation.

10. **Acknowledgement slides are welcome** and they allow the speaker to give credit to his collaborators. However, they should be put at the end of the talk and presented as time permits.

**5. Venue of the talk**

Additional factors may also be important in creating an appropriate atmosphere, a prerequisite for a successful lecture. These include:

1. Lighting in the lecture hall. Better communication is maintained if the speaker and the audience can see one another. People are also able to take notes.
2. A pleasant (air-conditioned) temperature.
3. Comfortable chairs.
4. A screen for slide projection that can be seen without effort by the entire audience.

**6. Conclusion**

A good lecture will have:

1. A comfortable lecture hall.
2. Enough lighting for visual contact between the speaker and the audience.
3. Adherence to the timetable.
4. A level of speaking volume sufficient to reach the back of the room/hall.
5. Well-paced and clearly enunciated speech.
6. A lecturer who no more than glances at his notes and speaks directly to his audience.
7. Well-selected slides: not too many, easily discernible content, and simple tables and figures.

The authors believe that if the proposed recommendations were applied, more presentations would be successful.

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Fig. 3. (a) An example of conclusions presented in capital letters. (b) The same slide as (a) with lower case letters and succinct, abbreviated main points.
References