MEDICAL EDUCATION

Presenting a scientific paper, including the pitfalls

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This is the fifth article in a series on medical education.

Shortly after the request to write this article landed on my desk, I travelled to our main international paediatric oncology meeting of the year. As is often the case, speakers were competing with the charms of a beautiful city, early morning hangovers, and opportunities to catch up with old friends. My general impression is that attendance at sessions is helped by the audience's interest in the subject, a strong and lively chairperson, and bad weather! Apart from being prepared to provide the chairperson with a few interesting questions it would seem that one can only influence the first of these three determinants. I offer this summary of my personal practice built up after the usual run of bad and hence memorable experiences.

The abstract

The tone of the presentation is set with the writing of the abstract. Wanting a trip to Vienna is not a good enough reason for framing an abstract unless the data are really interesting. If you don't find them so, you can bet your life that nobody else will. Have you presented the work before? Increasingly, the forms inviting abstracts stipulate that they should contain novel data. This protects the audience from boredom and your reputation from the aspersion that you never have anything new to say. It has been my practice to communicate similar data at a second meeting provided it contains some new results and that it is targeted at a totally unrelated specialist group. Hopefully, no one will have heard the information before. However, it is not acceptable to simply rehash the same abstract but should reflect the special interests of the second group.

If one genuinely wants the abstract accepted for oral presentation it must contain a clear hypothesis, a brief description of methods, an exposition of results, and a conclusion. That well worn phrase 'results will be presented' simply raises the suspicion that the author is hoping that the data will be ready by the time that the conference begins.

Sometimes, in the rush to meet deadlines for abstract submission, the needs of coauthors are overlooked. This is a sensitive area and can easily temporarily wreck what appeared to be a harmonious collaboration. Do make sure that all coauthors have seen the abstract before submission and are happy with the content – it is good research practice and important to the smooth running of the research group.

Acceptance! (and preparation)

Why is it that there appears to be a time warp between hearing of an abstract's acceptance and preparing the presentation? Some of us just fail to break the habit of beginning the preparation during the week before travelling. This has become worse since the availability of computer aided graphics and computer linked slide making facilities. I can now get a slide made and mounted within six hours. While I enjoy this flexibility it is still important to give adequate preparation time to any presentation. The amount does depend a little on one's experience but should allow for the remaking and addition of new slides, as well as practice sessions during which the talk can be pruned and refined.

My initial approach is to consider the type of audience I am speaking to. These can vary between a general paediatric audience, my oncological colleagues who may have some specialist knowledge about the topic being presented, or a scientific interest group with no background in medicine. Each audience presents different challenges. Moreover, within an audience there will be individuals with different levels of specialist knowledge and for whom English may not be their first language.

To approach this problem, I try and define the main message of the presentation and identify the core knowledge that the group needs to understand of the research strategy and the validity of the conclusion. So for a scientific forum it is best to assume no clinical knowledge. It is often helpful (if relevant) to place scientific research in a clinical context. In my experience, scientists invariably find this interesting and enjoy hearing about how laboratory based research impacts on clinical practice. Similarly, physicians can be frightened by a presentation that conveys a lot of unfamiliar technical information. By defining the core knowledge it is usually possible to include an explanatory slide(s), which covers any knowledge gap.

In determining the number and type of slides, I usually allow myself one slide per minute. While I don't have any hard and fast rules, I tend to use a title slide (this gives the opportunity to acknowledge coauthors and research support), an introductory slide explaining the concept behind the research, extra slides on the principles of the research methodology or techniques, followed by results and conclusion. All of this would seem self evident but frequently a crucial slide is

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missed out, which then interferes with the steady logical flow of information. Personally, I like additional link slides which can be used to boldly define an issue, or can be used by myself as a prompt when verbal content takes over from visual representation.

Despite constant warnings, many individuals still make far too complex slides. One can usually tell they are coming because they are prefaced by the remark 'this is a terrible slide but ...'. The main problems are complex tables containing illegible data. As a general point, if there is not enough time to take the audience through the slide point by point, the slide should be discarded. In this situation a summary slide is more valuable.

I have learnt from bitter experience that as well as taking a minimalist approach to slide design, that it is important to choose colours on slides that will project well in adverse conditions. It is not enough to believe that because you are attending a prestigious venue, the projection facilities will be first rate. Problems can be compounded by a refusal to dim the lights, sleeping projectionists, and language barriers; despite stamping your foot or gesticulating wildly at the projectionist it is often impossible to get the conditions you want. Play safe, stick to black/white or yellow, dark blue/white or yellow combinations – and always avoid red!!

Of course if all else fails, the sense of the presentation will be sustained if the quality of the verbal presentation can stand on its own. Too often, considerable care has gone into the production of slides without similar care in the content and projection of the verbal message. Slides should not be used as a substitute for written notes but should complement the verbal presentation making it more accessible to the audience. There is nothing less entertaining than a presenter who constantly turns away from the audience to read from the slides. Once again, there is no substitute for repeated practice with colleagues. This gets the sense and timing right and eventually leads to independence from all forms of props. If the worst comes to the worst (as has happened to me), one can still give a creditable performance if your slides mysteriously vanish or the slides turn out to be completely illegible under the prevailing lighting conditions. (I now always take two complete sets of slides on any trip.)

The presentation

Techniques for engaging the audience obviously vary from presenter to presenter. I envy those individuals who effortlessly introduce humour or a historical/artistic reference into their talks. However, I have no talent for it and any attempt to tell a joke always lands flat. What we can all do is look the audience squarely in the eye, smile as one talks, and move the head to encompass all sections of the audience. It's probably best to reserve hand signals for moving the pointer, or changing slides. More flamboyant gestures often result in knocking into the microphone and making a terrible noise. Similarly there are those

individuals who move or rock back and forth, in a highly distracting way. This is obviously due to nervousness and at its worst can result in those little clip microphones being torn from their bodily attachment as the presenter gravitates further and further from the lectern. (Also a danger during 'any questions?') If you are a rocker or traveller, practice gripping the lectern as a point of reference. This can also be a great source of comfort for those of us who suffer from significant stage fright.

I try and deal with nerves by dressing comfortably, familiarising myself before the start of the session with the projection facilities and the control systems (a good chairperson or facilitator will run through these with you and try and put you at your ease). I also perform some deep breathing techniques to quell the panic and gain control of my voice. A glass of water can be helpful before starting, particularly if you've reached the stage where your top lip is stuck to your teeth! Many people feel like this and facilitators keep mineral water on their desks expressly for this purpose.

The final key to success in any presentation must be pace. Speak slowly and clearly. If one keeps to one slide a minute, and has practiced adequately then there should be no problem in communicating effectively and on time. I can recall one occasion when in Monty Python fashion, the long suffering facilitator had to bodily remove an enthusiastic speaker from the stage. He went off still talking. Joking aside, it is discourteous to the audience and other speakers if you run over time. A strong chairperson should take control of the situation but this does not always happen. As sessions overrun there is no time for questions and the audience becomes restive. The last speaker is often left without an audience. This is particularly sad if it happens to you.

The questions

I am never quite sure how to greet stunned silence at the end of a presentation. Are they impressed by my erudition, the quality of the research ... or they simply didn't understand a word? Once again a good chairperson should get the ball rolling and it is sometimes helpful to have a ready prepared question in case he/she asks for one. I am not very good at spotting questions, so I don't routinely prepare back up slides. However, if you can predict what is coming then these may help through the question period.

As well as helping the discussion along, the chairperson should protect you from unfair or hostile questioning. If things get sticky and your supervisor or another member of your research team is present, it is fair to refer the question to them. Another useful strategy at difficult moments is to turn the question around with a comment such as, 'I'm not sure, do you have a view on this?' Provided you can demonstrate a knowledge of your subject and answer some of the questions, this invariably gets the audience on your side and can provoke both merriment and dialogue ... the best way to end an oral presentation.