Making A Scientific Presentation: Basic Principles

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History of Oration

• Public forum
• Speaker on an elevated platform
• Need to project to entire audience
• Effective speakers told stories
• Importance of repetition
Modern Scientific Oral Presentations

• Starting point
  Accepted scientific abstract
  Review of topic—no abstract
• Speaking in a conference room
  Blackboard
  Flip Chart
  Overhead projector
  Videoconference
  Powerpoint
• Video presentation
Speaker Aids

• Podium
• Microphone
  • Fixed
  • Portable
• Pointer
  • Mouse
  • Laser pointer
• Computer used for powerpoint
• Your personal notes
• Water for dry mouth of cough
Organization of a 10 Minute Scientific Oral Presentation

• Title slide (1 slide)
  Title of presentation
  Your name
  Collaborators for project
  Institutions represented
• Conflict of interest disclosure (1 slide)
• Background (1-2 slides)
• Population and Methods (2-3 slides)
• Images/Photos (0-3 slides)
  Equipment, lab, environment, subjects
• Results (2-3 slides)
• Summary (1 slide)
• Limitations (1 slide)
• Backup slides (0 to 3 slides)
General Rules for Giving a Talk

• Slides
  Not more than 1 slide per minute
  Keep visual content simple
  Try to avoid too many lines of text
  Do not “read” the slides
  High contrast background color
  Arial (or similar) text is preferred
  Animation not usually needed
Speaking with Style (1)
You

• Clothing
• Jewelry
• Makeup
• Awareness of the total you
  • Head
  • Eyes
  • Torso
  • Hands
  • Feet
Speaking with Style (2)
At the Podium

• Walk slowly to the podium
• Thank moderator(s) and sponsor(s)
• Talk to the different sections of audience
• Talk slowly
• Vary your rhythm
• Use pauses for emphasis
• Don’t use jargon
• Be careful with use of “humor”
• Define uncommon words at time of first use
• Repeat your important findings
• Signal when close to finishing
• Finish within allotted time
Speaking with Style (3)
Emphasizing Key Findings

• Repetition Approach
  Tell audience what you are going to say
  State the finding
  Repeat the finding

• Socratic Approach
  Ask a question
  Answer the question with your study data
  Repeat findings with different phrasing
Speaking with Style (4) Questions

• Questions from the audience
  Thank person for asking the question
  Briefly repeat or paraphrase the question
  Ensures you understand the question
  Gives info on question to rest of audience
  Provide “short” answer
Speaking with Video

- Personal appearance is very important
- Face makeup and powder if available
- Usually you relate to an interviewer
- Act relaxed
- Know what the camera is viewing
- Behave as though camera is always “on”
- Be aware of your facial expression(s)
Fluent Communication

• Speak at average speed
• Vary speed and pitch
• Use pauses effectively
• Avoid filler expressions
  Examples: “um”, “uh”, “you know”
• Use appropriate vocabulary
• Pronounce words correctly
Behaviors and Communication

• Stuttering
  Focus on smoothness, rate and tone
• Physical movements
  Especially eyes, forehead, breathing, frowning
• Large muscle movements
• Verbal repetition
**Table: Basic Components of a Table**

<table>
<thead>
<tr>
<th>Stub Head</th>
<th>Column Spanner</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Column A</td>
</tr>
<tr>
<td>Stub 1</td>
<td></td>
</tr>
<tr>
<td>Stub 2</td>
<td></td>
</tr>
</tbody>
</table>

*Other major risk factors (beyond lipids) include smoking, hypertension, and family history of premature CAD*

Brunzell JACC 2008; 51: 1512 Nicol and Pexman: Presenting your findings (2010), p 5
Table Composition

• **Title**
  Should be meaningful
  Keep it short if possible

• **Column and Row Heads**
  Avoid repeating words
  Make the order logical
  Keep text short
  Try to have columns with equal spacing

• **Column Spanner**
  Use spanners if you can

• **Numbers**
  Fewer decimals is generally preferred
  Standard Deviation vs Standard Error of Mean

• **Abbreviations**
  Explain in text or in a footnote

Nicol and Pexman: Presenting your findings (2010), p 7
Examples of Slides

- Slides are shown using the same data
- Different formats are used for each slide
- Each presentation type has its merits
Blood Pressure Change in the ABC Trial

Mean BP systolic reduction (mm Hg)

Men

Women

Drug
Placebo
Blood Pressure Change in the ABC Trial

Men

- Mean BP systolic change (mm Hg)

Women

- Mean BP systolic change (mm Hg)

Drug
Placebo
## Correlation Table

<table>
<thead>
<tr>
<th>Measure</th>
<th>Factor 1</th>
<th>Factor 2</th>
<th>Factor 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Factor 1</td>
<td>--</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Factor 2</td>
<td>0.24</td>
<td>--</td>
<td></td>
</tr>
<tr>
<td>Factor 3</td>
<td>0.30</td>
<td>0.55</td>
<td>--</td>
</tr>
</tbody>
</table>
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* Values shown are r-squared
## Correlation Table

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<th>Factor 2</th>
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</tr>
</thead>
<tbody>
<tr>
<td>Factor 1</td>
<td>--</td>
<td>0.28</td>
<td>0.35</td>
</tr>
<tr>
<td>Factor 2</td>
<td>0.24</td>
<td>--</td>
<td>0.60</td>
</tr>
<tr>
<td>Factor 3</td>
<td>0.30</td>
<td>0.55</td>
<td>--</td>
</tr>
</tbody>
</table>

* Values shown are r-squared

* Group A

* Group B
Graphing Data Over an Interval (1)

Powerpoint Vertical Bar Plot

Population (millions)

Year

1980 1990 2000 2010
Graphing Data Over an Interval (2) 
Powerpoint Vertical Bar Plot

Population (millions)

Year

1980 1990 2000 2010
Graphing Data Over an Interval (3)

Powerpoint Vertical Bar Plot

Population (millions)

Year

1980 1990 2000 2010
Graphing Data Over an Interval (4)

Powerpoint Vertical Bar Plot

Arrange graph so that the slope of this line through the data is approximately 45°
Graphing Data Over an Interval (5)
Graphing Data Over an Interval (6)
Summary
Speaker Tips from Toastmaster’s International

• Know your material
• Practice, Practice, Practice!
• Know the audience
• Know the room
• Relax
• Visualize yourself giving your speech
• Realize that people want you to succeed
• Don’t apologize
• Concentrate on the message
• Gain experience
• Try to keep your visual aids simple