

Design is very subjective and what one person regards as the epitome of good taste may be complete anathema to someone else. This is partly true when it comes to designing slides, but less so for scientific slides where there are more prosaic issues to contend with, such as legibility and comprehensibility.

If you are creating a set of sales slides, the impact is critical, so there's an excuse for going overboard with the graphics capabilities of PowerPoint®. However, if you are trying to convey complex scientific information to an audience of physicians, the golden rule is that the audience should remember your talk for the content, not for the slide design.

Slides should be functional rather than artistic, and there should be consistency of design throughout in order to minimize distraction from the slide content. This does not mean that the slides have to be boring, and this fact sheet is intended to provide useful tips on maximizing the impact of your scientific presentation. It is not intended as a training manual and does not offer instruction on how to work with PowerPoint, for which there are many good books available.

1 Fonts

Serifs or sans-serif?

For the sake of readability, always use a plain sans-serif font; that is, one without the small projections at the ends of the letters. Serif fonts also often have letters of uneven thickness, and while they may look fine on your PC they will not project as well because the resolution of LCD projectors is limited.

A sensible choice of font is Arial because it is a standard Windows font, which means it is available on any computer running Windows. (The default font in PowerPoint is Times Roman, but this is not suitable for slides.) Note that if you do use an obscure typeface and you try to show the slides on a computer without that font, Windows will substitute the nearest it has, which will almost certainly affect the formatting of your slides. If you are set on using an unusual font, you can make a version of your PowerPoint file that contains the fonts you have used (see the Help function); while this makes the file size larger, it will enable you to present the slides on any computer.

Choosing the right font

- A sans-serif font, such as Arial, Helvetica or Univers, is easier to read and projects well.
- Tahoma is a popular font and less plain than the above.
- A serif font, such as Times, has letters of uneven thickness and does not project as well. The serifs tend to disappear too.
- A FONT WITH VERY SUBTLE SERIFS, SUCH AS COPPERPLATE, WILL PROBABLY NOT SHOW UP WELL EITHER.
- Avoid anything wacky **like these fonts** because you're only *asking for trouble!*

For the sake of contrast, it is sometimes a good idea to use more than one font in a presentation – in figures or tables, for example – but it is best to use a sans-serif one.

Does size matter?

Some people feel the need to fill the slide with the words they have, with the result that the font sizes jump about from slide to slide. It is less distracting to have as much consistency as possible. A font that is too large can be as difficult as one that's too small.

The general rule regarding font size is not to use less than 16 pt if you want the audience to read the information. However, readability depends on the size of the image on the screen and how far away from it people are sitting. Nevertheless, fonts between 16 and 24 pt are best for the body of the slide. Any larger than 24 pt can make the words look out of proportion to the rest of the slide.

When trying to squeeze in a lot of text on a slide (not recommended, but sometimes necessary), it is better to have a slightly smaller font size and increase the line spacing. Tightly packed larger text is more difficult to read than when it is more loosely spaced and smaller.

Slide titles are likely to vary widely in length in a presentation, and while consistency is helpful it is not essential. The font is usually much larger than in the body of the slide, but 40 pt is sufficient. A slide title should ideally fit on no more than two lines – if it's longer, try cutting down the words. To decide on the optimum font size, start with the longest title and adjust this so that it sits on two lines and is between 32 and 40 pt; then change the other titles to match.

Be careful when using text for labeling (eg, axes on graphs) that the font is not too small (or too large). In general 14 is the minimum size, and making it bold can help the clarity when projected.

Lastly, not all text is necessarily intended to be read by the audience (eg, references), but the text should be readable by the speaker, so 12 pt is the minimum size.

To boldly go . . .

The whole point about making text bold is that it provides emphasis. Having your entire slide in bold is unnecessary and doesn't make it any more readable unless the projector is poor. If you do everything in bold you have nothing left for emphasis except color.

Italics should only be used where essential (eg, Latin names), not for emphasis. Underlining is best avoided as the line may break up when projected.

Font colors

White on a dark background, or black on a light background, is the general rule, but these can often be modified if required. Dark colors on a dark background will not project well (also see: *Colors*). The title text should be in a contrasting color.

Font size

- Very large letters can be difficult to read
- Try to have consistency of size throughout your presentation
- Bear in mind that the body text should usually be smaller than the title text
- Don't make the text too small!

Case sensitivities

There is a distinct Atlantic divide when it comes to the use of capital letters, although the US is moving towards the style common in the UK. In general, people are used to reading sentences, which means a capital letter at the start and the use of capitals elsewhere only where necessary.

The text in the body of the slide should always be written in sentence form, not with initial capitals, which make it very difficult to read.

The slide title is another matter. Avoid using all capitals, which are hard to read and take up too much space. Some people prefer sentence form, because for longer titles it is easier to read, and it means that those words that *must* be capitalized stand out.

**Langerhans' cell count and HLA class II profile
in cervical intraepithelial neoplasia in the
presence or absence of HIV infection**

**Langerhans' Cell Count and HLA Class II
Profile in Cervical Intraepithelial Neoplasia in
the Presence or Absence of HIV Infection**

**LANGERHANS' CELL COUNT AND HLA CLASS II
PROFILE IN CERVICAL INTRAEPITHELIAL NEOPLASIA
IN THE PRESENCE OR ABSENCE OF HIV INFECTION**

Others prefer initial capitals, but with this format it is sometimes hard to decide which words should not be capitalized (eg, a, and, or, but, not).

PowerPoint oddities

You may notice that on animated slides the fonts look a little degraded, a little ragged. This has something to do with the way PowerPoint displays the animated sections of the slides, and appears to be unavoidable. Unfortunately, it can make smaller font sizes much less readable.

2 Tables and graphs**Tables**

A table is a convenient way of displaying text and/or data in columns and offers greater flexibility when it comes for formatting or adding color. The table feature in PowerPoint XP and 2003 is much better than in the earlier versions.

Tables in PowerPoint work much the same way as in Word, but in a slightly simpler form. They take a bit of practice to master but it's worth the effort. The table is embedded in the slide and the content can be resized, aligned and reformatted much more easily than tabbed text in a text box. You can add color to cells for highlighting and change the font colors, as well as put key lines in different colors.

In terms of style, you do not have to draw lines around all the cells in all the

Keep tables uncluttered!

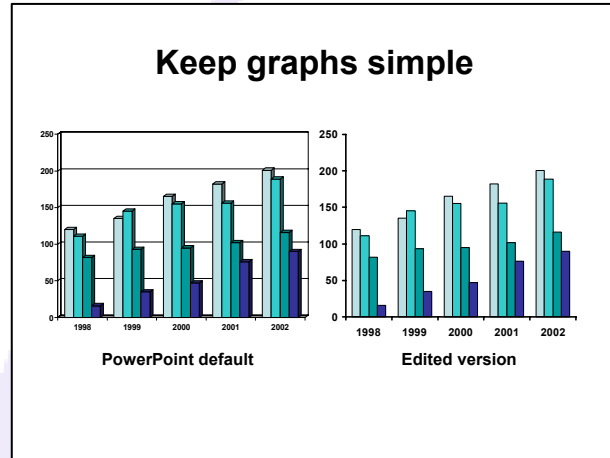
	1998	1999	2000	2001	2002
North	120	135	165	182	201
South	111	145	155	156	189
East	82	93	95	102	116
West	16	35	47	76	90
TOTAL	329	408	462	516	596

key lines – it may be more attractive to keep things simple.

Graphs

PowerPoint’s graph-drawing capabilities are quite sophisticated but require considerable practice to use properly. There are many good manuals available and if you make all your own slides, it is worth mastering the use of this important feature of PowerPoint.

When it comes to graph style, PowerPoint’s default settings are less than ideal. When creating a bar chart, for example, the default gives it to you in 3-D with grid lines, axes that are too thin and labels that are too small. However, you can easily adjust all of these features if you know how to use the software.



3 Colors

Which way round?

Which way round?

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- However, a light background can also work just as well
- In fact, it can make choosing colors for your graphs easier
- You may need to highlight a graphic so that it does not get lost against the background

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The reason why slides have traditionally been made with white lettering on a dark background comes from the days of transparencies.

White (ie, clear) backgrounds show the dust and dirt easily, whereas dark backgrounds do not. Depending on your views, a dark-colored background is rather more soothing on the eye than a bright, light one, but these days there is nothing wrong with having a light background.

What projects best?

Despite the theoretical number of colors PowerPoint offers you, only a limited range are suitable. The problem lies with the projectors, which are less able to differentiate between the subtle colors than a computer monitor. You should be aware that what looks fine on your PC or laptop may be completely unsuitable for the big screen.

If the LCD projector turns your colors into something you didn't intend, ask the technician (if there is one) to adjust the color on the projector so that the screen slides look approximately the same as on your laptop screen.

Highly saturated colors tend to glow, so slightly muted or earthy colors work best. Lime green and yellow in particular have a tendency to merge visually. Create a color palette; that is, a selection of standard colors that provide a suitable contrast when used together.

Remember to use colors consistently on graphs when it comes to representing, for example, data from the same group of drugs.

Beware of using a dark color, such as red, on a dark-colored background. A line on a graph may show up (although not very well), but text will not, even though it looks fine on your PC, because an LCD projector is less able to differentiate between colors of similar intensity. Dark colors do, however, work well on a completely black background and if all else fails try putting a black background behind a multicoloured graphic to see if it stands out better.

4 Templates

The standard templates that come with PowerPoint are rather distracting for a scientific presentation, so it's best to create your own. This is simple, but it is worth experimenting by creating various different types of slides (text, graphs, tables) before finalizing the template. If you already have your ideal slide design in an existing presentation, you can "Save As" a template, and simply open the template by selecting File/New.

While the newer versions of PowerPoint (XP, 2003, Vista) allow you to import slides from different templates into one presentation, the feature is not infallible and you will often find that a little reformatting is necessary. Standardizing your own template will save you time in the long run.

5 Animations

PowerPoint is capable of some pretty elaborate, and largely pointless, animations. For scientific slides, animation should be used only when it has a purpose. If you really want to go overboard, there are some commercially available plug-ins for PowerPoint, such as PowerPlugs (www.crystalgraphics.com), which offer 3-D slide transitions!

Animation can be used to make certain elements of the slide appear on command. This is valuable when the slide is complicated or crowded, or where it requires a lot of explanation. In this case, "dissolve", "wipe" or simply "appear" are all that is necessary. Anything else is just distracting.

Transitions between slides are best kept simple too, and should be consistent within a set. Never use random transitions.

6 General layout tips

People read a slide from the top left, in the same way they read a page of text. Therefore, your information should start from that point. In general, the layout of your slides will be obvious but if there is a lot of information, think about how you would want them to read it.

If you have some words and a graph, put the words on the left if they are to be read first.

Keep text to a minimum

- It's acceptable to write in a shortened form, leaving out verbs for example, but it must still be understandable by someone whose first language is not English.
- Don't include information that's obvious or appears elsewhere on the slide. For example, n and p values are usually better displayed on the graph or table and can be left out of the accompanying text.

Optimize line spacing

- The minimum line spacing to avoid letters clashing is 0.85, but 0.9 should be the minimum unless space is very tight.
- It is better to reduce the line spacing within a line that goes onto more than one line, and to increase the line spacing between paragraphs.

Alignment

- To prevent the slide content appearing to jump about when transitioning between slides, make sure that consistent text (eg, titles, bulleted lists) all line up to the same point on the slide. A good way of doing this is to apply the slide template.
- If you use slide transitions in order to create a build slide (rather than using the animation), make the complete slide first of all, then make copies of it and in reverse order, remove the parts you want to appear.

7 Style guide

Punctuation

Keep all punctuation to a minimum, particularly periods (full stops). These days it's the norm to use "open punctuation" as a style both in the office environment and in journals. Periods simply add to the clutter, and typesetters avoid them because it's one less thing for the proof-reader to check.

A bulleted list does not require periods at the end of each line, even if written as full sentences. Certainly, short phrases or single words do not need them.

As with journal style, periods are not used for abbreviations.

**If you have any comments on this fact sheet, please contact
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