Carousel slide presentations have been used for academic and clinical presentations since the late 1950s. However, advances in computer technology have caused a paradigm shift, and digital presentations are quickly becoming standard for clinical presentations. The advantages of digital presentations include cost savings; portability; easy updating capability; Internet access; multimedia functions, such as animation, pictures, video, and sound; and customization to augment audience interest and attention. Microsoft PowerPoint has emerged as the most popular digital presentation software and is currently used by many practitioners with and without significant computer expertise. The user-friendly platform of PowerPoint enables even the novice presenter to incorporate digital presentations into his or her profession. PowerPoint offers many advanced options that, with a minimal investment of time, can be used to create more interactive and professional presentations for lectures, patient education, and marketing. Examples of advanced PowerPoint applications are presented in a stepwise manner to unveil the full power of PowerPoint. By incorporating these techniques, medical practitioners can easily personalize, customize, and enhance their PowerPoint presentations. Complications, pitfalls, and caveats are discussed to detour and prevent misadventures in digital presentations. Relevant Web sites are listed to further update, customize, and communicate PowerPoint techniques. (Plast. Reconstr. Surg. 108: 466, 2001.)

Indisputably, images are an integral part of the teaching of surgery. Surgery, like navigation, requires maps of landmarks and techniques to successfully “complete the journey.” Vesalius and da Vinci provided accurate anatomic diagrams to guide surgeons, and for several hundred years the images necessary for teaching surgical techniques were provided by medical illustrators. In the mid-1800s, the advent of photography produced reliable photographs that could show actual anatomic and surgical detail and appeared in academic articles by the end of the 19th century (e.g., Medical Record and Annals 40: 57, 1891).

As photography progressed and color techniques became available, more accurate images were possible. The ability to project a color positive enabled surgeons to make teaching portable to better teach a large group of individuals in a lecture hall setting. Early color “slides” consisted of a 4 × 4 glass plate with a color positive. These plates were heavy and cumbersome and could be shown only one at a time. Despite these drawbacks, many practitioners could view a projected image while the lecturer presented.

Electronic flashes made it possible to use incandescent light, which balanced the color temperature of daylight and permitted the use of slow, high-resolution films such as Kodachrome.1 By the late 1950s, color-slide photography had become standard in clinical lectures (Fig. 1).

The advent of 2 × 2 cardboard slides and carousel projectors advanced the ability to detail surgical procedures and present a large number of images in rapid succession. This remained the standard in medical education until the early 1990s, when advancements in computer technology and digital photography enabled the use of digital images. Now, practitioners could design their own slides and have them processed by a photography laboratory into 2 × 2 carousel slides. This allowed refinement and customization and facilitated certain applications, such as backgrounds, before-and-after pictures, and clip art. Although a huge leap forward, the end product still relied on 2 × 2 processed slides. Although the software could accommodate sophisticated slide presentations, it could be shown to only as many people as could fit around a computer monitor.

As technology improved, images could be digitized with scanners or digital cameras, and the images could be used with a number of software programs, including Microsoft Power-
Point (Eugene, Ore.). These programs were popular with businesspersons and salespeople and soon were discovered by educators. It was not until the development of affordable, higher-resolution data projectors that an obvious departure from the use of $2 \times 2$ slides occurred.

Today, Microsoft PowerPoint remains the most popular presentation software and has steadily gained acceptance in the medical community. For surgeons who lecture frequently, the ability to dispatch a “10-carousel lecture” in favor of a single CD is invaluable. In addition, digital presentations may be transferred through e-mail and the Internet and can be easily updated at any time. This ability to update “on the fly” has, in my opinion, elevated the quality of medical education. In the past, it was difficult and time-consuming to alter “canned” slide presentations; hence, many practitioners gave the same lectures over and over for years because it was easy. Now, in a few seconds, one can add to a saved lecture, making it easier to remain current. Another huge advantage of digitized presentations is improved picture quality. The ability to enhance brightness, contrast, hue, saturation, and size provides more control of image quality. Anyone with a computer has all the benefits of professional editing at his or her fingertips. Because clinical photodocumentation is integral to virtually every specialty, the expense of film and processing has been formidable in many practices. Digital photography is cost-effective in comparison with emulsion photography.

Because these presentations may also be used for informed consent, patient education, and marketing, they may be useful for all practitioners, whether or not they lecture. Computers and presentation software have brought both advantages and problems to the academic practitioner. Some may be hesitant to adapt digital imaging to their presentations because of fear of technology or legal implications. Showing a state-of-the-art multimedia presentation at a major meeting, complete with full-motion video and audio capability, is a great experience that cannot be duplicated with slides. Of all the obvious advantages, there is nothing worse than beginning a presentation at a large meeting and having a computer meltdown. I have witnessed this and have been a victim of it, and I will discuss avoidance techniques later in this article. In any event, digital computerization has revolutionized teaching and presentation and is here to stay.

**PowerPoint Techniques**

This discussion presumes that most practitioners with basic computer skills are familiar with creating a very basic PowerPoint presentation. Very simply, one creates a new file, selects a design template (background and color) and a slide layout (text and image arrangement), types the text, and (if desired) inserts clip art or images.

Although building a basic PowerPoint show is simple, a good carousel slide presentation is better than a poor or boring computer presentation. The key to building interesting and provocative computer presentations is using an advanced technique. The remainder of this article deals with advanced PowerPoint techniques. The examples provided were prepared using PowerPoint 2000, although most menus and commands are similar to those of previous versions.

**Backgrounds**

The basis of any PowerPoint presentation is the selection of a proper background. A good background can enhance the spirit of a presentation, whereas an improper background can distract the audience. The most commonly

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*At present, Plastic and Reconstructive Surgery cannot accommodate figures produced in PowerPoint. For programs supported by our printer, refer to the following Web site: http://cjs.cadmus.com/da/*.
used backgrounds are the stock choices that accompany PowerPoint. Although many of these are attractive and appropriate, they have been used for at least a decade and are so common that they appear lackluster, and their use conveys a lack of creativity on the part of the presenter. Instead, innovative speakers prefer to make custom templates. One easy means of creating custom backgrounds is to make a blank presentation and select Format-Background-Custom Background. The window shown in Figure 2 will appear. The drop-down box will allow the user to select a different color. To apply this color or background to all slides, select Apply to All. If only the current slide is to have a different background, choose Apply. This is how the background of individual slides versus a single slide is changed.

To build advanced backgrounds, refer to the options More Colors and Fill Effects in the drop-down window shown in Figure 3. The More Colors option enables the choice of many colors from a color palate. Fill Effects is a great option for creating custom backgrounds; when selected, the window shown in Figure 4 appears. By selecting Two Colors, attractive backgrounds may be devised with the presenter’s choice of color. In addition, the pattern of the colors may be varied by selecting Shading Styles, which produces interesting arrangements of the colors. Finally, the Preset option enables the user to quickly use preset background color schemes, as illustrated in the window in Figure 5. These colors and angles may be manipulated in multiple ways to provide pleasing backgrounds.

Although the above examples can be customized, unique custom backgrounds are also easily created. First, a New file is opened and a New Slide Layout is chosen. Next, the command Format-Background is chosen, and from the Background Screen, the drop-down box is used to choose a color as described previously.

The next procedure is to customize the Slide Master. This allows the user to add images or text to the master slide, which will be automatically added to all slides in the presentation. To add a name or picture on each slide, select View-Master-Slide Master, and the window shown in Figure 6 will appear. This master is the template on which all slides in the presentation will be constructed. By changing any of the preset areas, the change will be represented on all subsequent slides. For instance, to add a name to the lower left side on each slide and a practice logo on the title bar, open the Slide Master and select the box in the lower right. Double-click on the text, type in the name, and choose the font, color, and size. To add the practice logo, select Insert-Picture-from File and a menu tree will appear. Simply choose the desired image from the appropriate folder and select OK. The image will be inserted in the slide master and can be resized and moved on the slide as needed. The arrows in Figure 7 illustrate where a custom name and image were added. The Close command on the Slide Master returns the user to the presentation. By altering the Slide Master, any text, color, or object may be added to the entire presentation by changing the single master slide.

![Fig. 2. Background window.](image1)

![Fig. 3. Background window with effect box open.](image2)
Text animation. One of the advantages a digital presentation is its ability to animate text and objects. Animation emphasizes important points, maintains audience interest, and generally enhances the presentation. The axiom “less is more”
that applies to blepharoplasty surgery also applies to animating digital presentations. Animation should be used sparingly and for a specific reason, such as adding emphasis or making a point. Overuse of animation is the hallmark of an amateur presenter; there is nothing more distracting than having text and pictures randomly flying around the screen. This detracts from the topic and can ruin an otherwise stellar presentation. There are, however, multiple animation techniques that may be used repeatedly to augment the presentation.

Drop-down text lines and fading are two techniques that work well. These effects may be used to present a bulleted list in sequential order, one item at a time, and then fade the previous item to bring attention to the current item. The following example shows how to animate a list, fade out the list as new topics are introduced, and add an image to the slide.

1. Select Format-Slide Layout and choose the bulleted list/image as highlighted in the template shown in Figure 8.

2. Choose a background, as described previously.
3. Type in the text bullets.
4. Select Slide Show-Custom Animation from the menu bar, and the window shown in Figure 9 will appear.
5. Choose what to animate; in this example, Text 2 is the bulleted list of topics, so that box is checked. Then, choose the Effects for the animation; for this example, Fly and From Top are selected. Choose a sound template if desired. To dim the previous topic when a new topic is selected, a color for the dimmed text must be chosen; in the above example, gray was selected, so the new item is black until another item “flies in” from the top and the previous text dims to gray. Again, this focuses the attention of the audience on the newly introduced text. Also, the choice must be made to introduce text All at once or by other options, such as single letters. Usually, the All at once option is

![Figure 6. Slide master for customization.](image-url)
selected. Selecting Preview will demonstrate the selected animation.

6. Select the Order & Timing tab from the Custom Animation screen, which calls up the window shown in Figure 10. Choose whether the animation should occur Automatically or On mouse click. The latter should be selected for a lecture to be presented in person; “Automatically” is best for canned shows or kiosk presentations. Select Preview again to approve the settings.

Although it is easy to insert a sound template, one should use caution. Windows contains some

![Fig. 7. Slide master with practitioner name and practice logo added.](image-url)

![Fig. 8. Slide layout menu.](image-url)
long-overused sounds, such as screeching tires and typewriter keys, which have been used in presentations for years by every traveling salesman from coast to coast and are very crude. To explore the advanced options, use the Multimedia tab and insert your own CD tracks or music. However, there is little place for this in routine academic professional presentations.

Adding images. Clip art computer cartoons were very popular before the development of digital cameras. Only several years ago, it was difficult to easily digitize a photograph, and clip
art was a convenient means of adding a graphic to a presentation. Although sometimes appropriate, stock PowerPoint clip art has been overused and is boring. At present, it requires only seconds to take a high-resolution digital image and transfer it to computer, so there is no reason for cartoons when a realistic image can be used instead.

It is simple to add images to a presentation. They may be added to any slide, although certain Slide Layout templates are designed to automatically accept and size an image in a specific frame. To insert an image into a presentation, simply select Insert-Picture-From File. A window will open and show the directory tree on the hard drive. Navigate to the proper folder and select Insert, and the picture will be added to the current slide, as shown in Figure 11. The picture can be resized by the control points on the image or moved by dragging the image. Images may also be copied and pasted from one slide to another by selecting the image and the Copy command, and then selecting the Paste command where the duplicate image is to be placed. Multiple images may be added to each slide, but creating sensory overload with a too-busy slide risks losing the audience.

Framing the inserted picture with a colored border sets off the image nicely. In Figure 10, two offset colored frames are placed to frame the inserted image. The colored frames are added by selecting the Autoshapes rectangle and drawing the desired rectangle. By right-clicking on the Autoshape and selecting Format Autoshape, a window will open, offering many options. Choose the desired color and select OK, and the colored frame will be inserted. Multiple frames may be inserted, as in this example, by repeating the process. The frames and the picture can be moved as desired.

Animating images. Animating your images can be very useful for emphasis and audience attention. Again, animation can be overused, so pay careful attention to avoid overdoing it; before any effect is added, presenters should ask themselves if it truly enhances the presentation.

The same techniques used in text animation are applicable to pictures. To animate a picture, select Slide Show-Custom Animation, and the window shown in Figure 12 will appear.
Figure 12, Text 2 and the picture (Object 3) have been animated. The Entry Animation and Sound window shows that the spiral effect is used. This means that the picture inserted into the presentation will spiral into the slide, creating an interesting effect.

Now, the presenter must decide how the effect will be executed. The Order & Timing tab allows control over the timing and execution of the effects. In Figure 13, the text will be animated first and then the picture. This is adjustable and can be rearranged by using the up or down arrow in the Animation order box. Also, I recommend that the spiraling effect of the picture be set to occur On mouse click, because the automatic setting can throw off the speaker’s timing no matter how much the presentation is rehearsed.

If multiple images are to be used on the same slide, each image can be animated with a separate effect. Using the Fly command to make the images Fly from Top, Fly from Bottom, or Fly from Left or Right is useful. If desired, the Effects tab can be used to hide the picture After animation or After the next mouse click.

Using the Effects tab, Random Effects may also be chosen, and the computer will randomly assign animation to the pictures. This is better suited for a looping marketing or kiosk presentation than a live presentation.

Adding video to a PowerPoint presentation. Just as digital still photography has improved academic presentations, full-motion video will further enhance teaching. If a picture is worth a thousand words, a video image is worth a billion. Full-motion video with sound can be easily inserted into a presentation and can negate the need to use VCR tapes and equipment. The integration of full-motion video into a Power-
Point presentation is seamless and works quite well. However, full-motion video with or without sound is very memory-intensive and requires a powerful computer to play smoothly. A computer with a slower processor or low RAM memory will play very choppy video images and will slow down the entire presentation. If many pictures or video files are to be used, one should invest in a fast and powerful machine.

Digital video camcorders have become affordable, and many of them are quite compact, function in low light, and have excellent macro-focus capabilities. Standard (analog) camcorders may be used with a digitizing device that will convert the analog video to a digital signal. A digital video camera begins with a digital signal and will produce a higher-quality video file. Special high-speed transfer cables known as Firewire or IEEE 1394 interface are available for rapid digital transfer. It does not require much practice to make a good digital video of an operative procedure. The key to making good videos is the editing software. The very sophisticated software programs with steep learning curves are best left to the professionals. Fortunately, simple, user-friendly video editing software is now available. This software allows rapid transfer from the camera to the computer and professional editing. It is easy to cut and paste video files, make scene transitions, and add titles and soundtracks. Another very important feature of the software is its ability to compress the video. Video files in the AVI format may require hundreds of megabytes, even for a short movie. Compression schemes such as MPEG I and MPEG II are available to compress these movies into files that are less memory-intensive without significant degeneration.

Once the video is made, it is easily added to a presentation. To add a video clip, select In-
Insert-Movies and Sounds-Movie from File. The directory tree will appear and one simply navigates to the proper folder on the hard drive and select Insert, as shown in Figure 14.

After the video file is inserted, its functions can be controlled. After insertion, choose whether to have the video play Automatically or On mouse click. I recommend the On mouse click option because it allows better control of the timing. The automatic function is fine for a looping marketing presentation without a live speaker. When the slide with the video file comes up, the video will be seen as a still picture of the first frame of the video. Click on the picture and the movie will begin playing. Mouse click (right button) on the video, and a command for Edit Movie Object will appear. By selecting choices, the movie can loop continuously until stopped, or other options can be chosen.

Object linking and embedding. PowerPoint supports object linking and embedding (OLE). When an object (image, sound clip, movie) is added to a presentation, it is either linked or embedded. An embedded object is one that is created in another program but becomes part of the compound PowerPoint presentation and is no longer connected to the program in which it was created. For example, if a picture is added to a PowerPoint slide, the picture resides in another folder on the computer, but after it is inserted in the presentation, it becomes embedded and is now also part of the presentation program. If the folder that contained the original image is moved or deleted, it will not affect the PowerPoint presentation because the picture is embedded. Object linking, on the other hand, does not permanently incorporate the object into the presentation, but rather points to a path on the computer directory tree for the computer to find that object. If the folder in which the object resides is moved or deleted, it will not function in the PowerPoint presentation because the computer is unable to find it. Different programs and versions may or may not support embedding, so it is imperative that the presentation be checked on another computer. This is particularly important if the presentation has been copied to a CD or floppy disc or if the original image folders have been

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**Fig. 14.** Inserting a movie into a PowerPoint slide.
moved. I have witnessed firsthand the heartbreak and embarrassment of a presenter trying to use a CD that was created on one computer without checking it beforehand on the presentation room computer. In the lecture hall, the inserted video files would not function because that computer could not find the link. This is simple to correct—the linked objects need only be copied to the CD with the linked path pointing to the CD. Fortunately, most objects are embedded.

Superimposition animation. An old, simple, and interesting method of simulating dynamic motion is the viewing of similar images in rapid succession. Antique flip books and coin machines showed “movies” based on similar images with slight changes viewed in rapid succession. To use this technique with a digital presentation, images must be prepared with close attention to detail, such as size, distance, background, and position. This is best accomplished with a tripod or positioning device, but a steady hand can suffice.

To create simulated motion, insert a picture in the presentation and overlay it with another picture or pictures. Again, it is important that the pictures be the same size with the same background and taken from the same distance. The procedure is described as follows, using as an example, before and after nasal surgery:

1. Insert the postoperative picture in the slide, then insert the preoperative picture and position it exactly over the postoperative picture.
2. Open the Custom Animation screen; under the Effects tab, select No Effect for the preoperative image and Appear for the postoperative image.
3. Open the Order & Timing tab and confirm that the selection Start Animation is set to Mouse click.
4. View the slide by selecting the Movie Screen icon in the lower left corner of the main PowerPoint window. (Selecting View-Slide Show will show the entire show. Selecting the Slide Show icon in the lower left while a slide is open will show only that single slide.)

When the slide presentation is shown, the animation is controlled with mouse clicks. To simulate the dynamic motion, when the preoperative image is showing, click the postoperative image quickly and it will be superimposed over the preoperative picture. This technique works well for almost any type of before-and-after images and can be used with more than two pictures in the case of a sequential augmentation or reduction procedure. Instead of multiple pictures on a single slide, a single picture can be made on multiple slides and the slides can be shown in rapid succession, which also simulates motion.

Adding autoshapes to a presentation. A very useful emphatic or teaching tool is the animation of objects such as arrows, lines, squares, rectangles, and other symbols in the presentation. For example, as a presenter describes a rhytidectomy incision, a yellow animated incision outline is dropped over the patient’s picture to emphasize the actual incisions. These lines may be animated to fly or spiral onto the picture to accentuate the incision placement.

To insert the lines, the Autoshape application in Drawing must be used. To view this, select View-Toolbars and then check the box for Drawing. A Drawing menu will appear. Choose the Autoshape drop-down window and select Lines-Curves. The Curve allows irregular lines to be drawn. Once the desired incision outline is drawn, choose modifications such as color, solid, or dashed, etc. To customize the incision line, select Format from the menu, then Autoshape, and the window shown in Figure 15 will appear. The choices selected in this example are a yellow, dashed line. The size of the line is determined by the Weight selection, in this case, 10 point. Next, simply animate the lines to appear as desired. In the example shown in Figure 16, a solid yellow line would fly in from slide left for the anterior incision, and a yellow dashed line would fly in from slide right to show the posterior auricular incision. This is a very useful technique that can be used with arrows to point to something specific or a circle that drops into the slide to encompass an object—the only limit is the presenter’s imagination. The Autoshapes and Drawing options are worth investigating and experimenting with.

Handouts

Although a well-known basic option of PowerPoint, the ability to make custom handouts of a presentation is a huge advantage. Handouts may be made with one slide per page or as many as six per page. They can include images or just the slide text. To print handouts, select Print, and the window shown in Figure 17 will open.

In the Print what box, select Handouts; in
the Handouts box, select the Slides per page and choose the desired Order. To print only the text, select Outline view from the Print what box. There are other choices for color and scaling. To print the handouts, simply choose the printer and select OK.

**Arranging and Moving Slides and Presentations**

Anyone who presents frequently will remember the frustration of needing a slide that resides in some other carousel. With digital presentations, slides may be duplicated with a mouse click and moved into any presentation. To arrange or move slides, choose View-Slide Sorter View, and the slides are shown as thumbnail images, as in Figure 18.

To rearrange the order of the slides, simply select a slide and drop it into a new position. To add slides from another presentation, select File-Open to open the other presentation, and activate the slide sorter view. Select the slides to be added, then select Copy. Go to the current presentation and select Paste, and the images will be placed into the current presentation. To show a presentation without showing certain slides, the slide can be hidden. To do so, one must be in the Slide Sorter View. Right clicking on a slide and choosing Hide Slide will disable that slide in the slide show. If that slide is to be shown later, right click on the slide and select the Hide Slide command, and the slide will become active. This function is useful when lecturing. Graphic clinical and intraoperative slides can be shown in a presentation to physicians but hidden when the same presentation is made to a general audience.

An additional method of adding slides from another presentation is to select Insert-Slides from Files, and the window shown in Figure 19 will appear. Use the Browse selection to find the presentation to be copied from. Then select the slides to be inserted, and the slides will be copied to the presentation. To insert portions frequently from a saved presentation, save the presentation to a list of favorites for easy access by selecting the Add to favorites box.

**Making PowerPoint Presentations and Shows**

Digital presentations are convenient and powerful for live presentations for educational,
marketing, patient education and informed consent, and many other uses. They also may be narrated and set up to loop continuously.

To make a basic PowerPoint show, open the Slide Sorter View and select the desired slides and arrange them in the proper order. All of the slides may be selected if desired. Next, select View-Slide Show and the show will begin; the slides can be advanced by keystrokes or mouse clicks. The presenter can control many functions of the slide show. To customize the show, select Slide Show and choose the Set Up Show tab to show with or without Narration, advance Manually or Using Timings, or Loop Continuously. Next, choose the Slide Transition settings by selecting Slide Show-Slide Transitions, and a window will open with multiple choices for transitions. If Random Transitions is selected, the computer will choose the various transitions between slides. The speed of the slide transitions can also be controlled. If the show is to be looped or shown without a speaker, a specific time can be assigned for each slide to remain on the monitor. The Slide Transitions window and choices are shown in Figure 20.

To save the show, select File-Save As and choose the proper folder to save the show as a .ppt file extension. Shows to be used in a lecture present specific problems. Often in presentations, the speaker moves to the podium and opens up a PowerPoint show and then must wait for the entire show to load (usually in the slide sorter view). This is usually cumbersome, and if the show has many pictures it may take several minutes to load. To facilitate this step, save the show as a .pps (PowerPoint Show) extension. By saving in this format, the presentation will automatically load into the slide show, and the slide sorter view and slide-show setup steps can be bypassed.

**ADDING NARRATION TO A SLIDE SHOW**

Although narration is not commonly used for lecture presentations, it can be quite useful for making “canned lectures” to be presented in the speaker’s absence. The most useful applications for narrated PowerPoint shows are

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**FIG. 16.** Incision lines outlined by autoshape drawing after animation.
patient education and informed consent or marketing presentations. PowerPoint presentations may be used in the office in multiple settings. In the reception room, a computer monitor with a looped PowerPoint presentation can detail surgical procedures and a biography of the surgeons. This is very useful for internal marketing and general information. In the evaluation rooms, computers with PowerPoint presentations specific to the surgical services offered can be used during consultations. When patients present, they can view a manual presentation on the specific procedure, including an explanation of the procedure, postoperative care and complications, actual case presentations, and informed consent information. These presentations take about 10 minutes, and the doctor or staff need not be present. When the doctor or staff returns to the room, the patient will have a basic understanding of the procedure and a list of appropriate questions. Many practices have found this very useful for the patient’s understanding and appreciation of a procedure. Narration can be turned on or off so that the presentation may be viewed with or without sound.

To add narration to a PowerPoint show, select Slideshow-Record Narration, and the window shown in Figure 21 will appear. Adding a narration sound file to a presentation will increase the required disk space for the show and may also slow it down, especially if a slow computer is used or the narration quality is set high. To record narration, click on the Set Microphone Level tab; when one speaks into the microphone, Windows will automatically adjust the level. One may also Change Quality of the sound. Sound quality is analogous to resolution in images in that the higher the sound quality, the more memory-intensive the application will be. Windows has various default sound qualities, ranging from Telephone quality to CD quality, which requires the most memory. Generally, Radio quality will suffice for slide-show narration.
addition, the user may customize a sound quality
for advanced use.

Larger sound files run better if they are
linked to a file. A choice is presented to link
the files, and a directory must be chosen. Re-
member, if the file is linked, the show may not
run correctly if it is shown on a different
computer.

Outputting PowerPoint Shows to the Internet

Outputting a PowerPoint presentation as a
Web page can be very useful. PowerPoint au-
tomatically formats each slide and outputs it in
HTML (hypertext markup language) format to
be published on the Internet. This is a power-
ful application of PowerPoint but is used more
often by those who are proficient in Web pub-
lishing. Even if this is not the intent, outputting
the show in a Web format is an excellent means
of making an interactive presentation that a
patient or student could easily navigate.

PowerPoint Pitfalls

The first automobile owners, stranded on
the side of the road, often heard the phrase
“get a horse” from an equestrian passerby.
Analogous to this are those who avoid digital
presentations because of the horror stories
they have seen or heard. As a victim of tech-
nology, I have felt 10 feet tall while walking
through the airport with a 4-inch CD instead of
an 11-carousel lecture—and 10 inches tall
when the computer or digital projector mal-
functioned during my presentation! There is
no doubt that those who are first to adapt new
technologic advances are frequently the first to
publish complications. Fortunately, technol-
gy has progressed to the point that digital

FIG. 18. The slide-sorter view for arranging slides.
presentations are more predictable and controllable. There exist several caveats that can greatly enhance the probability of a successful presentation.

When making a presentation, it may be helpful to use the same computer on which the presentation was prepared. This is why laptop computers have distinct advantages for digital photography, imaging, and lecturing. This is especially significant if the user’s computer is more powerful than that used in the presentation room; the presentation may be choppy, uncoordinated, or inoperable. Because some venues require that the presentation be brought in on alternate media such as CD, floppy disk, or Zip drive, there might not be a choice. It is a good idea to call ahead and inquire about the hardware (computer and digital projector) that will be used and perhaps forward your media to be tested by the audiovisual personnel. As a backup, it is always a good idea for users to bring their own computer in the case of hardware incompatibility.

Digital projectors enable the mass presentation of computerized presentations. As with any new technology, they change rapidly. Most problems I have encountered or witnessed have dealt with projector incapability, usually in resolution. The resolution settings (VGA,
SVGA, XVGA) of the user’s computer may need adjusting to optimize computer performance, and some shows will work only at lower resolutions. SVGA operates a resolution of 600 × 800 and is a common setting. In addition, some digital projectors may not be capable of certain resolutions, and the computer and projector must be adjusted for the presentation to operate properly. This is of even greater concern when using digital video or multimedia files. There is no substitute for pretesting hardware and software, and it will greatly behoove the user to perform these tests the day before the presentation. Trying to make all the necessary adjustments while floundering on the podium is a humbling experience. If digital technology is to be used often, it is well worth the investment in a small portable digital projector, which can currently be purchased for under $2500. I always take a notebook computer and portable digital projector to important presentations, and they have bailed me out of several potential misadventures.

PowerPoint has a feature called Projector Wizard incorporated in the newer versions. Projector Wizard is a stepwise check-and-test list to assist the user with compatibility issues between computers and digital projectors. To use Projector Wizard, select Slide Show-Set Up Show and then Projector Wizard. The application guides the user through a troubleshooting scheme and will likely solve any compatibility issues. Again, the time to do this is well in advance of the presentation.

Earlier in this article, the difference between object linking and embedding was presented. It is important to remember that a linked object or file requires the computer to search for it, and a different computer or other media, such as a CD, might not be able to locate the file. This can be solved by controlling the link path but, again, should be tested before the presentation.

**INTERNET POWERPOINT RESOURCES**

The following sites provide information, updates, custom templates, and a host of other useful information for Microsoft PowerPoint.

- [http://www.microsoft.com/office](http://www.microsoft.com/office): details of the entire Microsoft office suite, including PowerPoint
- [http://www.presentationpro.com](http://www.presentationpro.com): custom PowerPoint templates
- [http://www.presentersuniversity.com](http://www.presentersuniversity.com): online site for presentation tips and techniques
- [http://www.rentquick.com](http://www.rentquick.com): digital projector rentals delivered anywhere, anytime
- NewsGroups: the Newsgroup “microsoft.public.powerpoint” is a wonderful resource and one of the best places for answers to PowerPoint questions. Microsoft Outlook Express has a built-in newsreader, if needed.

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**FIG. 21.** Window showing main narration menu.
CONCLUSIONS

Digital technology has revolutionized the way we present, teach, and live. Computer technology has given the average practitioner the ability to disseminate information to large groups and even worldwide. Microsoft PowerPoint is the most commonly used presentation program, and it is extremely user-friendly and quickly learned. Advanced techniques enable practitioners to make professional multimedia presentations. By using the common menu commands in PowerPoint, even inexperienced computer users can join the digital revolution with a minimal investment in time.

Common pitfalls may be avoided by understanding incompatibilities and by testing hardware and software well in advance of important presentations. Rehearsal and compatibility testing can eliminate many of the problems associated with digital presentations.

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NOTE

Shortly before the publication date of this article, Microsoft introduced Office XP, which expanded some capabilities of PowerPoint. These enhancements include collaboration tools that allow groups to edit and review presentations in a workgroup environment. Presentations can now be saved with password protection, and Web broadcasting is easier to use. Authors can now attach digital signatures to their presentations to increase security and reviewer confidence.

Animation improvement is probably the most useful enhancement for the academic surgeon. Custom animation effects are easier and more impressive, and exit animations, motion path animations, and timed/simultaneous animations have been added. The entire animation interface is more user-friendly, and one can easily choose and preview animation, including the new effects that have been added. Also new is the ability to control animation and transition schemes for the entire presentation at once.

Finally, many everyday tasks have been simplified. The copy and paste options can handle a larger volume of information and greatly simplify the insertion of high-resolution images into the slides. Print preview options and slide formatting have been refined. It is simpler to add more than one design template to the same presentation, and the thumbnail view is now available in the normal view.

REFERENCES