

Tricks & Recipes for Managing Images

– by Patrick Saine, M.Ed, C.R.A., Manager of Ophthalmic Photography at DHMC

Magic Numbers

- **Sizing PowerPoint Images**
 - To fill slide: 10” x 7.5” 100DPI Medium-high quality .jpg file
 - Average disc space used/file = 100-200 KB
 - Most computers read CD-ROMs (not CD +/-RW) in ISO9660 or Joliet (both Mac & PC readable) formats.
 - Alternately – use a multi-platform ‘Thumb Drive’

- **Sizing Images for Publication**
 - 300DPI .tif files at size (4x5 or 5x7) which not uncompressed
 - Average disc space used/file = 1.5 – 3 MB
 - Most publishers accept CD-ROMs (not CD +/-RW)
 - Common CD format is ISO9660 or Joliet (both Mac & PC readable)
 - Avoid magnetic media

Sharing Digital Images

- **Extracting images from .pdf files**
 - Download .pdf from website using Explorer/Netscape

 - Option 1:
 - Open Photoshop or full Acrobat
 - Photoshop: File, Import, .pdf image
 - Acrobat: File, Export, Extract Images as
 - Save images to desktop.
 - Option 2: Open full Acrobat
 - Save as .jpg to generate each full page as a single .jpg image

 - Open PowerPoint
 - Insert: Picture: From File: Select Resize as needed
 - Credit source material

- **Sharing PowerPoint slides**
 - Method 1
 - Open both files in the ‘light box’ (slide sorter) view.
 - Adjust the window size so you can clearly see the contents of both windows.

- Select slide(s), then drag from first to second open window.

Method 2

- To keep the same master:
 - Insert: Slides from file.
 - Confirm that “keep design of original files” is selected.
 - Multiple masters are supported by the newest PowerPoint versions
- Credit source material

- **Capture the screen image for your graphic (PC)**

- Windows: Step 1: Set Screen resolution
 - For highest quality results: set your screen to the highest screen resolution. **Warning:** not for faint of heart – your screen can become non-functional!
 - On menu bar, go to Start: Settings: Control Panels: Display
 - Confirm “True Color” on left
 - Confirm “Screen Area” on right: (highest possible resolution)
 - **Caution:** follow instruction boxes on screen: especially with older versions of Windows.
- Windows: Step 2: Create a screen shot
 - Choice 1: via application
 - Most image editing software have ‘screen grab’ protocols
 - Choice 2: Copy/paste
 - Make the desired image your active (uppermost) window.
 - Press Alt-PrtScr. The screen image will be pasted into the Windows paste buffer.
 - Open a PowerPoint slide (or image editing software) and ‘Paste’ [Ctrl-V] the image.

Capture the screen image for your graphic (Mac)

- Mac: Step 1: Set Screen resolution
 - For highest quality results: set your screen to the highest screen resolution.
 - In OSX, open System preferences, double click ‘Displays’ and select the highest black set of numbers.
 - Confirm that your screen uses “Millions” of colors.
- Mac: Step 2: Create a screen shot
 - Choice 1: via application

- Use an application such as 'Grab' (found in Applications: Utilities).
 - Most image editing software have 'screen grab' protocols
- Choice 2: Copy/paste
 - Make the desired image your active (uppermost) window.
 - To take a picture of the whole screen, press Shift-Control-Apple-3.
 - To take a picture of part of the screen, press Shift-Control-Apple-4 then drag to select the area you want in the picture.
 - Using Shift-Apple-3 or Shift-Apple-4 accomplishes the same, however the pictures are saved as .pdf files on the desktop.

References

- Ko JP. Rusinek H. Naidich DP. McGuinness G. Rubinowitz AN. Leitman BS. Martino JM. Wavelet compression of low-dose chest CT data: effect on lung nodule detection. [Journal Article] Radiology. 228(1):70-5, 2003 Jul.
 - CONCLUSION: While no reduction in nodule detection at 10:1 compression levels was demonstrated by using ROC analysis, a significant decrease in sensitivity was identified. Further investigation is needed before widespread use of image compression technology in low-dose chest CT can be recommended.
- Newsom RS. Clover A. Costen MT. Sadler J. Newton J. Luff AJ. Canning CR. Effect of digital image compression on screening for diabetic retinopathy. [Journal Article] British Journal of Ophthalmology. 85(7):799-802, 2001 Jul.
 - CONCLUSION: The results demonstrate significant loss of sensitivity to the features of diabetic retinopathy with JPEG compression; this was compounded by the thin film transistor (TFT) screen. The authors found the quality of uncompressed images on TFT screens too poor to give grading sensitivities which reach current guidelines for diabetic retinopathy screening.
- Beall DP. Shelton PD. Kinsey TV. Horton MC. Fortman BJ. Achenbach S. Smirnoff V. Courneya DL. Carpenter B. Gironde JT. Image compression and chest radiograph interpretation: image perception comparison between uncompressed chest radiographs and chest radiographs stored using 10:1 JPEG compression. [Journal Article] Journal of Digital Imaging. 13(2 Suppl 1):33-8, 2000 May.
 - In conclusion, five of six radiologists had a higher diagnostic accuracy when interpreting uncompressed chest radiographs versus the same images modified by 10:1 lossy compression, but this difference was not statistically significant.