

# Quick Steps for Processing Images




**CAUTION:** Be careful about using ‘Save’ and ‘Save Series As...’ after *editing* clip image data. A modified clip (annotated or erased) will be re-compressed and lose quality every time it is saved. When working with clips, try to make all of your changes at one time and Save only once. Keep a copy of your original image in case you want to reprocess the original image data later.

**Processing Tools-** Prepare your images using any of the following steps.

## 1. Rearrange images or create a new image series

You can create a new series of DICOM images and delete, add and rearrange the images.



- Click on the ‘New Series’ button  to bring up an empty image series window. Or work with the original series if it is backed up or you plan to “Save Series As...”.
- Copy and paste key images into the new window if you are creating a new series. Click on an image to select it and use ‘Edit:Copy’ or Ctrl-C to copy it. Then use ‘Edit:Paste’ or Ctrl-V to paste the image. Delete unwanted images using ‘Edit:Delete’. You can “drag and drop” images to rearrange them within the series.
- ‘Save’ or ‘Save Series As...’ the new series (‘File: Save’ or ‘File:Save Series As...’). Next time you view the series in ShowCase® the images will appear as you saved them.

## 2. Reset the image contrast, brightness or gamma



Double click on an image to view it in an Edit Window, click the ‘Contrast/Brightness’ tab and readjust the contrast window, or gamma correction as desired. If you export an image, the exported image will keep the contrast settings. Check the “Apply to All” box to use the same settings for all images in the series.

## 3. To remove patient identifying information written into an image



You can erase rectangular areas of an image to the background color. Annotations & erasures apply to all frames in a clip. You can draw multiple rectangles and annotations on an image.

- Double click on an image to view it in an Edit Window, click on the “Annotation” tab, then click on the “Erase Rect” button.
- Hold down the left mouse button and drag the mouse to draw the rectangle to erase. The color of the rectangle will be the color of the image pixel in the upper left corner.
- You can use the keyboard arrow keys to “nudge” the rectangle up/down or right/left. You can also resize a selected rectangle using the grab handles on the corners of the rectangle.

### Copy erase rectangles to multiple images



The patient name is often in the same place for all images in a series. You do not have to erase each image individually. First add erase rectangles to one of the images in the series window as described above. Then select all images in the series that you wish to erase the same way (Ctrl-A selects ALL; Ctrl-click to multi-select). Click on the “Erase” button.

#### 4. De-identify the DICOM information in image headers and directories

The 'File:Save Series As...' option allows you to save a new series of images in a DICOM directory (probably a DICOM directory created on your hard drive). The 'Save Series As...' dialog allows you to change the patient name, id number, accession number and study description.

You can also add a 'series description' to label your new image series.

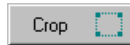
Check the "De-identify" box to remove other identifying information from the images as well. ShowCase will delete this patient information from the image files to assure that your data is anonymous even when read with software that displays DICOM elements..

#### 5. Add text or arrow annotations



Double click on an image to view it in an Edit Window, click on the 'Annotation' tab. Use the text annotation or arrow tools to add annotations to the image. You can select the text font, size and color. You can select arrow colors, but not arrow sizes.

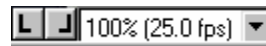
#### 6. Crop images for export files



You can crop an image (static or clip) so that only the defined area displays in the series window or exports to the BMP, TIFF, JPEG or AVI export file.

- In an Edit Window click on the 'Annotation' tab.
- Click on the Crop button.
- Hold down the left mouse button and drag the mouse to draw the rectangle around the area you wish to export. You can resize a rectangle using the grab handles on the corners.


#### 7. Margin clips, reset clip frame rates



Double-click on a clip to view it in an Edit Window. The clip controller at the bottom of the window has buttons to set the right and left margins of the clip. There is also a drop-down menu that allows you to reset the frame rate for clip playback. When you export the clip to an AVI file, only the margined section exports. The frame rate exports with the clip.

### Save and Export Options

After you process your images, you can 'Save' them (overwrites the current DICOM files), or 'Save Series As...' to write them in a new series, or you can export them to other formats - AVI (clips); BMP, TIFF, or JPEG (static images).

Use the Export button  or 'File: Export Image As ...' menu option. If you have Power ShowCase or Network ShowCase and PowerPoint 2000 or later you can check a box that automatically creates a PowerPoint slide with your exported image in the center.

**AVI compression-** For AVI exports you must select a compression method from a list of compressors available on your computer. Uncompressed AVI files are extremely large. 'Microsoft Video 1', Indeo, and Cinepak are commonly available compressors. If you intend to play your AVI files on a Macintosh<sup>®</sup> test one of your AVI files to make sure the Macintosh has a compatible decompressor. The Cinepak decompressor works on most computers. MPEG compressors can be selected for the AVI format.