Modifying, Rearranging & Exporting Images with SHOWCASE®

This guide gives you information about annotating, rearranging and cropping images, image modification often used for creating presentations, teaching images, research data or marketing studies (imaging equipment manufacturers).

CAUTION: Be very careful about using 'Save' and 'Save Series As…' after *editing* JPEG lossy compressed clip (multi-frame image) 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 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.

1. To rearrange images or create a new image series

You can create a new series of DICOM images and delete or add images, including images from other studies and patients if you are creating a teaching or marketing study.
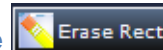
- Select the File Menu, New Series option (or Ctrl-N) to bring up an empty image window. Or work with the original series if it is backed up or you plan to "Save Series As…".

- Copy and paste images into the new window. Click on an image to select it and use The Edit Menu, Copy option (Ctrl-C). Then use Edit, Paste (Ctrl-V) to paste the image into the new window. Delete unwanted images using the Edit menu, Delete option or the Delete key. Images are ordered as they are pasted into the new series.

- Use the File Menu 'Save' or 'Save Series As…' to save the series

2. To reset the image contrast, brightness or gamma [Contrast/Brightness]

Double-click on an image to view it in an Edit Window, click the 'Contrast/Brightness' tab and readjust the contrast window, or add a gamma correction if you want. Check the "Apply to All" box to use the same settings for all images in the series. These settings do not save with the images if you Save or Save As. If you export the image, the exported image maintains the contrast settings.

3. To remove patient identifying information written into an image [Erase Rect]

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 multiple images" button.

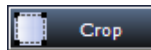#### 4. To de-identify the DICOM information in image headers and directories

The 'File:Save Series As…' option allows you to save a series of images. The 'Save Series As…' dialog allows you to change the patient name, id number, accession number and study description. (See the ShowCase Quick Guide on De-identification)

5. To 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.
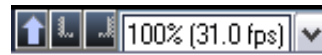
6. To crop images

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. To margin clips or reset playback 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 that 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 want to put the exported image in a PowerPoint presentation, you can check a box that automatically creates a PowerPoint slide with your exported image in the center of the slide.

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