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PIXEL AND VOXEL

Pixels are created by the phase and frequency values selected by the technologist. This will represent a 2D image.

A voxel's will also take into consideration the frequency and phase values as well as the slice thickness. This will produce a 3D representation of data.

We can calculate the size of our pixel by taking the field of view (FOV) and dividing it by the frequency/phase value.

Pixel size = FOV / frequency / phase value

Example: ***Frequency=256,*** ***Phase=192,*** ***FOV=200***

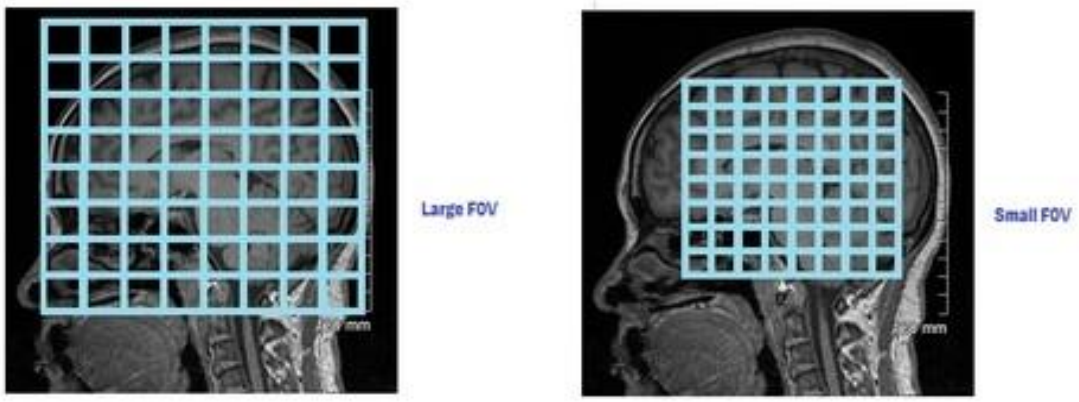
200/256= Frequency direction= 0.78

200/192=Phase direction= 1.04

This would create a pixel with .78mm x 1.04mm

Field of View (FOV)

The field of view (FOV) is the area of coverage. This can be selected by the technologist. Within the FOV, we find our image matrix. By changing the size of our FOV, we will influence the size or our image matrix. By making the FOV smaller, we will be squeezing our pixels in the image matrix forcing them to get smaller to fit the smaller FOV. This would increase our resolution.



Same number of pixels, but a different size field of view.