

# SPECTROSCOPY

This protocol is used for evaluation of the brain spectrum.

- Use 8 channel coil if possible.
  - Have Radiologist determine if scan will be SVS (single voxel spectroscopy) or CSI (chemical shift imaging). Hint: See guidelines for correct sequences and positions if no Rad available.
  - Run appropriate scouts. If for enhancing lesion, give single dose contrast and use T1 scouts. If spectroscopy is for anything other than enhancing lesion, determine which scout will best demonstrate area of concern; T2 (best for anatomy) or FLAIR (best for non-enhancing lesions).
1. Place SAG, AXIAL, and COR loc demonstrating pathology or anatomy being sampled in each window.
  2. Open tool bar and turn reference lines on.
  3. Click on axial window to activate. Right mouse click, copy to image position.
  4. Position VOI. Try to keep volume away from bone, CSF, and sinuses if possible. Angle volume in the axial plane only as angling in the other orientations may cause you to angle right out of the VOI (Watch the reference lines).
  5. In **SVS imaging**, volume may be decreased to avoid bone, CSF, and sinuses. If decreasing voxel to 16, increase acquisitions to 192. If decreasing voxel to 10, increase acquisitions to 325.
  6. In **CSI imaging**, volume may be decreased in the AP and LR directions. Decrease voxel by 20 in order to keep an entire voxel to sample (10 will decrease by ½ a voxel). If thickness must be decreased, adjust for signal loss by increasing acquisitions. Try to have pathology in an entire voxel for best sampling. Also have an entire voxel in normal tissue for comparison.
  7. After positioning voxel, have Radiologist check placement before beginning scan.
  8. If available, have radiologist check resulting spectra.