

## **NEONATAL HEAD:**

- Prep: None. The patient should be newborn to approximately six months.
- Basic Principles: Use the highest frequency transducer possible for proper penetration of the whole brain.
- The examination should include the following:
  - Coronal images should be obtained by angling the transducer from the front to the back of the brain through the anterior fontanelle to include the following:
    - Frontal cortex / lobes anterior to the frontal horns of the lateral ventricles. (Orbits visualized deep to the skull bone).
    - Frontal horns of the lateral ventricles anterior to the foramen of Monroe.
    - Foramen of Monroe.
    - Posterior aspect of the third ventricle through the thalami
    - Quadrigeminal cistern.
    - Trigones of the lateral ventricles.
    - Parietal and occipital cortex.
  - Parasagittal and sagittal images should be obtained by angling the transducer from the right to the left of the brain through the anterior fontanelle to include the following:
    - Midline sagittal view to include the corpus callosum, cavum septi pellucidi, the third ventricle, the area of the aqueduct of sylvius, the fourth ventricle, the vermis of the cerebellum, and the cisterna magna.
    - Right lateral ventricle to include the caudothalamic groove between the head of the caudate nucleus and the thalamus; additional magnified view of the groove.
    - Right lateral ventricle with its contained choroid plexus, and surrounding white matter.
    - Right sylvian fissure.
    - A second midline sagittal view.
    - Left lateral ventricle to include the caudothalamic groove between the head of the caudate nucleus and the thalamus; additional magnified view of the groove.
    - Left lateral ventricle with its contained choroid plexus, and surrounding white matter.
    - Left sylvian fissure.
  - Additional images:
    - If study is abnormal, additional image of the abnormality with measurements in all 3 planes.
    - If indication is “seizures” – Doppler of the sagittal sinus.
    - Look for and document subdural and subarachnoid space/fluid; if widened, Doppler to distinguish between subarachnoid versus subdural.