NEUROIMAGING FOR NEUROPSYCHOLOGISTS: A PRACTICAL GUIDE

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Handout to accompany recorded lecture
Interpreting Reports
Normal Scan (CT and T1 MR)

- Cases courtesy of Dr Bruno Di Muzio, Radiopaedia.org, rID: 41030 & 48291
Terms: Reading Reports

- **Arachnoid cyst**: CSF-filled cyst between the brain and arachnoid (top)
- **Canal or artery stenosis**: Narrowing (middle)
- **Cervical spondylosis**: Age-related disc degeneration
- **Clinical correlation**: Recommendation for findings to be corroborated with a clinical exam
- **Dilation of the temporal horn**: Expansion of the lateral ventricle (bottom)
Terms: Reading Reports

- **Downward herniation of cerebellar tonsils**: Cerebellum pushes through foramen magnum (chiari mal.) (bottom left)
- **Edema**: Excess accumulation of fluid (top)
- **Effacement**: Thinning
- **Empty sella**: Shrunken pituitary gland (bottom right)
Terms: Reading Reports

- **Encephalomalacia**: Softening/loss of brain (top)
- **Extra-axial mass**: Meningioma; a typically benign tumor (middle)
- **Foci of increased FLAIR and T2 signal**: White matter hyperintensities (see end)
- **Gliosis**: Proliferation of glial cells after an injury (bottom)
**Terms: Reading Reports**

- **Hemorrhage**: Bleeding in the brain (top right)
- **Hemosiderin**: Iron deposit indicative of an old hemorrhage (top left)
- **Hippocampal atrophy**: (bottom left)
- **Hydrocephalus Ex Vacuo**: Apparent hydrocephalus due to atrophy (bottom right)
Terms: Reading Reports

- **Hyperdense**: Brighter than normal
- **Hypodense**: Darker than normal
- **Isodense**: Similar shading to normal
- **Lacunar infarcts**: Small stroke in a penetrating artery (middle)
- **Mass effect**: Displacement of surrounding tissue (bottom)
Terms: Reading Reports

- **Midline shift**: Movement of brain past the center line (top)
- **No acute ischemia**: Standard rule out
- **No associated mass or abnormal enhancement**: Standard rule out
- **Normal Pressure Hydrocephalus**: Decreased absorption of CSF (bottom)
- **Patent**: Open and normal
Terms: Reading Reports

- **Periventricular white matter changes**: White matter changes around the ventricles (top)
- **Ring enhancing**: Hypodense region surrounded by a bright rim of contrast dye or edema (middle)
- **Small vessel disease**: Lacunar infarcts or microvascular ischemia
- **Volume loss/atrophy**: Decline of brain parenchyma from previous level (bottom)
**Terms: White Matter Changes**

- **Terms:**
  - White matter hyperintensities
  - Microvascular ischemia
  - Chronic white matter disease
  - Leukoaraiosis
- Typically the result of multiple small ischemic strokes leading to white matter dysfunction
- Can occur as a result of a leukoencephalopathy (rare)
Other Questions? Joel.Kamper@va.gov