Pictorial Review of Lesion Localization for Patients With Stroke, Upper Limb and Lower Limb Pathology

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Localization is a foundational skill in clinical neuroscience and a vital aspect of teaching and learning for students and educators. Stroke syndromes, brachial plexus injury, and lumbosacral nerve pathology are among some of the most challenging clinical scenarios for learners to understand and master. The 3 images in this article are teaching tools for learners and teachers in clinical neuroscience. The “Vascular Localization of Stroke” image is a reference tool for learning cerebrovascular anatomy and the effect of a cerebrovascular accident, according to the location of the lesion. The “Upper Limb Pathology” and “Lower Limb Pathology” images are handout tools for learning how lesions to peripheral nerves or spinal nerve roots present with sensory and/or motor deficits.
Vascular Localization of Stroke

**KEY:**
- Motor deficit
- Sensory deficit
- Pain/temperature deficit
- Side of lesion
- Vertigo
- Loss of proprioception

**ANTERIOR CEREbral**
- Contralateral motor/sensory (lower dominant)
- Abulia, dyspraxia, emotional changes

**MIDDLE CEREbral**
- Contralateral motor/sensory (face + upper dominant)
- Eye deviation to inferot
- Homonymous hemianopia
- Aphasia (dominant) or neglect

**POSTERIOR CEREbral**
- Homonymous hemianopia
- Visual field defects
- Sensory signs/symptoms of lateral masseter

**LENTICULARN TRACT**
- Pure motor stroke, contralateral

**BASILAR**
- Quadriplegia, "locked in"
- No horizontal eye movements

**ACA**
- Ipsilateral facial paresis
- Ipsilateral hemiparesis
- Ipsilateral dysphagia
- Ipsilateral dysphonia
- Vertigo, ataxia

**PICA**
- Dysphagia, hemiparesis
- Ipsilateral hemiparesis
- Vertigo, ataxia

**ANTERIOR SPINAL**
- Contralateral paresis
- Tone, alteration in vision
- Loss of proprioception
Upper Limb Nerve Pathology

Reference
References