

Curriculum Content Report – Stroke

Search Terms: brain anatomy and blood supply, stroke, transient ischemic attack, thrombotic stroke, cerebral artery occlusion, cerebral infarction, embolic stroke, cerebral embolism, intracerebral hemorrhage, subarachnoid hemorrhage, traumatic intracranial hemorrhage, anoxic brain damage, cerebral hypoxia

Search Codes: NS A2b, NS A2c, NS B3b, NS B3c, NS B3d, NS B3e, NS B14a

Prepared: 10/07/19 by Hunter Bratton, MS-4 and Erin Lutz, MS-3 – Delivered to MSEC 10/15/19

YEAR 1	
COURSE	CONTENT
Medical Human Gross Anatomy and Embryology	<ul style="list-style-type: none"> • Blood supply to the brain and the Circle of Willis • Intracerebral hemorrhage • Cranial nerve pathways, result of lesions, and rehabilitation
Doctoring I	<ul style="list-style-type: none"> • Stroke findings on neurologic exam • Case-based learning session on stroke rehabilitation
Clinical Epidemiology and Biostatistics	<ul style="list-style-type: none"> • Atherosclerosis-derived cardiovascular diseases (including stroke) identified as top causes of death in current era
Cell and Molecular Medicine	<ul style="list-style-type: none"> • Blood coagulation and control • Platelets, clotting, and clot prevention • Intrinsic and Extrinsic pathways, warfarin and heparin • Fibrinolysis and plasminogen activation • Molecular and cellular mechanisms leading to stroke (dyslipidemia, statins, etc.)
Cell and Tissue Biology	<ul style="list-style-type: none"> • Recognizing neurons and non-neuronal cells in the CNS and PNS • Recognizing parts of the CNS: brain regions (cerebrum, cerebellum, brain stem) and spinal cord • Comparing and contrasting white and grey matter in CNS • Integrating neurohistology with neuroanatomy and neurophysiology • Microanatomy of blood vessels • blood types and reduced incidence of cardiovascular disease
Physiology	<ul style="list-style-type: none"> • Patterns and regulation of cerebral blood flow

YEAR 2	
Doctoring II	<ul style="list-style-type: none"> • Atrial fibrillation identified as cause of stroke in ECG interpretation session
Clinical Neuroscience	<ul style="list-style-type: none"> • Vascular anatomy relevant to stroke • Symptoms and causes of stroke • Differences between types of strokes • Predicting locations of strokes based on presenting symptoms
Pathology	<ul style="list-style-type: none"> • arteriovenous malformations • transient ischemic attack • ischemic damage (including gross and microscopic changes) • stroke, thrombotic: cerebral artery occlusion/cerebral infarction • stroke, embolic: cerebral embolism • stroke: intracerebral hemorrhage, including subarachnoid hemorrhage, traumatic intracranial hemorrhage • cerebrovascular syndromes (including carotid, ACA, MCA, PCA, brainstem, spinal cord) • cerebral artery aneurysm • carotid artery stenosis/ atherosclerosis/ occlusion/ dissection • vascular dementia • hypertensive encephalopathy • venous sinus thrombosis • spinal artery thrombosis/embolus/infarct • anoxic brain damage, cerebral hypoxia • epidural, subdural hematoma (cerebral and spinal) • intraparenchymal hemorrhage
Medical Pharmacology	<ul style="list-style-type: none"> • Medicines used in the treatment and management of stroke (thrombolytics, anticoagulants, statins, blood pressure medications, antiplatelet medications)
Intro to Clinical Psychiatry	<ul style="list-style-type: none"> • Vascular dementia
Year 3	
Family Medicine Clerkship	<ul style="list-style-type: none"> • Aquifer case on atherosclerotic disease in the elderly
Internal Medicine Clerkship	<ul style="list-style-type: none"> • “Neurology” taught in student education conference, with quiz following week
Surgical Clerkship	<ul style="list-style-type: none"> • Carotid stenosis required module • Carotid artery ultrasound required module
Community Medicine	<ul style="list-style-type: none"> • Stroke is an encouraged diagnosis
Psychiatry Clerkship	<ul style="list-style-type: none"> • Lecture on “Neuroanatomy”