

## **STROKE**

Common & uncommon causes of stroke

Stroke mimics (hemiplegic migraine, seizures, hypoglycemia)

Global ischemia/hypoxia

Neonatal & pediatric stroke

Dissection, FMD, Takayasu's, Ehlers Danlos, Erdheim Chester

## **TUMORS (Refer to 2016 WHO - Peds & Adult)**

Diffuse astrocytic & oligodendroglial tumors

Other astrocytic tumors

Ependymal tumors

Other gliomas

Choroid plexus tumors

Neuronal & mixed neuronal-glial tumors

Tumors of pineal region

Embryonal tumors

Tumors of cranial & paraspinal nerves

Meningiomas

Mesenchymal, non-meningothelial tumors

Melanocytic tumors

Lymphomas

Histiocytic tumors

Germ cell tumors

Tumors of sellar region

Metastatic tumors

## **VASCULAR**

AVM

AVF

Aneurysms

Moya moya

Cerebral venous sinus thrombosis

Vein of Galen malformation

RCVS

Primary CNS angiitis

Amyloid angiopathy hemorrhage

Hypertensive hemorrhage

Hemorrhagic tumors

Hemorrhagic infections  
Cavernous malformations

### **INFECTION/INFLAMMATION**

Bacterial infections  
Fungal infections  
Prion  
Viral infections  
Parasitic infections

Granulomatous CNS diseases

IRIS  
Anti-NMDA Receptor encephalitis  
PANDAS  
Limbic encephalitis  
NMO spectrum

### **WHITE MATTER**

Multiple sclerosis  
ADEM  
Leukodystrophies  
Hypomyelination  
Myelinolysis syndromes  
Toxic injury to WM  
Ischemic injury  
Susac's  
CADASIL  
PML  
HIV  
SSPE  
PRES

### **NEURODEGENERATIVE**

Alzheimer's  
Frontotemporal dementia  
Lewy body disease  
Parkinson's  
Multisystem atrophy  
Progressive supranuclear palsy  
ALS

Cerebellar degeneration syndromes  
Iron deposition disease  
Huntington's disease

NPH

### **TRAUMA**

SDH, EDH, IPH, DAI, fat emboli  
Brain herniation patterns  
Chronic traumatic encephalopathy  
Abusive head trauma  
Traumatic venous & arterial injury

### **CONGENITAL**

Cortical development  
Corpus callosum malformations  
Holoprosencephaly  
Septo-optic dysplasia  
Dandy-walker malformation  
Joubert syndrome  
Cerebellar vermian dysgenesis  
Rhomencephalosynapsis  
Chiari I  
Chiari II  
Mesenchymal malformations  
NF 1  
NF2  
VHL  
Tuberous sclerosis  
Sturge-Weber

### **TOXIC/METABOLIC**

Inborn errors of metabolism  
Hypoglycemia  
Hepatic encephalopathy  
Radiation injury  
Methotrexate toxicity  
CO poisoning  
Opiate toxicity  
Alcohol toxicity  
PRES

Antiepileptic cerebellar atrophy

**HYDROCEPHALUS**

Signs of increased intracranial pressure

Signs of intracranial hypotension

Slit ventricle syndrome

## **ORBITAL**

Micropthalmia

PPHV

Coloboma

NF1

Dermoid cyst

Epidermoid cyst

Rhabdomyosarcoma

Retinoblastoma

Meningioma

Optic/chiasmal glioma

Ocular melanoma

Orbital lymphoma

Lacrimal gland tumors

Optic neuritis

Sarcoidosis

Pseudotumor

Bacterial orbital infection

Fungal orbital infection

Hemangioma

Lymphangioma

Venolymphatic malformation

Orbital prostheses

## **Nasopharynx & Sinuses**

Choanal atresia

Frontoethmoidal encephalocele

Acute bacterial sinusitis

Chronic bacterial sinusitis

Fungal sinusitis

Polyposis

Mucocele

Wegener granulomatosis

Papilloma

Juvenile angiofibroma  
Hemangioma  
Osteoma  
Fibrous dysplasia  
Squamous cell carcinoma  
Adenocarcinoma  
Melanoma  
Esthesioneuroblastoma  
Lymphoma

FESS

### **TEMPORAL BONE**

Common cavity  
Cochlear aplasia/hypoplasia  
IP-I/IP-II/IP-III  
Large vestibular aqueduct  
EAC atresia  
Ossicular deformities

Tumors

Fracutres

Cholesteatoma

Mastoiditis  
Otitis media  
Malignant otitis externa  
Petrous apicitis

Lesions causing tinnitus

Otosclerosis/otospongiosis

Tegmen thinning  
Meningoceles  
SCC dehiscence

Surgical procedures

## **PAROTID**

Parotitis

Sjogren syndrome

Benign lymphoepithelial lesions in HIV

Warthin tumor

Benign mixed tumor

Adenoid cystic carcinoma

Mucoepidermoid carcinoma

Lymphoma

Lymph node mets

Malignant tumors of skin

Facial nerve pathology

Surgical procedures

## **MASTICATOR/FACE**

Benign peripheral nerve sheath tumors

Malignant peripheral nerve sheath tumors

Mandibular & maxillary neoplasms

Osteomyelitis of maxilla/mandible

Osteoradionecrosis

Bisphosphonate osteonecrosis

Facial fractures

Denervation atrophy

Surgical procedures

## **CAROTID**

Carotid body paraganglioma

Glomus vagale paraganglioma

Schwannoma

Neurofibroma

Carotid artery pseudoaneurysm

Carotid artery dissection

Jugular vein thrombosis

## **ORAL**

Dermoid cyst

Epidermoid cyst

Accessory salivary tissue

Lymphangioma

Lingual thyroid gland

Abscess

Sialadenitis

Ranula

Retropharyngeal abscess

Squamous cell carcinoma

Malignant tumors of minor salivary glands

Benign mixed lesions of minor salivary

Surgical procedures

## **HYPOPHARYNX**

Squamous cell carcinoma

Chondrosarcoma

Esophageal carcinoma

Postsurg and postrads changes

Vocal cord paralysis

Laryngeal trauma

Laryngocele

Pharyngocele

Laryngeal web

Laryngeal stricture

Tracheal stenosis

Swallowing disorders

Zenker diverticulum

Epiglottitis and croup



## **THYROID**

Thyroiditis

Multinodular goiter

Parathyroid adenomas

Thyroid carcinomas

Thyroid lymphoma

Surgical procedures

## **LYMPH NODES**

Reactive node enlargement

Suppurative nodes

Kimura disease

Castleman disease

Lymphoma

Nodal mets

Neck dissections

## **SKULL BASE/CRANIAL NERVES**

Meningioma

Macroadenoma

Chordoma

Chondrosarcoma

Plasmacytoma

Mets

LCH

Fibrous dysplasia

Jugular Glomus tumor

Jugular Schwannoma

Meningioma

Jugular vein diverticulum

Skull base fractures

Cavernous sinus neoplasms & inflammation

Perineural tumor spread

Surgical procedures

**OTHER CONGENITAL**

Branchial cleft cysts

Thymic cysts

Thyroglossal duct cyst

Neurocutaneous syndromes

Fibromatosis coli

## **DEGENERATIVE**

Disc degeneration & herniation  
Modic marrow changes  
Facet arthropathy/synovial cysts  
Spondylolisthesis, spondylolysis  
OPLL  
DISH

## **TUMORS**

Vertebroplasty

Ependymoma  
Astrocytoma  
Oligodendroglioma  
Ganglioglioma  
Hemangioblastoma  
Mets

Meningioma  
Nerve sheath tumors  
Hemangioma  
Paraganglioma  
Carcinomatosis

## **TRAUMA**

Atlanto-occipital dislocation  
Occipital condyle fracture  
Odontoid fracture  
Hangman's fracture  
Jefferson fracture  
C1 fractures  
Hyperflexion spine fracture  
Hyperextension spine fracture

Hyperflexion tsp compression  
Burst fractures  
Flexion-distraction injuries  
Fracture-dislocation injuries

Nerve root & brachial plexus injury

Pediatric spine trauma

## **INFECTIOUS/INFLAMMATION**

Vertebral discitis/osteomyelitis

Ankylosing spondylitis

Psoriatic arthritis

Rheumatoid arthritis

Sarcoidosis

Dialysis related amyloidosis

Leptomeningeal infections

Infectious myelitis

Multiple sclerosis

ADEM

NMO

Acute transverse myelopathy

Guillain Barre

CIDP

Charcot Marie Tooth

Neurosarcoidosis

## **VASCULAR**

Spinal AVM

Spinal AVF

Cavernous malformations

Spinal cord infarcts

## **CONGENITAL**

Myelocele

Myelomeningocele

Lipomylocele

Lipomyelomeningocele

Meningocele

Myelocystocele

Segmental spinal dysgenesis

Dorsal dermal sinus

Diplomyelia  
Diastematomyelia

Tethered cord

Vertebral segmentation anomalies

Neurenteric cyst  
Arachnoid cyst  
Epidermoid

**POST-OP**

Scar vs recurrent disc  
Hardware failure  
Nonunion  
Infection  
CSF leak

**TOXIC/METABOLIC**

Subacute combined degeneration  
Radiation myelopathy