

Syndrome	Lesion site	Motor	Proprioception, fine touch & vibratory sense	Pain & temp.	Cranial Nerves & Extra notes
Medial medullary syndrome (Dejerine syndrome)	Anterior spinal artery / supplies areas close to the midline.	Contralateral hemiparesis > upper & lower limbs [paralysis can happen depending on severity] ipsilateral of face muscles.	Contralateral / damage of medial lemniscus.		Deviation of the protruded tongue to the ipsilateral side [paralyzed site] > hypoglossal n [LMN lesion]. This syndrome is characterized by Alternating hemiplegia .
Lateral medullary syndrome (Wallenberg syndrome) or PICA syndrome	PICA / supplies areas close to lateral areas.			Contralateral > body. ipsilateral > face [spinal trigeminal tract and nucleus].	Loss of taste from the ipsilateral half of the tongue (solitary tract and nucleus). Hoarseness and dysphagia (nucleus ambiguus or roots of cranial nerves IX and X) ipsilateral Horner syndrome (sympathetic damage) (hypothalamospinal fibers) Vertigo and nystagmus (vestibular nuclei).
Vascular lesions of the posterior spinal artery	Posterior spinal artery		ipsilateral [fibers themselves / nuclei]. IMP	ipsilateral from the face [lateral to nucleus cuneatus is the trigeminal nucleus].	
Foville syndrome	Due to occlusion of the paramedial branches.	contralateral hemiparesis	variable contralateral sensory loss reflects various degrees of damage to the medial lemniscus.		ipsilateral abducens nerve paralysis.
Millard-Gubler syndrome					If the area of damage is shifted somewhat laterally to include the root of the facial nerve along with corticospinal fibers , the patient has a contralateral hemiparesis and an ipsilateral paralysis of the facial muscles .

Syndrome of the mid-pontine base	Due to occlusion of the paramedial branches and short circumferential branches .	contralateral hemiparesis -Fibers of the middle cerebellar peduncle (ataxia).			Sensory & motor trigeminal nuclei > ipsilateral loss of pain and thermal sense and paralysis of the masticatory muscles [motor nucleus medial to sensory nucleus].
Weber syndrome	Due to occlusion of vessels serving the medial portions of the midbrain involving the oculomotor nerve and the crus cerebri .	Paralysis of the contralateral extremities.			Ipsilateral paralysis of all extraocular muscles except the lateral rectus (supplied by the abducent) and superior oblique (by the trochlear) . Ipsilateral dilatation of pupil. Contralateral weakness of the facial muscles of the lower half of the face [UMN lesion!!] Contralateral deviation of the tongue when it is protruded
Claude syndrome	Due to occlusion of vessels serving the central area of the midbrain which includes the oculomotor nerve and the red nucleus .	Contralateral ataxia, tremor, and incoordination [red nucleus receives input from the cerebellum]			Ipsilateral paralysis of most eye movement Ipsilateral dilatation of pupil
Benedikt syndrome					(basically the previous 2 syndromes together)

Notes ~

- Damage related to cranial nerves usually results in **ipsilateral** manifestations [LMN].
- Damage related to the spinal cord / body parts (long tracts) usually results in **contralateral** manifestations [UMN].
- Horner's syndrome : sympathetic damage > miosis / ptosis / anhidrosis...
- trigeminal =/= pons!!!

Mnemonics:

> **Lilly** is riding her bike [**L**ateral medullary / bike > PICA].

-**Fofi** is a douchebag but he's a paramedic student [fofi > foville / douchebag > abduhens 2ulet b&b / paramedic > paramedian artery].

Disease	Causes	Symptoms	Notes
Tonsillar herniation	Any mass in the posterior cranial fossa [hemorrhage/tumor]... -increase in intracranial pressure.	Directly or indirectly [by pressing on an artery that supplies the medulla] -sudden change in heart rate or respiration. -HYPERTension. -HYPERventilation. -rapidly decreasing levels of consciousness [reticular formation]. -various amounts of sensory and motor deficits. If severe? death.	Tonsils > part of the cerebellum > pushed through foramen magnum putting pressure on the medulla oblongata. Major concern in acute herniation: damage to the ventrolateral reticular area [heart rate and respiration]. Treatment > directed towards hemorrhage or tumor causing the herniation [difficult].
Arnold-Chiari Phenomenon	Congenital	It is less severe, symptoms appear as patients age.	Treatment > If a person is diagnosed with this there is surgical treatment and prognosis is great.
Central herniation	<u>Space occupying</u> lesion in the hemisphere (<u>supratentorial compartment</u> , above the tentorium cerebri) elevates intracranial pressure and <u>forces the diencephalon downward</u> through the tentorial notch and into the brainstem affecting the midbrain mainly.	-change in respiration, eye movements are irregular. -Tachypnea and apnea -profound loss of motor and sensory functions. -probable loss of consciousness. -decorticate posture may occur as the pressure affects the fibers heading to the brainstem (UMN), where the lower limbs are extended and upper limbs are flexed but as herniation develops decerebrate may occur and this is a bad sign because it means the lesion is close to the vital centers.	
Upward cerebellar herniation		accumulation of fluids will lead to an increase in intracranial pressure causing <u>vomiting, headache, lethargy, decreased levels of consciousness.</u>	-force leads to compressing the midbrain rather than causing tonsillar herniation. -the result may be occlusion of branches of the <u>superior cerebellar artery</u> with resultant infarction of cerebellar structures or obstruction of the cerebral aqueduct and hydrocephalus.

<p>Uncal herniation</p>	<p>Early signs: <u>dilated pupil ipsilateral</u> to the herniation (involvement of oculomotor) <u>abnormal eye movements ipsilateral</u> to the herniation (oculomotor nerve) <u>double vision ipsilateral</u> to the herniation (<u>loss of synchrony</u> of movement of the eyes). Weakness of the extremities (corticospinal fiber involvement) <u>opposite</u> to the dilated pupil.</p> <p>Later: respiration is affected.</p>	<p>Movement of the <u>uncus</u> (<u>anteromedial part of the temporal lobe</u>) downward over the edge of the tentorium cerebelli, causing pressure on the midbrain.</p>
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