Internal features.It is divisible, on the basis of cytoarchitectonic, chemoarchitec–tonic and functional criteria, into three bilateral longitudinal columns: median, medial, and lateral.Proper nuclei of the myelencephalon are as fol– The inferior olivary complex (nuclei olivares infe–riores) is an irregularly crenated mass of grey matter with a medially directed hilum, through which numerous fibres enter and leave the nuclei.It is divisible, on the basis of cytoarchitectonic, chemoarchitec–tonic and functional criteria, into three bilateral longitudinal columns: median, medial, and lateral.Axons from the spinal nucleus of the trigemi–nal nerve cross at the midline with the contralateral fibres, compose the trigeminal lemniscus (lemniscus trigeminalis) and ascend to the contralateral thala–mus.Proper nuclei of the myelencephalon are as fol– The inferior olivary complex (nuclei olivares infe–riores) is an irregularly crenated mass of grey matter with a medially directed hilum, through which numerous fibres enter and leave the nuclei.The rhomboid fossa (fossa rhomboidea) is composed by the dorsal surfaces of the pons and the cranial half of the medulla oblongata which are divided by the medullary striae of the fourth ventricle (striae medullares ventriculi quarti).The inferior salivatory nucleus nucleus salivato–rius inferior [IX/ is situated near the upper pole of the vagal nucleus, just above the pontomedullary junction which sends preganglionic parasympathetic fibres into the glossopharyngeal nerve for the control of the parotid salivary gland.Caudal fibres link the vagus [X] and cranial accessory XI] nerves and are distributed to the pharyngeal constrictors, intrinsic laryngeal muscles and striated muscles of the palate and upper ocsophagus.The decus–sation of the medial lemniscus, or sensory decussation (decussatio lemnisci medialis) is located dorsal to the pyramids and ventral to the central grey mat–ter.The decus–sation of the medial lemniscus, or sensory decussation (decussatio lemnisci medialis) is located dorsal to the pyramids and ventral to the central grey mat–ter.It extends caudally to the first cervical spinal segment and rostrally to the open part of the medulla under the trigone of the THE BRAIN vagus nerve, or vagal trigone (trigonum nervi vagi) of the floor of the fourth ventricle.The vagal nucleus controls the non–striated muscle of the viscera of the thorax (heart, bronchi, lungs and oesophagus) and abdomen (stomach, liver, pancreas, spleen, small intestine and proximal part of the colon).The inferior olivary nuclei receive afferents from specific sources and project axons to the cerebellum as the olivocerebellar tract (ascending), to the spinal cord as the olivospinal fibres (descending).Second–order axons emerge from the nuclei as internal arcuate fibres (fibrae arcuatae internae), at first curving ventrolaterally around the central grey matter and then ventromedially between the spinal tract of the trigeminal nerve and the central grey matter.The inferior olivary nuclei receive afferents from specific sources and project axons to the cerebellum as the olivocerebellar tract (ascending), to the spinal cord as the olivospinal fibres (descending).Second–order axons emerge from the nuclei as internal arcuate fibres (fibrae arcuatae internae), at first curving ventrolaterally around the central grey matter and then ventromedially between the spinal tract of the trigeminal nerve and the central grey matter.The nucleus ambiguus (nucleus ambiguus [IX, X, XII) is a group of large motor neurons, situated deep in the medullary reticular formation on the level of the rhomboid fossa.The solitary nuclei, or nuclei of the solitary tract (nuclei tractus solitarii [VII, IX, X/) lie ventrolat–eral to the dorsal nucleus of the vagus nerve.The solitary nuclei are intimately related to, and receive fibres from the solitary tract, which carries afferent fibres from the facial [VII], glossopharyngeal [IX] and vagus [X] nerves.Primary spinal propriocep–tive afferents (first–

order afferent fibres) synapse with multipolar neurons in the nuclei.

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