

Zones of the neck

Trauma surgeons have traditionally divided penetrating injuries of the [neck](#) into 3 zones, and although definitions vary, the following is a general scheme:

Zone I: inferiorly from the head of the [clavicle](#) to include the [thoracic outlet](#)

Zone II: from the clavicle to the angle of the [mandible](#)

Zone III: from the angle of the mandible to the base of the skull.

Zone 1, the most caudal anatomic zone, is defined inferiorly by the clavicle/sternal notch and superiorly by the horizontal plane passing through the cricoid cartilage. Structures within this zone include the: y Proximal common carotid arteries. y Vertebral and subclavian arteries. y Subclavian, innominate, and jugular veins. y Trachea. y Recurrent laryngeal and vagus nerves. y Esophagus. y Thoracic duct. Vascular injury management is challenging in Zone 1, and mortality is high. Due to the sternum, surgical access to Zone I may require sternotomy or thoracotomy to control hemorrhage.

Zone 2, the middle anatomic zone, is between the horizontal plane passing through the cricoid cartilage and the horizontal plane passing through the angle of the mandible. Vertically or horizontally oriented neck exploration incisions provide straightforward surgical access to this zone, which contains the: y Carotid arteries. y Jugular and vertebral veins, pharynx, and larynx. y Proximal trachea. y Recurrent laryngeal and vagal nerves. y Spinal cord.

Zone 3, the most cephalad anatomic zone, lies between the horizontal plane passing through the angle of the mandible and the skull base. Anatomic structures within Zone 3 include the: y Extracranial carotid and vertebral arteries. y Jugular veins. y Spinal cord. y Cranial nerves IX-XII. y Sympathetic trunk.

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