

The trigemino-cardiac reflex (TCR) is clinically defined as the sudden onset of parasympathetic activity, sympathetic hypotension, apnea, or gastric hypermotility during central or peripheral stimulation of any of the sensory branches of the [trigeminal nerve](#).

Clinically, the TCR has been reported to occur during craniofacial surgery, manipulation of the trigeminal nerve/ganglion and during surgery for lesion in the cerebellopontine angle, cavernous sinus, and the pituitary fossa. Apart from the few clinical reports, the physiologic function of this brainstem reflex has not yet been fully explored. The manifestation of the TCR can vary from bradycardia and hypotension to asystole. From the experimental findings, the TCR represents an expression of a central reflex leading to rapid cerebrovascular vasodilatation generated from excitation of oxygen-sensitive neurons in the rostral ventro-lateral medulla oblongata. By this physiologic response, the systemic and cerebral circulations may be adjusted in a way that augments cerebral perfusion ¹⁾.

¹⁾

Schaller B, Cornelius JF, Prabhakar H, Koerbel A, Gnanalingham K, Sandu N, Ottaviani G, Filis A, Buchfelder M; Trigemino-Cardiac Reflex Examination Group (TCREG). The trigemino-cardiac reflex: an update of the current knowledge. J Neurosurg Anesthesiol. 2009 Jul;21(3):187-95. doi: 10.1097/ANA.0b013e3181a2bf22. Review. PubMed PMID: 19542994.

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