Supplementary material

Supplementary material 5. Overall Summary of connections between the cranial, orofacial and cervical regions through the TCN and directions.

Supplementary Table 1. Cervical to Orofacial/cranial (n = 5).

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Number of studies | Cervical to orofacial | Stimulus Cervical | Area of Response Orofacial | TCN Area  Vc/Vi | Spinal cord | Vo/Vi | Others |
| 5 | Icon  Description automatically generated | trapezius muscle (3) [1–3]; Neck (2) [4, 5] | Face/Facial skin (5) | 5 | 0 | 5 | 2 |

Icon

Description automatically generatedThere is a connection. TCN: trigeminocervical nucleus.

Supplementary Table 2. Orofacial/cranial to cervical (n = 72).

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Number of studies | Orofacial to cervical | Stimulus Orofacial | Area of Response Cervical | TCN Area  Vc/Vi | Spinal cord | Vo/Vi | Others |
| 64 | Icon  Description automatically generated | TMJ (12) [6–21]; tooth pulp (7) [22–28] whisker pad (5) [29–33]; masseter muscle (4) [14, 34–36]; infraorbital nerve (5) [37–41]; parotid gland (2) [42, 43]; Forehead/Head [44, 45] Orofacial Region (unspecific) [37, 46–70] | Splenius and trapezius muscles; Brainstem/Cervical muscles; TCN caudalis, and upper cervical region | 52\* | 17\* | 9\* | 26\* |
| 2 | Logo, icon  Description automatically generated | TMJ [71]; not applicable (NA) [72] | TCN caudalis and upper cervical region; NA | 1 | 0 | 1 | 0 |
| 5 |  | Left vagal nerve [73]; TMJ [74, 75]; supraorbital nerve [76]; Trigeminal nerve [77] | C1/spinal cord; Trapezius muscle; C2 |  |  |  |  |

\*Numbers do not add up since studies are considered in more than one column.

 The direction was not studied; Icon

Description automatically generatedThere is a connection; Logo, icon

Description automatically generatedThere is no connection The results are not clear.

ION: infraorbital nerve; TMJ: temporomandibular joint; TCN: trigeminocervical nucleus; NA: Not applicable.

Supplementary Table 3. Studies investigating both directions (n = 7).

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Number of studies | Cervical to orofacial | Stimulus Cervical/Orofacial | Area of Response | TCN Area  Vc/Vi | Spinal cord | Vo/Vi | Others |
| 6 | Icon  Description automatically generated | C1/Infraorbital nerve [78, 79], C2/Infraorbital nerve [80], Trapezius muscle/Tongue [81], Cervical skin/NA [82], Cervical nerves/NA [83], NA/NA [78] | Face (3); Facial skin (2); Vibrissal pad; supraorbital nerve | 3 | 1 | 4 | 0 |

Icon

Description automatically generatedThere is a connection. TCN: trigeminocervical nucleus. NA: not applicable.

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