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| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| muscles | originate | | | Courses | | insert | function | Innervation |
| Levator veli palatini | Temporal lobe& medial wall of Eustachian tube | | | Down and forward | | Palatal aponeurosis, the core of the velum | -Makes up the most of velum.  -Contracts to pull the soft palate up. | Pharyngeal plexus arising:  XI accessory, X vagus nerves |
| Musculus uvulae | Attach to nasal spine of palatine bone and run along the length of velum | | | | | | -Make medial & posterior portion of soft palate.  -contracts to shorten and bunch velum | Pharyngeal plexus arising:  XI accessory, X vagus nerves |
| Tensor veli palatini  (Only tensor) | -fossa between medial and lateral pterygoid plates of sphenoid  -later wall of Eustachian tube | | | Converge on a tendon that run under and around pterygoid hamulus | | Palatal aponeurosis | Contracts to tense the soft palate | V trigeminal nerve |
| Palatoglossus  (Anterior faucial pillars) | courses down from its origin in the lateral velum | | | | | - | Contracts to depress the soft palate | Pharyngeal plexus arising:  XI accessory, X vagus nerves |
| Palatopharyngeus (posterior faucial pillars) | - | - | | | | - | Contracts to depress the soft palate | Pharyngeal plexus arising:  XI accessory, X vagus nerves |
| Superior, middle, inferior pharyngeal constrictors | Make a tube surround pharynx, contract to narrow the pharynx.  Note: Superior pharyngeal constrictor physically related to buccinator and buccinator physically related to orbicularis oris.  buccinator & orbicularis oris make sling around lips, back along cheek wall to Superior pharyngeal constrictor. | | | | | | | |
| Superior pharyngeal constrictor |  | |  | |  | | Articulation: constrict nasopharynx and makes aids in velopharyngeal closure | Pharyngeal plexus arising:  XI accessory, X vagus nerves |
| Cricopharyngeus  (The lowest portion of inferior pharyngeal constrictor) |  | |  | |  | | Helps to keep esophagus closed and vibrating element used by people producing esophageal speech | Pharyngeal plexus arising:  XI accessory, X vagus nerves |
| salpingopharyngeus | Lowe margin of Eustachian tube | | Join up with the Palatopharyngeus | |  | | Responsible for salpingopharyngeal fold | Pharyngeal plexus arising:  XI accessory, X vagus nerves |
| stylopharyngeus | Styloid process of temporal bone | |  | | Pharyngeal wall & thyroid cartilage | | Elevate and open pharynx during deglutition | Pharyngeal plexus arising:  XI accessory, X vagus nerves |

**Relative micrognathia**

Adult 12-18 bpm

\*TV:

Male: 600 ml

Female: 450 ml  
average: 525 ml

Infant >> 25 million alveolar

8 years >> 300 million alveolar stop!!

Infant 40-70 bpm

Resting lung volume: 38% vital capacity

Volume & capacities:

* TV > 525 ml
* IRV > 2500 ml
* ERV > 1000 ml
* RV > 1100 ml
* Anatomical dead space > 150 ml
* TLC > 5100 ml
* VC > 400 ml
* FRC > 2550 ml
* IC

Erect > vital capacity 40%

Supine > vital capacity 20%

Frequency of speech vibration: 80-400 Hz

-Male 120 Hz -female 230 Hz -children 250 Hz

Surface area:

* Alveoli: 300 million 7o square meter
* Bronchia: 10 square meters (table)

Each alveolus has 2000 capillaries which mean we have 600 trillion capillaries bed.