

Deconstructing Speaking & Swallowing

Speaking

An Endurance Function
(refined lingual movements over time)

Swallowing

A Strength Function
(two phase: intra-oral suctioning +
whole-tongue single compression)

Operating Zone	Up within the dental arch	Up within the dental arch
Stabilization	Tongue-sides anchor to the inside of the top back teeth; mid-tongue contracts to enable controlled, refined, quick front-tongue vertical movements.	During Suction: Back-tongue elevates and anchors on top; mid-tongue contracts to enable front-tongue dipping to receive, (or vis-versa). During Swallow: Top/bottom teeth bite together & hold; provides a solid footing for the tongue to elevate and push.
Mobilization	Differentiated, graded movements are vertical: front-tongue vertical, back-tongue vertical; interact with alveolar ridge, palate, and soft palate. Tongue movements are refined, agile and quick.	During Suction: Front-tongue dips quickly and vertically to receive contents; or the back-tongue lowers to receive while the front anchors. During Swallow: Whole tongue compresses vertically against the roof of the mouth; front-to-back rolling, stripping action to push/squeeze the contents back and down.
Size of Movement	Small, refined, delicate, gradient movements in comparison with swallowing; many varieties of lingual contractions, contours and movements.	Fewer moving parts; suction requires vertical up/down tongue movement to receive contents (it is acted upon); almost a whole-tongue compression to the top.
Plane of Movement	Vertical (which necessitates mid-tongue contraction)	Vertical (which necessitates mid-tongue contraction)
Other:	Plosives and Fricatives: Some speech sounds require the tongue to move through the sounds (plosives, e.g., p,b,t,d). Others require the tongue move anchor it's placement and hold; these are spatial sounds (fricative, e.g. s, z, sh, f, etc.)	Intra-Oral Suction: Swallowing is the only function that requires intra-oral suctioning. It occurs pre-swallow. Lips must be closed (front enclosure), and either the front-tongue or back-tongue elevates to the top (back enclosure). Suction (negative pressure) is created within that oral space. Suction moves the contents to the accommodating tongue.
	At no time does the tongue apply pressure against the roof of the mouth to generate a speech sound; it gently touches and spatially interacts with the surrounding articulators.	Direction of Pressure: During the swallow the tongue's direction of press is upward, and the pressure is quite firm. Unless dislodging food, at no time is it appropriate for the tongue to consistently move forward.