Table 6.1. The muscles of speech production. (after P. Lieberman & S. Blumstein, 1988) *Speech physiology, speech perception, and acoustic phonetics*. Cambridge Univ. Press)

Muscle	Figure reference	Function
Larynx: intrinsic		
1. Thyroarytenoid (TA)	6.4	Vocal cord tensor, forms body of vocal cord; is active during f_0 change. Acts to change thickness of vocal cord for register changes; may also act to change overall tension of vocal cord for phonation in different registers.
2. Posterior cricoarytenoid (PCA)	6.4	Opens the glottis for either breathing or the production of -- voiced sounds
3. Lateral cricoarytenoid (LCA)	6.4	Adducts the vocal cords; applies medial compression; is active during f_0 changes, always active in onset of phonation, when it adducts vocal cords, setting phonation neutral position.
4. Cricothyroid (CT)	6.4 6.15	Applies longitudinal tension to vocal cords; is active during f_0 changes.
5. Interarytenoid	_	Adducts the vocal cords; applies medial compression. May be active in setting phonation neutral position
Larynx: Extrinsic		
1. Sternohyoid (SH)	6.14 6.15	Lowers the hyoid if muscles that go from hyoid to skull and mandible are slack. Also stabilizes hyoid when muscles like digastric tense to open mandible. May be active in initiating phonation register shifts
2. Thyrohyoid (TH)	6.14 6.15	Decreases distance between thyroid cartilage and hyoid bone.
3. Sternothyroid (ST)	6.14	Lowers the thyroid cartilage
Pharynx		
1. Superior constrictor (SC)	6.13	Constrict the pharynx; active during swallowing and in the production of sounds like the vowel [a].
2. Medial constrictor (MC)	6.13	
3. Inferior constrictor (IC)	6.13	
4. Palatopharyngeus	6.13	Constricts the pharynx; also can lower the soft palate
Soft Palate		
1. Levator palatini	6.13	Raises soft palate. sealing nasal cavity in the production of oral sounds. The SC also is active in some speakers when they seal their nasal cavity.
2. Palatoglossus (PG)	6.15	Raises tongue body or lowers soft palate.

Muscle	Figure reference	Function
Tongue: intrinsic		
1. Superior longitudinal (SL)	6.15B	Turns up the tip of tongue.
2. Inferior longitudinal (IL)		Turns down the tip of tongue.
3. Transverse (MI)*	6.15B	Narrows the tip of tongue.
4. Vertical (MI)*	6.15B	Flattens the tip of tongue.
Tongue: Extrinsic		
1. Gcnioglossus (GC)	6.15	Pulls tongue body forward; depresses the tongue body; can elevate the hyoid. Is active in production of sounds like [i] or [u]. where pharynx is widened by tongue body moving forward.
2. Styloglossus	6.15	Pulls tongue body towards styloid process. Is probably active in production of sounds like [u] and velar consonants.
Suprahyoid		
1. Anterior belly of digastric	6.14 6.15	Opens the jaw *if* the hyoid is stabilized by tensioning muscles that connect hyoid to sternum; raises hyoid otherwise. Can be used in the production of sounds like [a].
2. Geniohyoid (GH)	6.15	Opens jaw if hyoid is stabilized; raises hyoid and pulls it forward. Raises tongue body.
3. Mylohyoid (MH)	6.13 6.14 6.15	Raises the tongue body.
Mandible		
1. Masseter (MAS)	6.16	Closes the jaw.
2. Temporalis (TEM)	6.16	Closes the jaw; pulls lower jaw backwards
3. Internal pterygoid (IP)	6.16	Closes the jaw.
Lips and Face		
1. Orbicularis oris (OO)	6.16A	Closes the mouth; puckers the lips; acts to close and round lips in sounds like [u].
2. Depressor labii inferior (DLI)		Opens and retracts lips. Active in the release of sounds like [p] and [b].
3. Levator labii superior		Opens lips; sometimes active in release of sounds like [p] and [b].

*MI includes both transverse and vertical.