Podcast with Terri and Stacy

Our focus is early intervention and the importance of seeing these red flags early!
We want to of course talk about your background:
1. How long have you been in practice?
2. Your publications - what has been your most successful book and why do you think it was so powerful?
3. What do you think is success in therapy (and you can insert your thoughts on home programming, consistency and imitation/parent involvement)
4. What is something you have learned that made a powerful change that you DIDNT do 20 + years ago?
5. Where is your current focus for research and/or in your practice?
6. How has your partnership with OT benefitted your work?
Let's end with discussing why early intervention is so important, red flags that you see and top tips you give parents.

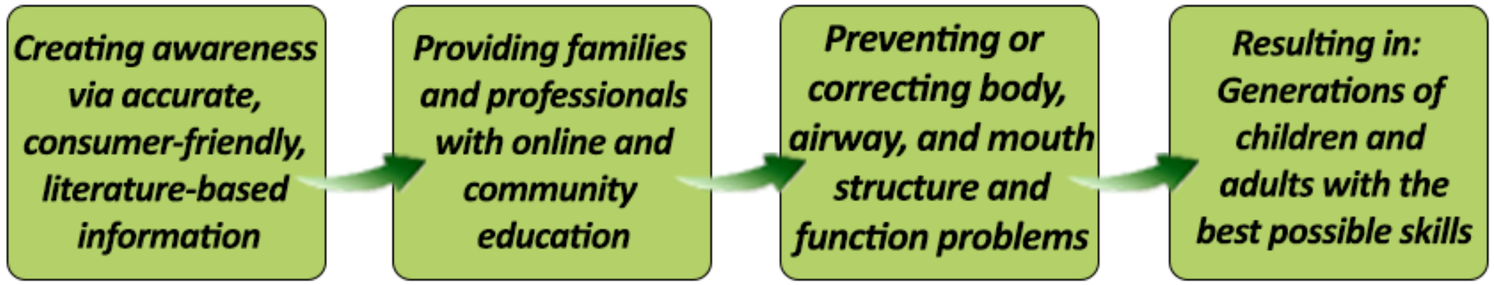
Diane's Bio

DIANE BAHR, MS, CCC-SLP, CIMI

Diane Bahr, a certified Speech-Language Pathologist and Infant Massage Instructor, is a visionary with a mission. For over 40 years she has treated children and adults with feeding, motor speech, and mouth function problems. While she is a Speech-Language Pathologist by training, she has also honed her skills as a feeding therapist, published author, international speaker, university instructor, and business owner. She maintains a private practice, writes articles appearing in a variety of publications, and is interviewed frequently on radio and for magazines. Diane is the author of the textbook *Oral Motor Assessment and Treatment: Ages and Stages* and two parent-professional books *Feed Your Baby and Toddler Right*: *Early Eating and Drinking Skills Encourage the Best Development* and *Nobody Ever Told Me (or My Mother) That! Everything from Bottles and Breathing to Healthy Speech Development*.

Ages and Stages®, LLC Vision & Mission

All children (and adults) need the best possible body, airway, and mouth structure and function. This is accomplished by:



So, let's create a cultural shift toward the prevention or correction of feeding, eating, drinking, speech, body, airway, and mouth function problems in children and adults.

Babies and Toddlers
Good body/movement development + Good feeding + Good mouth play = Good mouth & airway development Good mouth & airway development is needed for good speech development and swallowing

Children and Adults
Good posture/body movement + Passing a simple oral mechanism exam + Appropriate eating & drinking = Readiness to participate in sophisticated orofacial myofunctional & motor-speech treatment if needed

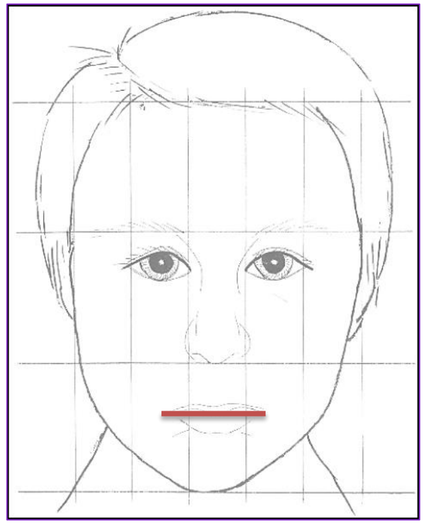
THE IMPORTANCE OF GOOD MOUTH DEVELOPMENT

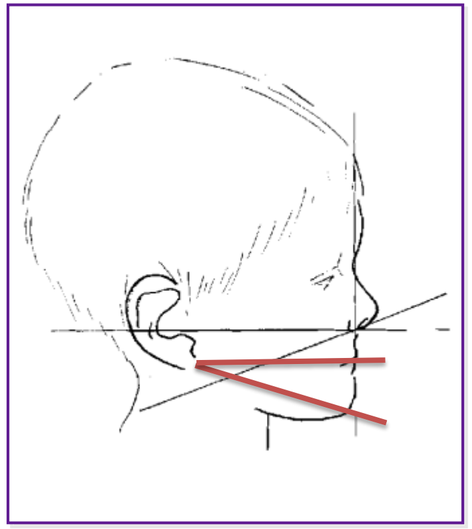
"Good mouth development is extremely important for the **health and well-being** of [a] baby. The mouth is not only the route to **good nutrition**, but it is an area through which [a] child will **gather information** about the world and ultimately learn to **express him- or herself** through speech.

Birth to 2 years of age is a **critical learning period** for [the development of] mouth skills. This is the time when [a] child will develop the majority of his [or her] **eating and drinking skills** used throughout life. It is also the time when [a] child will **begin to speak**. Significant changes in [a] baby's mouth structure and … (function) occur at this time. These **structure and function changes** assist with the many **new mouth skills** [a] baby is learning" (Bahr, 2010, p. 2).

12-month-old
Image Courtesy of www.babygaga.com

SO, HOW DO WE GET TO THIS?





Artist: Anthony Fotia, Sr.

- Eye area width: Approximately 1 eye x 5
- Center eye corners line up with widest part of nose
- Face has appearance of equal thirds
- Top and bottom jaws align
- Straight lip line

- Bridge of nose in line with philtrum and chin
- Angle of nose to philtrum 90-110 degrees
- Top teeth slightly in front of bottom teeth
- Angle of imaginary line drawn from bottom of ear to point of chin while individual viewed from side is <22 degrees or >30 degrees

Bahr, 2010, pp. 277-281, 2018; Boshart, 1995,1999

EMBRYONIC PERIOD: CONCEPTION TO WEEK 8 OF GESTATION

Around Week 4: The face and oral cavity begin to appear from migration of neural crest cells forming frontonasal, 2 maxillary, and 2 mandibular processes

Weeks 4 to 5: Mandible, lower lip, and chin formed and fused

Weeks 5 to 6: Lip closure

Around Week 6: Nasal and oral cavities become distinct areas

Around Week 7: Upper lip and primary (front) palate is formed

Weeks 7 to 8: Tongue muscles evolve, and tongue lowers from the nasal area to the oral cavity

- Tongue's descent seems at least partially related to *mandibular growth*
- The inside of the oral cavity has sensory receptors for touch, pressure, temperature, pain, etc.

Weeks 2 to 8: Tethered oral tissues (tongue, lip, and/or buccal ties) reportedly occur

Image Courtesy of https://www.bioedge.org/

Video Courtesy of Face Development in the Womb – Inside the Human Body
BBC, Michael Mosley, May 3, 2011

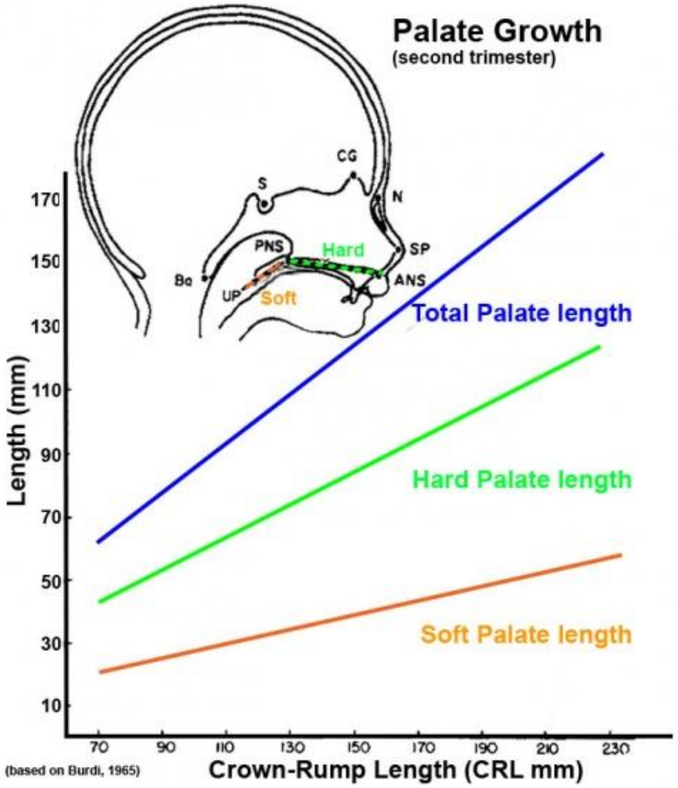
Bahr, in press; Bahr & Gatto, 2017

FETAL PERIOD:
WEEK 9 OF GESTATION UNTIL BIRTH

Weeks 6 to 10: Palatine shelves begin to rise forming the hard palate and the floor of the nasal cavity in **weeks 8 to 9**
Weeks 6 to 12: Cleft lip and/or palate can occur
Around Week 9: Cartilaginous facial structure seen
Weeks 10 to 12: Soft palate tissue fuses
Week 12: Bone begins replacing cartilage to form the early cranial base and vault, mandible, and maxilla
Weeks 12 to 20: Sucking, swallowing, and overall oral functioning organizes
Weeks 13 to 18: Taste buds mature
Around Week 16: Specific timing of sucking and swallowing develops along with esophageal reflex

- Fetus swallows approximately 7 ml of amniotic fluid per day
- Fetus sucks and swallows increasing amounts of amniotic fluid until birth (e.g., 500 ml of amniotic fluid per day)

Approximately 50% of jaw and tongue growth occurs **before birth** - the jaws are the *gateway* to the mouth and airway (Page, 2003)



Second Trimester, Burdi, 1965

Bahr, in press; Bahr & Gatto, 2017

FETAL ORAL REFLEX AND HAND-MOUTH DEVELOPMENT

Oral sensory-motor reflexes/responses

- **Weeks 26 to 27:** Gag reflex/response appears
- **Weeks 27 to 28:** Reflexive suckling and volitional sucking appear
- **Around Week 28:** The rooting, phasic bite, and transverse tongue reflexes/responses appear
- **Weeks 38 to 40:** The anterior tongue reflex is seen
- **Week 40:** Cough is seen in the full-term baby at birth

Lip contact with hand, foot, etc. resulting in mouth opening and tongue protrusion (likely anterior tongue response)

- **Weeks 17 to 20:** Hand-to-face movement seen
- **Weeks 28-31:** Finger sucking appears
- **Weeks 34-35:** Coordination of hand-to-mouth movement seen

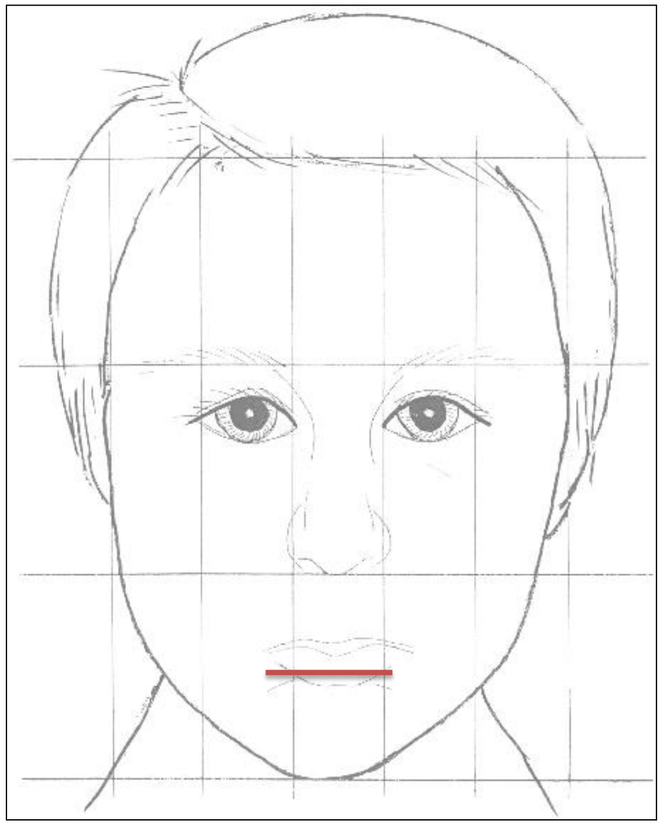
Bahr, in press; Bahr & Gatto, 2017

SUCKING/BUCCAL FAT PADS

"Sucking or buccal fat pads develop *toward the end of gestation* when the baby *is full-term* and other fat is developing on the baby's body. These crucial structures provide lateral oral support and stability during feeding. They assist in attaining adequate intraoral pressure in the mouth for sucking and keep the mouth from collapsing during feeding. If a baby is born with thin or missing sucking pads, the baby *may compensate* by humping and bunching the tongue to attain enough intraoral pressure for feeding. Babies born prematurely do not have sucking pads and many close-to-term babies (37 to 39 weeks gestation) have thin or missing sucking pads. Compensatory feeding strategies such as the *Dancer Hand Position or carefully applied cheek support* can be used in these cases to provide lateral oral support during feeding. Fully developed sucking pads are particularly important for breastfeeding." **(Bahr, in press)**

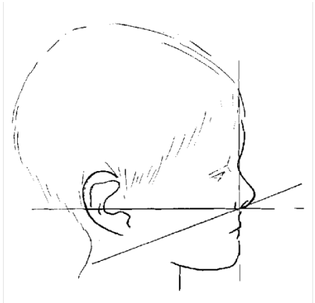
Photo Courtesy of kimschmidtphotography.com

SOME FACIAL CHARACTERISTICS SEEN IN NEWBORNS, CHILDREN, AND ADULTS



Drawings by Artist Anthony Fotia, Sr.

Photo Courtesy of bornangels.com



Beautiful Newborn Characteristics

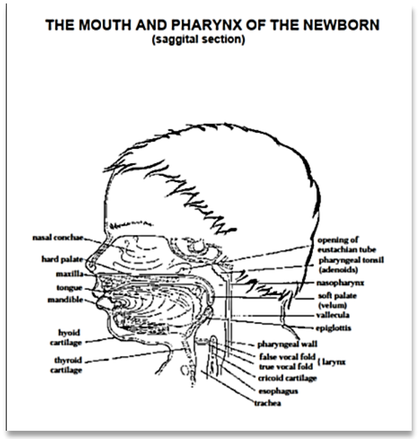
- "Horizontal width across the eye area ... is approximately the width of one eye times five" (p. 277)
- "Center corners of eyes line up with widest part of nose" (p. 277)
- "Lip line [relatively] straight across horizontally at rest" (p. 278)
- Nose is not **too** tipped up (p. 279)
- Lower jaw (mandible) small and slightly pulled back (retruded) in the newborn
- Lower jaw "approximately 30% of adult size at birth" (p. 5)
- Relatively straight lip line reflects the flatness of hard palate
- Lower jaw grows forward during the first 6 months if the child's mouth is developing well

Bahr, 2010, pp. 5, 277-279; 2018; in press

FULL-TERM NEWBORN BABIES TYPICALLY HAVE ADEQUATE STRUCTURES FOR BREATHING, FEEDING, AND VOCALIZING

- "Small open space within mouth
- Larynx high in the neck area
- Mouth and throat structures close together (protective)
- Small, slightly retruded lower jaw
- Top and bottom jaws flat appearance (approximately 30% of adult size)
- Hard palate wide "U" shape, approximately ¾ to 1 inch edge to edge across middle
- Hard palate flexible/moveable
- Tongue fills mouth at rest to help maintain palate shape
- Nasal passage is small; nasal turbinates large but decrease in size quickly after birth if no local inflammation
- Full set of ***sucking pads*** in cheeks
- Eustachian tubes relatively horizontal
- Head approximately ¼ of baby's length (12% of adult size)"

Anthony at birth
Parents granted permission for use



Drawing developed by Artist Betsy True for Suzanne Evans Morris who granted permission for its use.

Bahr, 2001, 2010, 2018, in press; **Bahr & Gatto, 2017**

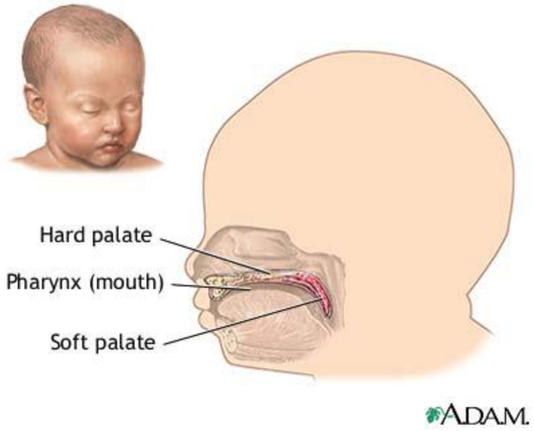
THE PALATE

The palate
- Is part of the upper jaw (maxilla)
- Has a broad "U" shape (seen when a baby is yawning or crying)

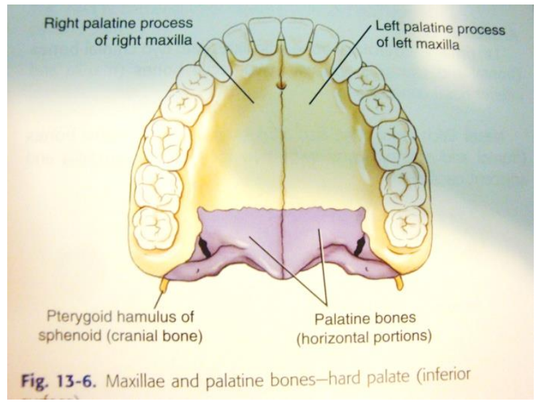
The palate at birth is
- Approximately ¾ to 1 inch wide from one side to the other across the middle
- "More than 50% of adult width" (p. 5)

Roof of the mouth (Drawing 1)
- Consists of the hard and soft palates
- Creates the floor of the nasal and nasopharynx (upper throat) areas

Hard palate (Drawing 2)
- "Is composed of several bones that touch one another in the center and toward the back" (p. 7)
- Is "flexible and easily moved out of position in newborns" and young infants (p. 7)
- Will harden as the baby's mouth grows during the first year



Drawing 1 Courtesy of health.allrefer.com



Drawing 2 Courtesy of Studyblue.com

Bahr, 2001; 2010, pp. 5-7; 2018; in press

THE PALATE AND NOSE BREATHING

Good palate shape develops as
- The baby's tongue rests within a closed mouth
- The mother's breast is drawn deeply into the baby's mouth

Problems with palate shape can occur when a baby
- Cannot breathe through the nose and must breathe through the mouth
- Has an open mouth posture
- Has tubes in the mouth for life sustaining purposes
- Uses a pacifier constantly

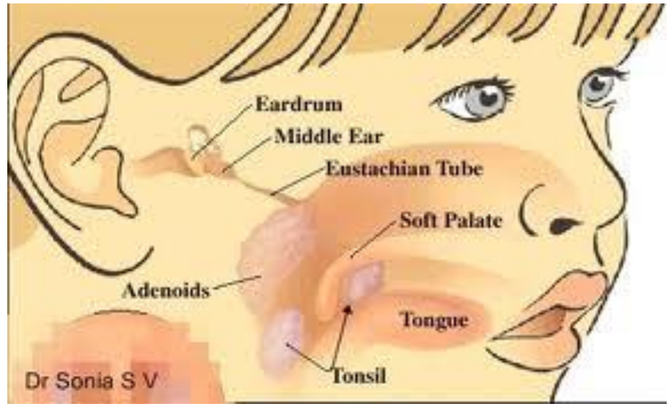
With nose breathing
- The baby's tongue rests properly within the baby's mouth to help maintain the palate's shape (very important)
- The baby can properly coordinate the suck-swallow-breathe sequence for feeding
- Nose breathing efficiently oxygenates the blood needed for all life processes
- Nose breathing is crucial for nasal, orofacial, sinus, and thoracic-ventilatory development (nitric oxide present in first few minutes after birth with nasal breathing)
- Resting respiratory rate: 30-40 breaths per minute (Fisher, Mortola, Smith, Fox, & Weeks, 1982).

Photo Courtesy of drninashapiro.com

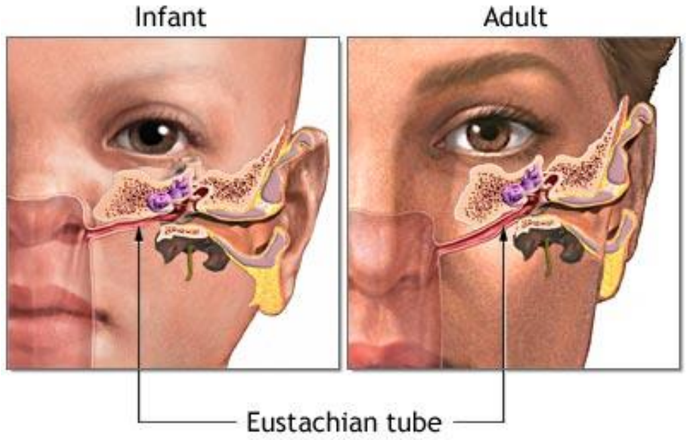
Bahr, 2001, 2010, 2018, in press; Bahr & Gatto, 2017

THE LOCATION AND ORIENTATION OF THE EUSTACHIAN TUBES

- Eustachian tubes go “from the back of the nasopharynx (where the nasal area meets the throat) to the middle-ear space” (p. 27)
- They are more horizontal in infants and young children than in adults
- This is one reason we don’t want to bottle feed a baby lying down. “Fluid is more likely to enter the baby’s Eustachian tube[s] if the child is lying down” due to the effects of gravity (p. 27)
- Breastfeeding uses different pressures than bottle feeding and is less likely to collapse the Eustachian tubes
- Fluid in the middle ear space can cause infection and hearing loss



Drawing 1 Courtesy of drsoniasv.webs.com



Drawing 2 Courtesy of health.allrefer.com

Bahr, 2001; 2010; p. 27, 2018; in press

ORAL REFLEXES/RESPONSES 1

Rooting Reflex or Response: "Stimulated by touch to the baby's lips or cheeks; … mouth searches for the touch. Helps the baby find the breast, bottle (if paced, baby-led, bottle-feeding is used), finger, or hand. Rooting leads to sucking. Baby begins to gain control over this reflex around **1 month**. It seems to disappear (become integrated by the brain) between **3 and 6 months**."

Suckling Reflex or Response: "Stimulated when fingers placed into baby's mouth; may also occur with bottle or breast nipple. Non-nutritive (approximately 2 per second). Precursor to the nutritive suck established in utero (approximately 1 per second). Baby begins to gain control over this reflex around **2 to 3 months** of age. It seems to disappear (become integrated by the brain) between **6 and 12 months**."

Anterior Tongue Reflex or Response: "Touch to baby's tongue or lips stimulates forward tongue motion. Likely part of the suckling reflex or response." Assists breastfeeding. "May protect the baby from ingesting items for which the baby is not ready or are too large. Baby begins to gain control over this reflex around **3 to 4 months**. It seems to disappear (become integrated by the brain) between **12 and 18 months**."

Bahr, 2018, pp. 47-49

ORAL REFLEXES/RESONSES 2

Swallowing Reflex or Response: "Triggered as saliva, liquid, and/or food move toward the baby's throat. Nutritive suck and swallow is approximately 1 per second with good suck-swallow-breathe synchrony (or rhythm). Baby seems to gain control over the swallow around **18 months**. Important reflex to retain throughout life."

Phasic Bite Reflex or Response: "Stimulated when firm but gentle pressure is applied to the baby's gums. The baby opens and closes the jaw in a rhythmic biting pattern (approximately 1 per second). This reflex works the muscles which raise and lower the jaw; these muscles are used in feeding and babbling. Baby begins to gain control of this reflex between **5 and 9 months**. It seems to disappear (become integrated by the brain) between **9 and 12 months**."

Transverse Tongue Reflex or Response: "Stimulated by touch to either side of the baby's tongue, and the baby's tongue moves toward the touch. Lateral or sideward tongue movement is ultimately used to place food for chewing and collect food for swallowing. Baby begins to gain control of this reflex between **6 and 8 months**. It seems to disappear (become integrated by the brain) between **9 and 24 months**."

Gag Reflex or Response: "Stimulated by touch to the ***back*** [½ to] ¾ of the baby's tongue at birth. When stimulated, the baby's mouth opens wide, head may go back, soft palate rises rapidly, and voice box and diaphragm may rise. It protects the baby from swallowing items that are too large. Baby begins to gain control of this reflex between **4 and 6 months**. By **6 to 9 months**, the gag response is found on ***back*** ⅓ of the baby's tongue. It continues throughout life on the ***back*** ¼ of the tongue in most people."

Bahr, 2018, pp. 47-49

HAND-MOUTH REFLEXES AND RESPONSES

Palmomental Reflex or Response: "Touch to the baby's palms results in wrinkling of the mentalis muscles under the lower lip. The mentalis muscles evert (turn out) the lower lip for latching. May be seen into adulthood in some people."

Babkin Reflex or Response: "Gentle pressure into the base of the baby's palm results in the baby's mouth opening, eyes closing, and head moving forward. This helps the baby prepare to breastfeed but may also be used in paced (baby-led) bottle-feeding. This reflex seems to disappear (become integrated by the brain) around **3 to 4 months**."

Grasp Reflex or Response: "Stimulated by gently pressing the baby's palm resulting in the baby grasping your finger. The baby's grasp tightens as [he or she] sucks; the baby may also hold onto the feeder's clothing. This reflex seems to disappear (become integrated by the brain) around **8 months**."

Bahr, 2001, 2010, 2018, p. 50; Morris & Klein, 1987, 2000; Tuchman & Walter, 1994)

BREASTFEEDING IS BIOLOGICALLY NORMAL AND SUPERIOR TO BOTTLE FEEDING FOR MOUTH AND AIRWAY DEVELOPMENT IF DONE PROPERLY

- "Breast drawn deeply into mouth to help maintain hard palate shape
- Balanced intraoral and other pressures (e.g., nasal, sinus, middle ear, pharyngeal, laryngeal) during feeding
- Good suck-swallow-breathe synchronization
- Alternating breasts stimulates/exercises both sides of face, head, and body
- Improved later developing feeding skills such as cup drinking and chewing (Silveira, Prade, Ruedell, Haeffner, & Weinmann, 2013)
- Fewer upper and lower respiratory problems
- Fewer digestive problems (e.g., Gastroesophageal reflux, belly pain, bowel problems)
- Long-term effects: Better face, jaw, palate, tooth, and speech development"

Video Courtesy of
A Newborn's Anatomy Aids in Breastfeeding
YouBeauty, May 3, 2013

Bahr, 2010, 2018; Bahr & Gatto, 2017

BREASTFEEDING AND BOTTLE FEEDING DIFFERENCES 1

PROPERLY BREASTFEEDING BABIES

- "Root to locate the mother's nipple
- Open the mouth fully for a wide, sustained latch on the breast
- Extend the tongue over the lower lip to grasp the mother's breast
- Draw the mother's nipple/breast deeply into the mouth, which helps maintain the broad "U" shaped roof of the mouth
- Hold and cup the breast with the front of the tongue while the lips seal against the breast
- Lower the jaw and the front of the tongue together with little effort and cheek motion"

PROPERLY BOTTLE-FEEDING BABIES

- "Root if paced (baby-led) bottle-feeding is used
- Open the jaw only enough for the particular bottle nipple
- Extend the tongue over the lower gum
- Use the lips and cheeks as a unit to latch onto the bottle
- Cup the tongue if a rounded bottle nipple is used
- Have more cheek and lip movement than breastfed babies"

Bahr, 2010, 2018, pp. 54-57; Bahr & Gatto, 2017

BREASTFEEDING AND BOTTLE FEEDING DIFFERENCES 2

PROPERLY BREASTFEEDING BABIES

- "Use the mentalis (everts or turns out the lower lip for latch) and masseter (raises the jaw against gravity) muscles more than bottle-fed infants
- Have more sucking movements with more and longer pauses than bottle-fed babies
- Move the back of the tongue in a wavelike manner essential for swallowing
- Have a stable mouth with the tongue and lower jaw acting as the lower stabilizer, the sucking/fat pads (if present) acting as side stabilizers, and the relatively flat roof of the mouth acting as the top stabilizer
- Have adequate pressure in the mouth, so fluid can move safely and efficiently into and through the mouth for swallowing
- Have a good feeding rhythm"

PROPERLY BOTTLE-FEEDING BABIES

- "Use the mentalis and masseter muscles less than breastfed infants
- Have fewer sucking movements with fewer and shorter pauses than breastfed babies
- Move the back of the tongue downward to create a vacuum (Oetter, Richter, & Frick, 1995)
- Have a stable mouth with the tongue and lower jaw acting as the lower stabilizer, the cheeks and sucking pads (if present) acting as side stabilizers, and the roof of the mouth acting as the top stabilizer
- Have adequate pressure in the mouth, so fluid can move safely and efficiently into and through the mouth for swallowing
- Have a good feeding rhythm"

Bahr, 2010, 2018, pp. 54-57; Bahr & Gatto, 2017

FIRST TWO YEARS OF LIFE

“Structure

- Facial growth occurs as the cranial base increases in length through endochondral ossification
- The maxilla and mandible move down and forward via muscle function
- The maxilla grows at the mid-palatal suture and the alveolar process accompanying tooth eruption
- Significant cranial, sinus, jaw, lip/cheek, and tongue growth in the first 2 years impacts mouth and airway development
- The mandible grows primarily through endochondral ossification at the temporomandibular condyles
- Primary teeth emerging in a proper sequence, on time, fully formed, with good occlusion between 5 and 30 months is significant for jaw development
- Typical mouth, face, head, and airway development in the first 2 years supports the crucial life processes of eating, drinking, swallowing, speaking, and breathing

Function

- Typical mouth activities (hand-mouth, midline), feeding, eating, drinking, swallowing, speaking, and breathing support typical mouth and airway development (form following function)
  - Generalized mouthing in utero and from birth
  - Discriminative mouthing and teething beginning around 5 to 6 months
  - Mastication beginning around 6 months stimulates jaw growth (phasic bite from birth)
- By age 2, a child should have adult-like feeding skills and should be combining words in speech”

Bahr, 2010, 2018; Bahr & Gatto, 2017

FACE AND MOUTH DEVELOPMENT UTERO – ADOLESCENCE

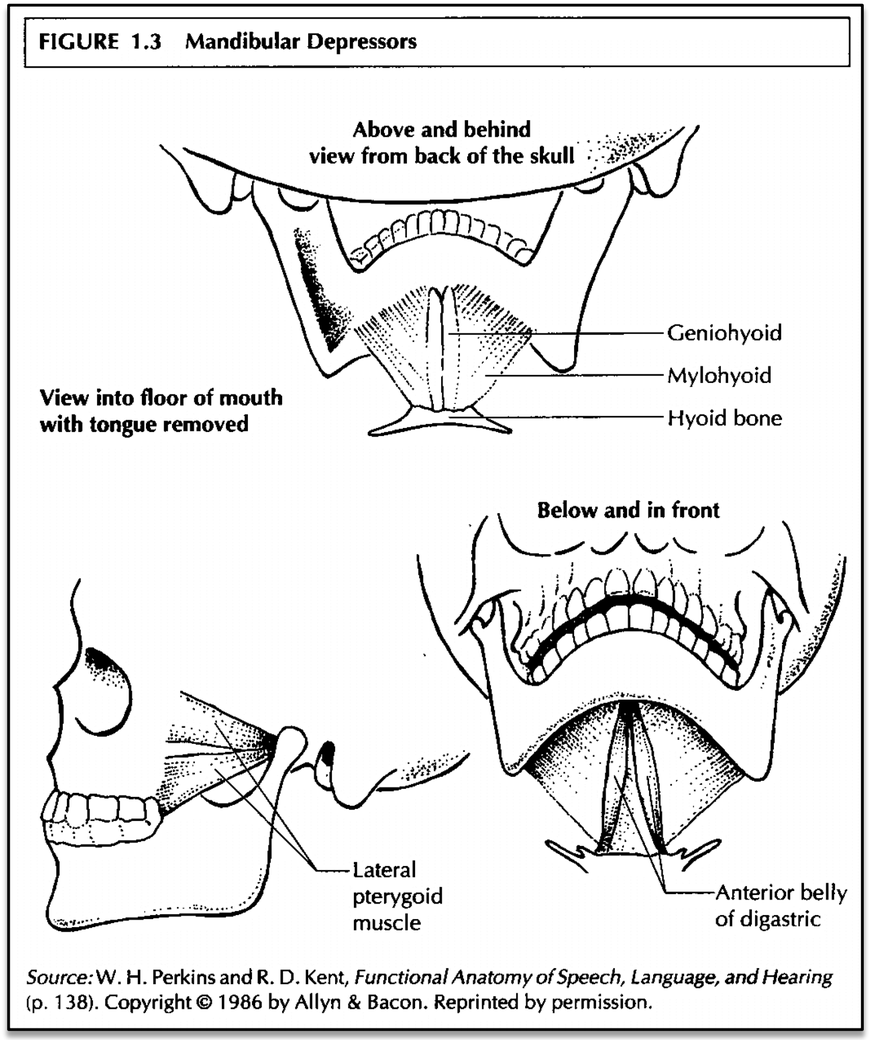
- First trimester of pregnancy/Throughout gestation
- Birth to 2 years: Most significant period of face and mouth development
- 3 to 7 years: Gradual growth of mouth, face, and head continues (adult-like vocal tract by age 4)
- 7 to 10 years: Growth spurt in lower face
- 10 to 18 years: Jaw, tongue, and lips continue to grow (gender specific)

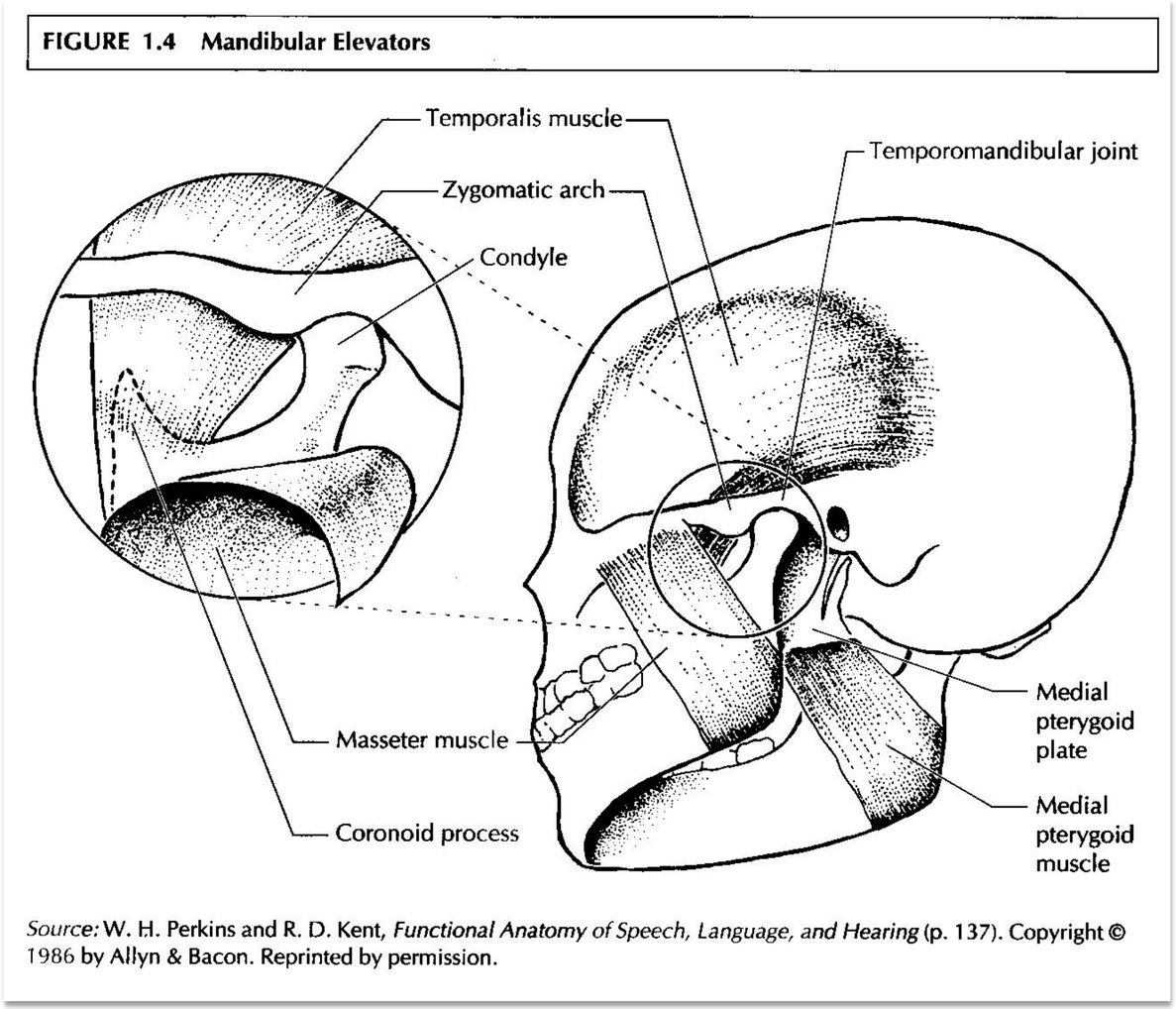
Image Courtesy of http://www.istockphoto.com/photos/adolescent

Changes in Human Structure Over Time (Boyd, 2011, 2012); Craniofacial Growth, (Premkumar, 2011)

Bahr, 2010, pp. 289-307

THE JAW AS A FOUNDATION





(Bahr, 2001, pp. 21 & 23)

WHAT YOU WANT TO SEE IN TOOTH AND JAW DEVELOPMENT

- Significant jaw growth in the first two years, particularly the first year
- Teeth emerging as part of jaw development via taking bites and chewing
  - –On time
  - –In a regular sequence
  - –Fully formed
- Lip and tongue development & movement follow *jaw development & movement* (the **jaw** leads the way)

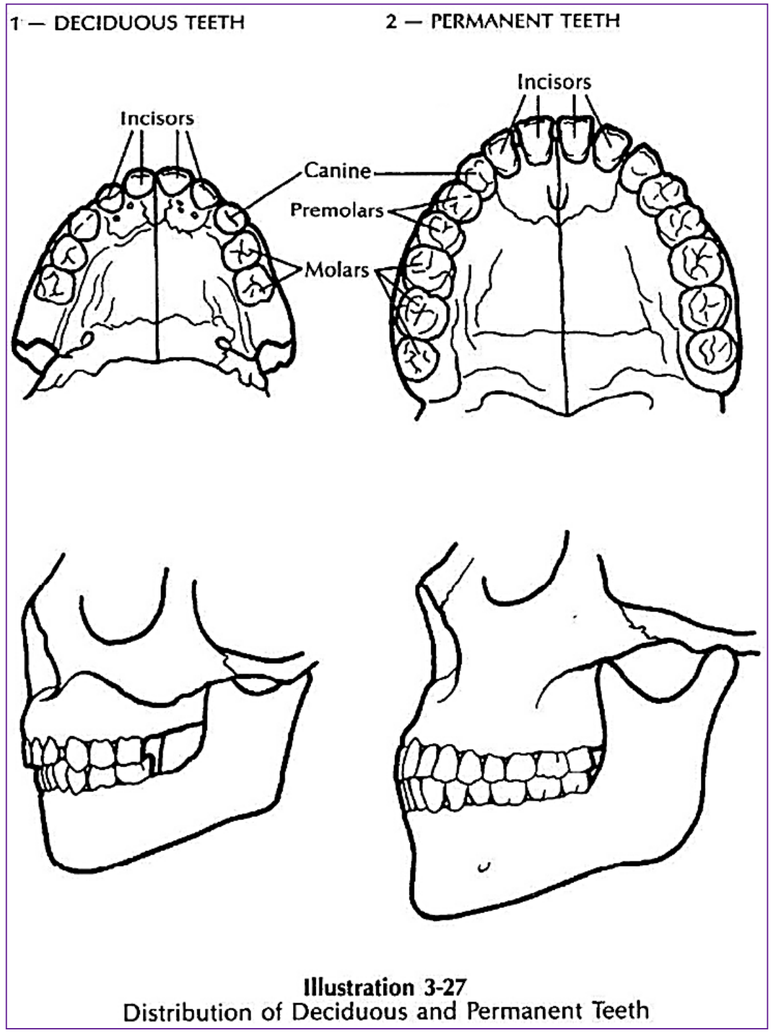
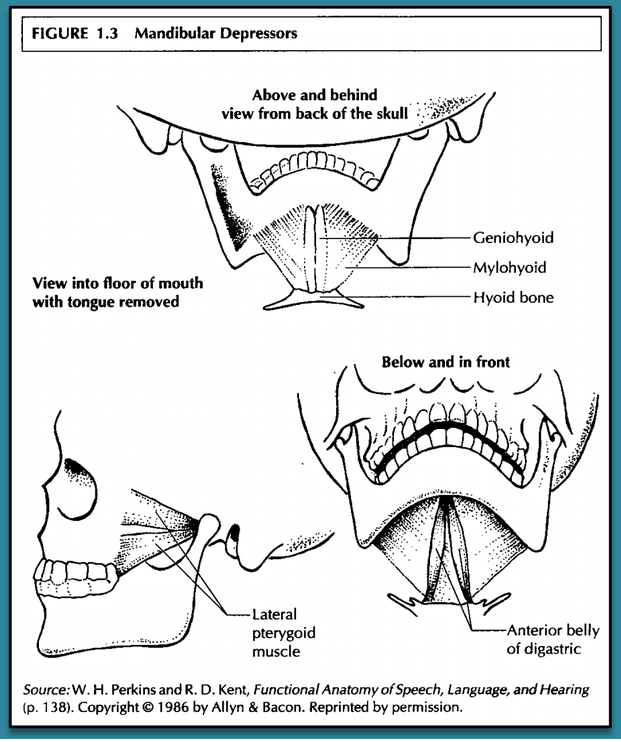


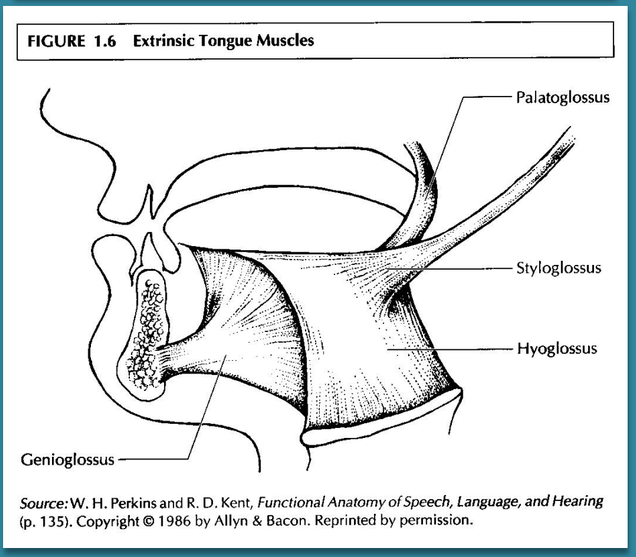
Illustration 3-27
Distribution of Deciduous and Permanent Teeth

Bahr, 2010, p. 302

THE IMPORTANCE OF THE HYOID AND OTHER ATTACHMENTS

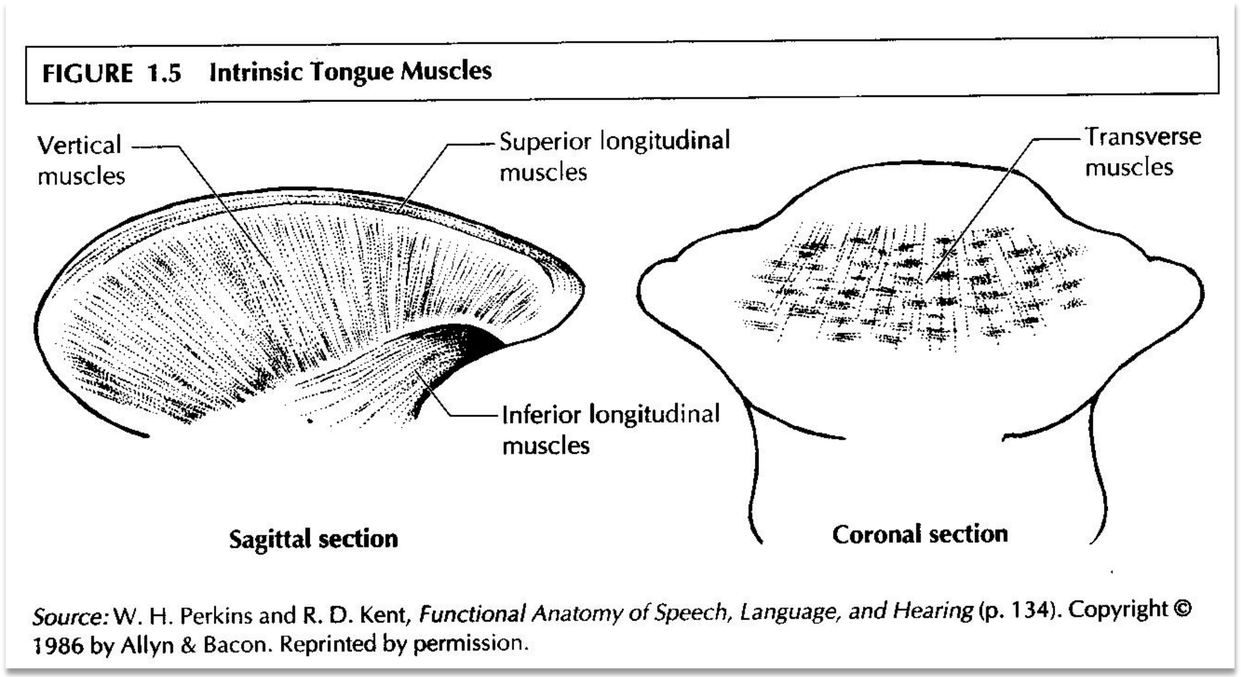
- **Jaw Grading** is needed for lip/cheek and tongue grading/dissociation
- **Appropriate Jaw Work** is simple and can improve function of:
  - Back and base of tongue
  - Soft palate
  - Larynx
  - Swallow
  - Speech
- Jaw, tongue, and larynx connected to the hyoid bone
- Back of tongue also connected to the soft palate and temporal bone (palatoglossus and styloglossus)
- 3 sets of bilateral munches on yellow Chewy Tubes **at molars** saying "yang"
- Chewing food on **each molar surface** up to 25 times
- Munchee

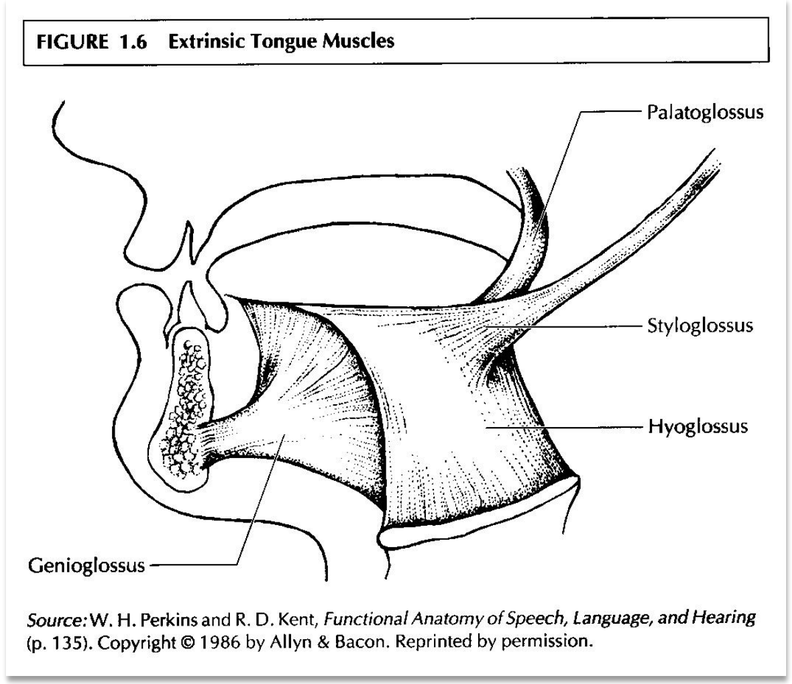




Bahr, 2001, pp. 21-33

THE TONGUE





Graded lateralization needed for food placement/collection and oral hygiene
Graded tip movement needed for swallowing, speech, and oral hygiene
Graded elevation, depression, cupping, and retraction needed for swallowing and speech
Note: Swallowing and speech have unique pressures and motor plans

Bahr, 2001, pp. 21-33

LIPS AND CHEEKS

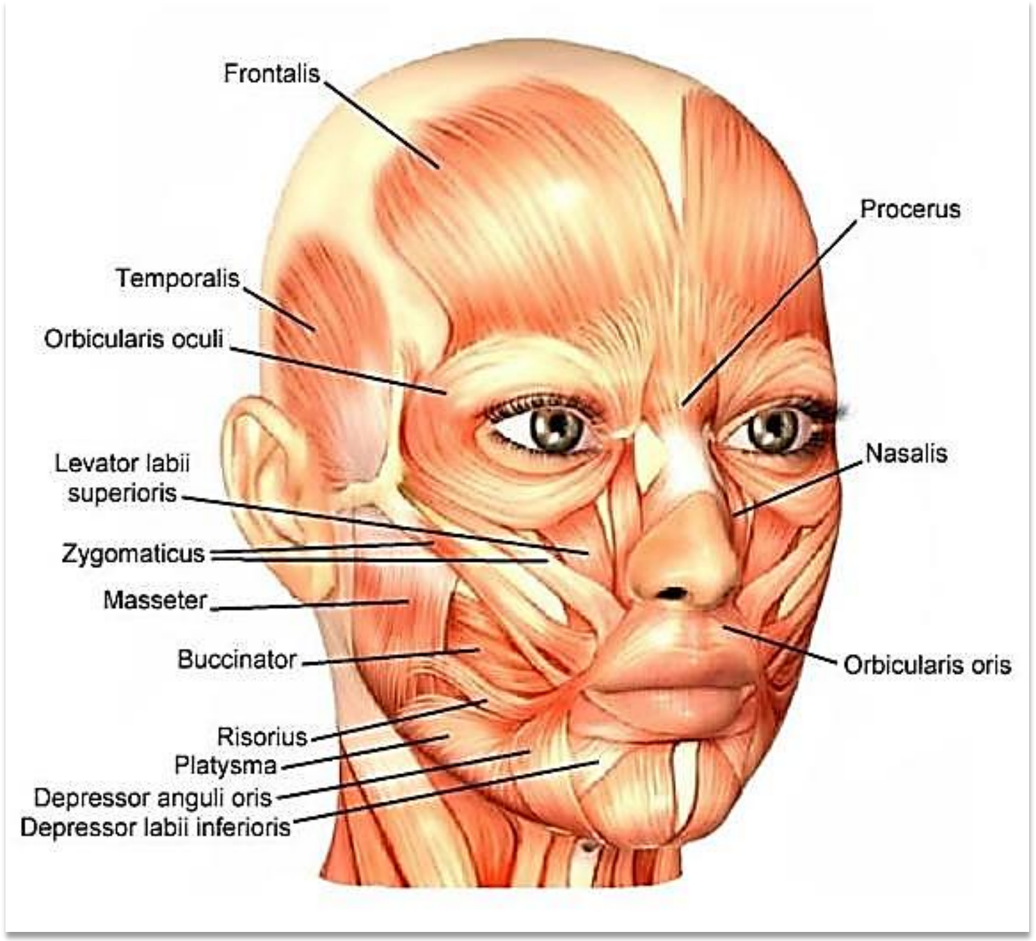


Image Courtesy of www.pinterest.com

- Lips and Cheeks Work Together
  - "oo-ee and ee-oo"
  - Myo Lip Meter & Button Pulls
- Graded Lip and Cheek Contraction Helps Control Food in the Mouth
- Dynamic Cheek Movement Needed for Intraoral Pressure in Speech and Swallowing
- Swallowing and Speech Have Unique Pressures and Motor Plans

Inoue, M., Ono, T., Kameo, Y., Sasaki, F., Ono, T., Adachi, T., & Nakashima, T. (2019). Forceful mastication activates osteocytes and builds a stout jawbone. *Scientific reports*, *9*(1), 1-12.

“Abstract

Bone undergoes a constant reconstruction process of resorption and formation called bone remodeling, so that it can endure mechanical loading. During food ingestion, masticatory muscles generate the required masticatory force. The magnitude of applied masticatory force has long been believed to be closely correlated with the shape of the jawbone. However, both the mechanism underlying this correlation and evidence of causation remain largely to be determined. Here, we established a novel mouse model of increased mastication in which mice were fed with a hard diet (HD) to elicit greater masticatory force. A novel in silico computer simulation indicated that the masticatory load onto the jawbone leads to the typical bone profile seen in the individuals with strong masticatory force, which was confirmed by in vivo micro-computed tomography (micro-CT) analyses. Mechanistically, increased mastication induced Insulin-like growth factor (IGF)-1 and suppressed sclerostin in osteocytes. IGF-1 enhanced osteoblastogenesis of the cells derived from tendon. Together, these findings indicate that the osteocytes balance the cytokine expression upon the mechanical loading of increased mastication, in order to enhance bone formation. This bone formation leads to morphological change in the jawbone, so that the bone adapts to the mechanical environment to which it is exposed.”

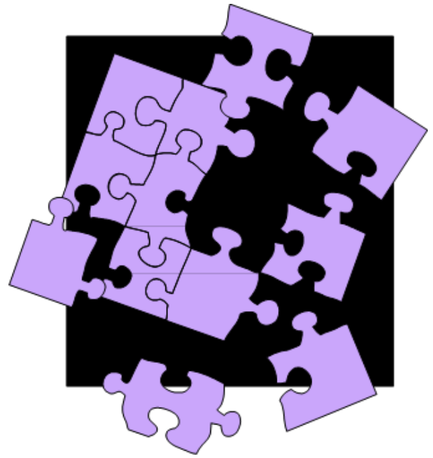
GUIDELINES FOR GOOD EATING AND DRINKING
Age 2 to **Adult**

- Place feet solidly on stool, footplate, or floor
- Sit up straight in a chair on sits bones (or alternate position if needed)
- Place a reasonable amount of food in mouth
- Take reasonable bites of food with front teeth biting completely through food (do not pull on food with teeth or hand)
- Move food with tongue to each molar area
- If tongue can't move food to each molar area, use an up-side-down cocktail fork to place food at each molar area (if safe and appropriate)
- Chew food at each molar area (use a safe feeder or cheesecloth sack if needed)
- Chew food 20 to 25 times at molar areas before gathering food to tongue cup and swallowing over the back of the tongue
- Use lips appropriately to remove food from front or side of small maroon spoon
- Use a straw program with a lip bumper or straw insert, so lips can only be placed on the straw
- Drink from an open cup with cup placed only between the front of lips (do not place cup into lip corners as this hyperextends the jaw)

SAMPLE TREATMENT RECOMMENDATIONS

- Family Education
- Therapist Mentoring
- Daily Practice
- Postural Control
- Airway and Breathing
- Oral Awareness/Discrimination
- Jaw, Lips/Cheeks, Tongue
- Feeding, Eating, and Drinking
- Speech

Image Courtesy of https://blog.vantagecircle.com/teamwork-and-team-building/



Teamwork

Individual Questions for Each Professional on a Team

- What **type of team** do you have (Multidisciplinary, Interdisciplinary, Transdisciplinary)?
- What is your **scope of practice**, and **what role** do you play on the team?
- Is it appropriate for you to **carry-over** techniques **taught to you by a qualified team member** to assist in the development **habit systems** requiring **consistent, daily practice** from **unison to function**?
- Should every patient have **proper** nasal breathing, resting tongue posture, oral phase to pharyngeal phase swallowing, eating, drinking, and speech skills when possible?
- Can **appropriate** nasal breathing, resting tongue posture, oral to pharyngeal phase swallowing, eating, drinking, and speech skills be developed in 1 or 2 sessions per week without daily consistent practice?
- Has orofacial myology historically contained activities with speech sounds (e.g., “t, d, n, k, g, ng”)? So, why not add vowels for jaw grading?

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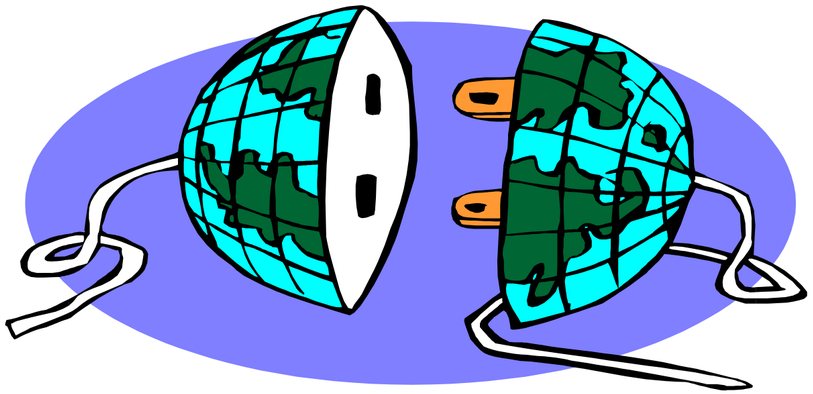
PLEASE NETWORK WITH US ON THE TOPICS OF FEEDING, MOTOR-SPEECH, AND MOUTH FUNCTION



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  - –Ask clinical questions about feeding, motor-speech, and mouth function
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DISCLOSURE STATEMENT

Financial: Diane Bahr is the author of *Feed Your Baby & Toddler Right: Early Eating and Drinking Skills Encourage the Best Development* (2018), *Nobody Ever Told Me (or My Mother) That! Everything from Bottles and Breathing to Healthy Speech Development* (2010), and *Oral Motor Assessment and Treatment: Ages and Stages* (2001) for which she has received royalty payments. She is the co-owner of Ages and Stages®, LLC for which she is paid. Additionally, she receives payment for courses through TalkTools, The Breathe Institute, Speech Therapy PD, and Northern Speech Services.

Nonfinancial: Diane Bahr is a member of ASHA, IAOM, and IAIM.

COURSE PARTICIPANT INFORMATION

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