

Or al-Motor Ther apy for Speech Cl arity

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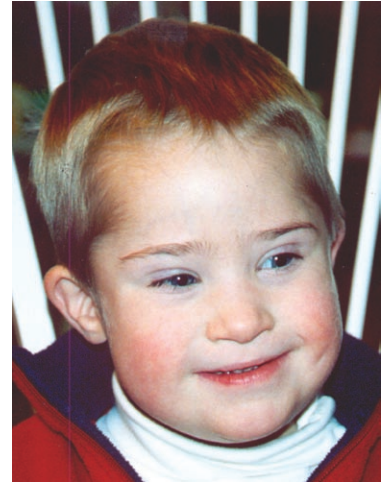
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6 Months
Later



The Goldman Fristoe Test of Articulation

■ Jun 2003

■ Nov 2003

Standard in
Conv. Level

Standard in
Phrase Level

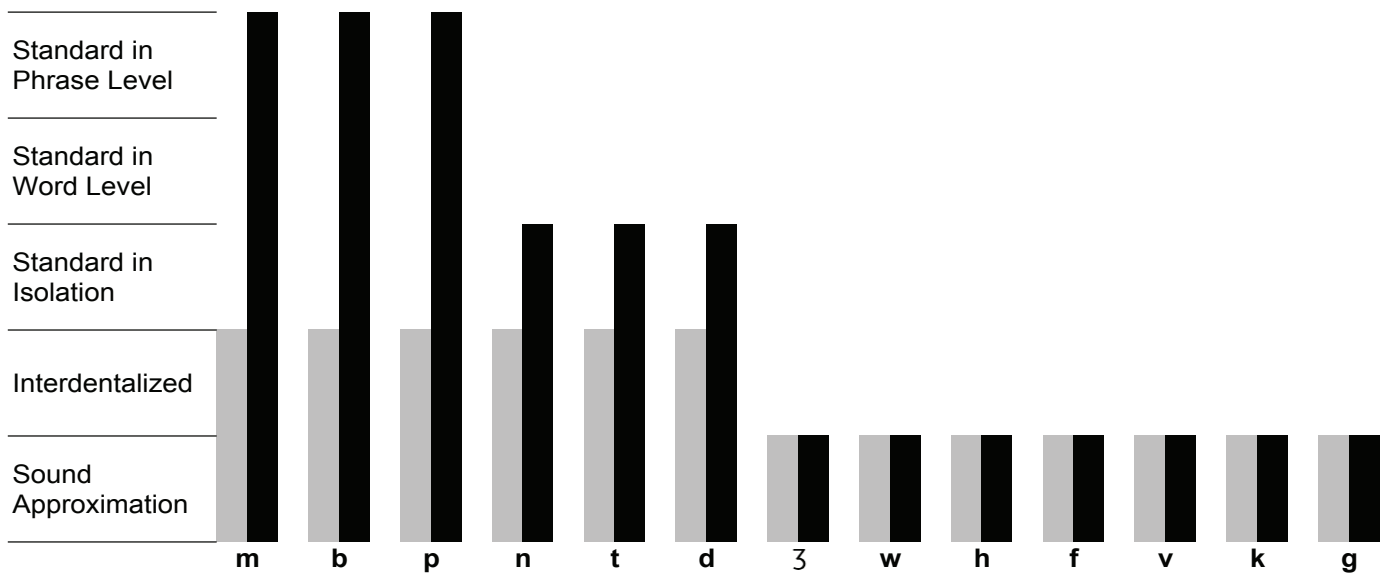
Standard in
Word Level

Standard in
Isolation

Interdentalized

Sound
Approximation

m b p n t d ʒ w h f v k g



Safe Feeding and Prevention of Ear Infections in Down Syndrome

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Two hundred twenty-seven (227) speech and language pathologists were given the following verbal directions, then were asked to answer six questions based upon their experience working with children with the diagnosis of Down syndrome. Their responses are listed below each question.

Verbal Directions: Envision a child of any age with the diagnosis of Down syndrome who has not received early intervention infant-feeding based upon the Sara Rosenfeld-Johnson Approach to muscle-based articulation therapy.

Question #1: Describe the position of the tongue at rest. Is it retracted within the oral cavity or is it protruded between the teeth?

Answer/Characteristic: Protruded between the teeth/interdental tongue posture

Question #2: If they have a hearing loss what type is it most commonly?

Answer/Characteristic: Conductive hearing loss.

Question #3: What chronic health condition, other than a cardiac issue, is frequently seen in these children?

Answer/Characteristic: Chronic upper respiratory problems.

Question #4: What position is the mouth observed in when the child is at rest? Open or closed?

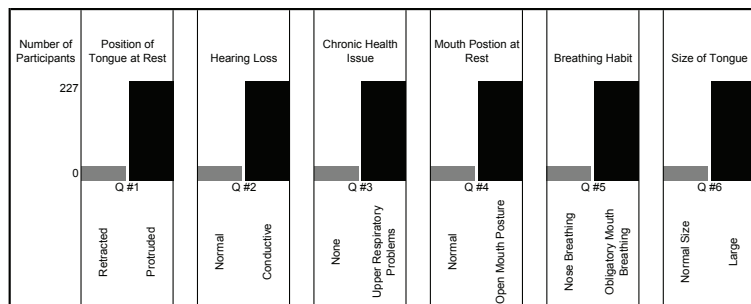
Answer/Characteristic: Open mouth posture

Question #5: Are they using mouth breathing or nose breathing habitually?

Answer/Characteristic: Obligatory mouth breathing.

Question #6: Describe the size of the tongue. Is it within normal size limits or is it large?

Answer/Characteristic: Large, sometimes described as too large to fit in the oral cavity.



None of These Characteristics Are Present at Birth



B. G.

Newborn infants with Down syndrome do not have any of the characteristics described above by the therapists.

The Myths of Down Syndrome



Children with the diagnosis of Down syndrome who have not received early intervention infant-feeding based upon the Sara Rosenfeld-Johnson Approach to muscle-based articulation therapy frequently do demonstrate the characteristics described above by the therapists:

1. Tongue protrusion/interdental tongue posture
2. Conductive hearing loss – secondary to chronic ear infections
3. Chronic upper respiratory problems
4. Open mouth posture at rest
5. Obligatory mouth breathing
6. Large tongue

85% of children with Down syndrome have ear infections significant enough to impact negatively on speech and language development. (Casselli)

WHAT HAPPENS AFTER BIRTH THAT ALLOWS THESE CHARACTERISTICS TO DEVELOP?

Improper infant feeding posture can result in the Six Myths of Down Syndrome, including the high incidences of ear infections



WHY ARE THESE CHARACTERISTICS DESCRIBED AS “MYTHS?” HOW DO THEY EMERGE, AND CAN THEY BE PREVENTED?

Typically infants with the diagnosis of Down syndrome have difficulty drawing milk or formula out of the teat of a baby bottle, secondary to muscle weakness or hypo-tonicity in the muscles of the jaw, lips and tongue. The accepted treatment is to cross-cut or open the hole in the nipple to make it easier for the child to draw the liquid. How does this affect the position of the tongue?

1. Look at the picture above of the mother holding the child in a typical feeding posture. Hold your head back and pretend that you are drinking from this enlarged hole in the nipple.

Question: How are you going to stop the flow of liquid to allow you time to swallow and breathe?

Answer: Push your tongue forward.

Myth #1: Tongue protrusion/ Interdental tongue posture

2. There are small tubes that connect the middle ear to the back of the mouth on both sides of the head, called the Eustachian tubes. At the base of each is a sphincter muscle that opens and closes in association with swallowing to equalize the pressure in the middle ear; this sphincter often lacks adequate coordination in children with Down syndrome. Look at the same picture above and note that the child’s ears are in a lower position than their mouth.

Question: What is keeping milk or formula from entering the middle ear?

Answer: Nothing

Myth #2: Conductive hearing loss – secondary to chronic ear infections

3. Our mucous membrane system operates in such a way that if we have mucous or fluid in the middle ear (i.e., in the case of an ear infection) we will also have mucous or fluid throughout the upper respiratory system, including the nasal passages.

Question: When mucous blocks the nasal passages how will that affect breathing?

Answer: The infant will have to open the mouth to breathe.

Myth #3: Chronic upper respiratory problems

Myth #4: Open mouth posture at rest

Myth #5: Obligatory mouth breathing

4. When the mouth is closed during rest the tongue is in an active state of toning. Some of us maintain our tongue tip on the alveolar ridge directly behind the upper teeth at midline, or at the same spot behind the lower front teeth. Some of us hold the back of our tongue blade up, some hold it down. All of us have a bend in our tongue when we are at rest. However, when a child with Down syndrome relies on obligatory mouth breathing the mouth opens, the tongue drops to the bottom of the mouth and moves forward, and the tongue is no longer in a state of active toning.

Question: What happens to the tongue muscles when you open your mouth and they are no longer in a state of active toning?

Answer: It flattens and enlarges.

Myth #6: Large tongue

PREVENTION - EARLY INTERVENTION THERAPEUTIC FEEDING



B.G. -Children with the diagnosis of Down syndrome who have received early intervention infant-feeding based upon the Sara Rosenfeld-Johnson Approach to muscle-based articulation therapy and do not demonstrate the characteristics described above.

THE SARA ROSENFELD-JOHNSON APPROACH TO EARLY INTERVENTION FEEDING



1. Place the child in a position that ensures the ears are higher than the mouth during all feeding sessions and for 20 minutes after each feeding session.
2. Do not use a typical baby bottle. Use a bottle with a liner. Squeezing the air out of the bottle will force the liquid up into the nipple.
3. Hold the bottle in the child’s mouth as pictured above. Wait for the child to begin suckling on the nipple and observe the child’s suckle pattern: a) suck-swallow-breathe, b) suck-suck-swallow-breathe or c) suck-suck-suck-swallow breathe.
4. Squeeze on the liner of the bottle in association with the child’s suck pattern. This will allow the child to draw the liquid more easily, round the lips, retract the tongue, and prevent the liquid from going into the middle ear. It will also help ensure the child is receiving adequate liquid nutrition.
5. Practice this therapeutic feeding pattern at each meal; within 4-6 weeks it will no longer be necessary to squeeze the liner to assist in feeding. The child will have exercised the muscles in the normal movement pattern and will no longer need assistance.

Summary: By preventing milk or formula from entering the middle ear, by changing the feeding posture and the type of baby bottle used, and by allowing the child to develop tongue retraction during sucking, each of the six characteristics listed earlier can be prevented. These characteristics, therefore, can be termed “myths,” as they will not develop when the child undergoes conscientiously applied therapeutic intervention. It is also important to note that tongue retraction – a result of this intervention – is a necessary component for future speech development.

References

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