

Coordinated Oral-Motor Treatment

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Cole was 4-and-a-half when he first visited my office. He used approximately 100 signs and an augmentative and alternative communication (AAC) device from DynaVox Technologies, in Pittsburgh, PA, to communicate. His neurologist said it was doubtful Cole would develop speech, but his parents were not quite ready to accept this.

Cole had been a very low-tone baby and was fed by a G-tube until age 4. By age 5 he was eating and drinking in a functional manner, but he only vocalized laughter and occasional sounds. He had poorly graded movements throughout his body, including his respiratory, vocal and oral mechanisms.

By age 6 Cole was speaking in intelligible phrases and short sentences. What approach brought this little boy from "no speech to speech" in a year-and-a-half? Cole was treated systematically using a combination of treatment approaches:

- Massage/facilitation
- Specific jaw work
- Graded jaw, lip, tongue and respiratory work; and
- Speech therapy

Family members and speech-language pathologists massaged Cole's mouth using a one- to three-minute awareness massage three times daily throughout the treatment process. This was done as part of tooth brushing if it could not be done prior to speech practice.

Some facilitation techniques developed by Debra Beckman, MS, CCC-SLP, a specialist in motor speech disorders based in Winter Park, FL, also were used early in treatment.

Jaw work was added over time. Cole ultimately used a graded munch chew on appropriate Chewy Tubes at least 12 to 15 times at each back molar area over three sets. He completed this activity three to five times per week and continued the work throughout the treatment process.

Chewing work at the back molar area also encouraged tongue retraction. Cole worked through graded jaw heights using the Bite Block Hierarchy from TalkTools in Tucson, AZ. Sound production work was added to the Bite Block work. While the Bite Blocks were in place, appropriate speech sounds were facilitated via motokinesthetic cueing or PROMPT, which was developed by Deborah Hayden, MA, CCC-SLP, of the PROMPT Institute in Santa Fe, NM.

Graded jaw, lip, tongue and respiratory work utilized the Bubble Blowing, Horn Blowing and Straw Drinking Hierarchies from TalkTools. These systematic exercise programs assisted Cole in establishing some graded control of his respiratory mechanism (diaphragm, abdominal muscles, etc.). They helped him to develop just enough jaw, lip and tongue movement for the activity.

These programs were introduced in such a way that Cole could do them as part of his daily activities three to five times per week. The manner in which he completed the activities was facilitated and monitored by his parents and therapists to be sure he used the tools properly.

The Kaufman Speech Praxis Treatment Kit for Children, by Nancy Kaufman, MA, CCC-SLP, was used as a basic curriculum to assist Cole in establishing speech. The Stevenson Language Skills Program, a phonics-based reading curriculum from Stevenson Learning Skills Inc., in North Attleboro, MA, was used to supplement the work.

Both curriculums build speech "from the bottom up." I used PROMPT, a form of what I call "hand-over-mouth" speech cueing, in conjunction with the Kaufman and Stevenson curriculums. The family and therapists did speech practice a minimum of five times per week.

Each week, I treated Cole privately for one 45-minute session, and his public school clinician continued to treat him for four 30-minute sessions. His family followed up at home.

In conjunction with the techniques previously discussed, the approach from J.C. Rosenbek & associates was used. Speech work was begun in unison, working toward imitation and ultimately functional daily activities.

Treatment included many forms of pacing and visual-tactile cues. Once hand-over-mouth speech work was not required, therapists introduced visual-tactile cues

developed by Judy Jelm at the place of articulation. Pacing was done with pacing boards, drums and movement activities.

Today, five years after beginning treatment, Cole is speaking in full, understandable sentences. His greatest difficulties continue to be respiratory support and vocal control needed for speech. He has had pulmonary issues since birth, but his progress is truly amazing, considering his initial prognosis for speech.

What made the difference for Cole? When he was evaluated at age 4-and-a-half, he already was being seen by a speech-language pathologist four times a week with good family support and follow-up. That is how he obtained his level of communication using sign language and the DynaVox device. However, he had no speech.

You might wonder if he was an elective mute, but there were no signs of this. Once he had the awareness in his mouth from consistent use of oral massage and began to develop the appropriate movement patterns needed for speech via systematic oral exercise work along with a systematic speech curriculum, he began to speak.

The hand-over-mouth speech work showed him how his mouth needed to move for speech. Through oral exercise, he learned to retract his tongue and began to grade the movements of his oral and respiratory mechanisms so he was not working against me with ungraded movements when I facilitated speech. Dynamic tongue retraction and graded movements of the jaw, lips, tongue and respiratory mechanism are essential for good co articulated speech production.

These are the methods that systematically allowed Cole to develop the skills required for the very complex fine motor function we call speech. If the work had not been properly and systematically applied, I do not believe we would have seen these results.

It is important to note the variety of methods used and the intensity of the work. No one approach could have been used to obtain these same results.

We are very fortunate, as a field, to have so many wonderful approaches available to us. The therapy we do with our clients is truly our "art."