

# **Resource Guide for Oral-Motor Therapy**

4<sup>th</sup> Edition 2014

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### Oral-Motor Therapy: What is it, and Who does it?

Oral-motor therapy is an interesting and continually evolving field of intervention geared to assist in treating a diverse number of diagnoses that involve motor and/or structural dysfunctions of the oral cavity. A few examples of oral-motor therapy are specially designed pre-op and post-op exercises for cleft palate surgery, jaw-strengthening programs for patients with Down's syndrome, oral-motor retraining for post-stroke adults and lip closure exercises for patients with Cerebral Palsy. Oral-motor assessment and treatment is a team effort.

S&S<sup>®</sup> offers a variety of whistles and blow toys that provide select challenges to respiratory demands, lip closure and lip placement. Bubble Toys encourage visual tracking – great for ocular/oral-motor planning. Auditory and visual feedback fosters sustained attention. Safe and durable, these toys provide a fun alternative to traditional oral-motor exercises.





#### An overview of oral-motor function development. From the beginning:

Professionals who are part of an oral-motor team may consist of nurses, surgeons, occupational, physical or speech therapists, physiatrists and others. In many settings, speech therapists are the primary experts in oral-motor dysphagia, speech production and swallowing disorders. In other settings, the occupational therapists may lead the dysphagia team while the speech therapists may focus on voice production and cognitive interventions used to facilitate proper language acquisition or retraining. Whatever the setting, working as a team is essential to developing effective assessment and treatment strategies for people with oral-motor issues.

Anyone who has spent any amount of time in the company of an infant recognizes that human beings begin to explore their environment through their mouths. Infants have an innate drive to suck on their own hands, thumbs and toes as well as other objects, and this provides excellent and necessary sensory input into the developing oral-motor wiring of the child. This is referred to as oral arousal. Ultrasounds taken as early as eleven weeks of gestational age show fetuses sucking on developing thumb buds.

Environmental tactile stimulation via the oral-motor area begins as soon as an infant is able to suckle a nipple. The rooting reflex, present within the first 10 days of birth, causes an infant to respond to tactile stimulation to the area around the mouth and elicits head rotation when the baby is in a supine position to locate a food source. As development continues and gross grasp is developed, the infant will bring items to the mouth for exploration.

The suck/swallow/breathe pattern is an important part of proper development of swallowing, chewing, oral-motor growth and breathing patterns. This pattern is practiced in the womb as the developing fetus processes amniotic fluid through the oral and nasal cavities. The suck/swallow/breathe process facilitates proper muscle tone and stability to develop in the jaw, tongue and cheek. It plays a large role in facilitating normal development of the intercostal and diaphragmatic muscles essential for breathing and talking skills, and is present throughout the normal lifespan of an individual.



SL8936 Foil Horns with Tassel



SL2183 Harmonicas



#### The Oral Cavity: Basic Anatomy

The anterior part of the oral cavity, or mouth, consists of upper and lower lips, the mandible (jaw) and the maxilla (from which our upper teeth grow). The main lateral structures include the masseter and buccinator muscles, which insert into the maxilla and mandible. The inferior structure is formed by the root of the tongue and the floor of the mandible, which is constructed largely of the mylohyoid muscle. Superior structures include the hard and soft palate, the uvula and the anterior and posterior faucal arches, between which the palatine tonsils are visible.

The obicularis ori, the muscle that controls lip movement, is circular and surrounds the circumference of the lips. This muscle helps form sounds when talking and keeps us from spilling food or drink while dining. The buccinator, or cheek muscle, assists the tongue in controlling a bolus of food or liquid in the mouth. The superficial and deep parts of the masseter muscles along with the Pterygoid muscle group are the prime movers involved in chewing and move the mandible, or jaw, the only moving bone involved in chewing.

The mouth is a complex system of muscles, bones, nerves, receptors, tissues and blood vessels designed to work together with precision timing for eating, talking and, along with our nasal cavity, provides an additional "portal" for breathing. Problems in one system of the mouth invariably affect function of all other systems involved.

#### In the clinic – examples of common oral-motor issues:

Some common oral-motor dysfunctions seen in the clinic involve assessment and treatment of the muscles of mastication and talking. Low muscle tone around the lips, for example, often presents as difficulty controlling secretions (drooling), spillage of food from the mouth during dining and difficulty with the formation of certain consonant sounds that involve precise lip control.

Poor control and/or sensory loss of the cheek muscles makes dining difficult as food may fall into the space between the cheek and gum, and control of the bolus is lost.

When muscles of mastication are weak, proper chewing and bolus breakdown are affected. Difficulty in taking liquid from a straw is often present with low or high muscle tone, as underlying weakness makes it difficult to form a complete seal around a straw.

## Straws, Bubbles and Whistles: Is this therapy?

In order to correct the underlying weakness secondary to muscle tone issues in the oral cavity, a strengthening program that targets the appropriate muscle groups is put into place. After careful clinical assessment and input from the clinical team, a therapist may choose from a variety of interventions specific to the patient's needs.

Interventions may be implemented by the therapist as a result of standardized assessments such as jaw-strengthening protocols, which involve precise treatments based on results of standardized tests. Therapists may also be trained in specialized interventions for which data upon assessment is interpreted and a variety of interventions may be implemented based on the data collected. In many cases, however, observations during functional activities provide valuable clinical information from which to determine treatment options.

Clinical observations tell us what is actually happening with an individual during typical activities carried out by that person. For a person who demonstrates the signs of poor lip control or weakness as evidenced by the examples given in the preceding section, a therapist may evaluate lip control and strength, and intervene with lip control exercises that facilitate lip closure using blow toys. A blow toy product may be chosen based on the findings during the evaluation. The challenge for the individual is customized based on elements inherent in the product.

For example, for an intervention with an individual who displays low lip tone, poor lip closure, jaw retraction or protrusion and has difficulty with the suck/swallow/breathe cycle, a therapist may choose. The therapist recognizes that a minimal amount of lip closure is needed to use the product. The structure of the whistle facilitates jaw alignment and the challenge meets the ability of the individual. Additionally, cyclical breathing patterns can be practiced with this type of product as valuable auditory feedback is generated for the benefit of both the therapist and the individual.

For more precise lip control and lip placement, the smaller Sports Ball Whistles (SL2525) provide a greater challenge to the cheek and lip muscles since a full lip seal around a small opening is necessary to engage the moving part. The Slide Whistles (SL4396) require a greater amount of lip control as the flow control openings on the mouthpieces need to stay open in order to work.







In cases where both ocular and oral activities need to be addressed, bubble toys provide movement to the cheek and lip muscles, sustain prolonged lip rounding and facilitate visual tracking. Again, the inherent elements in the product choice determine the best challenge for the individual based on clinical observations.

For example, when lip closure, cheek strength and visual tracking are all of clinical significance, Blowing Bubbles (SL2116) provides a moderate challenge to lip closure and inherently challenge cheek control.

There are many different therapeutic uses for the products listed in the oral-motor section of S&S<sup>®</sup> Worldwide's Primelife<sup>®</sup> catalog. We have named just a few. As therapists, we have learned to modify, grade and change interventions based on our clients' needs, their rates of progress and the amount of challenge needed for an optimal therapeutic intervention. We hope we have given you a few ideas that will stimulate additional uses of innovative products for you and your clients. Above all, S&S<sup>®</sup> products are designed to introduce an element of fun and smiles into your therapy sessions. Enjoy!





SL5596 Patriotic Pinwheels

### Products & Therapeutic Uses:

Products listed below can be found on the web at ssww.com.

**Harmonicas** – SL2183. Encourage bilateral hand integration while providing a moderate respiratory challenge and lip control. Fun for musicians of all ages.

**Patriotic Pinwheels - SL5596**. Great tool for combining visual and oral-motor control activities as well as eye/hand coordination. Requires only a minimum amount of expiratory exertion. 4" pinwheel on 10" shaft encourages prolonged exhalation and lip closure.

Products & Therapeutic Uses Continued:

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Products listed below can be found on the web at ssww.com.

**Kazoos** – PY1157. Increase vocal projections by humming into these brightly colored plastic kazoos. Even the slightest vocalization is processed into a more audible vowel sound without the requirement of complete lip seal.

**Foil Horns with Tassel** – SL8936. Assorted color foil horns require lip closure and prolonged exhalation with an added auditory and visual stimulant.

**Sport Ball Whistles** – SL2525. Fun novelty whistles in sports ball shapes, complete with neck cord. Requires a firm lip seal and a controlled exhalation.

**Patriotic Pinwheels** – SL5596. 4" Soft plastic pinwheels on 10" shafts require only a minimum amount of expiratory exertion. Encourages prolonged exhalation and lip closure.

