The following Case Study examines us of Thermo Stim, Nuk Massager, and Red Chewy Tube on a 42 year old male who suffered a severe closed head injury during a motor vehicle accident. He had no remarkable medical history at the time of the accident.

Patient suffered severe head trauma to his left frontoparietal region, resulting in life threatening edema. During his initial medical evaluation, it became clear that swelling of the brain was so severe that the resulting pressure was becoming lethal. Therefore, a section of skull was removed to relieve pressure. This patient came to us in an impatient acute care setting.

Initially, he presented essentially non-responsive, but awake and receiving nutrition via PEG. He made not eye contact with clinician or caregivers. After the first few physical therapy sessions, he began making purposeful facial grimaces and maintained eye contact for brief intervals. The patient began demonstrating facial gestures and intervals of eye contact more frequently and of increased duration, respectively. Physical therapy quickly began using a cardiac wheel chair for sitting upright, and this clinician began more focused speech therapy sessions whereby oral motor stimulation was targeted.

This clinicians' initial approach involved the use of Nuk Massager and icing. The Nuk Massager was dipped in ice and rolled onto inside section of left, but also the right cheek. Lateral aspects of tongue were also rigorously stimulated with Nuk Massager. He soon began demonstrating modest but observable labial and lingual ROM. The use of Nuk Massager was continued for several therapy sessions, complimented by use of Lemon Glycerin Swabsticks – also dipped in ice.

He was now beginning to respond to simple yes/no questions with a thumbs up/down, respectively. He required persistent cues at first, but eventually became independent with this avenue of communication and used it with caregivers and family. Next, this clinician attempted a Thermo Stim devise with Mouth Guard. Dipped in ice, the Thermo Stim was initially used to stimulate lateral aspects of tongue farther back than the Nuk Massager was able to be used. This patient was not as impulsive as this clinician has observed with other patient suffering from head injury. The Thermo Stim usage, however, brought out his impulsivity and he attempted to bite the neck of the devise. Thankfully, the Bite Guard prevented any damage, and we managed to get the Thermo Stim out of his mouth. Obviously, we abandoned the use of Thermo Stim with this patient.

At this point, the patient was beginning to make verbal attempts. The result was brief and simple voicing sounds with appropriate facial gestures. Increasingly encouraged and with strong family support, this clinician introduced more challenging speech therapy tasks such as pointing to named picture cards from set of two, three, etc and cognitive tasks such as sequencing and problem identification. Appropriate oral motor exercises had begun on patient during treatment. His wife and family were taught these exercises and carried them out during the afternoon, evening and weekend.

Next, this clinician tried a Red Chewy Tube for treatment on this patient. This clinician had never used a Red Chewy Tube for treatment and was highly skeptical. Amazingly, the patient immediately began chewing on the ridged edges of the Red Chewy Tube. Soft chewing motions were observed at first, then stronger. He seemed to enjoy the resilience of the Red Chewy Tube material. It certainly offered him a therapeutic mechanism he could use to promote oral motor strength and coordination. With supervision, he would actually hold the Red Chewy Tube with his uninvolved left hand and manipulate the devise around his mouth from left to right. Clearly, jaw strength and coordination was being restored. Lingual and labial strength and coordination, although not directly targeted, definitely benefited from the Red Chewy Tube.

The patient began to make rapid progress, quicker than any of the rehab staff expected. He began eating Jell-O, pudding, mashed potatoes, etc. with no bedside signs of difficulties at the oral or pharyngeal stages of swallow. Oral phase was reduced in strength and coordination, but adequate for soft consistencies. This clinician recommended and carried out a video esophagram. The results were generally unremarkable for thin, and thick liquids, pudding and mechanical soft food consistencies. A mechanical soft with chopped meat diet was ordered; we recommended nectar thick liquids at first for general safety. Thickener was discharged after a few meals.

Speech-language production also rapidly improved. Short phrases were produced with very appropriate responses to simple questions. Speech was severely dysarthric, but understandable with careful listening. He began to making jokes with caregivers and revealed some of his personality. Speech-language became less dysarthric and lengthier. He was soon discharged to comprehensive rehab.

Although, some of the milestones achieved by this patient were likely spontaneous, attributed to young age and strong family support, the use of the Red Chewy Tube clearly played a key role in his initial rehabilitation. Specifically, the use of the Red Chewy Tube sharply promoted oral awareness, resulting in a re-training of oral structures which allowed, ultimately, for safe swallow of food and liquids and functional speech production.

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