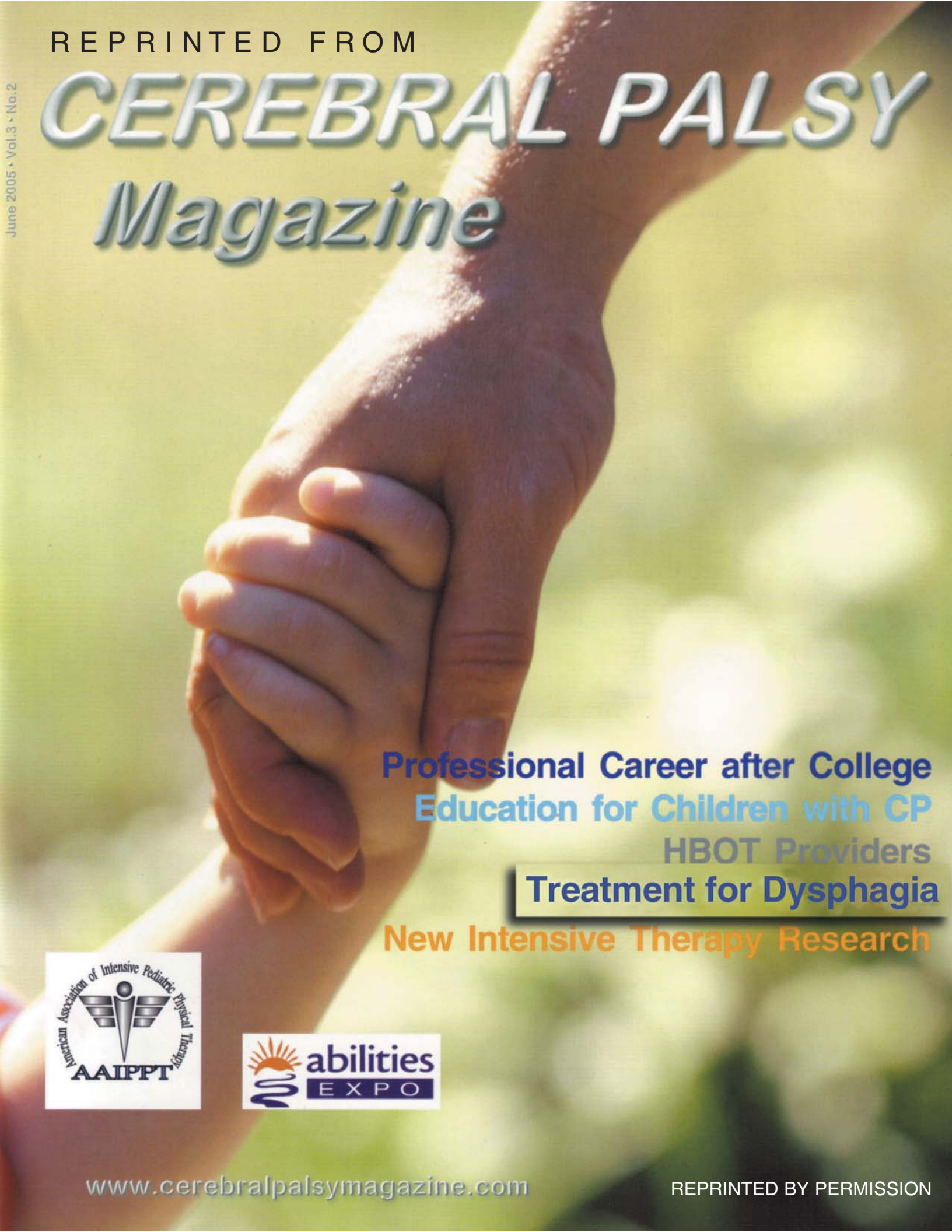
REPRINTED FROM

CEREBRAL PALSY Magazine

June 2005 • Vol.3 • No.2



Professional Career after College

Education for Children with CP

HBOT Providers

Treatment for Dysphagia

New Intensive Therapy Research

American Association of Intensive Pediatric Physical Therapists
AAIPPT

abilities EXPO

www.cerebralpalsymagazine.com

A Promising New Treatment For Dysphagia In the CP Population

by Yorick Wijting, PT
Director of New Product Development
Chattanooga Group

What's it like when you can't swallow? The problem is more common than we think.

Dysphagia is a term encompassing a variety of swallowing disorders. It is not a medical disease, *per se,* but a consequence or side effect of various neurological, structural, or cognitive conditions or deficits. Dysphagia affects an estimated 15 million Americans, with one million new diagnoses every year.

The Prevalence Of Dysphagia

Dysphagia can be found in people of all ages and with a variety of medical conditions, from stroke to head and neck cancer to head trauma to respiratory disease. However, the prevalence of dysphagia among individuals with neurological disorders such as Cerebral Palsy, Multiple Sclerosis and ALS, among others, it is estimated to run as high as 90 percent, according to the US Department of Health and Human Services.

Approximately 60,000 people annually die from complications or consequences of swallowing disorders, mostly among patients with neurological disorders. The number of deaths that can be directly or indirectly attributed to swallowing disorders is nearly equal to the number of deaths due to diabetes (the sixth leading cause of death in the U.S.) according to the CDC.

Possible Complications From Dysphagia

For the CP patient with dysphagia, eating becomes a challenge. Poor swallowing coordination results in drooling, choking and coughing while eating, frequently followed by aspiration.

When weak muscles in the throat cannot move all of the food to the stomach, it can fall or be pulled into the windpipe, which can lead to a lung infection and possibly aspiration pneumonia.

CP patients with dysphagia may exhibit drooping of the palate, a depressed gag reflex, pooling of saliva in the pharynx, a weak cough, and poor control of the tongue. Many CP sufferers with dysphagia end up with a feeding tube placed directly into their stomach

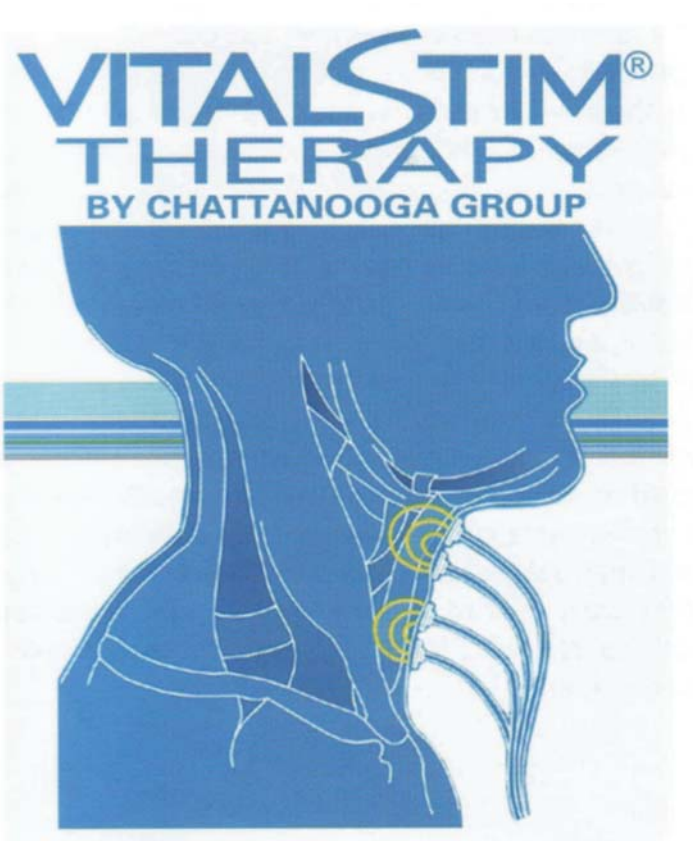
because they are not able to take in any kind of nutrition or fluids orally.

In addition to aspiration pneumonia, dysphagia also predisposes CP patients to complications such as choking, bronchospasm, increased infection rate, chronic malnutrition, life-threatening dehydration, significant weight loss, muscle wasting, physical debilitation, and death from asphyxia.

New Therapy For Dysphagia Is Proven Successful Among the CP Population

Today, both children and adults with CP are finding relief from a promising new treatment that uses electrical impulses to retrain throat muscles. Called VitalStim® Therapy, the technology employs electrical currents to re-educate the muscles around the throat in order to create the patterns in the muscles necessary to restore swallowing.

VitalStim® Therapy is a specialized form of neuromuscular electrical stimulation (NMES), specifically designed to treat dysphagia. While neuromuscular electrical stimulation is a treatment modality that has a long and proven track record in many areas of physical rehabilitation, VitalStim® Therapy is the only such device with FDA clearance for application to the external muscles of the throat in the treatment of dysphagia.



How It Works

The device is a non-invasive, portable, dual-channel electrotherapy system that delivers electrical current using uniquely designed external skin electrodes, placed on specific neck muscles in a pattern that has been fully validated. Because the electrical current emitted by the device has been carefully selected to elicit a contraction in the muscles responsible for a normal swallow response, the treatment leads to improved quality of the muscle contraction, and thereby to improved swallow function. Here's how it works:

· A small, carefully calibrated current is delivered by specially designed electrodes.

· The current stimulates motor nerves in the throat.

· The muscles responsible for swallowing contract.

· The quality of the swallowing function improves.

· With repeated therapy, muscles are re-educated.

Who Administers The Treatment?

VitalStim® Therapy must be prescribed by a physician. It can only be administered under the direction of certified health care professionals who have undergone the intensive VitalStim® Therapy certification process and have three years experience in treating dysphagia.

How Long Is The Treatment?

The 60-minute sessions begin with the electrodes placed on the skin at specific points on the patient's throat while feeding practice and other exercises are performed.

Therapy sessions are repeated daily (or almost every day), until the patient's swallowing patterns have been restored to the desired level.

Patients frequently see dramatic improvement in six to 20 daily sessions – sometimes in as little as three days.

Until VitalStim® Therapy, few or no curative therapeutic techniques had been available.

VitalStim® Therapy Is Safe For Persons With Cerebral Palsy

The safety of VitalStim® Therapy for dysphagia due to all medical conditions was affirmed by the FDA.

NMES is routinely used to help restore muscle function. But traditional NMES treatments are contraindicated for use on the anterior neck. The specific concerns are that stimulating the laryngeal afferents could trigger laryngospasm, and that placing electrodes too close to the carotid artery could cause sinus bradycardia.

In the four years since VitalStim® was cleared by the FDA, there have been an estimated 300,000 separate treatment sessions *without a single documented adverse event being reported* to either the FDA or the manufacturer.

These treatments were administered to *over 25,000 patients* by 3,000 practitioners in more than 2,000 facilities in 40 states and 10 other countries across all care settings.

A Dysphagia Clinician Treats CP Patients

According to Kathy Ramirez, OTR/L, Clinical Specialist Occupational Therapy, "At Children's Hospital of Orange County (CHOC) in California, six full-time certified therapists treat a variety of children with CP of varying severities who have benefited from VitalStim® Therapy for oropharyngeal dysphagia. Results have ranged from the ability to tolerate their own secretions to actually tolerating an appropriate diet for their age. Prognosis of therapy depends on the severity of oral motor involvement as well as the level of severity of dysphagia (i.e., inability to manage their own secretions vs. inability to manage liquids and/or solids). One patient progressed from being unable to manage his own secretions and being suctioned seven times a day to eating a pureed diet safely. It is, however, important to note that the therapy process is longer with this population than what is typically seen with other diagnoses. Here at CHOC, we typically see outpatient children with CP two to three times a week. Swallowing improvements can be seen in as little as one to two treatments during electrical stimulation therapy. Longterm carry over of swallowing skills outside therapy settings requires treatment to continue for six months to one year."

It Began With Marcy Freed

Marcy Freed, a veteran Speech-Language Pathologist and researcher in swallowing disorders, became frustrated with the ineffectiveness of existing therapies and initiated electrical stimulation research via clinical studies in 1993 for these types of disorders. "Imagine how your world is turned upside down if you lose the ability to swallow," Freed says. "It not only affects your capability to receive nutrition, but also affects your family and social functioning. The average person swallows approximately 2,000 times a day. If the swallowing muscles are not used, they begin to atrophy very quickly. Once they stop working, they need something to jump start them again."

Local speech pathologists around the country report they often accomplish more with electrical stimulation than with traditional therapies.

Since it became available in 2003, over 4,000 clinical professionals have been certified to use VitalStim® Therapy.

Contraindications

The contraindications for VitalStim® Therapy are specific to patients suffering from dysphagia. Caution should be used with patients who have cardiac demand pacemakers. Its use is contraindicated with patients who are severely demented and exhibit nonstop verbalization; constant verbalization could result in aspiration during trials of oral intake. VitalStim® Therapy is also contraindicated in patients with significant reflux due to use of a feeding tube; such patients are prone to repeated cases of aspiration pneumonia, and the VitalStim® Therapy device has not been studied in this population. Use of the VitalStim® Therapy device is also contraindicated in patients with dysphagia due to drug toxicity; patients suffering from drug toxicity could aspirate during trials of oral intake.

For More Information

For more information on VitalStim® Therapy, or to locate a VitalStim® Therapy facility in your area, visit www.vitalstim.com or call (800) 592-7329.

VitalStim® Therapy is manufactured by Chattanooga Group, 4717 Adams Road, P.O. Box 489, Hixson, TN, a division of Encore Medical Corporation (NASDAQ: ENMC). A leader in rehabilitation equipment, Chattanooga Group has been providing quality healthcare products worldwide for over 50 years.