

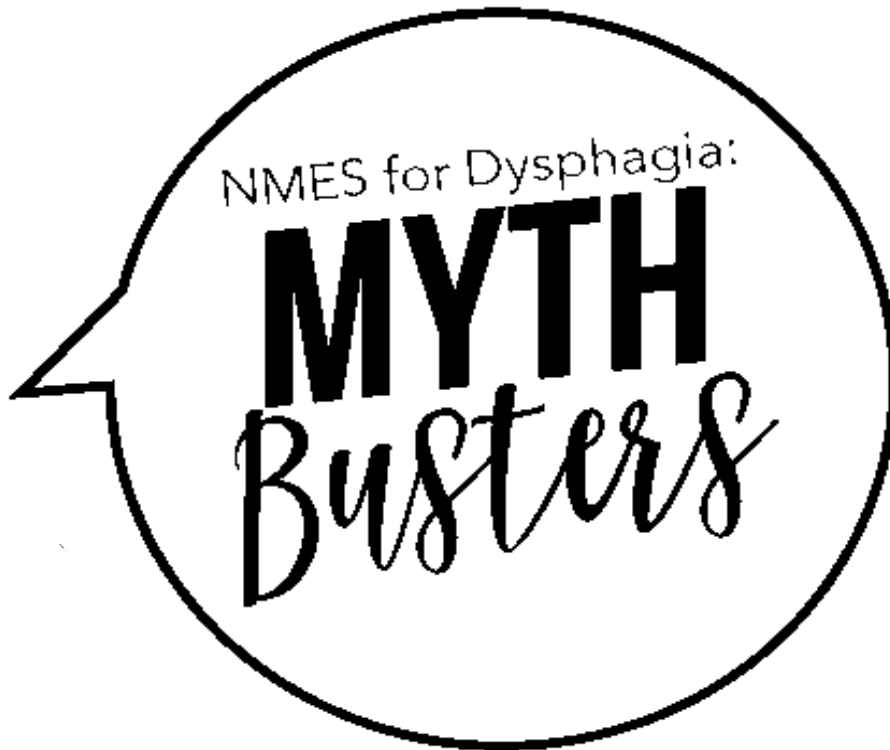


# CIAO

Career Improvement and  
Advancement Opportunities

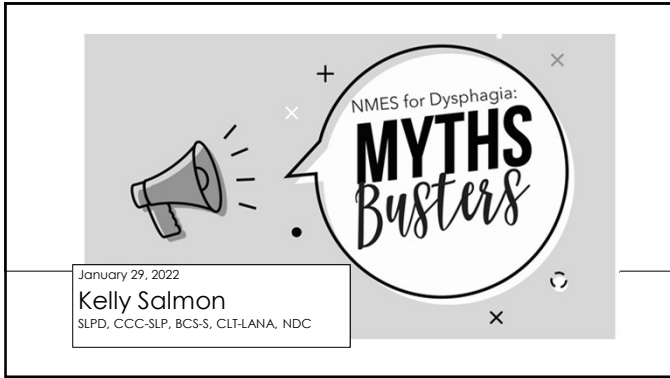
CIAO Seminars Presents:

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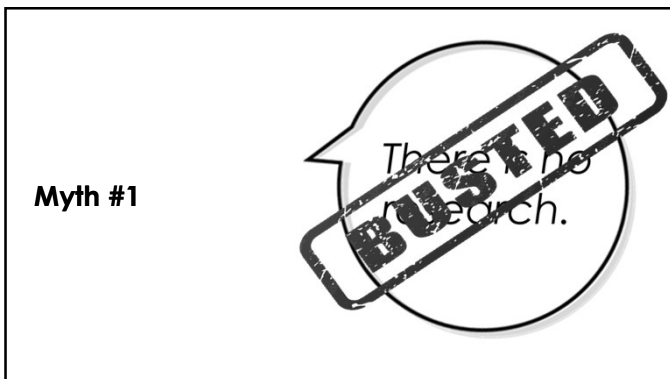
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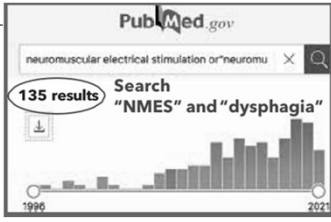
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### NMES FOR DYSPHAGIA IS EVIDENCE BASED

- o Over **100 studies** published and indexed
- o Most studies published were in the last 10 years
- o Research is ongoing
- o **>95 percent** of studies disclose no conflicts of interest (i.e., no funding from industry, authors independent)
- o **6 meta-analysis** to date(1-6)



pubmed.ncbi.nlm.nih.gov 7/17/21; search term "nmes or "neuromuscular electrical stimulation" and dysphagia

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**Myth #2**

*NMES for  
dysphagia  
is unsafe.*

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**Myth #2**

*NMES for  
dysphagia  
is unsafe.*

**BUSTED**

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## NMES FOR DYSPHAGIA IS SAFE \*

- o No adverse events reported in the literature or to FDA in over 18 years of worldwide clinical use and well over 3 million treatments
- o Electrodes placement combinations that include electrodes below the hyoid bone DO NOT increase risk.
- o Best practice: deliver electrical stimulation by trained clinician in conjunction with active exercise therapy



\*\*"Safety" refers ONLY to those dysphagia therapists who have been trained in the safe use of NMES for dysphagia.

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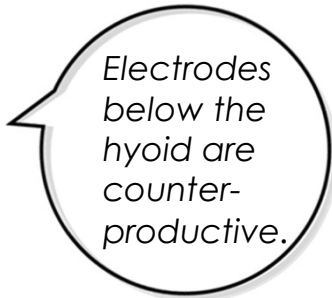
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### Myth #3



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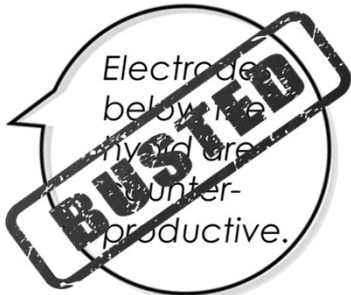
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### Myth #3



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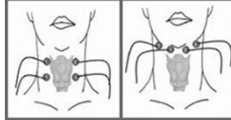
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### PLACING ELECTRODES ABOVE AND BELOW THE HYOID IS SAFE\*

- Early concern that infrahyoid muscles may negatively impact swallowing performance(7,8) is not supported by research findings (9,10) and absence of adverse events
- Possible explanation: perturbation training, i.e., motor response of infra- and/or suprahyoid muscles interferes with physiological swallow effort causing central nervous system to increase gain ("try harder")(9,11)
- Sensory stimulation is likely to be a significant contributor to reported positive outcomes(12) - electrodes below the hyoid expand the field of sensory stimulation



\*"Safety" refers ONLY to those dysphagia therapists who have been trained in the safe use of NMES for dysphagia.

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### Myth #4



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### Myth #4



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### It's no good if it's not 'true' Neuromuscular Electrical Stimulation -

- NMES definition: electrical stimulation to modify or change muscle function
- Traditionally achieved by stimulating the motor neurons of the target muscle group
- General term like NMES is preferable to names based on specific machines (e.g., Ampcare, Guardian, VitalStim, etc.)
- Different protocols elicit different responses; not all protocols elicit visible muscle contraction
- More research is needed to determine which protocol yields best results in different

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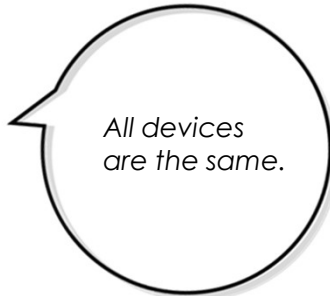
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### Myth #5



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### Myth #5



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**DEVICES ON THE MARKET**

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- Do your research!
- Is it cleared?
- Is it cleared for dysphagia?
- Is it cleared for anterior portion of the neck or submental only?

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**DEVICES ON THE MARKET**

Unit Name	VitalStim Plus	Swallow Stim "Classic"	Aspire 2 Guardian	Guardian Unity	Columbia 6000®	AmpCare
Manufacturer	DJO Global	Spectramed	Spectramed	Spectramed	TheraSigma	AmpCare
FDA Clearance Number	K153224	K120922	K023036	K020637	K120922	K131222
Cleared for Anterior Portion of Neck	Yes	Yes	No	No	Yes	No
sEMG and Triggered Stim	Yes	No	Yes	No	No	No

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**Myth #6**

*You don't need to be trained.*

*It's OK if your co-worker shows you how to use the machine.*

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**Myth #6**

You don't need to be trained. It's OK in your workplace shows how to use the machine.

**BUSTED**

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**ASHA's Position on NMES for Dysphagia**

- ASHA **does not** require any certification to use a modality
- ASHA **does not** endorse any specific device or protocol
- **ASHA DOES** require that an SLP be trained prior to using a modality
  - Instructor must be an expert in the field (modalities and dysphagia)
    - Material must be original work or the instructor must have consent of the author to use
  - Training must have measurable objectives to determine successful training
  - Training must be documented

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**SLPs AND OTs NEED TO BE TRAINED**

ASHA Code of Ethics (AOTA Codes of Ethics are similar)

1. *Individuals who hold the Certificate of Clinical Competence shall engage in only those aspects of the professions that are within the scope of their professional practice and competence, considering their certification status, education, training, and experience.*
2. *Individuals in administrative or supervisory roles shall not require or permit their professional staff to provide services or conduct research activities that exceed the staff member's certification status, competence, education, training, and experience.*
3. *Individuals shall not misrepresent their credentials, competence, education, training, experience, and scholarly contributions.*
4. *Individuals shall assign credit only to those who have contributed to a publication, presentation, process, or product. Credit shall be assigned in proportion to the contribution and only with the contributor's consent.*

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## EDUCATIONAL OPTIONS

Unit Name	VitalStim Plus	Swallow Stim "Classic"	Aspire 2 Guardian	Guardian Unity	Columbia 6000®	AmpCare
Education Provider	CIAO (Independent)	Manufacturer	Manufacturer	Manufacturer	CIAO (Independent)	Manufacturer
Delivery and Hours	12 hrs online 16 hrs in person 28 hrs	4.5 hrs online 1 hr live virtual 5.5 hrs	5.5 hrs online 1 hr live virtual 6.5 hrs Or 13 hrs live virtual	4.5 hrs online 1 hr live virtual 5.5 hrs	12 hrs online 16 hrs in person 28 hrs	All 8 hrs or 4/4 combination of: live, online, Zoom 8 hrs
Accredited Course	Yes**	No	No	No	Yes**	No
Award	Specialty Certificate and CEUs	CEUs	CEUs	CEUs	Specialty Certificate and CEUs	CEUs

\*All treatment protocols are taught during the VitalStim/DINES Specialty Certificate program. However, completing AmpCare training is recommended if purchasing an AmpCare device.  
 \*\*Accredited by National Commission for Certifying Agencies; accepted as training requirement for national exam (NDC)

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- ❖ Implanted Devices
- ❖ Head and Neck Cancer
- ❖ Bells Palsy and Facial Paralysis
- ❖ Progressive Neurological Diseases

## CLINICAL MYTHS

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### Myth #7

*NMES cannot be used with implanted devices.*

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**Myth #7**

NMES cannot be used with implanted devices.

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**NMES and Implants Devices**

- Implanted cardiac devices such as pacemakers, internal cardiac defibrillators (ICDs), left ventricular assist devices (LVADs), and Life Vests are not contraindications to the use of NMES to treat dysphagia.
- Other implanted devices such as deep brain stimulators (DBS), vagal nerve stimulators, and cochlear implants are not contraindications to the use of NMES to treat dysphagia.
- While separate or distinct physician clearance is not necessary for these implanted devices, clinicians are encouraged to have a discussion with the referring physician or the physician managing the implanted device if there are any questions or concerns.

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**Myth #8**

NMES cannot be used on patients with head and neck cancer.

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**Myth #8**

NMES can be used with patients with head and neck cancer.

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**NMES and Head and Neck Cancer**

- NMES to treat dysphagia using an anterior neck or facial placement is only contraindicated in the presence of **active neoplasm or disease**.
- A past history of head and neck cancer is not a contraindication.
- The criteria for an individual being considered "cancer-free" may vary depending on the institution.
- Active cancer **remote** to the head and neck is not a contraindication (e.g., brain, esophageal, lung, breast, liver, etc.)

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**Myth #9**

NMES cannot be used on patients with Bells Palsy or other facial paralysis.

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**Myth #9**

NMES cannot be used on patients with Bell's palsy or other facial paralysis.

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**NMES, Bells Palsy and other Facial Paralysis Dx**

- The key to considering use of NMES to treat dysphagia symptoms in an individual who has been diagnosed with Bells Palsy is the **factor of time** (acute vs. chronic).
- NMES may be considered for someone who has had a diagnosis of Bells Palsy who is experiencing weakness as a chronic symptom of the disease process.
- The key to determining whether NMES is indicated is whether or not the peripheral nerve (CN VII, facial) is intact.
- NMES can be used diagnostically in order to determine whether NMES is appropriate/indicated.

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**Myth #10**

NMES cannot be used on patients with neurodegenerative diseases.

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**Myth #10**

NMES cannot be used on patients with neurodegenerative diseases.

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**NMES and Neurodegenerative Diseases**

- Exercise-based treatments (with NMES) for individuals with neurodegenerative diseases such as ALS, MS, PD, etc. is not contraindicated
- Treatment cannot be curative, but can improve function
- Patients with neurodegenerative diseases who have decreased functional capacity (and are prone to fatigue) will need their exercise program modified so that the individual is exercising at a low aerobic level
- The value of adding NMES to the dysphagia plan of care is limited in disease states with significant lower motor neuron involvement (**the factor of timing**)

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