

## BACKGROUND

According to the Center for Disease Control, as of 2016, more than 20% of adults in the U.S. live with chronic pain (CDC, 2019). In considering the rise of the opioid crisis, health care practitioners need to rise to the challenge of addressing chronic pain management. Occupational Therapy practitioners are trained to address cognitive, physical, and neurological aspects of pain and help persons living with chronic pain increase their participation in their daily lives.

Alpha-Stim is an electrotherapy device available to veterans that can effectively improve symptoms of insomnia, anxiety, depression, Post-Traumatic Stress Disorder, and pain (Alpha-Stim, 2020). Occupational therapists should utilize Alpha-Stim to address related client factors within the veteran population as there is indicated need for intervention. 65.5% of U.S. veterans reported pain in the previous 3 months with 9.1% classified as having severe pain (defined as "which occurs most days or every day and bothers the individual a lot") compared with 6.4% among nonveterans (Canlas, 2017). As illustrated by Figure 1.1, Alpha-Stim positively addresses pain in service members related to headache (Kirsch et al. 2015).

## FOCUSED QUESTION

Is Alpha-Stim group participation effective in improving pain in the veteran population?

## PROGRAM & PURPOSE

### Alpha-Stim Background:

Alpha-Stim is an electrotherapy device prescribed by physicians and other healthcare professionals that treats using microcurrent (Alpha-Stim, 2020).

By modulating the body and brain's electrochemical signals, Alpha-Stim can safely and effectively relieve pain, improve mood conditions such as anxiety and depression, and facilitate better sleep (Electromedical Products International, Inc. 2020).

Most users experience significant relief after a single treatment. Alpha-Stim's effect is cumulative, meaning each treatment is potentially more and more effective—which the individual can decrease use over time (Alpha-Stim, 2020).

### Program Purpose:

The purpose of this program was to utilize Alpha-Stim M models in group treatment format for a minimum of 3 sessions to decrease veteran pain and promote engagement in daily activities.

Alpha-Stim M provides both microcurrent electrical therapy (MET) that treats pain and cranial electrotherapy stimulation (CES) that treats anxiety, insomnia and depression (Electromedical Products International, Inc. 2020). Picture demonstrations are seen in Figure 1.3 (with CES) and Figure 1.4 (with MET) (Baldridge, 2020)

## METHODS

### ~Identify ~Train ~Maintain

Veterans are identified through referring providers in primary care, pain clinic, neurology, etc. Identify appropriate candidates that do not have electrical implants or are currently pregnant

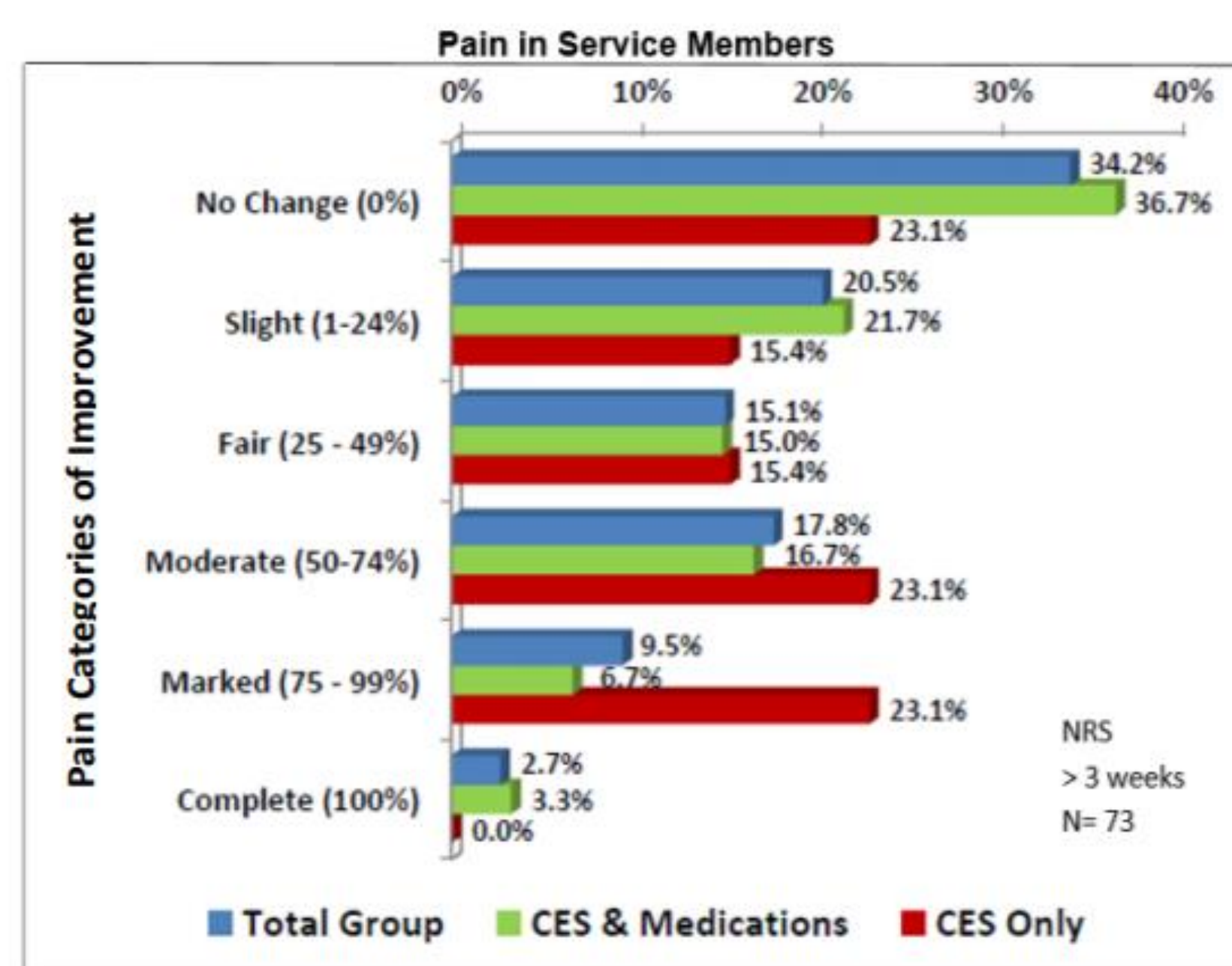
Upon receiving consult for OT and Alpha-Stim, patient trials device to determine efficacy and provide education. Veterans are trained to use Alpha-Stim throughout duration for 3 trials

Create and maintain an Alpha-Stim protocol and regimen that is efficacious for the veteran and custom to fit their needs.

Utilize template in Figure 1.2 to capture data regarding veterans' baseline and progress throughout Alpha-Stim trials. Use the information collected for results of outcome measures.

Use the following outcome measures: Patient self-report, Pain Numeric Scale, Subjective Units of Distress (SUDs), Pittsburgh Sleep Quality Index (PQSI), General Anxiety Disorder-7 (GAD-7)

Additionally, the template, as seen in Figure 1.2, collects information on the location of pain and parameters utilized during treatment group session (LaFleur, 2020).



[Figure 1.1] Pain in Service Members (Kirsch et al. 2015)

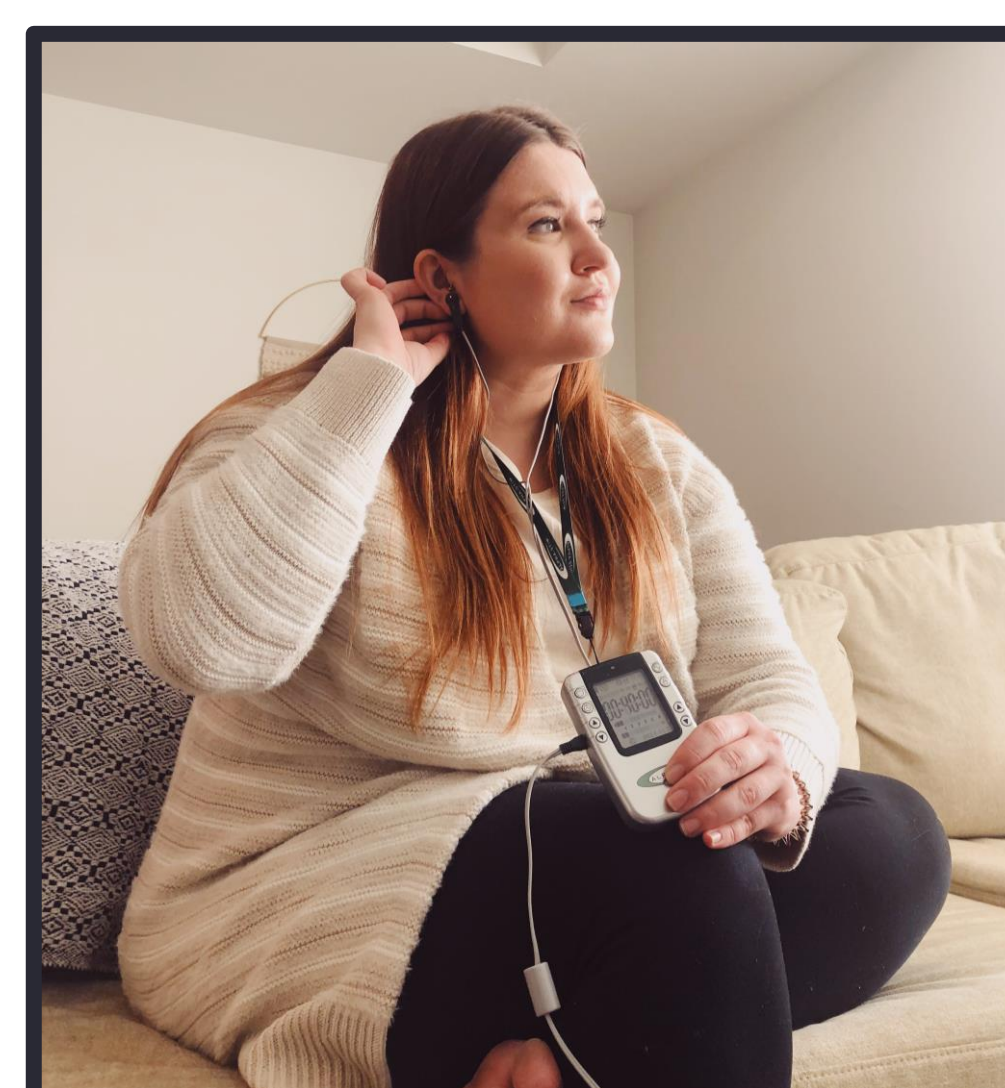


Figure 1.3 (left) Demonstration of using the CES or "Ear Clips" with Alpha-Stim (Baldridge, 2020)

## RESULTS & DISCUSSION

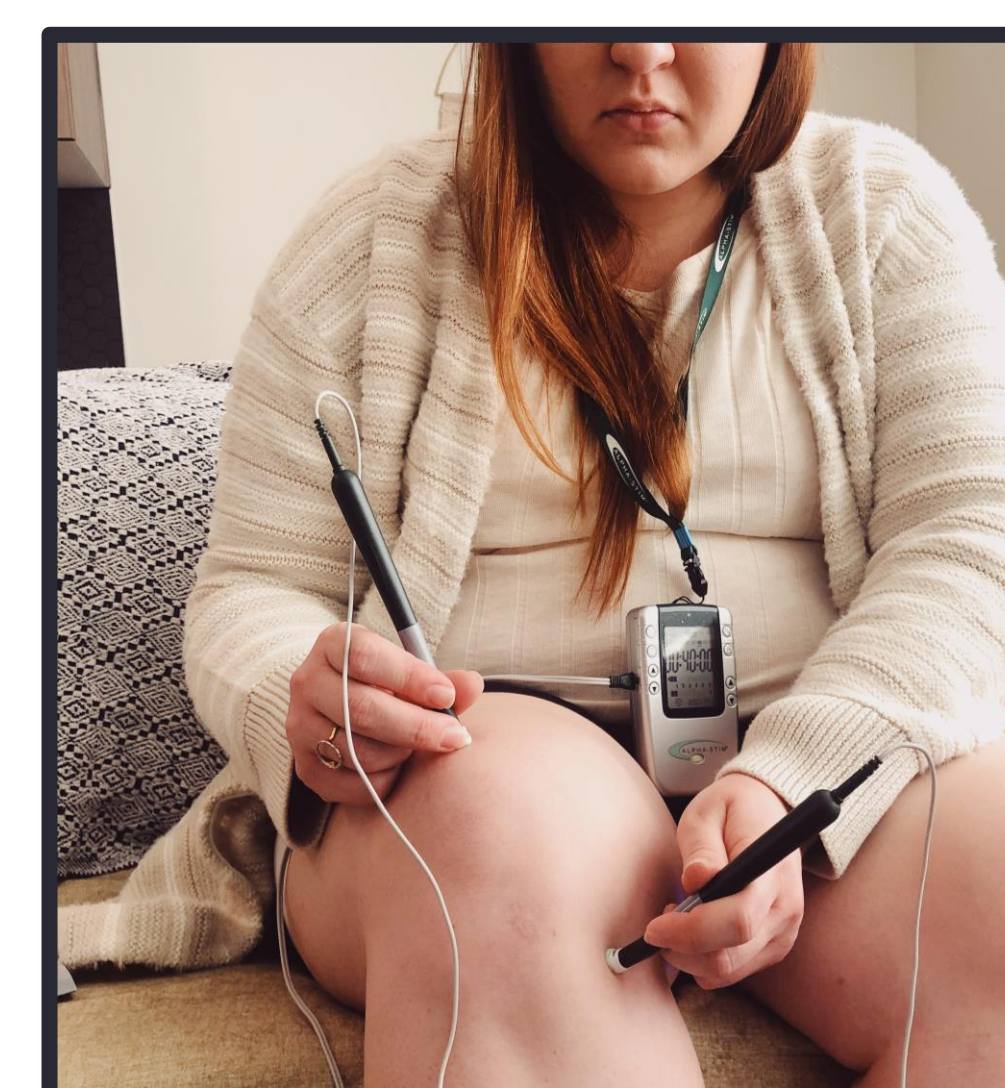
**Outcome measures:** Will be tracked for patient progress with pre-test and post-test design and assist with intervention customization based on the needs of the veteran. The following outcome measures are recorded and utilized to track patient progress:

- Patient self-report, Pain Numeric Scale, Subjective Units of Distress (SUDs), Pittsburgh Sleep Quality Index (PQSI), General Anxiety Disorder-7 (GAD-7)

**Limitations:** Although intended to be utilized for program implementation of Alpha-Stim groups, groups were unable to be held during this time of COVID-19 for the safety of the participants. The template (Figure 1.2) and other resources can be utilized for individual sessions and subsequently when groups resume. A limitation of future group implementation is capturing adequate information regarding depression among participants and a depression scale could be an addition in the future; as the modality Alpha-Stim can be used in treatment of depression, anxiety, PTSD, insomnia, and pain. Another limitation could be the pre-test, post-test design considering placebo effect and future directions could consider single or even double-blind trials.

Name:	Date of TX:	Trial #:
Diaphragmatic breathing	Biofeedback Intro	Relaxation Tech
Alpha-Stim M	Alpha-Stim AID	
GAD 7		
Pre TX:	Post TX:	
PQSI		
Pre TX:	Post TX:	
SUBJECTIVE UNITS OF DISTRESS (0= Totally Relaxed, 100= Highest Distress)		
Pre TX:	Post TX:	
PAIN (0= No Pain, 10= Worst Pain)		LOCATION OF PAIN (Please place an "X" & "R" over the areas of pain you would like addressed)
Location 1:		
Pre Tx:		
Post Tx:		
Location 2:		
Pre Tx:		
Post Tx:		
Location 3:		
Pre Tx:		
Post Tx:		
AS-TRODE PLACEMENT	PROBES	CES CLIPS
Frequency: 0.5 Hz 1.5 Hz 100Hz	0.5 Hz 1.5 Hz 100Hz	0.05 Hz
Intensity Level: 6	6	1 2 3 4 5 6
Length of Time: 60 minutes	10 seconds	20 40 60 minutes
Location: Placement 1a: Placement 1b: Placement 2a: Placement 2b:	1 2 3	Tolerance: Good Poor Increased time:

[Figure 1.2] Alpha-Stim Group Template (LaFleur 2020)



[Figure 1.4] (left) Demonstration of using the MET with probe work on the knee region with Alpha-Stim (Baldridge, 2020)

## BOTTOM LINE FOR OT

Occupational therapists are well-suited to meet the needs for pain management within the veteran population and others by utilizing Alpha-Stim with a foundation of knowledge in physical agent modalities and use of bio-psycho-social approach to intervention.

## REFERENCES

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