



# THE USE OF MEDITATION TO PROMOTE RESILIENCE IN DEPLOYED MEDICAL PERSONNEL

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Poster

## The Use of a Meditation Intervention in Deployed Military Medical Personnel To Decrease Stress and Anxiety and Promote Resilience: A Pilot Study

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### BACKGROUND

Military deployment produces a multitude of stressors. Deployed medical personnel often work in austere environments with limited resources under potentially life-threatening conditions. Yet, they are expected to provide high levels of medical and nursing care. Added to this are the concomitant stressors of family separation, loss of usual support networks and negative life events. Current stress management strategies can be augmented by using meditation to increase one's natural resilience. Currently no studies have been published using simple meditation techniques in deployed service members.

### Demographics

Category	Count
Males	10
Females	10
Officers	10
Enlisted	10
Age	35

### RESULTS


23 volunteers were enrolled; 2 were lost to attrition. All four outcome measures of mood disturbance, stress, anxiety and resilience improved ( $p < 0.001$ ) as early as 4 weeks and continued to improve through 8 weeks. Sleep quality was perceived to be improved ( $p < 0.001$ ) and positive sleep benefits were noted on first use.

### PURPOSE

This study tested the effectiveness of a guided meditation intervention to decrease stress and anxiety and promote resilience in deployed military medical personnel.

### Changes in Total Mood Disturbance, Perceived Stress, Anxiety, and Resilience at Baseline, 4 Weeks and 8 Weeks

Measure	Baseline	4 Weeks	8 Weeks
PCMG TMD	~45	~35	~25
PSS	~75	~70	~65
State Anxiety	~45	~35	~25
CD-RISC	~15	~25	~35



### DESIGN and METHODS

- A single group repeated measures pre-test/post-test design that included baseline and two monthly follow-up assessments after the start of the meditation intervention.
- Volunteers were recruited from personnel assigned to the 47th Combat Support Hospital in Tikrit, Iraq from 1 July 2009 - 1 February 2010.
- Volunteers completed baseline demographics including a sleep quality question, Perceived stress, mood, anxiety, and resilience were measured at baseline, 4 weeks and 8 weeks using the Perceived Stress Scale, Profile of Mood States, State version of the State-Trait Anxiety Inventory and the Connor-Davidson Resilience Scale.
- Volunteers were provided with an MP3 player preloaded with guided meditation exercises, trained in its use and asked to perform the exercises for 10 minutes twice a day over the 8 week period.

### Sleep Quality

Time Point	Sleep Quality Score
Baseline	~1.5
8 Weeks	~2.2

### CONCLUSIONS

The guided meditation was well received by deployed military personnel. This low cost, simple and easy to adopt routine to reduce stress and anxiety is a strategy demonstrated to work in the deployed environment to achieve and maintain mental and physical well-being, thus promoting resilience.

*Special thanks to Prescription Audio for making this research possible.*

The opinions or assertions contained herein are the private views of the author(s) and are not to be construed as official or as reflecting the views of the Department of Defense.

**PURPOSE/AIMS:** The purpose of this pilot study was to test the effectiveness of a guided meditation intervention to decrease stress and anxiety and promote resilience in deployed military medical personnel. The mind/body framework of Dr. Herbert Benson was used to develop this protocol.

**DESIGN:** The study was a single group repeated measures pre-test/post-test design that included a baseline and two monthly follow up assessments after the start of the meditation intervention.

**SAMPLE STUDIED:** Military medical personnel assigned to the 47<sup>th</sup> Combat Support Hospital located in Tikrit, Iraq from 1 September 2009-1 February 2010 were eligible to participate in this study.

**METHODS:** Participants were recruited using group announcements, email and flyers posted in common and work areas. At baseline, subjects completed a demographic survey, a single sleep quality item, and Section A (Pre-deployment Life Events) and B (Childhood Experiences) of the Deployment Risk and Resilience Inventory. Additionally, perceived stress, mood, anxiety and resilience were measures at baseline, 4 weeks and 8 weeks using the following instruments: 10-item Perceived Stress Scale, 65-item Profile of Mood States Standard Form, 20-item State version of the State-Trait Anxiety Inventory and the 25-item Connor-Davidson Resilience Scale. Completion of surveys required about 20 minutes of uninterrupted time for participants. Subjects were then provided with an MP3 player (provided by Prescription Audio) preloaded with guided meditation exercises. They were trained in its use and then instructed to perform the exercises a minimum of 10 minutes twice a day for eight weeks. Subjects maintained a daily log of meditation sessions and report frequency of sessions along with overall sleep quality upon study completion.

**RESULTS:** 23 volunteers were enrolled; 2 were lost to attrition. 52% were male and 48% were female. 52% were officers and 48% were enlisted. The mean age was 34 years. All four outcome measures of mood disturbance, stress, anxiety and resilience improved ( $p < 0.001$ ) as early as 4 weeks and continued to improve through 8 weeks. Sleep quality was perceived to be improved ( $p < 0.001$ ) and positive sleep benefits were noted on first use.

**CONCLUSIONS:** The guided meditation was well received by deployed military personnel. This low cost, simple and easy to adopt routine to reduce stress and anxiety is a strategy demonstrated to work in the deployed environment to achieve and maintain mental and physical well-being, thus alleviating stress and promoting resilience.

**IMPLICATIONS:** Guided meditation using portable electronic devices may provide a simple, easy-to-adopt routine to reduce stress and anxiety associated with deployment for Soldiers in various types of units.

**FROM/TO TIME PERIOD OF STUDY:** 1 September 2009 – 1 February 2010

**FUNDING:** In kind – 47<sup>th</sup> Combat Support Hospital; MP3 players provided by Prescription Audio

**Key Data  
Points**

**Iraq Research in Deployed Unit**

Demographics

Males	11
Females	10
Officers	11
Enlisted	10
Age	<b>34.4 years</b>

**Resiliency**

**25-item Connor-Davidson Resilience Scale**

CD-RISC		Resiliency Improvement % - baseline to 8 weeks	
Baseline	75.76		
4 Weeks	80.76		
8 Weeks	84.14	<b>11.1%</b>	8.38

**Sleep Improvement**

Sleep		Sleep Quality Improvement % - baseline to 8 weeks	
Baseline	1.57		
8 Weeks	2.38	<b>48.4%</b>	2.38

**Stress, anxiety, mood swings**

		Symptom Reduction % - baseline to 8 weeks	Raw point change
<b>65-item Profile of Mood States Standard Form POMS</b>			
Baseline	43.76		
4 Weeks	11.81		
8 Weeks	1.33	<b>97.0%</b>	-42.43

**10-item Perceived Stress Scale PSS**

Baseline	18.62		
4 Weeks	11.48		
8 Weeks	9.52	<b>48.9%</b>	-9.1

20-item State version of the State-Trait Anxiety Inventory  
STAI

Baseline	40.1		
4 Weeks	31.38		
8 Weeks	29.86	<b>25.5%</b>	-10.24

*Average symptom reduction over all three instruments*      **57.1%**