Sound Pillow® *Sleep System*

Another Military Installation’s Review:
*PTSD, TBI, Anxiety, Sleeping Disorders, Tinnitus...*
Report Notes

Review was coordinated by:

An audiologist who also supports the installation’s TBI clinic.

Participating audiologist has no education in the behavioral sciences. Feedback regarding any individual’s change in mood or behavior are observational and based on the audiologist’s encounters with the participants, during routine office visits.

This was not a longitudinal review and no long term affects or outcomes were explored.
Our Need for Sleep is Indisputable

“...there is a well-established connection between lack of sleep and mental and physical health.” (1)

Sleep provides an opportunity for the body to repair and rejuvenate itself. (2)

There is a definite link between lack of sleep and depression. (3)

Lack of sleep caused by another medical illness or by personal problems can make depression worse. (3)

1) Coping with Excessive Sleepiness - Web MD - Dr. R. Robert Auger, MD - Mayo Center for Sleep Medicine

2) Why do we sleep anyway? - Harvard Medical School - reviewed December 18, 2007

3) Sleep and Depression - WebMD
Current Approach to Sleep Issues

The prescribing of sleeping pills which come with the risk of addiction and a myriad of negative short and long term physiological and psychological side effects.

Including:

depression, anxiety, aggression, agitation, confusion, unusual thoughts, hallucinations, liver toxicity, memory problems, changes in personality, chest pain, fast or irregular heartbeat, feeling short of breath, trouble breathing or swallowing, risk-taking behavior, decreased inhibitions, no fear of danger, thoughts of hurting one’s self or suicide...

A Better Solution: The Sound Pillow Sleep System

100% Natural sleeping aid includes:

The Sound Pillow: Comfortable hypoallergenic pillow with stereo speakers buried deep within a plush pillow. Speakers are shaped to be camouflaged/hidden from the user and do not disrupt their sleep.

Also Included: An easy-to-use MP3 Player pre-loaded with deeply relaxing nature sounds and “music.” The “music” is designed to relax the body and quiet the mind to both promote and sustain sleep.
The Participants

Review was coordinated by:
An audiologist who also supports the installation’s TBI clinic.
Note: Participating audiologist has no background or education in the behavioral sciences.

All participants were diagnosed with mild to severe sleep disturbances.

Participants were also diagnosed with one or more of the following:

- Post Traumatic Stress Disorder (PTSD)
- Traumatic Brain Injury (TBI)
- Sensorineural Hearing Loss
- Anxiety Disorders
- Depression
- Tinnitus

Feedback was provided, on a volunteer basis.

29 individuals volunteered their feedback.

A) - Partial List - See Participants’ Diagnoses (overall experience rating) for complete list
The Process

Participants Received: Sound Pillow Sleep System (5):
- Full Sized Sound Pillow


Participants slept with the system for 2 - 4 weeks, then voluntarily completed questionnaires, provided personal comments and rated their quality of their sleep.

Audiologist (6) visited with the participants and provided feedback via the “Care Giver Questionnaire.”

Care Giver Questionnaires available upon request.

5) All materials were donated by Armbruster Enterprises, Inc. dba Sound Pillow - with no expectations of individual participation

6) Participating Audiologist has no background in the behavioral sciences.
Participant’s Diagnoses: (P.E.R.)/(C.G.R.)

**P.E.R.** = Personal Experience Rating

**C.G.R.** = Care Giver’s Rating

Scale: 1-Very Poor, 2-Poor, 3-Satisfactory, 4-Good, 5-Excellent

1) Mild Sleep Issues, Tinnitus: (4.33)/(4.00)

2) Anxiety, Depression, Mild Sleep Issues, Tinnitus: (4.50)/(3.60)

3) Mild Sleep Issues, Tinnitus: (4.67)/(4.40)

4) Sensorineural Hearing Loss, Mild Sleep Issues, Anxiety, Tinnitus: (4.00)/(4.00)

5) Chronic Pain, Insomnia, Anxiety Disorder, Tinnitus: (5.00)/(5.00)

6) Adjustment Disorder, Migraines, Sleep Apnea (Acute Sleep Disorder) Chronic Pain, Tinnitus: (3.83)/(3.80)

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6) Participating Audiologist has no background in the behavioral sciences.
Participant’s Diagnoses: \((\text{P.E.R.}) / (\text{C.G.R.})\) \(^{(6)}\)

\text{P.E.R.} = \text{Personal Experience Rating}

\text{C.G.R.} = \text{Care Giver’s Rating}

Scale: 1-Very Poor, 2-Poor, 3-Satisfactory, 4-Good, 5-Excellent

7) Adjustment Disorder / Depression, Chronic Pain, Mild Sleep Issues, Tinnitus: \((4.00) / (4.40)\)

8) PTSD, Adjustment Disorder, Insomnia, Chronic Pain, Tinnitus: \((4.67) / (4.60)\)

9) Mild Sleep Issues, Tinnitus: \((5.00) / (4.00)\)

10) Mild Sleep Issues, Tinnitus: \((4.67) / (5.00)\)

11) Chronic Pain, Headaches, Mild Sleep Issues, Tinnitus: \((4.67) / (4.00)\)

12) TBI, Chronic Headaches, Mild Sleep Issues, Tinnitus: \((3.67) / (4.00)\)

6) Participating Audiologist has no background in the behavioral sciences.
Participant’s Diagnoses: (P.E.R.)/(C.G.R.)

P.E.R. = Personal Experience Rating
C.G.R. = Care Giver’s Rating

Scale: 1-Very Poor, 2-Poor, 3-Satisfactory, 4-Good, 5-Excellent

13) PTSD, Depression, Anxiety, Cognitive Disorder, Chronic Pain, Sleep Disorder, Tinnitus: (4.00)/(3.40)

14) Nightmare Disorder, Anxiety Disorder, Insomnia, TBI, Tinnitus: (4.33)/(3.40)

15) Chronic Pain, Sensorineural Hearing Loss, Tinnitus: (4.33)/(4.00)

16) Chronic Pain, Tinnitus: (4.33)/(4.00)

17) PTSD, TBI, Depression, Adjustment Disorder, Insomnia, Tinnitus, Chronic Pain, Sleep Disorder, Sensorineural Hearing Loss: (4.67)/(4.20)

18) Tinnitus: (4.83)/(4.00)

6) Participating Audiologist has no background in the behavioral sciences.
Participant’s Diagnoses: (P.E.R.)/(C.G.R.)

P.E.R. = Personal Experience Rating
C.G.R. = Care Giver’s Rating

Scale: 1-Very Poor, 2-Poor, 3-Satisfactory, 4-Good, 5-Excellent

19) TBI, Mild Sleep Issues, Tinnitus: (4.50)/(4.80)

20) Anxiety, Insomnia, Tinnitus: (4.33)/(4.00)

21) Depression, Adjustment Disorder, Sleep Apnea, Tinnitus: (4.17)/(4.00)

22) TBI, ADHD, Anxiety Disorder, Mild Sleep Issues, Tinnitus: (5.00)/(5.00)

23) Anxiety Disorder, Cognitive Disorder, Depression, Migraines, Sleep Disturbances, Tinnitus: (5.00)/(4.60)

24) TBI, Sleep Apnea, Headache Syndromes, Tinnitus: (3.50)/(3.20)

6) Participating Audiologist has no background in the behavioral sciences.
Participant’s Diagnoses: (P.E.R.)/(C.G.R.) (6)

P.E.R. = Personal Experience Rating
C.G.R. = Care Giver’s Rating

Scale: 1-Very Poor, 2-Poor, 3-Satisfactory, 4-Good, 5-Excellent

25) Anxiety, Depression, Migraines, Sleep Disorder, Tinnitus: (4.33)/(4.00)

26) PTSD, Bipolar Disorder, Depression, Personality Disorder, Tinnitus: (4.33)/(4.20)

27) Anxiety, Insomnia: (5.00)/(4.20)

28) TBI, Anxiety, Tinnitus: (4.67)/(4.20)

29) Chronic Pain, Sleep Issues, Tinnitus: (5.00)/(4.20)

6) Participating Audiologist has no background in the behavioral sciences.
Participant’s Aggregate Personal Experience Ratings (P.E.R.)

- Sound Pillow’s comfort rating
- Sound Pillow’s Sound Quality Rating
- Rate Sleep System’s MP3 Player’s Ease-of-Use
- How relaxing was the Sleep System’s Content?
- How helpful was the Sleep System in helping you fall asleep?
- Rate the quality of your sleep
- Participants overall experience rating

Saturday, June 9, 2014
Rate your quality of sleep while using the Sound Pillow Sleep System.

- Very Poor
- Poor
- Satisfactory
- Good
- Excellent

Would you recommend the Sound Pillow Sleep System to others?

- No
- Maybe
- Absolutely Yes
Care Giver’s Responses: Aggregate Care Giver Rating (C.G.R.)

6) Participating Audiologist has no background in the behavioral sciences.

<table>
<thead>
<tr>
<th>Rating</th>
<th>Question</th>
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</thead>
<tbody>
<tr>
<td>Excellent</td>
<td>Did Communications Improve?</td>
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<tr>
<td>Good</td>
<td>Were Communications more Meaningful?</td>
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<tr>
<td>Satisfactory</td>
<td>Did participant feel their ability to reach goals improved?</td>
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<tr>
<td>Poor</td>
<td>Was individual more pleasant to be around, having a positive effect on others?</td>
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<tr>
<td>Very Poor</td>
<td>Would you recommend adding the Sleep System as a treatment protocol, when applicable?</td>
</tr>
</tbody>
</table>

Monday, June 9, 2014
Results Overview

100% of reviewers had a positive experience with the Sound Pillow Sleep System.

100% of the reviewer’s said “Absolutely Yes” they would recommend the Sound Pillow Sleep System to others.

96% of participants experienced improved attitudes, positively affecting others.\(^{(6)}\)

96% of participants experienced improved, more meaningful, communications with their clinician.\(^{(6)}\)

90% of participants rated their Quality of Sleep, while using the Sound Pillow Sleep System, as Good or Excellent.

\(^{(6)}\) Participating Audiologist has no background in the behavioral sciences.
Reviewers’ Comments

I find myself not waking as much to other noises, and once I was awakened, I could fall asleep and get a better night’s sleep. - Reviewer #1

Since I have the Sound Pillow Sleep System, I have been able to fall asleep faster. The Tinnitus in my right ear, stopped bothering during sleep time. - Reviewer #3

The ringing sound in both my ears have all but been drowned out. I don’t have to live with the TV on and I can now sleep in my bed. - Reviewer #5

The nature tracks worked very well and sounded very realistic...I have used “Vangelis” and “Tangerine Dream” before, to relax. The Sound Pillow tracks work even better. - Reviewer #6
Reviewers’ Comments

It does help me fall asleep...I have other sleep issues, but it does help me fall back to sleep quicker... - Review #14

Normally it takes me 1 1/2 hours to fall asleep, with the [Sound] Pillow, it takes me about 30 minutes... - Reviewer #16

I used to sleep 5 - 6 hours, now can sleep 8 - 9 hours. Not stressed or uptight upon wakening - Reviewer #19

The Sound Pillow has allowed me the opportunity to stay asleep for longer periods of time...My girlfriend has noticed an improvement in her sleep quality, as well, since I began using the pillow. - Reviewer #21
Why the Sound Pillow Sleep System Works

The Sound Pillow Sleep System is a comfortable-soothing sound conditioner

Sleep system’s nature sounds and music evolve slowly with no loud punctuations of sound or tempo changes. Doesn’t disturb sleeper.

Sound Pillow’s sound quality is extremely good. Thus the reproduction of nature sounds & music is pleasing and comforting.

The hypnotic music relaxes the body, slows cardiovascular and respiratory systems and calms the mind. Allowing for a deep state of relaxation and the promotion of slow wave sleep (sws).
Conclusion

The Sound Pillow Sleep System is a viable sleeping aid providing its users with restorative sleep; without the negative and lingering effects of pharmaceutical based alternatives.

Participants routinely exhibited improved attitudes, had a more positive outlook for their future and interacted more positively with others.\(^{(6)}\)

\(^{(6)}\) Participating Audiologists has no background in the behavioral sciences.
## Facilities Currently Using, Dispensing or Recommending the Sound Pillow or Sound Pillow Sleep System

### As of March 16, 2013

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<thead>
<tr>
<th>VA Hospitals/Audiology</th>
<th>Military</th>
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<tr>
<td>VAMC – AR (Fayetteville)</td>
<td>Yokota Air Force Base (Audiology) - Japan</td>
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<td>VAMC – AZ (Tucson)</td>
<td>Air Force Occupational Measurement Squad</td>
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<td>VAMC – CA (San Francisco)</td>
<td>Department of Veterans Affairs</td>
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<td>VAMC – CO (Aurora)</td>
<td>Evans Army Community Hospital</td>
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<td>VAMC – DC (Washington)</td>
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<td>US Naval Hospital</td>
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<td>VAMC - TX (Dallas)</td>
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Thank You

The staff at Armbruster Enterprises, Inc. & Sound Pillow thank all the men and women of the armed forces, past and present, for their sacrifices, dedication and service to the United States of America.

And thank you to their families, whose support often goes unrecognized.
Contact Information

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Sound Pillow is a registered trademark of Armbruster Enterprises, Inc.
US Patents: #9,003,582 & #9,433,744