






**CDP Presents A Monthly Webinar Series**

**Debunking Common Misperceptions about Sleep Interventions**

**Presenter:**

William Brim, PsyD. Diana C. Dolan, Ph.D. Carin Lefkowitz, PsyD. Timothy Rogers, Ph.D. Maegan M. Paxton Willing, Ph.D., MPH

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Understanding and Treating Chronic Pain in Military Personnel Training via Zoom	November 2 <sup>nd</sup> – 3 <sup>rd</sup>
CDP Presents: Psychological Flexibility Training to Enhance Resilience in Service Members via Zoom	November 9 <sup>th</sup>
Cognitive Processing Therapy (CPT) Training via Zoom	November 16 <sup>th</sup> – 17 <sup>th</sup>
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**Debunking Common Misperceptions about Sleep Interventions**

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**SEASON 2**  
**EPISODE 8**

BUT... MY CLIENT IS PREGNANT.!  
HOW AND WHY YOU CAN  
TREAT PTSD DURING PREGNANCY.

**SEASON 2**  
**EPISODE 9**

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MILITARY PSYCHOLOGIST







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### CDP Presents A Monthly Webinar Series

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**Presenter:**



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## Disclosures

All faculty, course directors, planning committee, content reviewers and others involved in content development are required to disclose any financial relationships with commercial interests. Any potential conflicts were resolved during the content review, prior to the beginning of the activity.

Drs. Brim, Dolan, Lefkowitz, Rogers, Paxton Willing, has no financial interests to disclose.

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## Debunking Misperceptions about Sleep Interventions

William Brim, PsyD, Diana Dolan, PhD, Carin Lefkowitz, PsyD, Timothy Rogers, PhD, Maegan Paxton Willing, PhD, MPH



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Dr. Paxton Willing has collaborated with the NightWare team on a grant proposal currently under review. Dr. Paxton Willing did not contribute to the NightWare portion of the presentation.

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## Agenda

- Evaluation Criteria
- Myths
  - NightWare App
  - Melatonin Supplements
  - Mouth Taping
  - Weighted Blankets
  - Binaural Beats
- Final Thoughts
- Panel Discussion and Q&A



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## Learning Objectives

1. Participants will evaluate the quality of data for sleep interventions
2. Participants will apply an evaluative framework to the evidence of effectiveness for sleep interventions

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## Introduction

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**The 60 Best Sleep Products to help you wind down each night**

**36 products that will help you get the best night of sleep ever**

**25 Products to Help you fall asleep faster and better**

**Best sleep products of 2022**

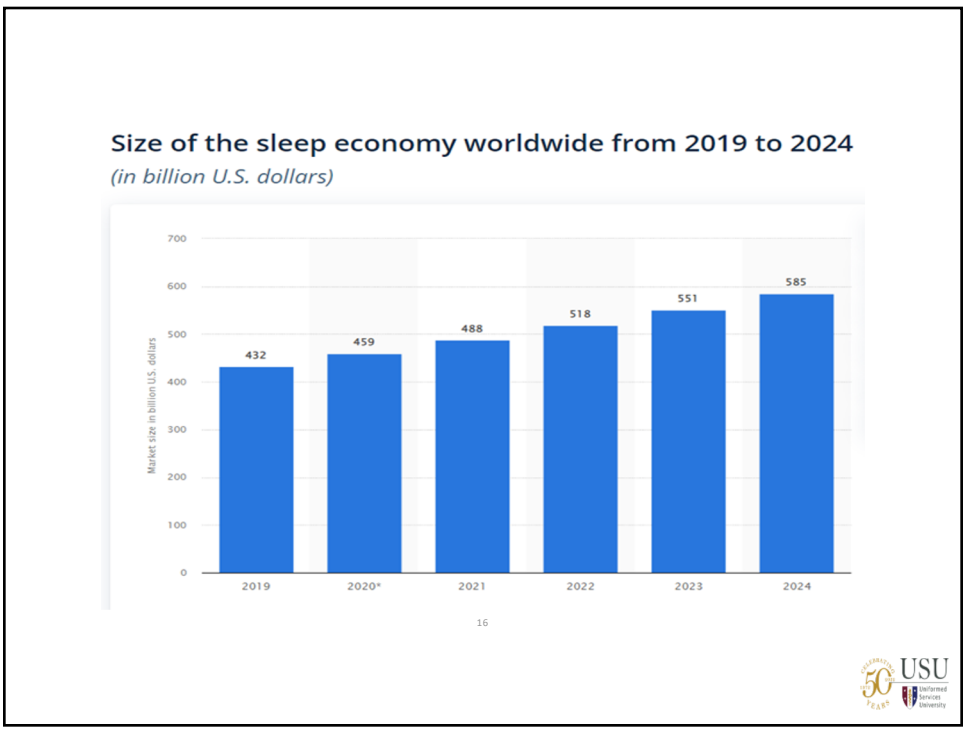
**11 best products for insomnia**

**Ten products that will help you sleep better, naturally**

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## Evaluative Approach

- Literature Search/Review
  - Source
  - Funding
  - Sample size
  - Control
  - Replication
- Limitations of the research and risks
- Endorsement by professional organizations
- Promotional integrity

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## Myths

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# NightWare App

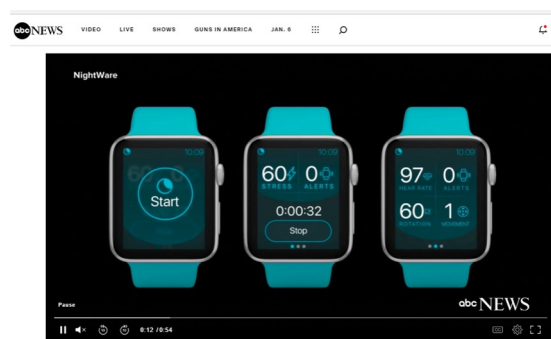
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## Nightware

Nightware & Nightmares



FDA approves the sale of Nightware app  
The prescription only Apple Watch app is designed for people struggling with nightmares related to disorders like PTSD.

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## Nightwear & Nightmares: Considerations

- Details missing - What is algorithm used?
- Only broad outcomes reported versus nightmare specific, data not published
- Hypothesized mechanism of action
- Marketed using FDA-related language that does not provide context

Chinoy et al., 2021; Haghighyegh et al., 2019; Richards et al,



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## Nightwear & Nightmares: Conclusion

The device DOES NOT treat the underlying cause of trauma-related nightmares

EBPs for PTSD reduce or eliminate nightmares in 9 out of 10 cases

Impact on patient's self-efficacy

Questionable data and lack of transparency



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## Melatonin Supplements

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## Melatonin



Retrieved from <https://packagelife.com/best-melatonin-supplements/> on 26 Sept 2022

- Naturally produced hormone in response to darkness
- Dietary supplement
- Comes in many forms
  - Capsules and tablets
  - Gummies
  - Liquids and drops
  - Drinks
- Dosage varies: typically 1-10 mg

Savage et al., 2021

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## Considerations for Melatonin

### Concerns

- Inconsistent evidence in the literature
- Not strictly regulated by the FDA
- Actual amount of melatonin does not match the label
- May contain serotonin
- May remain active for longer in older adults
- Melatonin ingestions in children

### Support from Professional Organizations

American Academy of Sleep Medicine

- Recommend: Circadian rhythm sleep-wake disorders
- Against: Insomnia

American College of Physicians

- Insufficient evidence for insomnia

American Academy of Family Physicians

- Recommended for insomnia in older adults

Auger et al., 2015; Auld et al., 2017; Erland et al., 2017; Ferracioli-Oda et al., 2013; Lelak et al., 2022; Ling Low et al., 2020; Matheson & Hainer, 2017; Poza et al., 2020; Sateia et al., 2017; Vecchierini et al., 2021

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## Mouth Taping

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## Mouth Taping and Obstructive Sleep Apnea

Image retrieved from <https://www.sleepapnea.com.au/why-mouth-tape-for-sleep-apnea/> on 15 Aug 2022

AASM, 2015; Huang & Young, 2015; Summer, 2022; VA/DoD 2019

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## Mouth Taping and Obstructive Sleep Apnea

Porous Tape for Human Skin	 <small>Retrieved from <a href="https://www.sleepapnea.com.au/why-mouth-tape-for-sleep-apnea/">https://www.sleepapnea.com.au/why-mouth-tape-for-sleep-apnea/</a> on 22 Aug 2022</small>
Hypoallergenic Tape	
Surgical Tape	
Athletic Tape	

Retrieved from <https://www.sleepapnea.com.au/why-mouth-tape-for-sleep-apnea/> on 22 Aug 2022

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## Mouth Taping and Obstructive Sleep Apnea

Potential Side Effects/Risks
Irritation around the lips
Pain upon removal
Disrupted sleep due to nasal breathing difficulty
Anxiety
Discomfort with tape
Delay of more effective treatment



Summer, 2022



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## Summary on Mouth Taping for OSA

Not recommended by any CPGs for OSA

Not endorsed/recommended by any professional organization

Very little peer reviewed research

### Recommendations

- Discuss treatments for breathing difficulties with your medical doctor
- Get screened for OSA if you have concerns about sleep breathing problems
- Encourage evidence-based treatments for OSA
- Importance of informed consent for Other Agreed on Treatment (OAT)

AASM, 2015 A,B; Huang & Young, 2015; Levine et al., 2018; VA/DoD 2019



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# Weighted Blankets

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## What's the Deal?

- History of use with children with autism or behavioral disturbances
- Blankets filled with plastic, glass or metal beads or pellets
- Weigh 3 to 30 pounds
- Based on the idea of deep pressure stimulation



"Weighted Blanket Tutorial" by kellyhogaboom is licensed under CC BY-SA 2.0.

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## What's not to like?

- “Like a hug or a good snuggle”
- Recommend 10% of body weight (plus 1-2 pounds for children)
- Deep pressure stimulation has a calming effect
- Breaking news...if you are tense and anxious laying down under a blanket triggers PNS and reduces HR and BP!
- Not a medical device, claims are not regulated
- Recent article in JCSM (Ekholm et al, 2020) and systematic review in AJOT (Eron et al, 2020)



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## Pros and Cons

Improves sleep and wellbeing	Might take time to get used to
Provides extra comfort and warmth	More expensive than a regular blanket
Boosts mood and concentration	Not recommended for babies
Helps pregnant women	Hard to take on travel
Reduces anxiety, restlessness and depression	Not recommended for people with breathing related sleep disorders
Helps with brain function	Not recommended for people with sleep disorders (over evidence based treatments)
Helps reduce pain	Research is limited (but generally positive)
Promotes melatonin and serotonin production	Did not have a significant effect on TST or WASO objectively
Anecdotal helpful and generally can't hurt	Sees as a quick fix that could delay more effective treatment



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# Binaural Beats

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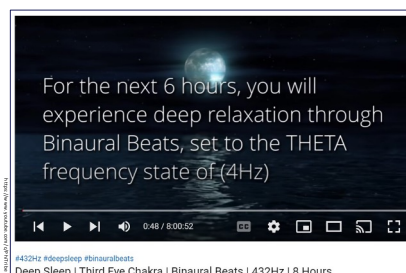


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*"A subjective feeling of the listener when acoustic tones of slightly different frequencies are applied separately to each ear."*  
 ~ Shumova et al, 2017

## Binaural Beats

**What are they?**

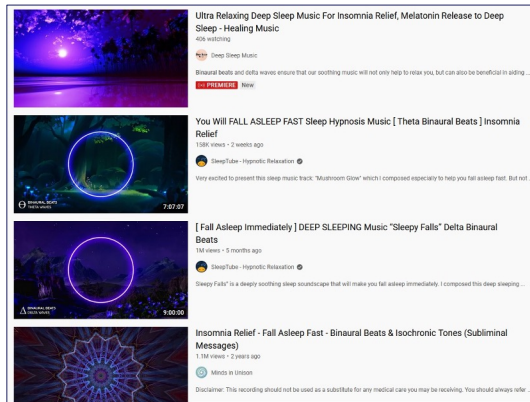


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## Binaural Beats and Insomnia



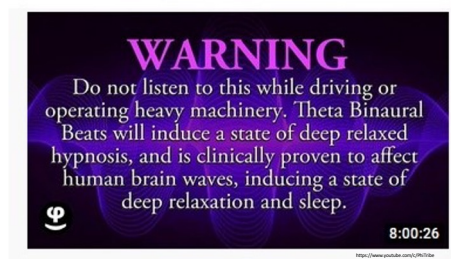
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## Binaural Beats and Insomnia: Research Summary

- 4 studies
- Young, healthy samples
- Research methodology
- One RCT with individuals with subclinical insomnia



Bang et al. (2019); Dabiri et al. (2022); Jirakittayakorn et al. (2018); Shumova et al. (2017)

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## Binaural Beats and Insomnia: Conclusion

There is no evidence that binaural beats improve sleep in individuals with insomnia disorder.

There is some evidence that binaural beats may shorten N3 onset latency, increase duration of N3 sleep, and increase daytime alertness in young, healthy individuals.

Binaural beats are often combined with music and other stimuli that decrease arousal.

Given the general safety and acceptability of binaural beats, they may augment gold-standard interventions for insomnia through their impact on hyperarousal.

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## Closing Thoughts

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## Panel Discussion & Q&A

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### References


Link to Docs for references:

<https://docs.google.com/document/d/1UuZ9969P8mNRjgrxGT8gMvgOHiX6wvX3qFXbDWg7VT8/edit>



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# Next Steps



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