# Research and Technology for Possible Options for Neuropathic Pain Treatment

Mary Catherine George, MM, PhD Health Psychologist Clinical Research Program Manager





### **Table of Contents**

- 1. Virtual Technology
- 2. Devices
- 3. Apps
- 4. Behavioral Research
- 5. What's next?

### **Devices ???**

#### So much stuff so little time or \$ or attention?



This Photo by Unknown Author is licensed under CC BY

### Does any of this stuff work?



### **VR Engagement?**



Jane B

### **Virtual Technology**

 Virtual Reality is a system of computer googles and earphones that offers an experiential environment that is can seemingly be interactive or experiential



### **Virtual Reality Study**

- Study Title: Immersive Virtual Reality for chronic neuropathic pain: a feasibility trial
- Goal of the study: determine feasibility and virtual reality content for individuals with PN
- Study will begin to enroll this fall with inclusion criteria:
  - HIV+ Or Diabetic with Peripheral Neuropathy
  - Capable of attending 14 visits over a 6-8 week period

#### **Exclusion Criteria**

- History of Dizziness or motion sickness

### Sana Neuromodulation for Sleep and Pain relief



Developed by a individual who suffered with severe chronic pain

2018 - Rehab Team of ISSM Recent Award Winning MIT Hackathon, Under Armour and Bayer competitions

Study at Mount Sinai to launch in early 2019

- The device uses a proprietary series of light and sound in a closed biofeedback loop
- A small study of 75 people randomized to 12min of placebo mask versus active mask showed significant pain reduction and increased sleep

# **Micro-Impact Resonant Frequency Technology**



- Juvent Platform demonstrated in studies of children increased blood flow, reduce joint pain and increased stability
- Potential to reduce pain in chronic pain disorders
- Collaborating with Rehab
   Activities Lab and our team to
   launch a pilot to demonstrate a
   reduction in pain in DPN
- Under discussion to expand into the HIV – PN population

# Pain Tracking – Is there an App for that?



mymee

# **Behavioral Interventions + Technology**



Mount Sinai / Presentation Slide / December 5, 2012

# Language is everything



Pain is currently described using words and experiences that capture the time, sensations and location of pain

# **Summary**

- Technological Advances
  - Offer pain relief in conjunction with other Tx's
  - Aid in tracking our health experience for better treatments
  - Access to resources for patients and providers
  - Develop a new measurement for pain

### **Final Thought**

