

Virtually Better

How Virtual Reality is Easing Pain, Calming Nerves, and Improving Health the Drug-Free Way

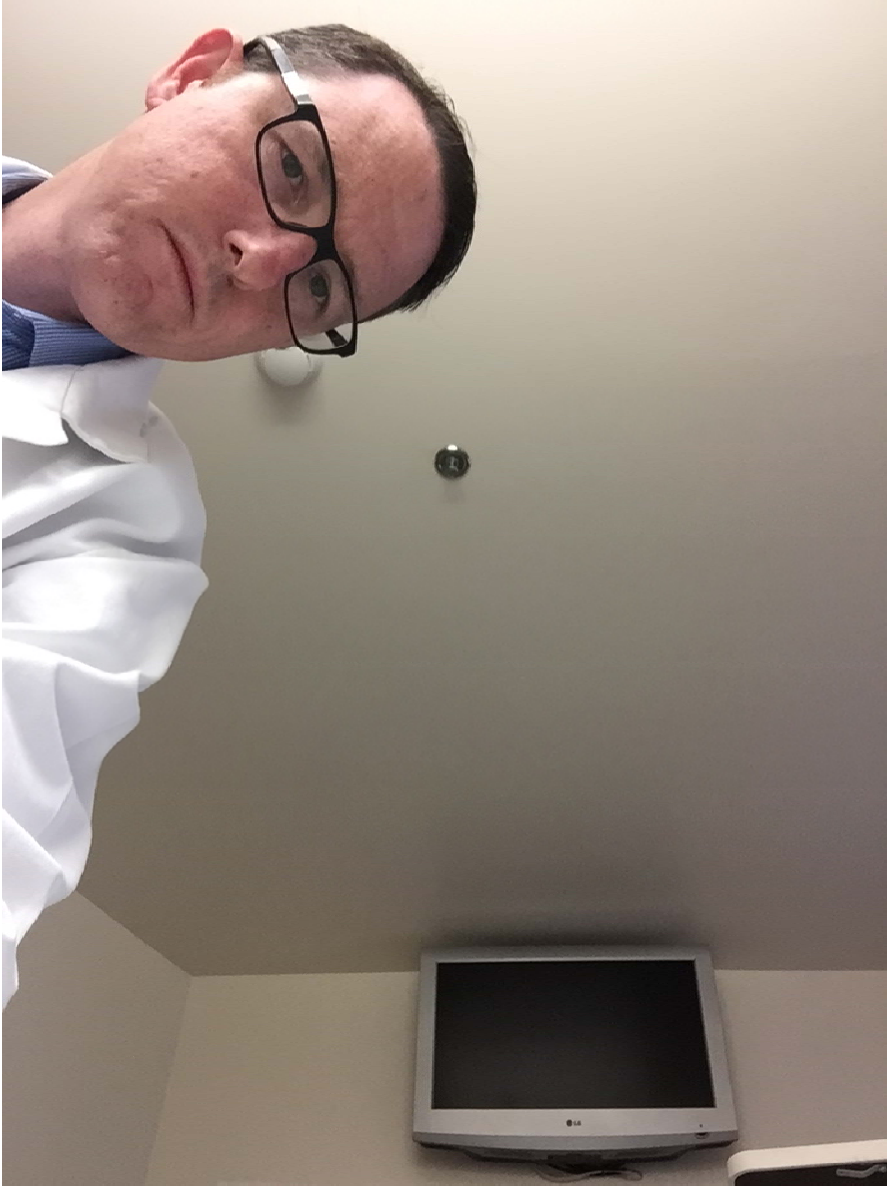
Brennan Spiegel, MD, MSHS

Cedars-Sinai Medical Center

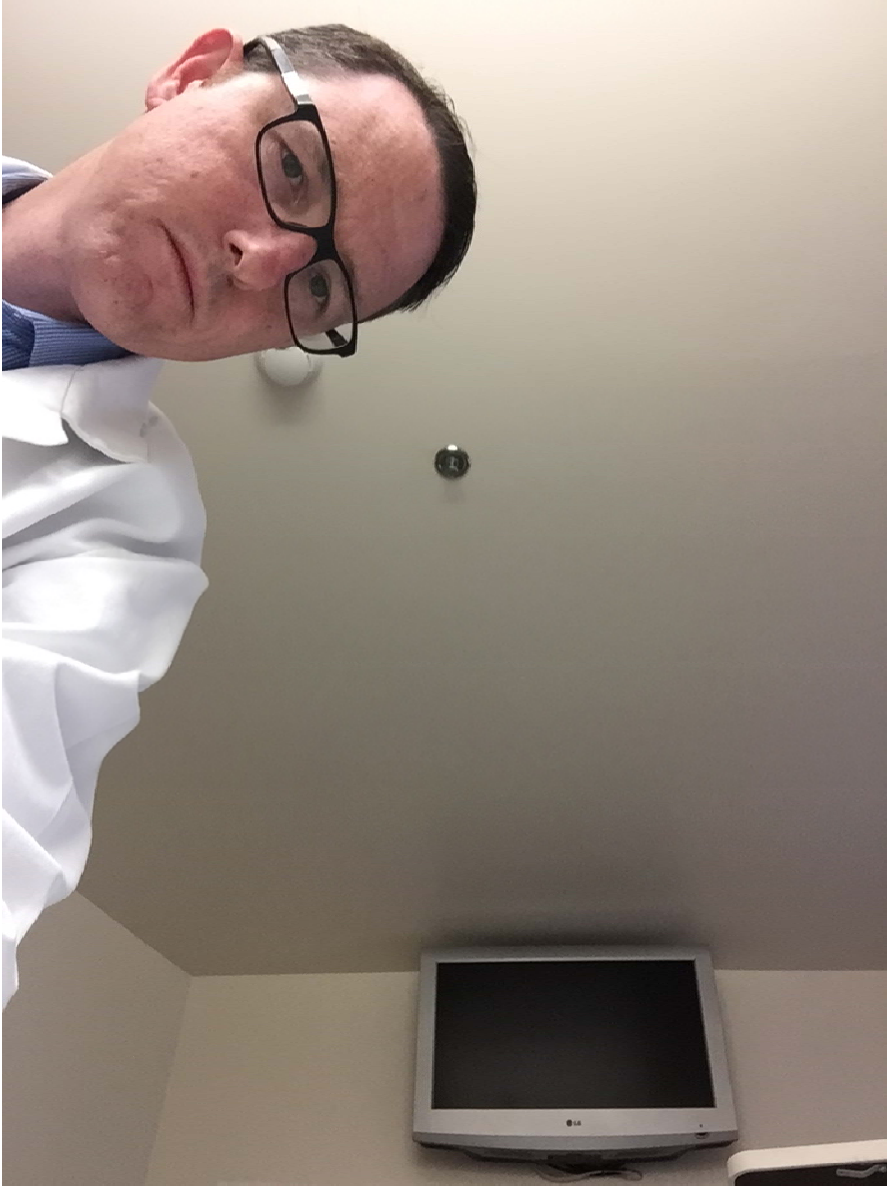






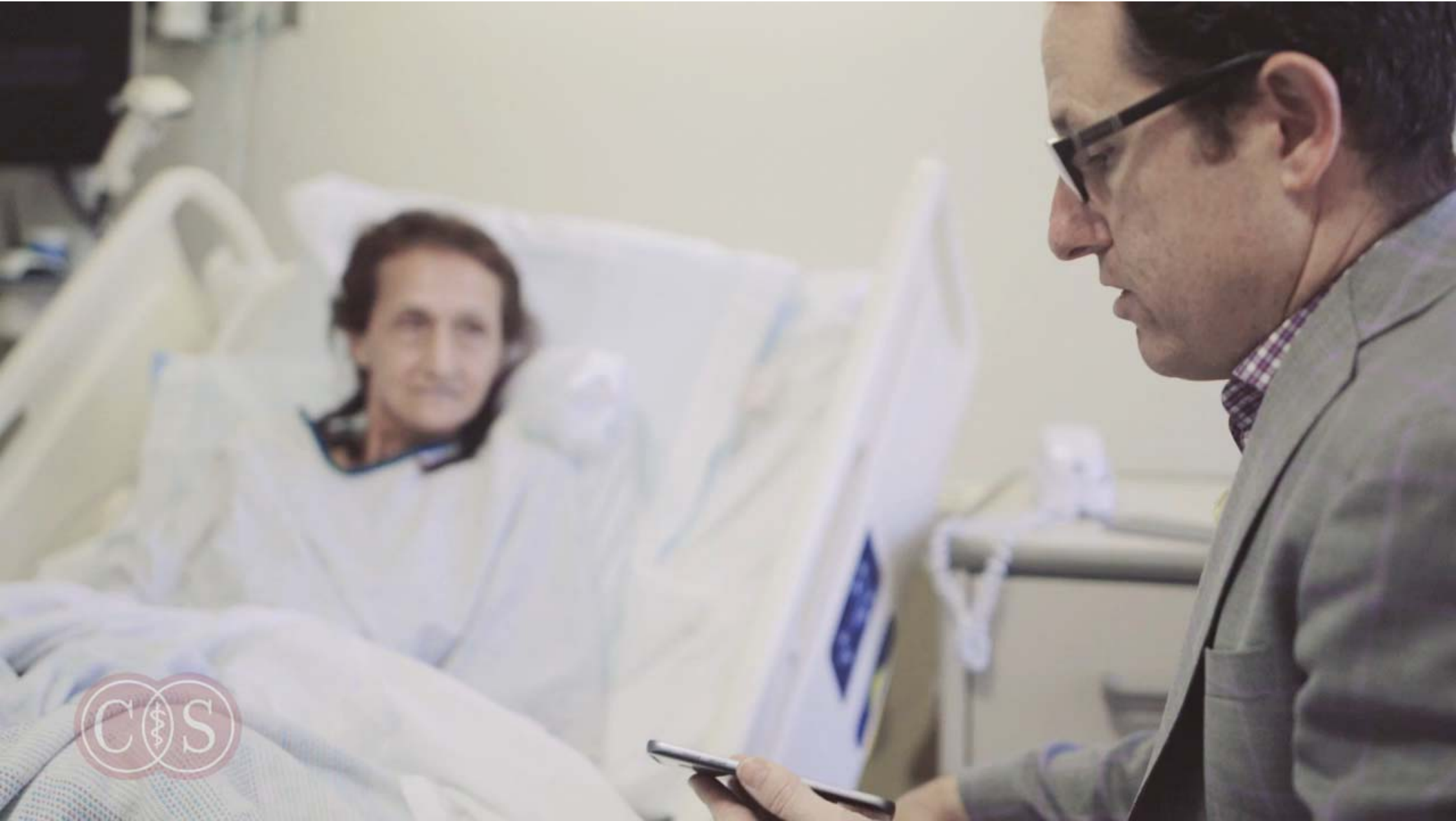
















HD Video (1080p) with Relaxing Music of Native American Shamans

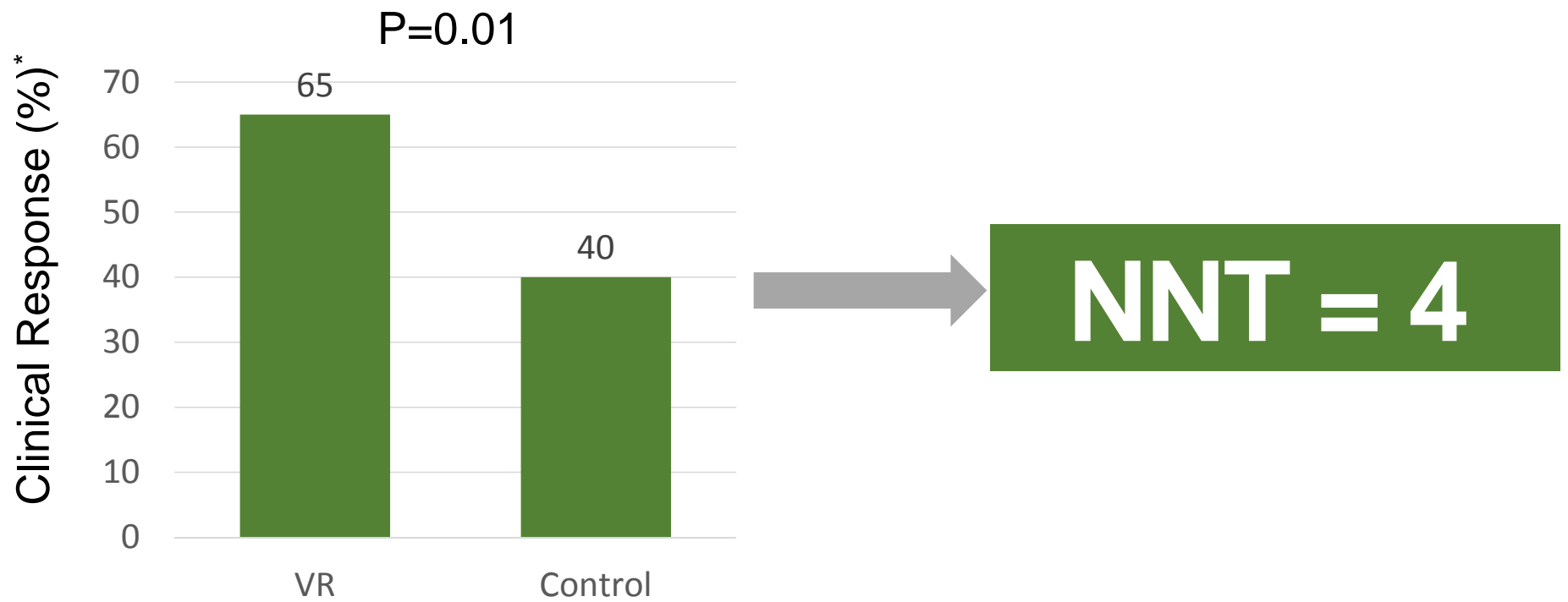


LoungeV.com



2:18 / 1:36:33

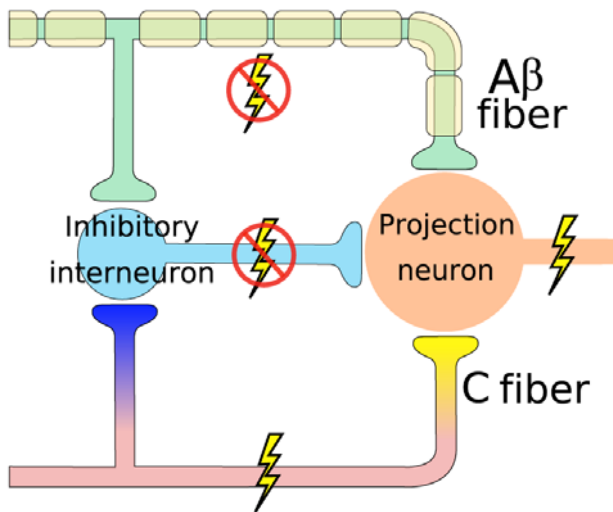




* Response = ≥ 0.5 SD drop in pain score

Mechanism of Action

Gate Control Theory



Spotlight Theory of Attention



CLINICAL NEUROSCIENCE

A peer-reviewed journal providing evidence-based information

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JANUARY-FEBRUARY 2017

ALSO INSIDE

Special Report

Outcomes Assessment in Clinical Trials of Alzheimer's Disease and Its Precursors: Ready for Short-term and Long-term Clinical Trial Needs

Review

Performance-based and Observational Assessments in Clinical Trials Across the Alzheimer's Disease Spectrum

Original Research

Behavioral and Stereological Analysis of the Effects of Intermittent Feeding Diet on the Orally Administered MDMA ("ecstasy") in Mice

Review

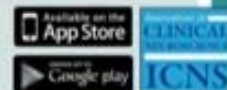
MicroRNAs as Biomarkers for Psychiatric Conditions: A Review of Current Research

Case Report

Ketamine Therapy for Treatment-resistant Depression in a Patient with Multiple Sclerosis: A Case Report

Risk Management

Risk Management Issues When Taking Locum Tenens Assignments

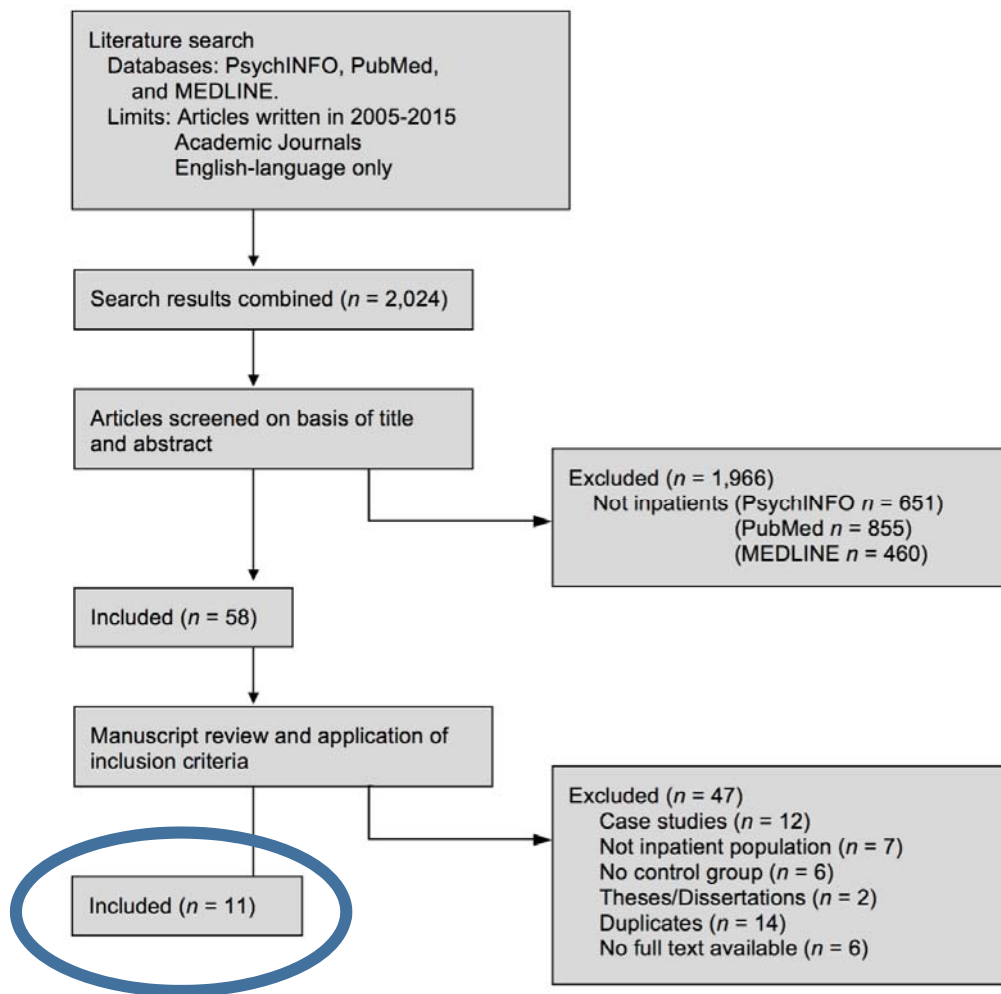


Virtual Reality and Medical Inpatients: A Systematic Review of Randomized Controlled Trials



OFFICIAL JOURNAL OF





Indication	N=Studies
Burn dressing changes	5
Obesity	2
Cancer pain	1
Physical trauma / injury	1
Stroke rehabilitation	1
Traumatic brain injury	1

Key Points

- VR effective in most studies
- Well tolerated in all studies
- Studies small and heterogeneous.
- Study quality is variable.
- Need larger, higher quality studies.

Dasca J, Reid M, IsHak W, Spiegel B, Recacho, Rosen B, Danovitch I. Virtual Reality and Medical Inpatients: A Systematic Review of Randomized Controlled Trials. *Innov Clin Neuroscience*, 2017;1:14

Key Lesson

VR can often help, but it can also harm

Case A: VR Treating a Panic Attack

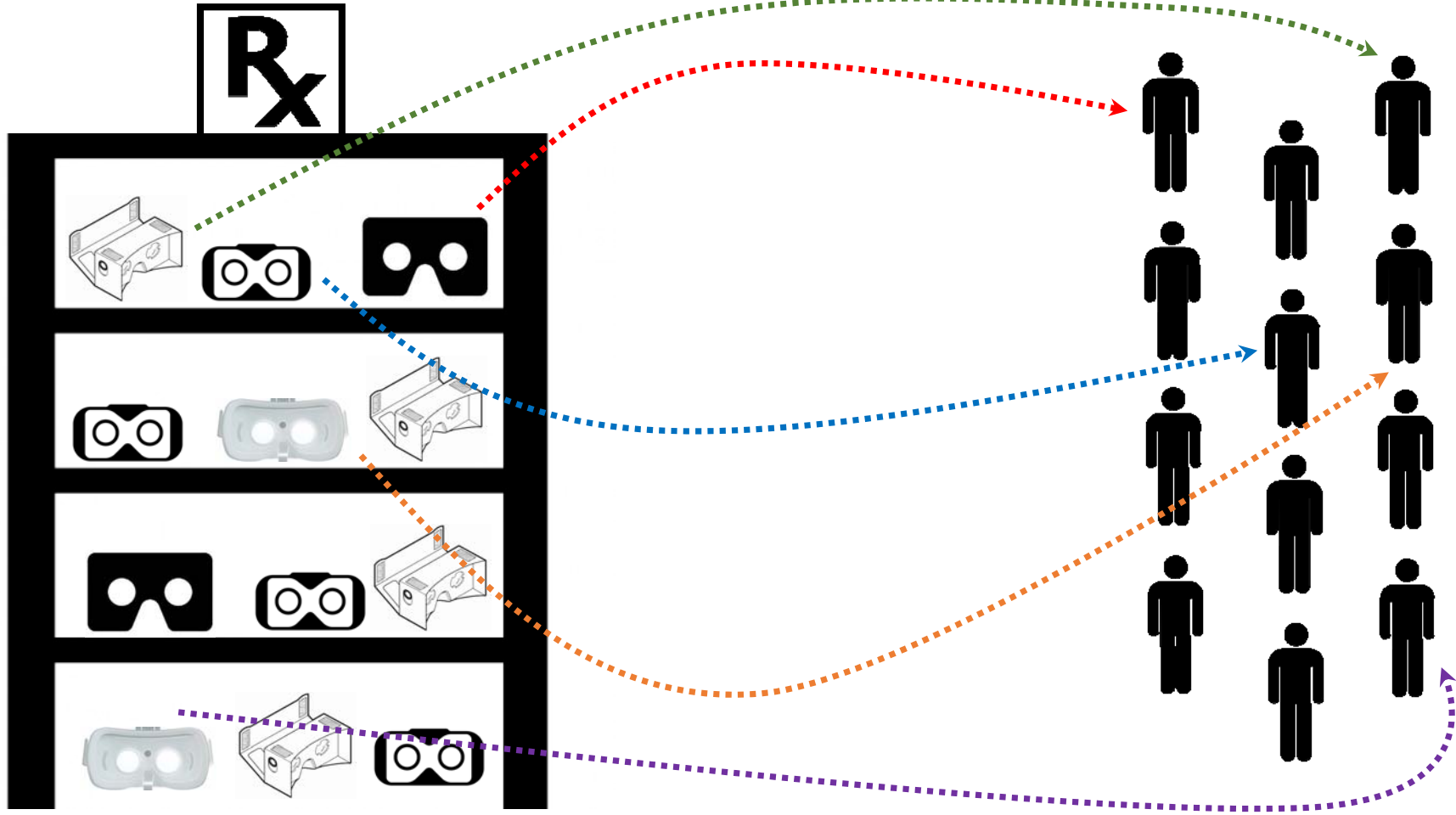


Case B: VR Causing a Panic Attack



Key Lesson

If VR is a therapy, then we need a “VR Pharmacy.”







Key

VR has potential to be cost-effective.



↓ length of stay?

↓ morphine equivalents?

↓ morphine complications?

↑ H-CAHPS scores?





4.3M Views

61K Likes 2.5K Comments 36K Shares



THE  TIMES



Los Angeles Times

Original Paper

Public Perceptions Regarding Use of Virtual Reality in Health Care: A Social Media Content Analysis Using Facebook

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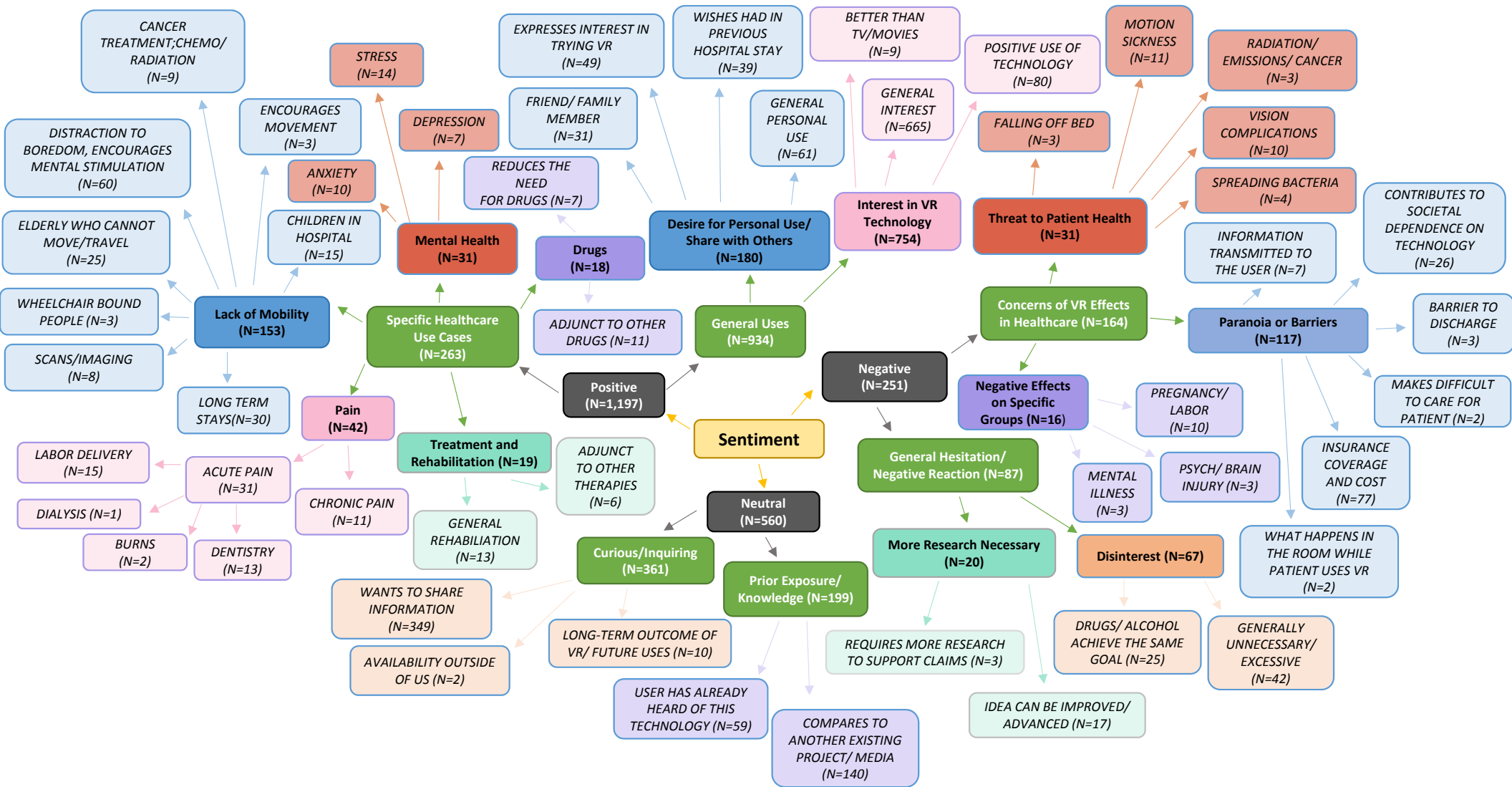
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Abstract

Background: Virtual reality (VR) technology provides an immersive environment that enables users to have modified experiences of reality. VR is increasingly used to manage patients with pain, disability, obesity, neurologic dysfunction, anxiety, and depression. However, public opinion regarding the use of VR in health care has not been explored. Understanding public opinion of VR is critical to ensuring effective implementation of this emerging technology.

Objective: This study aimed to examine public opinion about health care VR using social listening, a method that allows for the exploration of unfiltered views of topics discussed on social media and online forums.



Los Angeles Times

Can virtual reality reduce high blood pressure at a church in South L.A.?



Technician Ryan Anderson, center, helps Sodium Healthy Living Project participants Sandra Goldsmith, 74, left, and Blanche Ross, 83, use their mobile phones to view a virtual reality video telling them about different foods and their sodium content. (Luis Sinco / Los Angeles Times)



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Announcing New Collaboration



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Bayer HealthCare



appliedVR
Pain RelieVR
Platform

Digital Pain Kit

powered by Samsung, Bayer and appliedVR



Digital Pain Kit



Bio-Sensor
for Breath Capture



Samsung
Galaxy



Samsung
Gear VR



Aleve Tens



Samsung
Gear Fit2 Pro

Brain Networks Contributing to Chronic Abdominal Pain

Central Attention Network

Salience Network

Sensorimotor Network

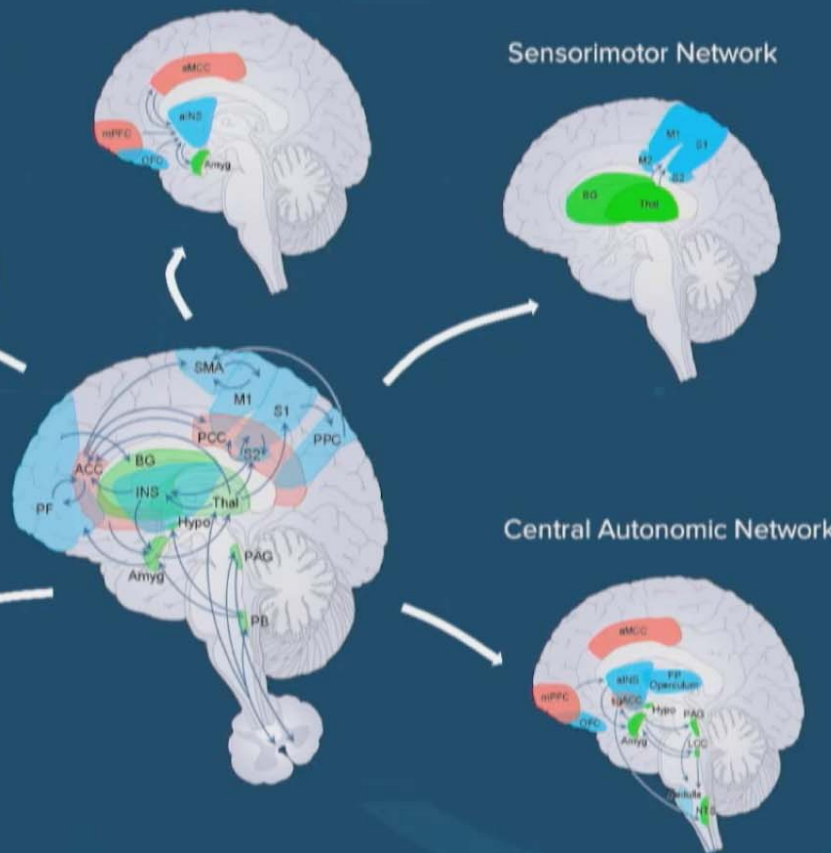
Clinical symptoms resulting from the various brain network inputs

Brain

- Chronic abdominal pain
- Anxiety
- Poor coping

Gut

- Altered bowel habits



Brain Networks Contributing to Chronic Abdominal Pain

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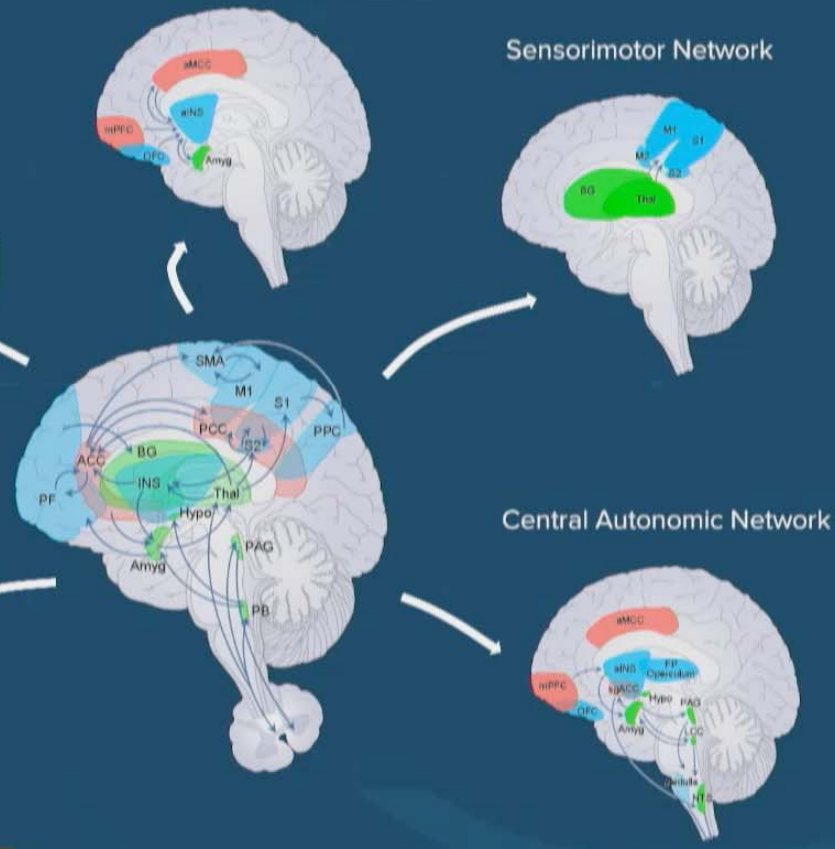
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Thank you!



@BrennanSpiegel

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