Virtually Better

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

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Clinical Response (%) * P=0.01

- VR: 65%
- Control: 40%

NNT = 4

* Response = >0.5 SD drop in pain score

Tashjian et al. JMIR Mental Health, 2017;4:e9
Mechanism of Action

Gate Control Theory

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

### Indication N=Studies

<table>
<thead>
<tr>
<th>Indication</th>
<th>N=Studies</th>
</tr>
</thead>
<tbody>
<tr>
<td>Burn dressing changes</td>
<td>5</td>
</tr>
<tr>
<td>Obesity</td>
<td>2</td>
</tr>
<tr>
<td>Cancer pain</td>
<td>1</td>
</tr>
<tr>
<td>Physical trauma / injury</td>
<td>1</td>
</tr>
<tr>
<td>Stroke rehabilitation</td>
<td>1</td>
</tr>
<tr>
<td>Traumatic brain injury</td>
<td>1</td>
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</tbody>
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### 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

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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?

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Delshad et al. Digital Medicine (in press)
THIS TECHNOLOGY HELPS PATIENTS HAVE FUN & RELIEVE STRESS DURING THEIR STAY

@ LOS ANGELES
CALIFORNIA

4.3M Views
61K Likes  2.5K Comments  36K Shares

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

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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.?
Announcing New Collaboration
Digital Pain Kit
powered by Samsung, Bayer and appliedVR

- Bio-Sensor for Breath Capture
- Samsung Galaxy
- Samsung Gear VR
- Aleve Tens
- Samsung Gear Fit2 Pro

appliedVR Pain RelieVR Platform
Brain Networks Contributing to Chronic Abdominal Pain

Clinical symptoms resulting from the various brain network inputs

Brain
- Chronic abdominal pain
- Anxiety
- Poor coping

Gut
- Altered bowel habits
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VIRTUAL MEDICINE

best practices in medical virtual reality

www.virtualmedicine.health
Thank you!

@BrennanSpiegel
@VirtualMedConf