



Nonpharmacological interventions for Burn Pain and Itch

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ANZBA, Hobart, AU 2019



DISCLOSURES



Airfare and Hotel for this conference.





INTRODUCTION



Assessment

- Anxiety or Pain?
- Patient coping style
- Hospital resources
- **Menu of Options**
 - Environmental Interventions
 - Education
 - Participation
 - Mindfulness Meditation
 - Deep breathing
 - Distraction
 - Hypnosis
 - Virtual Reality
 - Apps



ASSESSMENT



Assessment is key

- Are you treating anxiety or pain?



ASSESSMENT



Anxiety: They display pain behaviors before you do anything painful.

If you are not sure, treat both! Anxiety can exacerbate pain.

Don't wait to see if they are going to be anxious before starting an anxiolytic for wound care. Avoid anticipatory anxiety.

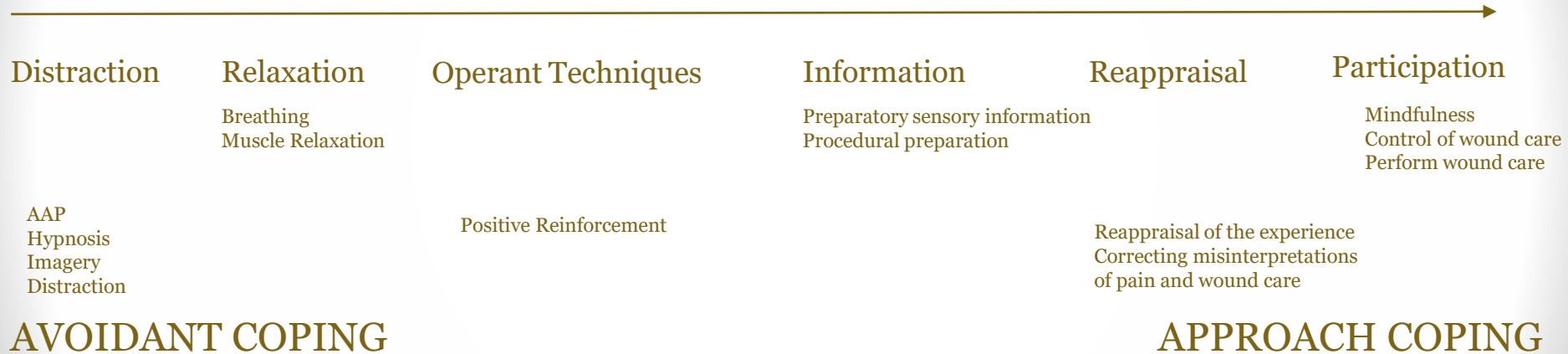


ASSESSMENT: COPING STYLE



Assess coping style in order to pick the right nonpharmacological pain control technique.

Continuum of Coping





ASSESS COPING STYLE



-Immunization

-Skinned knee

-Dentist



COPING STYLE



- Both coping styles can be adaptive
- Support an individual's coping style rather than try to change his/her natural response during a crisis.
- Patients may change their coping style depending on the procedure.
- Patients may also change their coping style as they become more familiar and comfortable with the environment.

Assess resources

- Mental health provider available?
- Bedside nurse/therapist?
- Does patient need to be active or passive?

Once you have assessed coping style, your resources, and the situation, you can better choose a nonpharmacological pain control option.



MENU OF OPTIONS



High Tech

Virtual Reality

Augmented Reality

Video games

Cell phone Apps

Low Tech

Hypnosis

Imagery

Breathing

Conversation



ENVIRONMENTAL



- Wound care, medical procedures, and hospitalization strip a person's sense of control.
- This can increase anxiety.

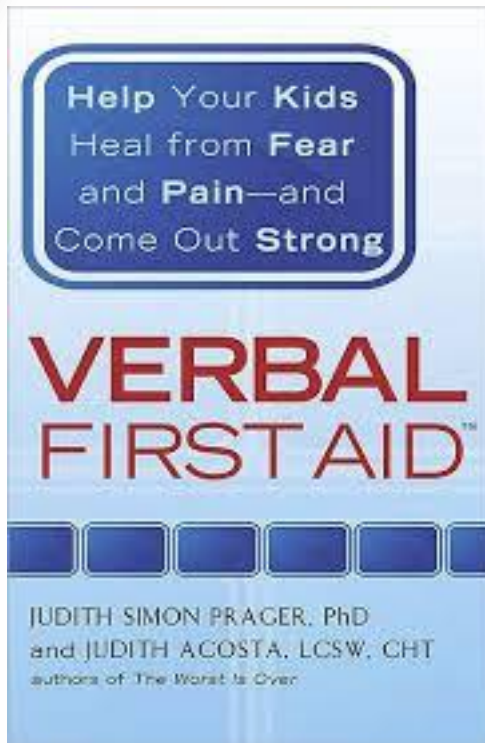


ENVIRONMENT



Strategies to enhance control:

- Predictability—Establish a routine or plan of the day.
- Forced choice options for children
- Choice for adults whenever possible
- Active participation (for approach copers)



Set the Stage:

- Mood of the room – Positive, calm, not rushed
- Word choice
- Have supplies laid out
- Warm the room
- Calming music
- One person at a time talks to patient
- Offer timeouts—cards, kitchen timer

PREOP TEACHING

**Preop
teaching is
effective
ONLY when
we follow
the patient's
lead.**

HYPNOSIS

Clinical Hypnosis



for Pain Control

David R. Patterson

Documents the efficacy of hundreds of studies using hypnosis for acute and chronic pain, including burn injuries.



HYPNOSIS/IMAGERY



- Avoidant coping style-hypnosis/imagery is a good choice.
- A trained provider will need to deliver hypnosis
- Hypnosis is most effective when it is done prior to wound care with post hypnotic suggestions given for pain control.
- Consider making a CD

- Any health care provider can learn imagery, but it is best delivered by someone who is not doing the wound care as that is too stressful for the care provider.
- Children's stories, magic carpet rides, relaxing vacation...find out their hobbies and create a script.
- Use as many senses as possible to make more realistic.



BREATHING



Deep breathing - Diaphragmatic breathing is one of the least time consuming techniques to employ and easiest for adults and children to learn.

Our breathing becomes shallow under stress.



BREATHING



Rhythmic Breathing – good if they have respiratory issues. Gives their mind something to focus on.

Slowed breathing--counting

Meditation



MEDITATION



Mindfulness meditation has received a lot of recent attention but it has been around for centuries.

Complete focus on the present while letting go of thoughts with no judgement.

Teaches people that they can endure distress and discomfort—"ride the wave".



MEDITATION



McClintock, McCarrick, Garland, Zeidan and Zgierska (2019) completed a systematic review of mindfulness for acute painful procedures and found the evidence to be inconclusive due to measurement issues amongst the studies.

Called for more research.



DISTRACTION



The types of distraction techniques available to reduce burn pain are limited only by the creativity of patients and health care professionals.

- Bubble blowing, singing songs, reading a story and counting.
- Conversation
- Music



MUSIC THERAPY





MUSIC THERAPY



Music-based therapies have been used to mitigate acute and chronic pain as observed by both subjective measures (pain rating scales) and objective methods (fMRI).

Using music to promote healing in an effort to regulate mood, emotions, attention demands under stressful conditions.

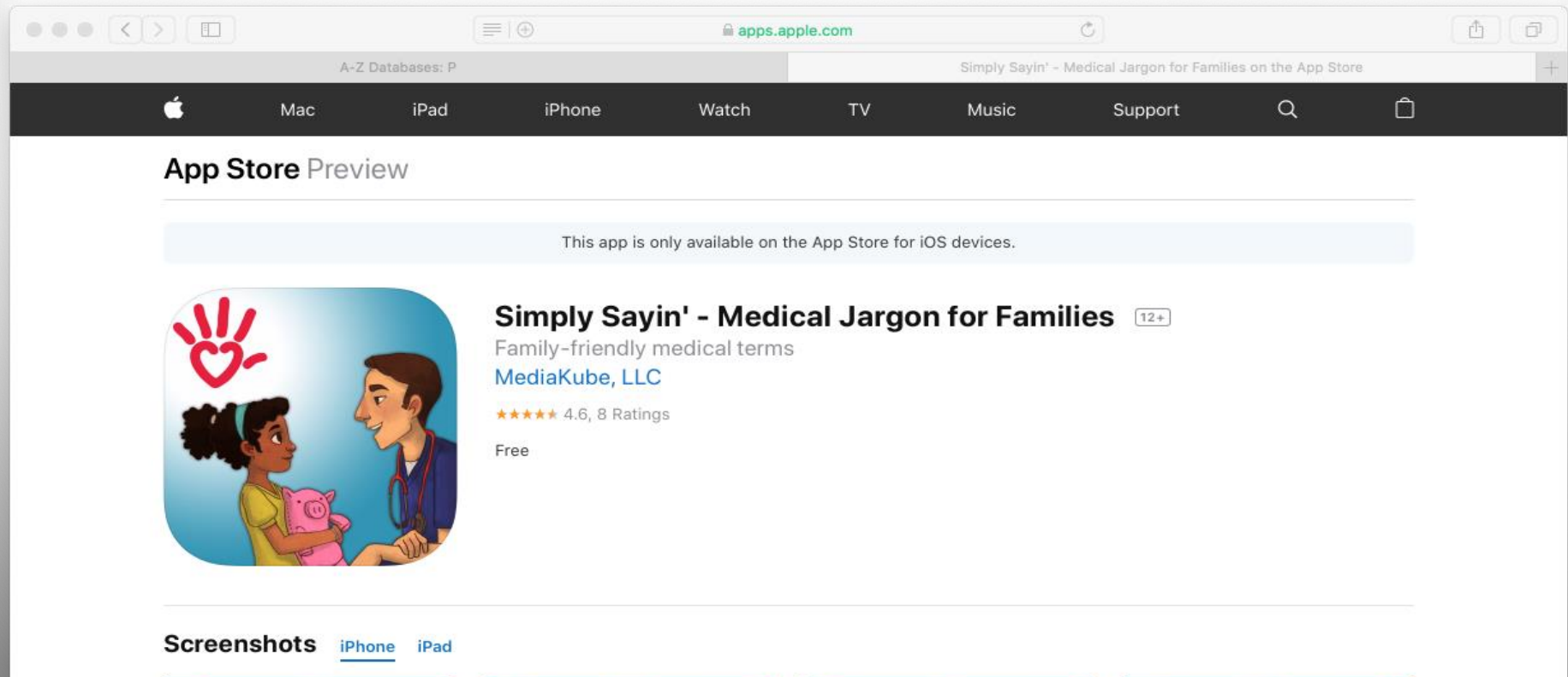
Hole, Hirsch, Bail, Meads (2015)

Cheever, et al. (2018)

Economidou et al. (2012)

Games – Snapchat, Apps

- Simply Sayin'---for explaining medical procedures, diagnosis and information



PHONE APPS

Breathe2 Relax is a free app of guided meditation, breathing and different forms of relaxation.



PHONE APPS

Relax Melodies has relaxing songs for children



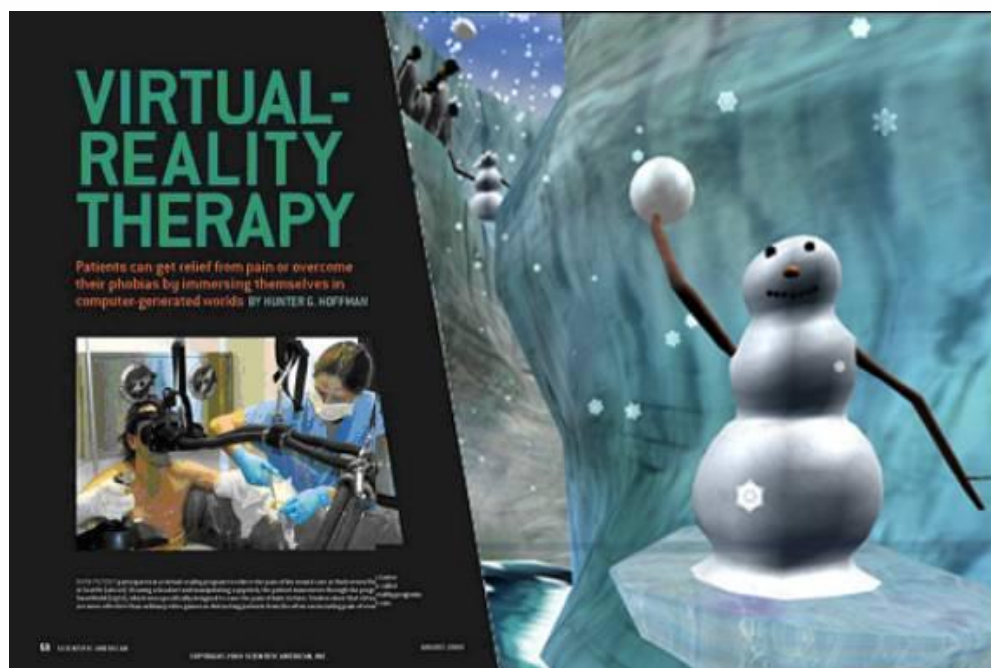
Positive Penguins





Headspace—Mindful
meditation exercises in
various timeframes.

Virtual reality is an immersive, computer generated environment designed to make a user experience them as real.





AUGMENTED REALITY



Augmented reality is more of an interactive real-world experience –objects reside in the real world and are enhanced by computer-generated perceptual information.



VR EVIDENCE



A recent systematic review of VR and experimental and clinical acute pain concluded that VR is effective for reducing acute pain when compared to a control condition.

Malloy and Milling 2010

There have now been 53 studies of VR for acute pain that have shown favorable results.

Honzel et al, 2019

The mechanism for analgesia is the engagement (through distraction) of pathways that would otherwise be devoted to pain signaling.

fMRI studies show that there is a decrease the neural activity of the regions of the brain that activate pain (ACC, insula, thalamus and somatosensory cortices).

Beyond what other distraction methods create.

Immersion allows them to virtually experience a sensation, even though they are not physically engaging. This is important as the neurons are still firing and can assist in muscle memory.

The complete absorption that an immersive environment creates is also key in distraction



VIRTUAL /AUGMENTED REALITY



Lots of choices now—depends upon your resources and your needs.

- Device—Computer, ipad, cell phone
- Water friendly
- Wifi
- 4G navigation (monthly cell service)

VIRTUAL- REALITY THERAPY

Patients can get relief from pain or overcome their phobias by immersing themselves in computer-generated worlds. BY HUNTER G. HOFFMAN



Virtual reality programs are a relatively new technology used to help patients overcome phobias or pain. In a virtual world, patients can experience a simulated environment that triggers their phobia or pain. For example, a patient with a fear of heights can experience a virtual world where they are standing on a ledge. This can help them learn to control their fear and overcome their phobia. Virtual reality programs are also used to help patients with chronic pain. By immersing themselves in a virtual world, patients can distract themselves from their pain and learn to manage it better. Virtual reality programs are a promising new technology that has the potential to help many patients with phobias and pain.

Snow world—free program
\$20,000 system



\$99 glasses
Free apps
Sterilize/ReUse





Sunnypeak-
headstrap
plastic-
based on
Google
cardboard.
ipod
\$16
Ford et al.
(2016)
West
Virginia



Starlight Virtual Reality

Our Starlight Virtual Reality program offers millions of seriously ill children a fun and exciting way to explore the world – and beyond – through the magic of VR.

Built for the Lenovo Mirage Solo with Daydream, Starlight VR features a state-of-the-art and hospital-ready headset that comes preloaded with age-appropriate, dynamic content geared toward entertainment and distraction for hospitalized kids. Starlight VR was created in collaboration with Founding Sponsor, *Star Wars: Force for Change*, the charitable initiative from Lucasfilm and the Walt Disney Company that harnesses the power of *Star Wars* to empower and improve the lives of children around the world.

Thanks to funding provided by The Walt Disney Company, Niagara Cares and charitable donations from grassroots donors, Starlight VR will be provided at no cost to Starlight's network of more than 800 children's hospitals and other health care facilities across the US.

Bringing the magic of virtual reality to hospitalized kids

Your donation lets hospitalized kids visit far-away wonders like the Taj Mahal, swim with the dolphins in the Pacific Ocean, or even touch down on Mars – all through the magic of Starlight VR.

DONATE TODAY!



Starlight Children's Foundation is a 501(c)(3) organization.

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**Hololens-\$3000
system—not as
many healthcare
apps/uses**

**Leap Motion
-\$90
PC or Apple
Download
programs**





**Google
Cardboard--\$10
Free apps
Cannot sterilize**



GAMES



Pokemon Go!

- Popular with kids, teens, young adults
- Requires a cell phone with 4G for navigation (not just wifi)
- Need to be able to leave the unit to use it.

Thank you!