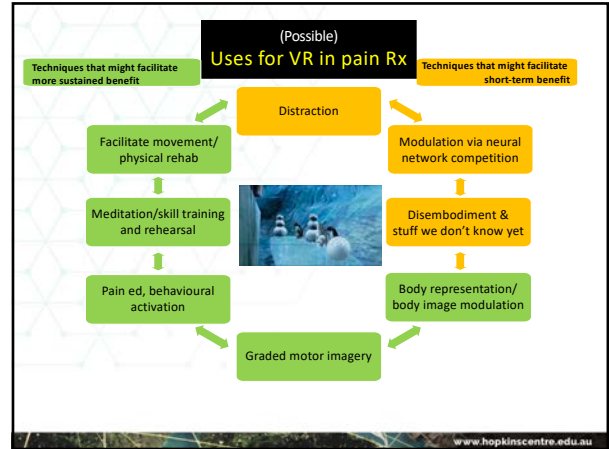


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OUTLINE

VR-BiT for Chronic Low Back Pain

- What is it?
- Case report (complete)
- Pilot RCT (currently running)

If time... a quick look at two other VR projects

- Immersive pain education
- VR exercise for neck pain

3

BODYIMAGE

Body image is our conscious impressions of our body

- May include body-related attitudes, emotions and sensations
- Reflects neurally encoded representations of the body (updated constantly)
- **Impression/perception of the body does not = the body**
- In chronic low back pain (LBP) we often see:
 - Low levels of physical self-efficacy (perceived strength & physical skill) (Levenin, 2019).
 - Impressions of the body as malfunctioning or at risk of (re)injury (Crawford, 12)
 - Pain and stiffness without corresponding damage/inflexibility (Stanton, 17).

4

BODYIMAGE

Considering the view of pain as a protective response (Moseley 2003).....

it is possible that pain could emerge, in part, from a body image reflective of a body in need of protection

5

BODYIMAGE AND VR

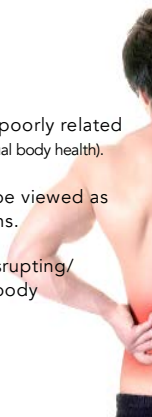
- In anorexia nervosa, perceived body size does not = actual body size.
 - After embodying an avatar of normal body weight, perceived body size increases in accuracy (Keizer, van Eburg et al. 2016, Sainio, Chittos et al. 2017, Ziser, Gilbert et al. 2018, Sainio, Polli et al. 2019)
 - Embodying new avatar, may aid in disrupting/Updating body image (neurally encoded body representations)
 - When returning back to the real-world.....

6

BODYIMAGE ANDVR

Perception of the body does not = the body

- In persistent pain, aspects of body image are poorly related to pathology (i.e. perceived body health does not = actual body health).
 - Interventions such as mirror therapy, may be viewed as methods of modifying body representations.
 - Embodying a distinct avatar, may aid in disrupting/ updating body image (neutrally encoded body representations)



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7

VRBODY IMAGETRAINING

Can embodying a hyper-strong and capable avatar, reduce perceptions of vulnerability and increase perceptions of capability? And does it change pain....




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8

VRBODY IMAGETRAINING


Disclaimer: Case reports can not demonstrate efficacy, but are useful for describing and exploring.



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9

VRBODY IMAGETRAINING



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10

VRBODY IMAGETRAINING

Pain-related Body Image Scales
Use the following scale, rate how your body FEELS. (not how it might actually be, but how it feels):

On this scale of 0 to 10, **how strong does your body feel?**
0 1 2 3 4 5 6 7 8 9 10
Very weak Very Strong

On this scale of 0 to 10, **how agile does your body feel?** (i.e. the feeling of being able to move quickly & with ease as opposed to slow, and stiff)
0 1 2 3 4 5 6 7 8 9 10
Not at all agile Very agile



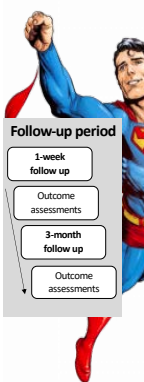
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11

VRBODY IMAGETRAINING

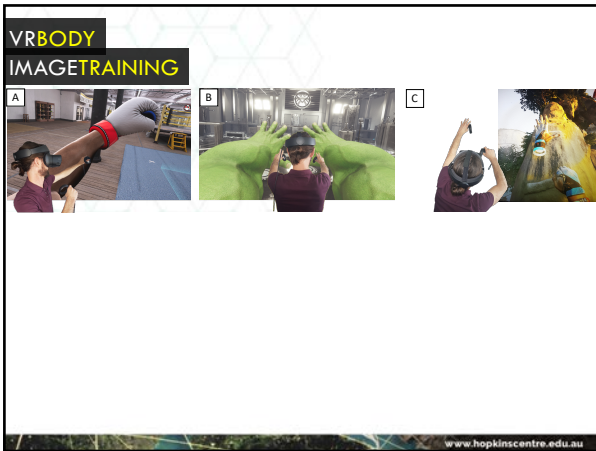
VR-BiT for Chronic Low Back Pain

Four-week intervention period			In-home VR	Follow-up period
Face-to-face sessions			Week 4 6 x daily VR sessions, 15-mins each	1-week follow up Outcome assessments 3-month follow up Outcome assessments
Week 1 session	Week 2 session	Week 3 session		
Before VR assessments	Before VR assessments	Before VR assessments		
15-minute VR intervention	15-minute VR intervention	15-minute VR intervention		
After VR assessments	After VR assessments	After VR assessments		

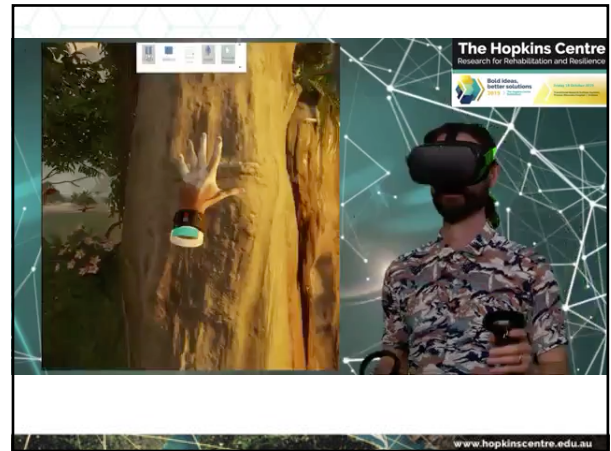


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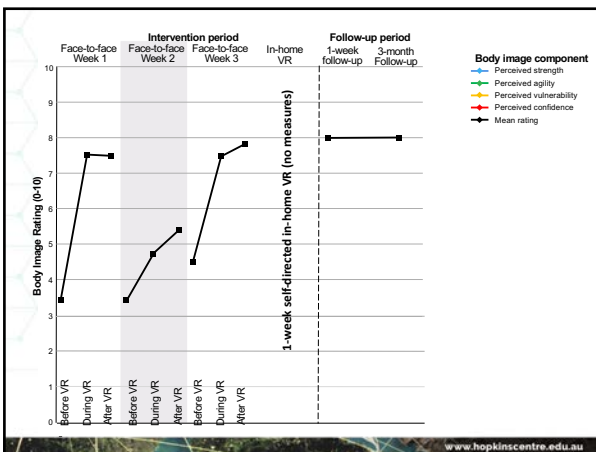
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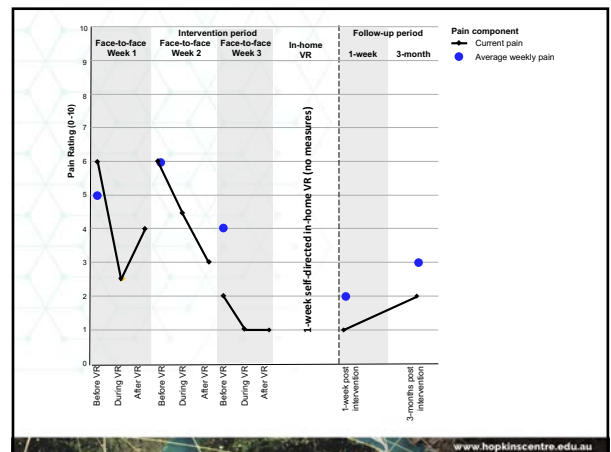
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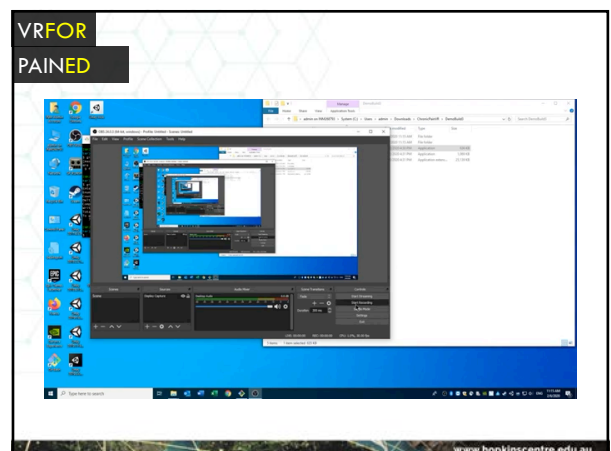
PILOT RCT

- Funded by Hopkins Centre seeding grant
- Metro South Persistent Pain Centre (Team: Dr Josef Kluver, Michael Dean, Elizabeth Spitzer, Prof. Michel Coppieters).
- Inclusion of 30 participants & a 'non-superhero' control condition enables us to see:
 - If the responses to VR-BiT seen in the case report are unique?
 - If the responses to VR-BiT are dependent on the 'superhero-like' qualities of the experience
- Importantly we are using a mixed design (quantitative and qualitative) to understand user experience.

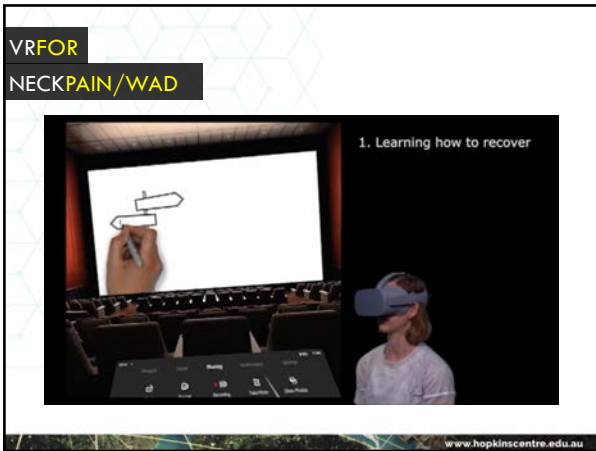


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17



18



19



20



21