

# The Hopkins Centre

Research for Rehabilitation and Resilience



## Mouth Piece Ventilation Post Extubation for Acute SCI in the ICU

Feasibility study

April 2017- June 2018

**Bold ideas. Better solutions.**



Metro South Health



A joint initiative of the  
Division of Rehabilitation, Metro South Health, and  
Menzies Health Institute Queensland, Griffith University.

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Research for Rehabilitation and Resilience

## Developing and translating therapeutic practices & technologies

The aim of this stream is to **develop, apply and measure effective practices, techniques and technologies that support early intervention**, optimise community participation and improve quality of life for people with disability. It includes evaluation and implementation of complex interventions related to biomedical and clinical therapeutic techniques, clinical assessment and screening practices and tools, psychosocial strategies, and family and group based programs.

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Delivers PC (pressure) or AC (volume) to support inspiratory effort via open passive circuit with straw or mouthpiece. Patient must be awake & able to engage with the kiss trigger.

## So what?

- Just over 40% of our ICU SCI patients fail extubation
- Can we apply techniques used in the deteriorating respiratory function conditions such as NMD/DMD to acute SCI scenario?
- Might these techniques be feasible in ICU and if so what outcomes should we measure, what settings work best and how does the patient and staff feel about this?

## Objective

- To explore the **feasibility** of mouthpiece ventilation (MPV) use in the intensive care environment for patients who are extubated after suffering a cervical spinal cord injury and the barriers and enablers from a practice perspective

The secondary aims of this study are to;

- i) determine the nature and the amount of assistance required to adequately implement MPV,
- ii) determine patient experience and clinicians' views on the practice i.e., time was involved; feasibility from a clinician and patient perspective; knowledge skills acuity issues; barriers and enablers to embedding it in routine clinical practice
- iii) determine if any baseline characteristics are likely to influence the use of MPV
- iv) obtain preliminary data to inform a power analysis for the design of a definitive study to examine whether MPV has an impact on incidence of reintubation and ICU length of stay (LOS).

## GU connections

- Dr Jenny Paratz
- Prof Michele Foster
- Prof Tim Geraghty

Dr Peter Kruger(ICU), Dr Craig Hukins(Resp), Dr Chris Joyce(ICU), Gabrielle Ferguson(PT), Duncan Brown(RN), Brooke Duggan(ST)

## External

- Prof David Berlowitz
- Jack Ross
- Dr James Douglas = TPCH
- Prof Joshua Benditt = USA

} Vic

TPCH

USA

## Rehab starts Day 1.....

- QAS > A&E > Ortho > ICU

.....then SIU contact

Now seeing in ICU and some A&E

16 extubations exposed to MPV. Favourable results.

Greater understanding/use of pre extubation and post extubation measure meaningfulness by all

Collaboration and skill development across the team – word spreads fast.

# Snowball effect

- Lots of oncall, public holidays & nights.
- Relationship with ICU, Ortho, trauma, anaesthetics + SIU
- Presentations ++, Invitations & research direction
- Linkages with TPCH for expertise in additional measures of EIT/lung ventilation measures
- Linkages with trauma research team on how earlier interventions may assist in reducing complications in trauma patients.
- Found holes in current practice- now to start working out which ones to fill & how, when!



**Guts to set up Singing Cords with a friend – watch this space 😊**

<https://www.hopkinscentre.edu.au/podcast/singing-cords-program-20>

# Seeds of Opportunity

Thank you to THC Seed Grant team for embracing clinicians chance to lead **clinically** important research and extend opportunities for collaboration  $\times \infty$ . Career changing 😊