



Co-RIG Project

# Reducing the Likelihood of Critical Illness: Assessing effectiveness of self-proning in COVID-19 patients

**Project lead:** Roisin McElroy, MD, MPH, CCFP (EM), Physician, Department of Emergency Medicine, St. Joseph's Health Centre

**Project location:** Toronto, Ontario

## Summary

A COVID-19 self-proning and repositioning protocol may help family physicians support symptomatic COVID-19 patients in the home. These simple physical maneuvers may be effective in preventing severe disease, allowing patients to recover without the need for hospitalization. The pilot trial will determine if this intervention can be tested on COVID-19-positive patients being managed in the community.

---

## Faces of COVID-19

### Supporting COVID-19 patients at home

Chang, age 54, was diagnosed with COVID-19 five days ago. Although he has a significant cough and mild breathing difficulties, he is stable and deemed able to recover at home under the supervision of his family physician. During a scheduled follow-up video appointment Chang reports extreme fatigue, a persistent cough, and that he spends most of his time lying flat on his back. His doctor suggests that he should lie on his belly or on his side whenever possible to improve airflow to his lungs. He guides Chang through the protocol that would have him alternate between these positions. The health care team checks on Chang daily and two days later he reports that his cough has improved and he has enough energy to talk to his family for brief periods of time. While Chang's doctor continues to monitor his progress, his condition is expected to improve and will not require hospital admission.

---

---

## Project detail

Most of the available COVID-19 treatments are focused on patients who are critically ill, not those with moderate symptoms who are able to breathe on their own. As COVID-19 continues to circulate, health care providers need more therapy options for outpatients to prevent mild cases of COVID-19 from becoming more severe.

Aware that self-proning and positioning improves oxygenation in hospitalized patients with moderate COVID-19 illness, Dr. Roisin McElroy and her colleagues at St. Joseph's Health Centre in Toronto wanted to explore whether these maneuvers might be similarly beneficial for symptomatic COVID-19-positive patients recovering at home. With Co-RIG funding they developed a pilot trial to further investigate this. Their goal was to test this simple intervention and provide important feasibility data that could pave the way for a main trial to evaluate the benefits and limitations of a home self-proning protocol on COVID-19 disease progression and severity.

The protocol was piloted and evaluated in the emergency department of St. Joseph's Health Centre in Toronto. The hospital serves a diverse socioeconomic and multi-ethnic population including a number of communities disproportionately affected by the pandemic.

---

## Impact

- **Enhancing family medicine:** Dr. McElroy's innovation offers a therapeutic option for family physicians providing virtual health assessments for patients with moderate COVID-19 symptoms who do not require hospitalization.
- **Building capacity:** A home self-proning and repositioning protocol can potentially mitigate disease progression in COVID-19 patients at risk of complications, preventing hospital admission, intensive care unit use, or death.
- **Furthering research:** Data informing outpatient management strategies of COVID-19 are limited. Randomized controlled trials are needed to better understand the benefits and limitations of proning in patients with COVID-19. This pilot trial lays critical groundwork for a larger scale trial to do so.

## Results to date

An internal pilot trial was designed to assess the feasibility of a full randomized controlled trial. Results will be made available once it is completed. Of note to date:

- The pilot includes a group of screened and enrolled patients.
- Patients who were enrolled in the pilot remain in it.
- Patients who adhered to the treatment protocols indicated that they were reasonable.

## Methodology

- Design follow-up survey and trial information website.
- Recruit and train study personnel.
- Enrol and randomize study participants.
- Conduct follow-up assessment of study participants.
- Analyze data and summarize findings.
- Disseminate results including submission for fast-track publication.

“A self-proning protocol equips patients and health care teams to manage mild to moderate COVID-19 respiratory difficulties at home. This is better for patients and the health system.”

– Dr. Roisin McElroy, project lead

### Project team

**Project lead: Roisin McElroy, MD, MPH, CCFP (EM), St. Joseph's Health Centre**

**Michael Fralick, MD, PhD, SM, FRCPC, Mount Sinai Hospital**

**Peter Jüni, MD, PhD, Applied Health Research Centre, Li Ka Shing Knowledge Institute, St. Michael's Hospital**

**Aaron Orkin, MD, CCFP, FRCPC, St. Joseph's Health Centre**

**Michelle Sholzberg, MD CM, MSc., FRCPC, Li Ka Shing Knowledge Institute, St. Michael's Hospital**

### Partners

**St. Joseph's Health Centre**

**Unity Health Toronto**

**Applied Health Research Centre (AHRC)**