



About the Project

Colorectal cancer is a leading cause of morbidity and mortality in Aotearoa and rates in Otago-Southland are some of the highest in the world. Chemotherapy is beneficial for tumour regression but side effects are common, leading to reduced dose intensity of treatment which unfortunately reduces treatment effectiveness. Exercise performed during chemotherapy can reduce side effects, increasing tolerability for higher chemotherapy dose intensities and potentially improving cancer-related outcomes. No trials have examined the role of exercise on chemotherapy relative dose intensity, in any cancer type. The **purpose** of this project is to investigate the feasibility of exercise training during chemotherapy for colorectal cancer. Our hypothesis is that this pilot randomised controlled trial (RCT) will demonstrate feasibility and thus offer support for a multicentre RCT to investigate the effect of exercise performed during chemotherapy on clinical outcomes and other aspects of hauora (fitness, quality of life, symptoms, anxiety / depression, taha whānau etc.).

This research will be completed in two stages. Stage one - Twenty patients undergoing chemotherapy for colorectal cancer will participate in semi-structured interviews to understand motivations and barriers to exercise during treatment; these findings will inform the pilot RCT in stage two, and a co-created patient resource on exercise during chemotherapy to be implemented for cancer patients at Te Whatu Ora Southern. Stage two - Forty participants will then participate in a pilot RCT to assess the feasibility of exercise performed during chemotherapy. Participants will undergo baseline assessment and then be randomised to supervised exercise training or usual care for the duration of treatment (maximum 12 wk), before assessments are repeated. Feasibility objectives will focus on recruitment, adherence, tolerability and safety of the co-designed intervention, and to obtain Aotearoa and colorectal cancer-specific data (effect size and variance estimates) to inform a sample size calculation for the full multicentre trial. We will also explore the effects of the interventions on hauora and oncological / clinical outcomes.

This research will inform a larger research programme aiming to improve cancer treatment effectiveness, cancer survival, and to reduce healthcare costs in Aotearoa. We believe that this project will highlight that cancer patients want to be physically active during treatment, and the patient voice throughout this project will inform how to best deliver an intervention, to promote a successful future multi-centre RCT. This project will provide insight on the role of exercise on chemotherapy tolerance and effectiveness, cancer-related fatigue and quality of life during an extremely challenging period. This work has the potential to deliver profound and far-reaching benefits for patients and their whānau, clinicians and the health system as a whole.



Eligibility requirements

Applicants must meet the University of Otago's entry requirements for admission to a PhD. The scholarship will be awarded on the condition that the successful candidate is accepted for doctoral enrolment at the University.

We are seeking a candidate with a strong interest in clinical exercise physiology and/or exercise oncology. The following skills and attributes are desirable:

- Experience in exercise prescription, particularly in clinical populations
- Knowledge of cancer care pathways or treatment effects (e.g., chemotherapy)
- Familiarity with qualitative and/or quantitative research methods
- Excellent communication skills and ability to build rapport with patients

How to apply

To express your interest in this scholarship and PhD research opportunity, please prepare the following items:

A brief CV including qualifications, academic achievements, list of publications, work history, and references.

A copy of your academic transcript(s).

Please submit your application via email to the main supervisor of this project Brendon Roxburgh (Brendon.roxburgh@otago.ac.nz). Applications close on the 1st of September 2025 (unless position filled prior).

Funding Notes

This scholarship funding has already been obtained by the supervisors, meaning that the scholarship will be awarded at the successful conclusion of the recruitment process.

- a tax-free stipend of \$30,000 per annum for up to 36 months FTE
- tuition fees for up to 36 months FTE