

# **Guidance for the rehabilitation of people with or recovering from COVID-19 in Aotearoa New Zealand**

June 2020

## Acknowledgements

Clinical Exercise Physiology New Zealand

Dieticians New Zealand

Occupational Therapy New Zealand Whakaora Ngangahau Aotearoa

Physiotherapy New Zealand

New Zealand Psychological Society

Aotearoa New Zealand Association of Social Workers

New Zealand Speech-Language Therapists' Association

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# Foreword

## **Dr Martin Chadwick, Chief Allied Health Professions Officer, Ministry of Health**

The outbreak of the COVID-19 virus has been challenging globally to manage and contain. Aotearoa New Zealand has done remarkably well and there is much for us to be thankful for. Of the many things we watch and learn from the rest of the world is how COVID-19 has been managed during the acute phase but also how care is needed in the sub-acute and rehabilitative phases.

It is these phases that bring the allied health group of professions to the fore. While the advent of the virus itself is tragic, the response has been amazing to watch unfold, and the volume of information for post-COVID rehabilitation is just that, voluminous. Information in the following pages is a collaboration between the many allied health professions that will be directly involved in providing this rehabilitation. The fact that we are now able to gather many professions together and produce a document of this calibre is a testament to the focus and maturity of these groups for which I pass on my thanks. While the current numbers of those affected by COVID-19 in New Zealand are small on the world stage, this guidance supports those people.

Lastly, this is intentionally a living document. As we learn more of the longer-term effects of the virus, and the best treatment and management approaches, we will update this document, so it remains of value. Again, my thanks for the time, energy and effort from the individuals involved in pulling this document together in relatively short time frames.

## **Sandra Kirby, Co-Chair Allied Health Association of Aotearoa New Zealand**

New Zealand's experience of the COVID-19 virus was different to many other countries around the globe. As allied health professions, many of us watched our international colleagues and health systems being overwhelmed by the numbers and severity of the disease. Swift measures in New Zealand meant that, as described by our Prime Minister, "the team of 5 million people" was able to flatten the disease curve in New Zealand and then look to eliminate the virus.

While our rates of hospitalisation and death were very low by international standards, we still have 1500 people living in our communities who are recovering from COVID-19. There is an important role for allied health professionals to be part of the team helping these people and others rehabilitate and recover from respiratory viruses. Our whole community is better served when the entire health sector work together for wellness.

Members of the Allied Health Association of Aotearoa New Zealand (AHANZ) are united in their willingness to work with other professions. My thanks to the people who volunteered, at a busy time in their working lives, to bring this guidance together. This is the time to show what can be achieved with a true transdisciplinary workforce. This document sets out some of the ways allied health can contribute to the health and wellbeing of New Zealanders.

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# Section 1:

# Introduction

## Purpose

The purpose of this document is to highlight the complexity and potential long-term needs of people recovering from COVID-19 and to demonstrate the importance of the allied, scientific and technical workforce in reducing the short- and long-term health and wellbeing implications of COVID-19 infection.

## Problem definition

There is an emerging global body of research and guidance for the rehabilitation of people with COVID-19. However, New Zealand is in a fortunate position that the burden of disease is low compared to many countries. The lower burden of severe disease will require a different health and rehabilitation response compared to other jurisdictions. The challenge is integrating international best practice to the Aotearoa New Zealand context. This health response needs to be relevant to our health system and meet the needs of the Aotearoa New Zealand population, including our commitment to the Te Tiriti O Waitangi.

The Ministry of Health alongside district health boards has an obligation under Te Tiriti o Waitangi to ensure iwi, hapū, whānau and Māori communities and organisations are active partners in preventing and addressing potential impacts of COVID-19. The principles of Te Tiriti o Waitangi provide the framework to guide the health and disability system towards health equity for Māori. These principles include:

- **Tino rangatiratanga**, which provides for Māori self-determination and mana motuhake. This means that Māori are key decision makers in the design, delivery, and monitoring of health and disability services and the response to COVID-19.
- **Equity**, which requires the Crown to commit to achieving equitable health outcomes for Māori and to eliminate health disparities resulting from COVID-19. This includes the active surveillance and monitoring of Māori health to ensure a proportionate and coordinated response to health need.
- **Active protection**, which requires the Crown to act, to the fullest extent practicable, to protect Māori health and achieve equitable health outcomes for Māori in the response to COVID-19. This requires the Crown to implement measures to equip whānau, hapū, iwi and Māori communities with the

resources to undertake and respond to public health measures to prevent and/or manage the spread of COVID-19.

- **Options**, which requires the Crown to provide for and properly resource kaupapa Māori health and disability services in the response to COVID-19. Furthermore, the Crown is obliged to ensure that all health and disability services are provided in a culturally appropriate way that recognises and supports the expression of hauora Māori models of care.
- **Partnership**, which requires the Crown and Māori to work in partnership in the governance, design, delivery, and monitoring of the response to COVID-19. This contributes to a shared responsibility for achieving health equity for Māori.

## Health impacts of COVID-19

- Reduced respiratory, cardiovascular and musculoskeletal function
- Post intensive care syndrome and post viral fatigue syndrome
- Renal and hepatic injury
- Delirium and other cognitive impairments
- Impaired swallow and communication
- Malnutrition
- Deterioration in mental health and psychosocial implications
- Paediatric specific impacts such as meningitis and inflammatory disease

## Social impacts of COVID-19

- Self-isolation
- Reduced access to health care
- Fear of accessing health care
- Heightening anxiety, stigma and distress

# Section 2:

# Rehabilitation

## Key principles for rehabilitation

- **Person centred care**

People are put at the centre of their care. The holistic wellbeing of the person and whānau is prioritised. The health system works for the person and their whānau and ensures transition between settings and providers is seamless.

- **Equity**

Equity and our commitment to the Te Tiriti O Waitangi should be at the forefront of our health response to COVID-19. Rehabilitation needs to consider bi-cultural and cultural practices, values and beliefs to ensure that treatment and rehabilitation is culturally safe and appropriate to the person to ensure all people receive beneficial rehabilitation.

People with co-morbidities are more likely to suffer life threatening symptoms of COVID-19. The Māori population live with a higher burden of disease and are therefore more likely to be susceptible to COVID-19. Along with other vulnerable populations such as Pacific peoples, those with disability, elderly and people with reduced immunity these groups require extra attention.

- **Flexible workforce**

The health workforce has had to quickly adapt to new ways of working. Self-isolation, physical distancing and enhanced infection prevention control has required health care professionals to work in broader roles to avoid numerous clinical contacts. The broad scopes of practice of the allied, scientific and technical workforce are well placed to work in a transdisciplinary way enabling a singular holistic assessment to analyse a person's needs.

- **Embracing new models of care**

New models of care that improve access to health care such as virtual clinics, outreach services and streamlined processes should be encouraged alongside inter-disciplinary and transdisciplinary team working.

- **Health and safety**

Health professionals and people are protected and safe. This includes the use and provision of appropriate personal protective equipment and infection control measures.

# Allied health, scientific and technical professionals' input into rehabilitation of people with COVID-19

Allied health, scientific and technical professionals are involved from the initial stages of recovery to the longer-term rehabilitation of people with COVID-19. They're a workforce group of approximately 50 qualified health professions each with specialised expertise in preventing, diagnosis, treating and rehabilitating a range of conditions and illness. The professions often broad scope of practice allows allied health professionals to work in a transdisciplinary way whilst also providing specialist care to New Zealanders.

Transdisciplinary team members value the specific knowledge and core skills of other team members whilst acknowledging the skills they share. These shared skills allow team members to cooperate across professionals' boundaries. Transdisciplinary team working requires mutual trust and respect of all professionals to enable the team to function efficiently, enabling person centred care.

**Table 1: Ways health professionals can rehabilitate people with COVID-19**

<b>Professions</b>	<b>Unique skills for rehabilitation of people with COVID-19</b>
<b>Clinical exercise physiologist</b>	Clinical exercise physiologists use assessments to identify the cause(s) for reduced functional capacity or exercise intolerance. They then develop individualised exercise-focused interventions based on their assessment to restore and mitigate loss of function due COVID-19.
<b>Dietitian</b>	Registered dietitians provide medical nutrition therapy which involves assessing the nutritional needs of patients, and together creating an individual nutritional plan to meet those needs as they recover, taking in account any other underlying conditions, swallowing difficulties, lifestyle, social and cultural factors.
<b>Occupational therapist</b>	Occupational therapists/kaiwhakaora ngangahau engage people and whānau in personally meaningful occupations (self-care, productivity, leisure) to empower them through rehabilitation that will enable and optimise their recovery from COVID-19.



<b>Physiotherapist</b>	Physiotherapists are autonomous practitioners who work in partnership with the wider team to mitigate the physical consequences of COVID-19. Physiotherapists may be involved in a person's rehabilitation from acute admission in ICU through to community, occupational and sporting environments. Physiotherapists interpret the findings of individualised assessments and prescribe a management plan supported by evidence to meet the person's needs and specific goals.
<b>Psychologist</b>	Psychologists are scientist practitioners who apply psychological knowledge, principles, methods and procedures of understanding to predict, influence behaviour and/or cognition to support people to achieve psychological and psychosocial wellbeing. Psychologists provide evidence-based psychological therapies to optimise hauora/wellbeing of people and/or their whānau.
<b>Social worker</b>	Social workers assess and evaluate client situations and needs incorporating analysis of structural, cultural, social and economic issues to explore and identify strengths, needs, context and support networks. Social workers view rehabilitation from the client's perspective, in order to determine and prioritise goals that will enhance wellbeing, resilience and ability to cope with major life stresses such as grief, loss, trauma and other major events and challenges.
<b>Speech and language therapist</b>	Speech-language therapists are autonomous practitioners who work in partnership with the wider team to provide specialist assessment and rehabilitation for people across the lifespan with acute and chronic communication and swallowing difficulties.

# Providing rehabilitation to people with COVID-19

The table below shows the phases of care for people with COVID-19. It outlines the key principles and the requirements of specific health professional groups for each of the phases.

**Table 2: Key principles for, and requirements of specific health professional groups when providing care to persons with COVID-19**

Phase of care	Rehabilitation interventions	Possible locations
<b>Prehabilitation</b>	Identification of vulnerable groups to support people’s health and wellbeing through a challenging time. This may be through community care plans, home exercise programmes and mental health support. These may be delivered virtually.	Community outreach, primary care
<b>Acute</b> Assessment, initial treatment, early rehabilitation	<p><b>A person may require some all or some of these rehabilitation interventions, depending on the severity or presentation of their illness.</b></p> <p><b>Respiratory</b> A respiratory assessment may be required which includes the person’s oxygen requirements, exercise capacity, mobility and lung clearance needs. Specific reliable outcome measures both physiological (including spirometry) and functional should be used for assessment.</p> <p>Treatment should be tailored depending on the assessment, ventilation status and the person’s goals. The treatment may include: acute pulmonary rehabilitation, strength training for ventilator weaning, positioning for VQ, and secretion clearance (including manual techniques, oscillatory techniques, and positive expiratory pressure devices).</p> <p><b>Physical</b> Physical assessment may be required depending on the person’s medical status. An assessment may include analysis of: skeletal muscle and deconditioning, dysfunctional breathing patterns, post viral fatigue response and mobility. Treatment may include fatigue and energy conservation management, assisted or active exercise plan and the prescription of mobility aids.</p> <p>Pressure needs should be assessed in sedentary or limited mobility persons and a positioning plan implemented.</p>	ICU, medical ward, acute assessment unit, primary care, community

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### **Nutritional**

A nutritional assessment may occur which should include malnutrition screening. Assessment and management of swallowing difficulties should be considered for persons with prolonged intubation, neurologic presentations and any observed or reported difficulties in eating and drinking.

Nutritional needs should be monitored twice weekly for high risk persons and weekly for lower risk patients. Nutrition support may include: food fortification and prescription of texture modification; oral nutrition support supplements; enteral nutrition (EN) support. Swallowing difficulties should be re-assessed regularly.

### **Communication**

An assessment may be required if the person has voice, speech, language and/or cognitive communication difficulties. A therapist should work with the person and whānau to assess, educate and manage the bio-psychosocial issues related to communication difficulties.

### **Mental health/psychosocial**

Diagnosis of COVID-19 alongside the physical symptoms is likely to cause distress which can impact on recovery. Screening of the person's mental health and psychosocial functioning may be required which may include a more in-depth psychological assessment. This would involve the family, whānau, and wider social network.

Provision of evidenced based psychological first aid to foster illness adjustment and adaptive coping may be recommended. Given the COVID-19 context, a wider assessment of risk to individual and vulnerable others (ie, dependents) would be warranted.

People at risk of harm, individuals and families in crisis situations and those with multiple complex health and social needs should be identified and person-centred care plans implemented to respond to the immediate crisis and ongoing rehabilitation needs.

### **Occupational**

A person receiving in-patient care may require an occupational therapy assessment to decide if they can return home. This may include how the person will cope in self-isolation. Rehabilitation may include management of activities of daily living, including adaptive strategies such as assistive devices and energy conservation which encourages functional independence and/or enabling family to support the person.

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<p><b>Sub-acute</b></p> <p>Initial stages of rehabilitation once medically stable</p>	<p><b>Respiratory</b></p> <p>Rehabilitation may include management of altered breathing patterns, respiratory fatigue and secretion clearance.</p> <p>Exercise testing and exercise prescription may be utilised depending on the persons' goals. Education may be provided to empower longer term self-management and resilience.</p> <p><b>Physical</b></p> <p>The person may require a strategy to manage fatigue and reduced exercise tolerance which would include a staged exercise or mobility plan. This will be dependent on the cardiorespiratory status and muscular deconditioning.</p> <p><b>Nutritional</b></p> <p>Monitoring of nutritional needs may still be required. Monitoring progress of oral intake and provision of muscle function may continue. Nutrition support should be escalated if the person's calorie intake remains under 50 percent over a five to seven-day period. If the person is at home, local pathways to optimise nutrition provision, including ONS support should be implemented. Swallow may need to be re-assessed.</p> <p><b>Communication</b></p> <p>People who have been intubated or continue to have voice, speech, language and/or cognitive communication difficulties may still need communication supports and rehabilitation. Communication aids should be provided.</p> <p><b>Mental health/psychosocial</b></p> <p>Provision of evidenced-based interventions for identified psychosocial needs would continue. These interventions may begin in hospital, during transition, and in the community.</p> <p><b>Occupational</b></p> <p>The person and family/whānau may require reassessment of activities of daily living which may include a home assessment. Support may be given to engage, empower and enable the return to valued life roles and activities.</p>	<p>Medical ward, rehabilitation unit, home</p>
<p><b>Long term</b></p> <p>Longer term functional rehabilitation</p>	<p><b>Respiratory</b></p> <p>Respiratory rehabilitation may include individually-based assessments, including exercise testing which informs appropriate rehabilitation prescription that focusses on functional staged rehabilitation goals.</p>	

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**Physical**

Cardiopulmonary functional capacity testing may be required which may include a cardiopulmonary exercise test including 12-lead ECG and expired gas analysis, strength test and functional movement screen. Exercise is likely to be needed to overcome deconditioning therefore the person may be provided with an individualised exercise plan.

A consistent approach to individual-based assessment of need is important. Some people may require a fatigue and energy management plan, others will require a return to sport or exercise programme.

**Nutritional**

Increased calorie and protein intake +/- texture modifications are likely required for months to support preservation of muscle mass, function, swallowing, positive quality of life outcomes. Ongoing swallowing difficulties may need monitoring and rehabilitation.

**Communication**

Some people may require longer term follow up due to ongoing voice, speech, language and/or cognitive communication difficulties including the psychosocial impacts of these.

**Mental health/psychosocial**

Continued support for reintegration into the persons roles with whānau and their homes and communities. Support should be given to enhance the persons function in their roles at home and in their communities (eg, work, play, and relationships).

**Occupational**

The person and family/whānau may require support at home such as such as specialist equipment, housing modifications, assistive devices and energy conservation, that encourage functional independence or interdependence with family. People may require extra support to return to their workplace.

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## Long term community rehabilitation for people recovering from COVID-19

The long-term physiological and psychological effects of COVID-19 are not yet known. Recovery from viral infections often require rehabilitation for extended periods of time. The long-term effects of ICU and hospital stays are known and the allied health, scientific and technical sector are experienced and well placed to provide appropriate evidence-based interventions.

COVID-19 may impact people and communities who are already more likely to have poorer health outcomes due to social determinants of health and socioeconomic status. Poor access to rehabilitation due to COVID-19 may increase this inequity. The health system should strive to work in partnership with iwi and Māori communities and Whānau Ora to address the longer term physiological, psychosocial and social effects of COVID-19 and reduce inequity.

Sustained community-based access to rehabilitation professionals is required to support people to remain at home and optimise their independence and functioning. Prioritisation of early intervention which is based on relationship building and frequent contact is essential to help people requiring rehabilitation during this pandemic.

## Wider implications of COVID-19 on communities

The wider implications of COVID-19 in Aotearoa New Zealand are unknown. The impact of lockdown on New Zealanders health due to limited access to health services, social isolation and negative economic situations are also unknown but are likely to impact health and wellbeing. These impacts may increase pressure on the health system over the coming months. A consistent approach of personalised service provision may include empowering New Zealanders to collaborate in their recovery and facilitate improved community resistance. An increase in demand for health services will require the health system to change to meet the demand. This may include better utilisation of the health workforce.

The breadth of the allied health sector could focus on the populations health and wellbeing, including physical, mental, bicultural/cultural and spiritual health to ensure that rehabilitation is appropriate to all New Zealanders needs. Multidisciplinary and where possible transdisciplinary working utilising all the health workforce will benefit the health system and all New Zealanders. The provision of a sufficiently agile and robust workforce is paramount in securing care for target communities at all levels of need.

# References

British Thoracic Society advice for community respiratory services in relation to COVID-19. British Thoracic Society. 2020

Clinical Exercise Physiologist Scope of Practice, Clinical Exercise Physiology New Zealand. <https://www.cepnz.org.nz/scope-of-practice>

Coronavirus resources. The British Psychological Society. <https://www.bps.org.uk/coronavirus-resources>

COVID-19 and rehabilitation. European Respiratory Society. 2020

COVID-19 rapid guidelines: managing suspected or confirmed pneumonia in adult in the community. National Institute of Health and Care Excellence. 2020

COVID-19. American Psychological Society. <https://www.psychology.org.nz/public/community-resources/covid-19-resources>

COVID-19: information and resources: NZCCP. <https://www.nzccp.co.nz/about-the-college/news/covid-19-information-and-resources/>

COVID-19: maintaining essential rehabilitation services across the care continuum. BMJ Global health. 2020.

Does comorbidity increase the risk of persons with COVID-19: evidence from meta-analysis. Wang et al, Aging. 2020.

Estimated inequities in COVID-19 infection fatality rates by ethnicity for New Zealand. Te Punaha Matatini. <https://www.tepunahamatatini.ac.nz/2020/04/17/estimated-inequities-in-covid-19-infection-fatality-rates-by-ethnicity-for-aotearoa-new-zealand/>

Guidelines for the physiotherapy management of the adult, medical, spontaneously breathing patient. Bott et al, Thorax. 2020

Health practitioners Competence Assurance Act 2003. Responsible authorities under the Act. Ministry of Health. <https://www.health.govt.nz/our-work/regulation-health-and-disability-system/health-practitioners-competence-assurance-act/responsible-authorities-under-act>

Initial COVID-19 Māori Response Action Plan. Ministry of Health, 2020

Managing the respiratory care of persons with COVID-19. Italian thoracic society. 2020

National Tracheostomy Safety Project considerations for tracheostomy in the COVID—19 outbreak. National Tracheostomy Safety Project. 2020.

Nutrition management for critically and acutely unwell hospitalised persons with COVID-19 in Australia and New Zealand. Australasian Society of Parenteral and Enteral Nutrition. 2020.

Physiotherapists during COVID-19: usual business in unusual times. Haines, Berney, Journal of Physiotherapy. 2020

Physiotherapy management for COVID-19 in the acute hospital setting: clinical practice recommendations. Thomas et al, Journal of Physiotherapy. 2020

Psychological services via telehealth: Information for consumers: Australian Psychological Society. 2020

Rehabilitation during and after the COVID-19 pandemic: A CSP policy statement. Chartered Society of Physiotherapy. 2020

Rehabilitation for Persons with COVID-19 Guidance for Occupational Therapists, Physical Therapists, Speech-Language Pathologists, and Assistants. McMaster University, School of Rehabilitation Science. 2020.

Rehabilitation in the wake of COVID-19 – A phoenix from the ashes. British Society of Rehabilitation Medicine. 2020.

Respiratory physiotherapy in persons with COVID-19 infection in acute setting: A Position Paper of the Italian Association of Respiratory Physiotherapists (ARIR). Lazzeri et al, Monaldi archives for chest disease. 2020

Respiratory rehabilitation in elderly persons with COVID-19: A randomized controlled study. Lui et al, Complementary therapies in clinical practice. 2020

Social Worker Scope of Practice, Social Workers Registration Board.  
<https://swrb.govt.nz/social-workers/practising/scope-of-practice/>

Speech and Language Therapists Scope of Practice, New Zealand Speech-language Therapists Association. <https://speechtherapy.org.nz/wp-content/uploads/2013/09/NZSTA-Scope-of-Practice-2012.pdf>

The Italian coronavirus disease 2019 outbreak: recommendations from clinical practice. Sorbello et al, Association of Anaesthetists. 2020

Tracheostomy in the COVID-19 era: global and multidisciplinary guidance. McGrath et al, Health-care development. 2020