

Principles of rehabilitation

A response to COVID-19 surge escalation

This document suggests escalation principles that may be of assistance to local health districts and/or individual hospitals as they prepare local escalation plans.

The NSW response to COVID-19 has been impressive and has resulted in a minimisation of infections, admissions and deaths. There is currently discussion regarding relaxation of restrictions although the impact of this is uncertain and may lead to surges in infection rates.

The majority of patients requiring ventilation for greater than seven days suffer complications that require inpatient rehabilitation, 60% are unable to walk and 17% die within a year.¹⁻² One third suffer neurological complications of critical care including myopathy and neuropathy, require rehabilitation for over three weeks each and regaining their capacity to walk independently may take up to 150 days.³ Others with stroke or cardiac complications of COVID-19 may require rehabilitation for up to six weeks. Many of these people may require the National Disability Insurance Scheme or other community support or programs to meet their ensuing lifelong care needs.⁴

At the moment NSW rehabilitation units are managing with current demand but need to be prepared. Inpatient rehabilitation units (public and private) are almost always working to capacity. COVID-19 patients will be accommodated in addition to business as usual patient loads including (but not limited to) strokes, fractures, older person's deconditioning, amputees, brain injury and spinal cord injury. Most patients who require rehabilitation are vulnerable and high risk, often due to disability, multiple comorbidities and/or older age. Experience from overseas (the UK and China) and current research suggests that rehabilitation services form a large part of the services assisting the survival of post-acute COVID-19 patients.⁴

Early rehabilitation intervention is paramount to improving patient outcomes.

International principles of rehabilitation medicine (as espoused by the International Society of Physical and Rehabilitation Medicine) are strongly concordant with Australian rehabilitation medicine principles (the Australian Faculty of Rehabilitation Medicine) and most recently have been restated by the British Society of Rehabilitation Medicine who make the following recommendations in the COVID-19 pandemic context, with which this community of practice agrees.⁵⁻⁸

1. Patients with severe disabling illness or injury should have access to appropriate rehabilitation to optimise their recovery, including early rehabilitation while still in hospital and longer-term community support.
2. Patients stepping down from the intensive care unit, high dependency or close observation unit should have immediate access to an acute rehabilitation program that provides very early intervention and the opportunity for further triage into post-acute pathways in the network.
3. Rehabilitation physicians should be involved from an early stage in the patient's acute care pathway to assess patients with complex rehabilitation needs and participate in the planning and execution of their interim care and rehabilitation.
4. Critical care, acute medical and specialist rehabilitation teams should work closely together to develop rehabilitation pathways for patients who are recovering following treatment in intensive care and high dependency care (whether for COVID-19 related illness or other critical conditions). An identified rehabilitation physician should be an integral part of the acute care pathway team.

5. During the COVID-19 pandemic there should be COVID-19 positive and COVID-19 negative streams for rehabilitation. Regular and repeated testing for COVID-19 should be undertaken to support segregation and staff should have access to all the necessary personal protective equipment (PPE) to be able to treat patients safely.

For the purposes of this document, 'COVID-19 patients' or 'COVID-19 positive' refers to those patients that have been diagnosed with SARS-CoV-2 and require rehabilitation in the aftermath of this illness to regain normal function. 'Non-COVID-19' patients or 'COVID-19 negative' patients are those who require rehabilitation as a result of another medical or traumatic episode e.g. amputation, hip fracture, frailty reconditioning.

Objectives

This document suggests escalation principles that may be of assistance to local health districts (LHDs) and/or individual hospitals as they prepare local escalation plans.

These principles are not intended to be prescriptive. Instead, these principles outline areas to be discussed and agreed upon by each chief executive officer and director of rehabilitation services (or the most senior representative of the rehabilitation service). These principles are based on a three stage escalation plan.

1. Business as usual with minimal exposure of staff to patients in the community with increasing demand for ambulatory rehabilitation services including telerehabilitation to treat COVID-19 affected patients discharged or managed in their homes.
2. Increased demand for treating COVID-19 positive patients in the acute hospital.
3. Transfer of patients to inpatient rehabilitation facilities due to an increasing need to address COVID-19 related disabilities in patients with subacute needs and/or an increasing need for access to acute beds and/or ventilated beds.

Stages of escalation

- Relate to the individual LHD and/or individual hospital escalation plan which determine the capacity of the ICU and the acute hospital in managing patient loads.
- Will be directly communicated to the director of rehabilitation medicine (or most senior representative of the rehabilitation service) in a timely manner to allow for efficient changes to the rehabilitation model of care or service practice to be put in place.
- Will acknowledge the need to establish a de-isolation policy for patients affected by COVID-19 requiring rehabilitation.

Principles

1. That the LHD or individual hospital's Emergency Operations Committee establish a de-isolation policy according to the Australian Department of Health CDNA National Guidelines for Public Health Units release from isolation criteria.⁹
2. That the acute infectious diseases team identifies individual patient risk of infectivity (or de-isolation status) on a case by case basis and this be communicated in a written format to medical staff including the director of rehabilitation services.
3. Rehabilitation services should review their current rehabilitation ambulatory services to identify opportunities for treating both COVID-19 and non-COVID-19 patients in an alternative setting e.g. via telehealth or the use of hospital avoidance strategies such as Rehabilitation in the Home.
4. That, where possible, in-reach rehabilitation teams (variously called MRT, ART or SMART teams) be deployed to treat rehabilitation patients on acute wards, in an effort to commence evidence based rehabilitation as early as possible, thereby improving patient outcomes and minimising admissions to inpatient rehabilitation.⁷ This may not be possible in regional and remote locations where allied health staff work across both acute and rehabilitation wards or where individual allied health staff provide the only rehabilitation service available.

5. These in-reach teams should be overseen by rehabilitation physicians and staffed with physiotherapy, dietetic, occupational therapy, social work, medical and nursing services. When clinically indicated, the in-reach teams may also need access to speech pathology and psychology services.
6. These in-reach teams may use telehealth services within the acute hospital to minimise face to face contact with COVID-19 patients and will require devices, software and training to do so.
7. As some members of these in-reach teams may still require face to face contact with COVID patients in order to deliver rehabilitation services, teams must have access to PPE and education about donning and doffing of PPE in accordance with the CEC guidelines.¹⁰
8. That, where possible, an agreement be put in place to transfer non-COVID-19 patients to private or other public hospitals (in the event that escalation requires that the inpatient rehabilitation ward be cleared of non-COVID-19 patients, in order to accept COVID-19 positive patients). This agreement should include policies and procedures for urgent medical review at the accepting hospital in the event of a deteriorating patient or medical emergency and for data collection to ensure follow-up and quality assurance.
9. This transfer plan must be established with involvement and cooperation of the director of rehabilitation services (or the most senior representative of the rehabilitation service).
10. In the event that inpatient rehabilitation wards are being considered to accept COVID-19 positive patients, it is the responsibility of the acute hospital Emergency Operations Committee to ensure that the inpatient rehabilitation wards have access to sufficient supplies of oxygen, PPE, adequate suction, pulse oximeters, feeding pumps and computers or workstations on wheels, to be able to offer rehabilitation to patients who have suffered COVID-19.
11. In the event that transfer of non-COVID-19 rehabilitation patients to another hospital takes place, the director of rehabilitation services (or the most senior representative of the rehabilitation service) is responsible for triaging patients to ensure that the patients are transferred to institutions with appropriate capacity and resources to care for them (environment, facilities, equipment, staffing and skill base).
12. In the event that transfer of non COVID-19 rehabilitation patients to another hospital takes place, the director of rehabilitation services (or most senior representative of the rehabilitation service) is responsible for tracking and follow up of any patient discharged from the accepting hospital, so that any ongoing rehabilitation needs may be served. A formal process for referral, tracking and follow-up should be instituted.
13. That staff of the rehabilitation service have access to adequate training on the rehabilitation needs of cases that are commonly associated with COVID-19, including but not limited to training in infection control, pulmonary rehabilitation and telerehabilitation services.
14. In the event that COVID-19 and non-COVID-19 rehabilitation wards are established in the same institution, adequate staff, where available, need to be used to create COVID-19 and non-COVID-19 rehabilitation teams and these teams be trained in how to prevent cross contamination.
15. Rehabilitation services should ensure data is collected on the rehabilitation outcomes, including functional measures of all COVID-19 patients.

Training for rehabilitation clinicians

- [Clinical Excellence Commission: COVID-19 PPE training videos](#)
- [Clinical Excellence Commission: Guidance for Health Professionals](#)
- [Lung Foundation Australia: Pulmonary Rehabilitation Training Online \(PRT Online\)](#)

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Document information	
Version number	2
Original publication date	1 June 2020
Developed by	Rehabilitation Clinical Community of Practice
Consultation	Members of Rehabilitation Clinical COP
Endorsed by	Nigel Lyons
Review date	13 July 2020
Reviewed by	Rehabilitation Community of Practice executive members
For use by	



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