COVID-19: updates on follow-up & long-term effects

June 4th 2020

**STRATEGY UNIT RAPID SCAN: update**

**Title**: REHABILITATION NEEDS AND POST-ICU RECOVERY FOR SEVERE COVID19 PATIENTS

Source: The Strategy Unit | Updated published June 4, 2020

Since our initial [rapid scan](https://nhs.us6.list-manage.com/track/click?u=08639bcc803b15ab3fd9dc55e&id=fdaf24db15&e=87eaa0b9d4) on 13 May, there has been an increase in published evidence regarding the rehabilitation needs of COVID 19 patients (see resource section for more research papers). There has been increased scrutiny regarding Kawasaki-like multisystem inflammatory syndrome in children, the symptoms and complications of COVID-19 in the nervous system and the musculoskeletal consequences of COVID-19. One rapid review analysed the functional impacts of COVID-19 that went beyond infected patients, to influence the wellbeing of healthcare workers and the entire community. There have also been additional studies that reviewed the Rehabilitation needs of older people specifically.

**gUIDANCE & POSITION STATEMENTS**

**Title**: Physiotherapy management for COVID-19 in the acute hospital setting: clinical practice recommendations

Source: [Journal of Physiotherapy](https://www.sciencedirect.com/science/journal/18369553) [Volume 66, Issue 2](https://www.sciencedirect.com/science/journal/18369553/66/2), April 2020, Pages 73-82

This document outlines recommendations for physiotherapy management for COVID-19 in the acute hospital setting. It includes: recommendations for physiotherapy workforce planning and preparation; a screening tool for determining requirement for physiotherapy; and recommendations for the selection of physiotherapy treatments and personal protective equipment. It is intended for use by physiotherapists and other relevant stakeholders in the acute care setting caring for adult patients with confirmed or suspected COVID-19.

View full-text: <https://www.sciencedirect.com/science/article/pii/S183695532030028X>

**Title**: THE STANFORD HALL CONSENSUS STATEMENT FOR POST-COVID-19 REHABILITATION

Source: British Journal of Sports Medicine Published Online First: 31 May 2020

The highly infectious and pathogenic novel coronavirus (CoV), severe acute respiratory syndrome (SARS)-CoV-2, has emerged causing a global pandemic. Although COVID-19 predominantly affects the respiratory system, evidence indicates a multisystem disease which is frequently severe and often results in death. Long-term sequelae of COVID-19 are unknown, but evidence from previous CoV outbreaks demonstrates impaired pulmonary and physical function, reduced quality of life and emotional distress. Many COVID-19 survivors who require critical care may develop psychological, physical and cognitive impairments. There is a clear need for guidance on the rehabilitation of COVID-19 survivors. This consensus statement was developed by an expert panel in the fields of rehabilitation, sport and exercise medicine (SEM), rheumatology, psychiatry, general practice, psychology and specialist pain, working at the Defence Medical Rehabilitation Centre, Stanford Hall, UK. Seven teams appraised evidence for the following domains relating to COVID-19 rehabilitation requirements: pulmonary, cardiac, SEM, psychological, musculoskeletal, neurorehabilitation and general medical. A chair combined recommendations generated within teams. A writing committee prepared the consensus statement in accordance with the appraisal of guidelines research and evaluation criteria, grading all recommendations with levels of evidence. Authors scored their level of agreement with each recommendation on a scale of 0-10. Substantial agreement (range 7.5-10) was reached for 36 recommendations following a chaired agreement meeting that was attended by all authors. This consensus statement provides an overarching framework assimilating evidence and likely requirements of multidisciplinary rehabilitation post COVID-19 illness, for a target population of active individuals, including military personnel and athletes.

View full-text: <https://bjsm.bmj.com/content/early/2020/05/31/bjsports-2020-102596>

**TITLE:** COVID-19 SCIENTIFIC ADVISORY GROUP RAPID EVIDENCE REPORT ON REHABILITATION

Source: Alberta Health Services, Canada, May 19, 2020

RAPID REVIEW COVERING:
Questions: 1. What are the rehabilitation needs of COVID-19 patients in ICU and in-patient hospital settings? 2. What are the appropriate rehabilitation interventions for COVID-19 patients in an ICU or inpatient hospital unit? 3. What are key rehabilitation considerations that should be included in a hospital discharge plan for a COVID-19 patient?

The need for rehabilitation post-COVID 19 is especially important for those treated in hospital, in both the intensive care units (ICU) and non-ICU acute care units. For the purposes of this review, post-acute care refers to care received after discharge from the acute care unit (ICU or non-ICU) in a hospital. • There is an immediate need to support the inpatient facilities in ensuring that appropriate rehabilitation protocols are initiated in the COVID19 populations in the acute care settings and that rehabilitation is on-going after discharge from acute care. • The rapid review is intended for rehabilitation health professionals and health professionals in acute care settings involved in care provision for COVID-19 patients, and to inform discussions of the COVID-19 Rehab Task Force. • Given the paucity of evidence on the topic of rehabilitation for the critically ill COVID-19 patient, this review should be read as a “rapid guidance summary”, rather than a rapid evidence review

View full-text: <https://www.albertahealthservices.ca/assets/info/ppih/if-ppih-covid-19-sag-rehabilitation-needs-rapid-review.pdf>

**research**

**Title**: Respiratory rehabilitation in elderly patients with COVID-19: A randomized controlled study

Source: Complementary Therapies in Clinical Practice, Volume 39, May 2020, 101166

### Different degrees of disorders are reported in respiratory function, physical function and psychological function in patients with corona virus disease 2019 (COVID-19), especially in elderly patients. With the experience of improved and discharged COVID-19 patients, timely respiratory rehabilitation intervention may improve prognosis, maximize functional preservation and improve quality of life (QoL), but there lacks of studies worldwide exploring the outcome of this intervention.

### Conclusions: Six-week respiratory rehabilitation can improve respiratory function, QoL and anxiety of elderly patients with COVID-19, but it has little significant improvement on depression in the elderly.

View full article: <https://www.sciencedirect.com/science/article/pii/S1744388120304278>

**Title**: The COVID-19 Rehabilitation Pandemic

Source: Age and ageing; May 2020 (uncorrected manuscript)

The COVID-19 pandemic and the response to the pandemic are combining to produce a tidal wave of need for rehabilitation. Rehabilitation will be needed for survivors of COVID-19, many of whom are older, with underlying health problems. In addition, rehabilitation will be needed for those who have become deconditioned as a result of movement restrictions, social isolation, and inability to access healthcare for pre-existing or new non-COVID-19 illnesses. Delivering rehabilitation in the same way as before the pandemic will not be practical, nor will this approach meet the likely scale of need for rehabilitation. This commentary reviews the likely rehabilitation needs of older people both with and without COVID-19 and discusses how strategies to deliver effective rehabilitation at scale can be designed and implemented in a world living with COVID-19.

View full-text: <https://academic.oup.com/ageing/advance-article/doi/10.1093/ageing/afaa118/5848215>

**Title**: Consideration of prevention and management of long-term consequences of post-acute respiratory distress syndrome in patients with COVID-19.

Source: Physiotherapy theory and practice; Jun 2020; vol. 36 (no. 6); p. 663-668

Abstract: This manuscript provides support for physical therapists to focus on the long-term, as well as the short-term, consequences of acute respiratory distress syndrome (ARDS) associated with COVID-19. Since late November 2019, COVID-19 has become a global health pandemic and threat. Although most people have no or mild symptoms, COVID-19 spreads aggressively and can lead to ARDS rapidly in a proportion of individuals. The evidence supports that gas exchange and countering the negative effects of bed rest and immobility are priorities in severely affected patients admitted to the intensive care unit (ICU). However, in recent years, research has focused on poor long-term functional outcomes in patients with ARDS, often associated with ICU-acquired weakness, deconditioning, and myopathies and neuropathies. In addition to physical therapists providing respiratory support in the ICU, the literature unequivocally supports the view that early intervention for ICU management of patients with ARDS secondary to COVID-19 needs to focus on reducing contributors to impaired long-term function, with direct attention paid to preventing or managing ICU-acquired weakness, deconditioning, and myopathies and neuropathies, in conjunction with respiratory care.

**Title**: Chronic pain following COVID-19: implications for rehabilitation

Source: British Journal of Anaesthesia, 31 May 2020

The treatment needs of COVID-19 survivors are not yet fully appreciated. Although initially assumed to be a respiratory disease, it is now clear that it affects a variety of systems. Multi-organ failure can occur, with reports of cardiac, renal, haematological and neurological effects in the acute stages. It is likely therefore, that these survivors will have significant multi-domain impairment requiring ongoing support. There has been a recent ‘call to action’ amongst the rehabilitation community to act quickly to ensure adequate resources to provide early phase, multidisciplinary interventions to promote physical and psychological recovery.

We can perhaps learn from previous studies of critical care survivorship, which has been relatively neglected until recently. This complex challenge has been termed post-intensive care syndrome (PICS). It incorporates the cognitive, physical and psychological dysfunction reported following ICU discharge that can have profound effects on quality of life. Chronic pain is often part of this, but how this additional co-morbidity affects critical care survivors is poorly understood. Estimates of chronic pain prevalence following ICU vary from 14-77% depending on timescale, method of measurement and population. Pain also appears to be an important factor affecting ability to return to work and quality of life up to 5 years following discharge. It is likely that those surviving critical illness with COVID-19 will be at particular risk of developing chronic pain. There are a number of reasons why this may be the case …

Read full-text: [https://bjanaesthesia.org/article/S0007-0912(20)30403-7/fulltext](https://bjanaesthesia.org/article/S0007-0912%2820%2930403-7/fulltext)

**Title**: Rehabilitation After Critical Illness in People With COVID-19 Infection

Source: American journal of physical medicine & rehabilitation; Jun 2020; vol. 99 (no. 6); p. 470-474

Abstract: The current COVID-19 pandemic will place enormous pressure on healthcare systems around the world. Large numbers of people are predicted to become critically ill with acute respiratory distress syndrome and will require management in intensive care units. High levels of physical, cognitive, and psychosocial impairments can be anticipated. Rehabilitation providers will serve as an important link in the continuum of care, helping move patients on from acute sites to eventual discharge to the community. Likely impairment patterns, considerations for healthcare practitioner resilience, and organization of services to meet demand are discussed. Innovative approaches to care, such as virtual rehabilitation, are likely to become common in this environment.

View full-text: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7253039/pdf/phm-99-470.pdf>

**Title**: Long-term Pulmonary Consequences of Coronavirus Disease 2019 (COVID-19): What We Know and What to Expect

**Source:** Journal of thoracic imaging; May 2020

Over the last couple of months, the clinical and imaging features of COVID-19 pneumonia have been discussed in numerous publications, and the major imaging findings of the disease have been described in detail. However, the post-recovery course of the disease, including its physical and psychological sequela, is not yet clear.2,3 The long-term effect of COVID-19 on lung parenchyma and pulmonary function remains an outstanding question. Although it is too early to completely answer this question, our limited observations demonstrate significant pulmonary sequela of the disease in some of the survivors (Fig. 1)…

Download the full-text from: <https://journals.lww.com/thoracicimaging/Citation/9000/Long_term_Pulmonary_Consequences_of_Coronavirus.99412.aspx>

**Title**: Does SARS-CoV-2 infection cause chronic neurological complications?

Source: GeroScience, May 2020

The current pandemic caused by severe acute respiratory syndrome coronavirus (SARS-CoV)-2 has created an unparalleled health crisis. Besides the acute respiratory infection, CoVs are neuroinvasive causing additional inflammation and neurodegeneration. This is likely also true of SARS-CoV-2 given reports of neurological manifestations in coronavirus disease 2019 (COVID-19) positive patients. Older adults > 65 years of age constitute a high-risk group prone to severe infection and death. Despite the higher mortality rate, a majority of cases are expected to recover and survive from this viral outbreak. But, the long-term consequences of SARS-CoV-2 neuroinfection are unknown. We discuss these potential chronic changes to the central nervous system (CNS) in relation to accelerated brain aging and age-related neurodegenerative disorders.

View full-text:
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7247778/pdf/11357_2020_Article_207.pdf>

**Title**: Long-term clinical outcomes in survivors of severe acute respiratory syndrome and Middle East respiratory syndrome coronavirus outbreaks after hospitalisation or ICU admission: A systematic review and meta-analysis.

**Source: Journal of Rehabilitation Medicine, 52(5), 25 May 2020**OBJECTIVE To determine long-term clinical outcomes in survivors of severe acute respiratory syndrome (SARS) and Middle East respiratory syndrome (MERS) coronavirus infections after hospitalization or intensive care unit admission. DATA SOURCES Ovid MEDLINE, EMBASE, CINAHL Plus, and PsycINFO were searched. STUDY SELECTION Original studies reporting clinical outcomes of adult SARS and MERS survivors 3 months after admission or 2 months after discharge were included. DATA EXTRACTION Studies were graded using the Oxford Centre for Evidence-Based Medicine 2009 Level of Evidence Tool. Meta-analysis was used to derive pooled estimates for prevalence/severity of outcomes up to 6 months after hospital discharge, and beyond 6 months after discharge. DATA SYNTHESIS Of 1,169 identified studies, 28 were included in the analysis. Pooled analysis revealed that common complications up to 6 months after discharge were: impaired diffusing capacity for carbon monoxide (prevalence 27%, 95% confidence interval (CI) 15–45%); and reduced exercise capacity (mean 6-min walking distance 461 m, CI 450–473 m). The prevalences of post-traumatic stress disorder (39%, 95% CI 31–47%), depression (33%, 95% CI 20–50%) and anxiety (30%, 95% CI 10–61) beyond 6 months after discharge were considerable. Low scores on Short-Form 36 were identified beyond 6 months after discharge. CONCLUSION Lung function abnormalities, psychological impairment and reduced exercise capacity were common in SARS and MERS survivors. Clinicians should anticipate and investigate similar long-term outcomes in COVID-19 survivors.

View full-text: <https://www.medicaljournals.se/jrm/content/abstract/10.2340/16501977-2694>

**TITLE:** SEVERE ACUTE RESPIRATORY SYNDROME CORONAVIRUS 2 (SARS-COV-2) AND THE CENTRAL NERVOUS SYSTEM

Source: Trends Neurosci, 2020 Jun;43(6):355-357.

Emerging evidence indicates that severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2), the etiologic agent of coronavirus disease 2019 (COVID-19), can cause neurological complications. We provide a brief overview of these recent observations and discuss some of their possible implications. In particular, given the global dimension of the current pandemic, we highlight the need to consider the possible long-term impact of COVID-19, potentially including neurological and neurodegenerative disorders.

View full-text: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7172664/pdf/main.pdf>

**Title**: PHYSICAL THERAPY IN THE COVID-19 PANDEMIC: FORGING A PARADIGM SHIFT FOR REHABILITATION IN ACUTE CARE (UNCORRECTED MANUSCRIPT)

Source: Physical Therapy 26 May 202

…Although acute care physical therapists are key players in discharge planning, in order to meet the needs of our patients and the needs of the health care system during COVID-19 and beyond, we must provide early and consistent rehabilitation care throughout the hospital stay.

View full-text: <https://academic.oup.com/ptj/advance-article/doi/10.1093/ptj/pzaa097/5842104?searchresult=1>

**webinars**

**Title:** RCSLT REHABILITATION WEBINAR: FRIDAY 5TH JUNE 13.00

Source: Royal College of Speech & Language Therapy

Learning outcomes:

• How COVID-19 patients are presenting which is different from other patients
• The new RCSLT COVID-19 rehabilitation pathway guidance and how this can support high quality rehabilitation service models
• The patient experience of COVID-19 rehabilitation
• Ways to use your networks to share knowledge and support around COVID-19
• How SLTs are making a positive impact in COVID-19 rehabilitation

Register: <https://www.rcslt.org/webinars/Rehabilitation-webinar#section-1>

**Title:** CAIRO (Critical and Acute Illness Recovery Organization - US

CAIRO is excited to host a webinar this Friday (6/5) at 12PM CST on establishing a post ICU clinic in the time of COVID19. Register in advance: https://umich.zoom.us/meeting/register/tJArce2gqzovG9woOjrB9EjZJh0tKwH6d8BO

Webinar is free/open to all and will include Q&A. We hope to see you there!

<https://twitter.com/CAIROrg/status/1268227228409659393>

**Title:** ICS Education: MDT Approach to Rehab Following Critical Care

Source: ICS | May 29th 2020

View a recording of this webinar at: <https://www.youtube.com/watch?v=mNFYZmH6T4M>

This webinar from the ICS will explore a MDT approach to rehab following critical care.
Moderator: Laura Jenions Critical Care Outreach Practitioner Speakers: Zudin Puthucheary Clinical Senior Lecturer in Intensive Care Medicine Queen Mary, University of London Honorary Consultant at the Royal London Hospital Adult Intensive Care Unit Nick Hart Director of Research and Development Delivery, Guy's and St Thomas’ NHS Foundation Trust Professor of Respiratory and Critical Care Medicine, King's College London Eve Corner Lecturer in Physiotherapy Brunel University, London Jackie McRae Consultant Speech and Language Therapist St George's, University of London Judith Merriweather Dietitian Anaesthesia, Critical Care and Pain Medicine University of Edinburgh Dorothy Wade Health Psychologist, Critical Care Unit University College Hospital Mark Hudson (patient perspective): Mark is an ex ICU patient who spent 3 weeks in ICU where he was in a medically induced coma and intubated and spent a total of 17 weeks in hospital. He had Sepsis and ARDS and in his recovery, he battled with ICUAW, PICS, depression, anxiety and PTSD as well as having both memory and cognitive issues.

**service developments in other trusts & news items**

**Title:** virtual physio classes from the critical care follow-up team

Source: East Kent Hospitals

'Virtual' physio classes for our ICU pts that have been discharged home, with our Critical Care Follow Up team: <https://twitter.com/EKHUFTccot/status/1266619693089071104>

**TITLE:** ONLINE REHAB CLASSES FOR COVID-19 PATIENTS – WIGAN CRTIICAL CARE

<https://twitter.com/mrsbungy/status/1268251122122268674>

**Title:** first week of occupational therapy in critical care at barnsley

<https://twitter.com/UKMacFarlane/status/1268180379686625282>

**TITLE:** REHABILITATION FOR COVID-19 PATIENTS DISCHARGED FROM CRITICAL CARE AT THE ROYAL PAPWORTH HOSPITAL (NEWS ITEM)

<https://twitter.com/RoyalPapworth/status/1268636719026450438>

**Title:** First Seacole Centre opens doors as NHS expands COVID rehab services

Source: NHS England, 29 May 2020

Thousands of people are set to benefit from enhanced community services to help them recover from the long term effects of coronavirus, the head of the NHS said yesterday, as the first new dedicated rehab hospital received its first patients. The NHS Seacole Centre at Headley Court, Surrey, named in honour of the pioneering nurse Mary Seacole, will provide specialist rehabilitation care for patients who are recovering from Covid-19 in the Surrey region, with staff welcoming the first patients over the course of this week.

<https://www.england.nhs.uk/2020/05/first-seacole-centre-opens-doors-as-nhs-expands-covid-rehab-services/>

**patient information & resources**

**TITLE:** NUTRITION, PHYSICAL ACTIVITY AND MENTAL HEALTH COVID-19 COURSES ON PHYSIOPLUS

Source: Physiopeida (UK charity) |Published online 20 May 2020

On March 16 Physiopedia released a series of 4 COVID-19 courses that pulled together information relevant to all rehabilitation professionals to assist them to develop an understanding of the virus and the related disease, and to explore their role in working to treat related patients and also to contain and mitigate the disease.  This second series of courses relates more to how we stay well through this new global pandemic and provides knowledge that you can share with your patients to help them stay well.

View resource: <https://www.physiospot.com/physioplus/new-free-covid-19-course-on-physioplus/>

**Title:** covid-19 rehabilitation physiotherapy: online videos

Source: Norfolk & Norwich University Hospitals | Published online May 28th 2020

Our Physiotherapists have put together a video of some exercises for those who have recovered from Covid-19 to help with breathing, restoring muscle and pain management.

View resource: <https://twitter.com/NNUH/status/1265281538851131394>

**Title:** Recovering from COVID-19: Post viral-fatigue and conserving energy

Source: Royal College of Occupational Therapists

Guides to support people to manage post-viral fatigue and conserve their energy as they recover from COVID-19, endorsed by the Intensive Care Society. **How to manage post-viral fatigue after COVID-19:** Our post-viral fatigue guides are designed for people who have been hospitalised and for people who have recovered at home. They are filled with practical advice to support people to gradually and safely resume their activities of daily living.

* See the guide[**‘Practical advice for people who have been treated in hospital’**](https://www.rcot.co.uk/how-manage-post-viral-fatigue-after-covid-19)
* See the guide[**‘Practical advice for people who have recovered at home’**](https://www.rcot.co.uk/how-manage-post-viral-fatigue-after-covid-19-0)

**How to conserve your energy:** Our guide on conserving energy uses the 3 Ps principle (Pace, Plan, Prioritise) to support people to conserve their energy as you go about their daily tasks, so they have more energy throughout the day. The guide is filled with practical tips for different activities of daily living, including washing, cooking and shopping. See the guide[**'Practical advice for people during and after having COVID-19'**](https://www.rcot.co.uk/how-conserve-your-energy)**.**

View full details: <https://www.rcot.co.uk/recovering-covid-19-post-viral-fatigue-and-conserving-energy>

**TITLE:** HSCP COVID 19 Rehabilitation Manual

Source: Mater Misericordiae University Hospital Dublin

‘Individuals are likely to have different problems due to the impact of COVID-19. Listed below are some of the common problems you may experience during or after the illness. Some people recover quickly and do not require much support. However, some will require more time to help with their recovery. This booklet is designed to help support you’. View full-text: <https://drive.google.com/file/d/1C1lHjrw6bAYqae_QupK5bCyOlB7PLb_o/view>

We

[TRFT Library & Knowledge Service](https://www.trftlibraryknowledge.com/) aim to bring together the latest guidelines, research and news on Covid-19 through our [Covid-19 portal](https://www.trftlibraryknowledge.com/coronavirus.html). For daily updates on Covid-19 visit our '[Latest Health](https://trfthealthweeklydigest.wordpress.com/)' newsfeed, or use the hashtag [#covid19rftlks](https://twitter.com/hashtag/covid19rftlks?src=hashtag_click) to see our latest tweets on Covid-19 research, guidelines and news.

We also produce a range of subject-specific news feeds to ensure our clinical and professional teams stay up to date with developments in their work areas. Please visit our [website](http://www.trftlibraryknowledge.com/) for more information

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