**Clinical Librarian Service Search Results**

**Request:** What evidence is there on rehabilitation following covid-19, or in older people who have become deconditioned as a result of lockdown?

**Summary**

There is a wealth of literature on covid-19. However, given the fast-moving nature of the pandemic and the need to share information quickly, it is not always clear whether the information is reliable or not. The evidence on covid-19 is developing rapidly, and future research may change what is known about it. As literature searches from other services were supplied earlier, this summary focuses on literature from May 2020 or later.

[Guidelines and consensus statements](#_Guidelines_and_consensus): The Chartered Society of Physiotherapists (1a) and NICE (1c, 1d) have provided guidance on rehabilitation for people who have had covid-19. A statement on the role of allied health professionals from NHS England is the only one to explicitly refer to people who have not had covid-19 but who have experienced deconditioning during lockdown (1e). The UK Stanford Hall consensus statement may also be of interest (1f). The British Geriatrics Society web page links to a wealth of resources on this issue (1b). Two international statements are also listed below (1g, 1h).

[General literature on covid-19 and rehabilitation](#_General_literature_on): A number of articles give information on the long term complications of covid-19 and rehabilitation needs, but the evidence is not strong. A living systematic review, completed up to 31st May 2020, found that evidence on rehabilitation is currently based on observation and expert opinion only. The review draws no conclusions on the effectiveness of different approaches (2b).

A UK article includes a list of questions to ask patients about function and rehabilitation. Another UK article refers to the needs of older people who have been affected by lockdown, without necessarily being ill with covid-19 (2f). Both give overviews of the types of rehabilitation interventions that are known to be generally successful and how this might apply following covid-19 (2a, 2f). A Canadian paper describes some of the practical changes recommended for rehabilitation in the current situation (2e). A more detailed paper from Hull suggests a rehabilitation pathway (2g).

Some of the rehabilitation needs of patients with covid-19 include:

* sleep disorders (2d)
* decreased activity endurance (2d)
* respiratory dysfunction (2d)
* sarcopenia, with obese patients at particular risk (2c)
* anxiety (2d)
* fear (2d)

A Chinese study found patients who had had covid-19 requested information on exercise, diet, traditional Chinese medicine, and physiotherapy (2d).

[Interventions for rehabilitation following covid-19 and lockdown](#_Interventions_for_rehabilitation): A number of interventions have been investigated, many using some form of tele-rehabilitation. An Italian paper gives an overview of the benefits and disadvantages of this (3g). A brief comment article specifically the need to consider older adults’ IT skills if providing services remotely (3d).

For people affected by lockdown, the following have been recommended. All have details of the programme / links in the article:

* exercises which can be completed unsupervised (3b)
* videos of exercises suitable for this population (3c, 3e);
* virtual reality exercises (3h)

One Japanese service offered older people a choice between downloading exercise videos from the internet, receiving the same videos on DVD, or being given a poster with the same information (3i).

Most articles on covid-19 rehabilitation focus on the acute stage, and people with severe covid-19. Only two articles were retrieved on outpatient or community interventions: qigong (3a) and exercises delivered by video call to people in isolation (3f).

[The impact of covid-19 and lockdown on older people](#_The_impact_of): A UK biobank study found:

*“Compared to the non-tested group… COVID-19 positive participants were more likely to be frail, report slow walking speed, report two or more falls in the past year and be multimorbid. However, similar strength of associations were apparent when comparing COVID-19 negative and non-tested groups. However, frailty and multimorbidity were not associated with COVID-19 diagnoses, when comparing COVID-19 positive and COVID-19 negative participants”* (4b).

A number of articles discuss the likely impact of lockdown on deconditioning in older people (4a, 4d, 4e). The only research undertaken during covid-19 is a Japanese study which found older people spent less time doing physical activity during lockdown (4b). An Italian paper on older peoples’ fears during lockdown may also be of interest (4f).

[Measurement tools](#_Measurement_tools): The Post-covid-19 Functional Scale (5a) and a prediction tool for rehabilitation needs following mild and moderate covid-19 (5b)may be of interest.

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**Current at:** 10th August 2020

**Time taken for search:** 5 hours.

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Evidence Search: Post-covid-19 rehabilitation (LS116). Lindsay Snell (2020). Derby, UK: University Hospitals of Derby & Burton NHS Foundation Trust Library and Knowledge Service.

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<https://www.smartsurvey.co.uk/s/LiteratureSearchFeedback20202021/>

This relates to this specific search and will help us to monitor and improve our service. Many Thanks.

Kind regards,

Lindsay Snell

Clinical Librarian

Email: [Lindsay.snell@nhs.net](mailto:Lindsay.snell@nhs.net)

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**Results**

# Guidelines and consensus statements

## 1a. Covid-19 rehabilitation standards

Chartered Society of Physiotherapy (2020)

<https://www.csp.org.uk/news/coronavirus/clinical-guidance/rehabilitation-coronavirus/covid-19-rehabilitation-standards>

## 1b. Covid-19: Rehabilitation of older people

British Geriatrics Society (2020)

<https://www.bgs.org.uk/resources/covid-19-rehabilitation-of-older-people>

## 1c. After-care needs of inpatients recovering from COVID-19

NHS England (2020)

<https://www.england.nhs.uk/coronavirus/publication/after-care-needs-of-inpatients-recovering-from-covid-19/>

Despite the title, this guideline considers rehabilitation needs after discharge from hospital.

## 1d. Statement about graded exercise therapy in the context of COVID-19

NICE (2020)

<https://www.nice.org.uk/guidance/gid-ng10091/documents/statement>

## 1e. Allied health professionals’ role in rehabilitation during and after COVID-19

NHS England (2020)

<https://www.england.nhs.uk/coronavirus/publication/allied-health-professionals-role-in-rehabilitation-during-and-after-covid-19/>

## 1f. The Stanford Hall consensus statement for post-COVID-19 rehabilitation.

**Author(s):** Barker-Davies, Robert M; O'Sullivan, Oliver; Senaratne, Kahawalage Pumi Prathima; Baker, Polly; Cranley, Mark; Dharm-Datta, Shreshth; Ellis, Henrietta; Goodall, Duncan; Gough, Michael; Lewis, Sarah; Norman, Jonathan; Papadopoulou, Theodora; Roscoe, David; Sherwood, Daniel; Turner, Philippa; Walker, Tammy; Mistlin, Alan; Phillip, Rhodri; Nicol, Alastair M; Bennett, Alexander N; Bahadur, Sardar

**Source:** British journal of sports medicine; May 2020

Available at [British journal of sports medicine](https://go.openathens.net/redirector/nhs?url=https%3A%2F%2Fbjsm.bmj.com%2Flookup%2Fdoi%2F10.1136%2Fbjsports-2020-102596) - from BMJ Journals - NHS

Available at [British journal of sports medicine](https://figshare.com/articles/The_Stanford_Hall_consensus_statement_for_post-COVID-19_rehabilitation/12497525/files/23185391.pdf) - from Unpaywall

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.

**Database:** Medline

## 1g. Why Rehabilitation must have priority during and after the COVID-19-pandemic: A position statement of the Global Rehabilitation Alliance.

**Author(s):** Gutenbrunner, Christoph; Stokes, Emma K; Dreinhöfer, Karsten; Monsbakken, Jan; Clarke, Stephanie; Côté, Pierre; Urseau, Isabelle; Constantine, David; Tardif, Claude; Balakrishna, Venkatesh; Nugraha, Boya

**Source:** Journal of rehabilitation medicine; Jul 2020

Available at [Journal of rehabilitation medicine](https://www.medicaljournals.se/jrm/content/abstract/10.2340/16501977-2713) - from IngentaConnect - Open Access

Available at [Journal of rehabilitation medicine](http://search.ebscohost.com/login.aspx?direct=true&scope=site&site=ehost-live&db=mdc&AN=32719884) - from EBSCO (MEDLINE Complete)

Available at [Journal of rehabilitation medicine](https://www.medicaljournals.se/jrm/content_files/download.php?doi=10.2340/16501977-2713) - from Unpaywall

COVID-19 has become a pandemic with strong influence on health systems. In many cases it leads to a disruption of rehabilitation service provision. On the other hand, rehabilitation must be an integral part of COVID-19 management. Rehabilitation for COVID-19 should start from acute and early post-acute care and needs to be continued in the post-acute and long-term rehabilitation phase. Of course, it should follow specific safety protocol. Additionally, rehabilitation must be kept available for all other people who are in need. From the perspective of health system, the Global Rehabilitation Alliance urges decision makers to ensure that rehabilitation services will be available for all patients with COVID-19 in the acute, post-acute and long-term phase. Additionally, it must be ensured that all other persons with rehabilitation need have access to rehabilitation services. Rehabilitation services must be equipped with personal protection equipment and follow strict hygiene measures. In particular, rehabilitation must be accessible for vulnerable populations. For that reason, rehabilitation must be kept a health priority during the COVID-19 pandemic and given adequate financial resources. Last but not least, scientific studies should be performed to clarify the impact of the pandemic on rehabilitation services as well as on the needs for rehabilitation of COVID-19 patients.

**Database:** Medline

## 1h. Expert consensus on protocol of rehabilitation for COVID-19 patients using framework and approaches of WHO International Family Classifications

**Author(s):** Zeng B.; Zhang M.; Chen D.; Qiu Z.; Wang G.; Wang J.; Yu P.; Wu X.; An B.; Bai D.; Chen Z.; Deng J.; Guo Q.; He C.; Hu X.; Huang C.; Huang Q.; Huang X.; Huang Z.; Li X.; Liang Z.; Liu G.; Liu P.; Ma C.; Ma H.; Mi Z.; Pan C.; Shi X.; Sun H.; Xi J.; Xiao X.; Xu T.; Xu W.; Yang J.; Yang S.; Yang W.; Ye X.; Yun X.; Zhang A.; Zhang C.; Zhang P.; Zhang Q.; Zhao M.; Zhao J.

**Source:** Aging Medicine; Jun 2020; vol. 3 (no. 2); p. 82-94

Available at [AGING MEDICINE](https://gateway.proquest.com/openurl?ctx_ver=Z39.88-2004&res_id=xri:pqm&req_dat=xri:pqil:pq_clntid=145298&rft_val_fmt=ori/fmt:kev:mtx:journal&genre=article&issn=2475-0360&volume=3&issue=2&spage=82) - from ProQuest (Health Research Premium) - NHS Version

Available at [AGING MEDICINE](https://onlinelibrary.wiley.com/doi/pdfdirect/10.1002/agm2.12120) - from Unpaywall

Coronavirus disease 2019 (COVID-19) has widely spread all over the world and the numbers of patients and deaths are increasing. According to the epidemiology, virology, and clinical practice, there are varying degrees of changes in patients, involving the human body structure and function and the activity and participation. Based on the World Health Organization (WHO) International Classification of Functioning, Disability and Health (ICF) and its biopsychosocial model of functioning, we use the WHO Family of International Classifications (WHO-FICs) framework to form an expert consensus on the COVID-19 rehabilitation program, focusing on the diagnosis and evaluation of disease and functioning, and service delivery of rehabilitation, and to establish a standard rehabilitation framework, terminology system, and evaluation and intervention systems based the WHO-FICs. Copyright © 2020 The Authors. Aging Medicine published by Beijing Hospital and John Wiley & Sons Australia, Ltd.

**Database:** EMBASE

# General literature on covid-19 and rehabilitation

## 2a. Rehabilitation after COVID-19: an evidence-based approach.

**Author(s):** Wade

**Source:** Clinical Medicine; Jul 2020; vol. 20 (no. 4); p. 359-364

Available at [Clinical Medicine](http://search.ebscohost.com/login.aspx?direct=true&scope=site&site=ehost-live&db=mdc&AN=32518105) - from EBSCO (MEDLINE Complete)

Available at [Clinical Medicine](https://gateway.proquest.com/openurl?ctx_ver=Z39.88-2004&res_id=xri:pqm&req_dat=xri:pqil:pq_clntid=145298&rft_val_fmt=ori/fmt:kev:mtx:journal&genre=article&issn=1470-2118&volume=20&issue=4&spage=359) - from ProQuest (Health Research Premium) - NHS Version

Available at [Clinical Medicine](https://www.rcpjournals.org/content/clinmedicine/early/2020/06/08/clinmed.2020-0353.full.pdf) - from Unpaywall

After severe COVID-19 disease, many patients will experience a variety of problems with normal functioning and will require rehabilitation services to overcome these problems. The principles of and evidence on rehabilitation will allow an effective response. These include a simple screening process; use of a multidisciplinary expert team; four evidence-based classes of intervention (exercise, practice, psychosocial support, and education particularly about self-management); and a range of tailored interventions for other problems. The large number of COVID-19 patients needing rehabilitation coupled with the backlog remaining from the crisis will challenge existing services. The principles underpinning vital service reconfigurations needed are discussed.

**Database:** CINAHL

## 2b. Rehabilitation and Covid-19: the Cochrane Rehabilitation 2020 rapid living systematic review.

**Author(s):** Ceravolo, Maria Gabriella; Arienti, Chiara; De Sire, Alessandro; Andrenelli, Elisa; Negrini, Francesco; Lazzarini, Stefano; Patrini, Michele; Negrini, Stefano; International Multiprofessional Steering Committee of Cochrane Rehabilitation REH-COVER action

**Source:** European journal of physical and rehabilitation medicine; Jul 2020

<https://rehabilitation.cochrane.org/covid-19/reh-cover-living-systematic-review>

Scroll down to the 31st May 2020 update, or later if available.

INTRODUCTION This paper improves the methodology of the first edition of the rapid living systematic review started in April 2020, with the aim to gather and present the current evidence informing rehabilitation of patients with COVID-19 and/or describing the consequences due to the disease and its treatment. METHODS The Cochrane methodology for a rapid living systematic review was applied. Primary research papers, published from January 1st to June 30th, 2020, reporting patients' data, with no limits of study design were included. Studies were categorized for study design, research question, COVID-19 phase, limitations of functioning (disability) of rehabilitation interest and type of rehabilitation service involved. Methodological quality assessment was based on the Cochrane Risk of Bias tools, and the level of evidence table (OCEBM 2011) for all the other studies. RESULTS Thirty-six, out of 3703 papers, were included. One paper was of level 2 (RCT), 7 were of level 3 (2 cohort studies, 2 cross-sectional studies and 3 case-control studies), and 28 papers of level 4 (descriptive studies); 61% of papers reported epidemiological data on clinical presentations, 5 investigated natural history/determining factors, 1 searched prevalence, 2 studies reported on intervention efficacy (though not on harms), and 5 studies looked at health service organization. DISCUSSION Main issues emerging from the review: it is advised to test for COVID-19 people with neurological disorders presenting with symptom changes; dysphagia is a frequent complication after oro-tracheal intubation in COVID-19 patients admitted to the ICU; after discharge, COVID-19 survivors may report persistent restrictive ventilatory deficits regardless of disease severity; there is only sparse and low quality evidence concerning the efficacy of any rehabilitation intervention to promote functional recovery; a substantial increase in resource (staff and equipment) is needed for rehabilitation.

**Database:** Medline

## 2c. Body composition findings by computed tomography in sars-cov-2 patients: Increased risk of muscle wasting in obesity

**Author(s):** Gualtieri P.; De Lorenzo A.; Falcone C.; Arciello P.; Romano L.; Macheda S.; Polimeni N.; Correale P.

**Source:** International Journal of Molecular Sciences; Jul 2020; vol. 21 (no. 13); p. 1-13

Available at [International journal of molecular sciences](http://europepmc.org/search?query=(DOI:10.3390/ijms21134670)) - from Europe PubMed Central - Open Access

Available at [International journal of molecular sciences](https://gateway.proquest.com/openurl?ctx_ver=Z39.88-2004&res_id=xri:pqm&req_dat=xri:pqil:pq_clntid=145298&rft_val_fmt=ori/fmt:kev:mtx:journal&genre=article&issn=1661-6596&volume=21&issue=13&spage=4670) - from ProQuest (Health Research Premium) - NHS Version

Available at [International journal of molecular sciences](https://www.mdpi.com/1422-0067/21/13/4670/pdf) - from Unpaywall

Obesity is a characteristic of COVID-19 patients and the risk of malnutrition can be underestimated due to excess of fat: a paradoxical danger. Long ICU hospitalization exposes patients to a high risk of wasting and loss of lean body mass. The complex management precludes the detection of anthropometric parameters for the definition and monitoring of the nutritional status. The use of imaging diagnostics for body composition could help to recognize and treat patients at increased risk of wasting with targeted pathways. COVID-19 patients admitted to the ICU underwent computed tomography within 24 hours and about 20 days later, to evaluate the parameters of the body and liver composition. The main results were the loss of the lean mass index and a greater increase in liver attenuation in obese subjects. These could be co-caused by COVID-19, prolonged bed rest, the complex medical nutritional therapy, and the starting condition of low-grade inflammation of the obese. The assessment of nutritional status, with body composition applied to imaging diagnostics and metabolic profiles in COVID-19, will assist in prescribing appropriate medical nutritional therapy. This will reduce recovery times and complications caused by frailty. Copyright © 2020 by the authors. Licensee MDPI, Basel, Switzerland.

**Database:** EMBASE

## 2d. Rehabilitation needs of the first cohort of post-acute COVID-19 patients in Hubei, China

**Author(s):** Li Z.; Zheng C.; Duan C.; Zhang Y.; Li Q.; Xia W.; Dou Z.; Li J.

**Source:** European journal of physical and rehabilitation medicine; Jun 2020; vol. 56 (no. 3); p. 339-344

BACKGROUND: Corona Virus Disease-2019 (COVID-19) is an acute respiratory infectious disease. Despite being clinically cured, some patients still find it difficult to return to their normal life and work due to the varying degree of dysfunctions that they have, as part of the disease's aftereffect. Through this study, we aim to learn more about the dysfunctions and rehabilitation needs of COVID-19 patients. METHOD(S): In this survey, the basic information, dysfunctions, and rehabilitation needs of the hospitalized COVID-19 patients, who were selected by convenience sampling in Hubei Provincial Hospital of Integrated Traditional Chinese and Western Medicine, were obtained using a self-designed questionnaire. The research was conducted from February 29, 2020 to March 2, 2020. RESULT(S): A total of 280 patients were finally included, who were mainly over 51 years of age (64.2%). The main physical dysfunctions that the patients had were sleep disorders (63.6%), decreased activity endurance (61.4%), and respiratory dysfunction (57.9%), while the main psychological dysfunctions included anxiety (62.1%) and fear (50.0%). Rehabilitation that mainly requested by the patients included exercise guidance, dietary instruction, traditional Chinese medicine therapy, physical therapy, and Chinese traditional health exercises. CONCLUSION(S): The demand for rehabilitation is high among COVID-19 patients, which requires the quick establishment of a comprehensive and individualized rehabilitation program, to be fulfilled.

**Database:** EMBASE

## 2e. Considerations for Postacute Rehabilitation for Survivors of COVID-19.

**Author(s):** Sheehy, Lisa Mary

**Source:** JMIR public health and surveillance; May 2020; vol. 6 (no. 2); p. e19462

Available at [JMIR public health and surveillance](http://europepmc.org/search?query=(DOI:10.2196/19462)) - from Europe PubMed Central - Open Access

Available at [JMIR public health and surveillance](http://search.ebscohost.com/login.aspx?direct=true&scope=site&site=ehost-live&db=mdc&AN=32369030) - from EBSCO (MEDLINE Complete)

Available at [JMIR public health and surveillance](https://doi.org/10.2196/19462) - from Unpaywall

Coronavirus disease (COVID-19), the infection caused by severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2), was first reported on December 31, 2019. Because it has only been studied for just over three months, our understanding of this disease is still incomplete, particularly regarding its sequelae and long-term outcomes. Moreover, very little has been written about the rehabilitation needs of patients with COVID-19 after discharge from acute care. The objective of this report is to answer the question "What rehabilitation services do survivors of COVID-19 require?" The question was asked within the context of a subacute hospital delivering geriatric inpatient and outpatient rehabilitation services. Three areas relevant to rehabilitation after COVID-19 were identified. First, details of how patients may present have been summarized, including comorbidities, complications from an intensive care unit stay with or without intubation, and the effects of the virus on multiple body systems, including those pertaining to cardiac, neurological, cognitive, and mental health. Second, I have suggested procedures regarding the design of inpatient rehabilitation units for COVID-19 survivors, staffing issues, and considerations for outpatient rehabilitation. Third, guidelines for rehabilitation (physiotherapy, occupational therapy, speech-language pathology) following COVID-19 have been proposed with respect to recovery of the respiratory system as well as recovery of mobility and function. A thorough assessment and an individualized, progressive treatment plan which focuses on function, disability, and return to participation in society will help each patient to maximize their function and quality of life. Careful consideration of the rehabilitation environment will ensure that all patients recover as completely as possible.

**Database:** Medline

## 2f. The COVID-19 Rehabilitation Pandemic.

**Author(s):** De Biase, Sarah; Cook, Laura; Skelton, Dawn A; Witham, Miles; Ten Hove, Ruth

**Source:** Age and ageing; May 2020

Available at [Age and ageing](https://academic.oup.com/ageing/article-pdf/doi/10.1093/ageing/afaa118/33372084/afaa118.pdf) - from Unpaywall

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.

**Database:** Medline

## 2g. A proposal for multidisciplinary tele-rehabilitation in the assessment and rehabilitation of COVID-19 survivors

**Author(s):** Salawu A.; Green A.; Crooks M.G.; Brixey N.; Ross D.H.; Sivan M.

**Source:** International Journal of Environmental Research and Public Health; Jul 2020; vol. 17 (no. 13); p. 1-13

Available at [International journal of environmental research and public health](http://europepmc.org/search?query=(DOI:10.3390/ijerph17134890)) - from Europe PubMed Central - Open Access

Available at [International journal of environmental research and public health](http://search.ebscohost.com/login.aspx?direct=true&scope=site&site=ehost-live&db=mdc&AN=32645876) - from EBSCO (MEDLINE Complete)

Available at [International journal of environmental research and public health](https://gateway.proquest.com/openurl?ctx_ver=Z39.88-2004&res_id=xri:pqm&req_dat=xri:pqil:pq_clntid=145298&rft_val_fmt=ori/fmt:kev:mtx:journal&genre=article&issn=1661-7827&volume=17&issue=13&spage=4890) - from ProQuest (Health Research Premium) - NHS Version

Available at [International journal of environmental research and public health](https://www.mdpi.com/1660-4601/17/13/4890/pdf) - from Unpaywall

A global pandemic of a new highly contagious disease called COVID-19 resulting from coronavirus (severe acute respiratory syndrome (SARS)-Cov-2) infection was declared in February 2020. Though primarily transmitted through the respiratory system, other organ systems in the body can be affected. Twenty percent of those affected require hospitalization with mechanical ventilation in severe cases. About half of the disease survivors have residual functional deficits that require multidisciplinary specialist rehabilitation. The workforce to deliver the required rehabilitation input is beyond the capacity of existing community services. Strict medical follow-up guidelines to monitor these patients mandate scheduled reviews within 12 weeks post discharge. Due to the restricted timeframe for these events to occur, existing care pathway are unlikely to be able to meet the demand. An innovative integrated post-discharge care pathway to facilitate follow up by acute medical teams (respiratory and intensive care) and a specialist multidisciplinary rehabilitation team is hereby proposed. Such a pathway will enable the monitoring and provision of comprehensive medical assessments and multidisciplinary rehabilitation. This paper proposes that a model of tele-rehabilitation is integrated within the pathway by using digital communication technology to offer quick remote assessment and efficient therapy delivery to these patients. Tele-rehabilitation offers a quick and effective option to respond to the specialist rehabilitation needs of COVID-19 survivors following hospital discharge. Copyright © 2020 by the authors. Licensee MDPI, Basel, Switzerland.

**Database:** EMBASE

# Interventions for rehabilitation following covid-19 and lockdown

## 3a. Qigong for the Prevention, Treatment, and Rehabilitation of COVID-19 Infection in Older Adults.

**Author(s):** Feng ; Tuchman, Sylvie; Denninger, John W.; Fricchione, Gregory L.; Yeung, Albert

**Source:** American Journal of Geriatric Psychiatry; Aug 2020; vol. 28 (no. 8); p. 812-819

Available at [The American journal of geriatric psychiatry : official journal of the American Association for Geriatric Psychiatry](https://auth.elsevier.com/ShibAuth/institutionLogin?entityID=https://idp.eng.nhs.uk/openathens&appReturnURL=https%3A%2F%2Fwww.clinicalkey.com%2Fcontent%2FplayBy%2Fdoi%2F%3Fv%3D10.1016%2Fj.jagp.2020.05.012) - from ClinicalKey

Available at [The American journal of geriatric psychiatry : official journal of the American Association for Geriatric Psychiatry](https://doi.org/10.1016/j.jagp.2020.05.012) - from Unpaywall

The elderly are at high risk of contracting respiratory infectious diseases, including COVID-19 infection. The recent pandemic has the potential to cause significant physical and mental damage in older adults. Similarly to other mind-body exercises in Traditional Chinese medicine, Qigong features regulation of breath rhythm and pattern, body movement and posture, and meditation. Given these traits, Qigong has the potential to play a role in the prevention, treatment, and rehabilitation of respiratory infections, such as COVID-19. Potential mechanisms of action include stress reduction, emotion regulation, strengthening of respiratory muscles, reduction of inflammation, and enhanced immune function. Three forms of Qigong; abdominal breathing, Ba Duan Jin and Liu Zi Jue, all of which are gentle, smooth, and simple for the elderly to practice, are recommended in this context.

**Database:** CINAHL

## 3b. The Importance of Physical Activity to Care for Frail Older Adults During the COVID-19 Pandemic.

**Author(s):** Aubertin-Leheudre ; Rolland, Yves

**Source:** Journal of the American Medical Directors Association; Jul 2020; vol. 21 (no. 7); p. 973-976

Available at [Journal of the American Medical Directors Association](https://auth.elsevier.com/ShibAuth/institutionLogin?entityID=https://idp.eng.nhs.uk/openathens&appReturnURL=https%3A%2F%2Fwww.clinicalkey.com%2Fcontent%2FplayBy%2Fdoi%2F%3Fv%3D10.1016%2Fj.jamda.2020.04.022) - from ClinicalKey

Available at [Journal of the American Medical Directors Association](https://doi.org/10.1016/j.jamda.2020.04.022) - from Unpaywall

**Database:** CINAHL

## 3c. Physical Activity and Exercise for Older People During and After the Coronavirus Disease 2019 Pandemic: A Path to Recovery.

**Author(s):** Said ; Batchelor, Frances; Duque, Gustavo

**Source:** Journal of the American Medical Directors Association; Jul 2020; vol. 21 (no. 7); p. 977-979

Available at [Journal of the American Medical Directors Association](https://auth.elsevier.com/ShibAuth/institutionLogin?entityID=https://idp.eng.nhs.uk/openathens&appReturnURL=https%3A%2F%2Fwww.clinicalkey.com%2Fcontent%2FplayBy%2Fdoi%2F%3Fv%3D10.1016%2Fj.jamda.2020.06.001) - from ClinicalKey

Available at [Journal of the American Medical Directors Association](https://doi.org/10.1016/j.jamda.2020.06.001) - from Unpaywall

**Database:** CINAHL

## 3d. Using Remote Interventions in Promoting the Health of Frail Older Persons Following the COVID-19 Lockdown: Challenges and Solutions.

**Author(s):** Frost ; Nimmons, Danielle; Davies, Nathan

**Source:** Journal of the American Medical Directors Association; Jul 2020; vol. 21 (no. 7); p. 992-993

Available at [Journal of the American Medical Directors Association](https://auth.elsevier.com/ShibAuth/institutionLogin?entityID=https://idp.eng.nhs.uk/openathens&appReturnURL=https%3A%2F%2Fwww.clinicalkey.com%2Fcontent%2FplayBy%2Fdoi%2F%3Fv%3D10.1016%2Fj.jamda.2020.05.038) - from ClinicalKey

Available at [Journal of the American Medical Directors Association](https://doi.org/10.1016/j.jamda.2020.05.038) - from Unpaywall

**Database:** CINAHL

## 3e. Balancing infection control and frailty prevention during and after the COVID-19 pandemic: Introduction of the NCGG Home Exercise Program for Older People 2020.

**Author(s):** Osawa, Aiko; Maeshima, Shinichiro; Kondo, Izumi; Arai, Hidenori

**Source:** Geriatrics & gerontology international; Jul 2020

**Publication Type(s):** Letter

Available at [Geriatrics & gerontology international](https://go.openathens.net/redirector/nhs?url=https%3A%2F%2Fonlinelibrary.wiley.com%2Fdoi%2Fabs%2F10.1111%2Fggi.13991) - from Wiley Online Library Medicine and Nursing Collection 2019 - NHS

Available at [Geriatrics & gerontology international](https://onlinelibrary.wiley.com/doi/pdfdirect/10.1111/ggi.13991) - from Unpaywall

**Database:** Medline

## 3f. Staying Active in Isolation: Telerehabilitation for Individuals With the Severe Acute Respiratory Syndrome Coronavirus 2 Infection.

**Author(s):** Mukaino, Masahiko; Tatemoto, Tsuyoshi; Kumazawa, Nobuhiro; Tanabe, Shigeo; Katoh, Masaki; Saitoh, Eiichi; Otaka, Yohei

**Source:** American Journal of Physical Medicine & Rehabilitation; Jun 2020; vol. 99 (no. 6); p. 478-479

Available at [American Journal of Physical Medicine & Rehabilitation](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7253045) - from Unpaywall

The article focuses on the coronavirus outbreak of severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) is now a pandemic. It mentions that many individuals worldwide are in isolation for treatment and monitoring to prevent the spread of the infection; and also mentions that with the pandemic spread of SARS-CoV-2, the number of isolated individuals is expected to increase.

**Database:** CINAHL

## 3g. Telemedicine from research to practice during the pandemic. "Instant paper from the field" on rehabilitation answers to the COVID-19 emergency.

**Author(s):** Negrini, Stefano; Kiekens, Carlotte; Bernetti, Andrea; Capecci, Marianna; Ceravolo, Maria G; Lavezzi, Susanna; Zampolini, Mauro; Boldrini, Paolo

**Source:** European journal of physical and rehabilitation medicine; Jun 2020; vol. 56 (no. 3); p. 327-330

COVID-19 pandemic is creating collateral damage to outpatients, whose rehabilitation services have been disrupted in most of the European countries. Telemedicine has been advocated as a possible solution. This paper reports the contents of the third Italian Society of Physical and Rehabilitation Medicine (SIMFER) webinar on "experiences from the field" COVID-19 impact on rehabilitation ("Covinars"). It provides readily available, first-hand information about the application of telemedicine in rehabilitation. The experiences reported were very different for population (number and health conditions), interventions, professionals, service payment, and technologies used. Commonalities included the pushing need due to the emergency, previous experiences, and a dynamic research and innovation environment. Lights included feasibility, results, reduction of isolation, cost decrease, stimulation to innovation, satisfaction of patients, families, and professionals beyond the starting diffidence. Shadows included that telemedicine can integrate but will never substitute face-to-face rehabilitation base on the encounter among human beings; age, and technology barriers (devices absence, bad connection and human diffidence) have also been reported. Possible issues included privacy and informed consent, payments, cultural difficulties in understanding that telemedicine is a real rehabilitation intervention. There was a final agreement that this experience will be incorporated by participants in their future services: technology is ready, but the real challenge is to change PRM physicians' and patients' habits, while better specific regulation is warranted.

**Database:** Medline

## 3h. Virtual Reality Exercise as a Coping Strategy for Health and Wellness Promotion in Older Adults during the COVID-19 Pandemic.

**Author(s):** Gao, Zan; Lee, Jung Eun; McDonough, Daniel J; Albers, Callie

**Source:** Journal of clinical medicine; Jun 2020; vol. 9 (no. 6)

Available at [Journal of clinical medicine](http://europepmc.org/search?query=(DOI:10.3390/jcm9061986)) - from Europe PubMed Central - Open Access

Available at [Journal of clinical medicine](https://www.mdpi.com/2077-0383/9/6/1986/pdf) - from Unpaywall

The December 2019 COVID-19 outbreak in China has led to worldwide quarantine, as recommended by local governments and the World Health Organization. Particularly affected are older adults (i.e., those aged ≥ 65 years) who are at elevated risk for various adverse health outcomes, including declines in motor ability and physical activity (PA) participation, increased obesity, impaired cognition, and various psychological disorders. Thus, given the secular increases in the older adult population, novel and effective intervention strategies are necessary to improve physical activity behaviors and health in this population. Virtual reality (VR)-integrated exercise is a promising intervention strategy, which has been utilized in healthcare fields like stroke rehabilitation and psychotherapy. Therefore, the purpose of this editorial is to synthesize recent research examining the efficacy and effectiveness of VR exercise in the promotion of favorable health outcomes among the older adults. Results indicate the application of VR exercise to facilitate improved physical outcomes (e.g., enhanced motor ability, reduced obesity), cognition and psychological outcomes. VR exercise has also been observed to be an effective intervention strategy for fall prevention in this population. Future research should employ more rigorous research designs to allow for a more robust quantitative synthesis of the effect of VR exercise on the preceding outcomes to elucidate which type(s) of VR-based PA interventions are most effective in promoting improved health outcomes among older adults. Findings from this study will better inform the development of technology-savvy PA programs for wellness promotion in older adults who practice social distancing and exercise from home under the unprecedented global health crisis.

**Database:** Medline

## 3i. Sustainable health promotion for the seniors during COVID-19 outbreak: A lesson from Tokyo

**Author(s):** Aung M.N.; Yuasa M.; Aung T.N.N.; Koyanagi Y.; Moolphate S.; Matsumoto H.; Yoshioka T.

**Source:** Journal of Infection in Developing Countries; Apr 2020; vol. 14 (no. 4); p. 328-331

Available at [The Journal of Infection in Developing Countries](http://search.ebscohost.com/login.aspx?direct=true&scope=site&site=ehost-live&db=mdc&AN=32379708) - from EBSCO (MEDLINE Complete)

Available at [The Journal of Infection in Developing Countries](https://jidc.org/index.php/journal/article/download/32379708/2228) - from Unpaywall

The COVID-19 pandemic is novel corona virus infection outbreak that has gone global in 2020. Current prevention policies consist of hand hygiene and social distancing. Emergencies overloaded health services and shocked the logistics chains in many countries, especially Italy and China. Having more than a quarter of its population being elderly, Japan is at high risk for COVID-19 induced morbidity and mortality. This situation cancelled schedules of all routine group exercise activities for the seniors in Japan. While the outbreak is ongoing, staying at home is safe. However, successive days of being house-ridden and limited movement can lead to excessive physical inactivity. Some elderly who are not moving much can lose a significant amount of muscle strength, flexibility and aerobic capacity. It can accelerate the frailty and dependency of the seniors, and subsequently, claiming of care and health services. Moreover, existing and new evidences showed that physical activity can promote antiviral immunity. An alternative to usual group exercise activities is crucial to keep seniors active without affecting social distancing. While staying at home for long, functional exercises maintaining basic level of physical activity and movements are urgently required to be introduced to the seniors in Tokyo and around the world to prevent functional decline. Home exercise is a practical option. Therefore, we made a home-version of the functional training exercise video with different sets of 10-minutes exercise for 7 days a week. This breakthrough alternative may sustain health promotion for the elderly persons to preserve their active aging and maintain optimal health. Copyright © 2020 Aung et al.

**Database:** EMCARE

# The impact of covid-19 and lockdown on older people

## 4a. The potential long-term impact of the COVID-19 outbreak on patients with non-communicable diseases in Europe: consequences for healthy ageing

**Author(s):** Palmer K.; Monaco A.; Kivipelto M.; Onder G.; Maggi S.; Michel J.-P.; Prieto R.; Sykara G.; Donde S.

**Source:** Aging - Clinical and Experimental Research; Jul 2020; vol. 32 (no. 7); p. 1189-1194

Available at [Aging Clinical and Experimental Research](https://link.springer.com/content/pdf/10.1007/s40520-020-01601-4.pdf) - from Unpaywall

The early stages of the COVID-19 pandemic have focused on containing SARS-CoV-2 infection and identifying treatment strategies. While controlling this communicable disease is of utmost importance, the long-term effect on individuals with non-communicable diseases (NCD) is significant. Although certain NCDs appear to increase the severity of COVID-19 and mortality risk, SARS-CoV-2 infection in survivors with NCDs may also affect the progression of their pre-existing clinical conditions. Infection containment measures will have substantial short- and long-term consequences; social distancing and quarantine restrictions will reduce physical activity and increase other unhealthy lifestyles, thus increasing NCD risk factors and worsening clinical symptoms. Vitamin D levels might decrease and there might be a rise in mental health disorders. Many countries have made changes to routine management of NCD patients, e.g., cancelling non-urgent outpatient visits, which will have important implications for NCD management, diagnosis of new-onset NCDs, medication adherence, and NCD progression. We may have opportunities to learn from this unprecedented crisis on how to leverage healthcare technologies and improve procedures to optimize healthcare service provision. This article discusses how the COVID-19 outbreak and related infection control measures could hit the most frail individuals, worsening the condition of NCD patients, while further jeopardizing the sustainability of the healthcare systems. We suggest ways to define an integrated strategy that could involve both public institutional entities and the private sector to safeguard frail individuals and mitigate the impact of the outbreak. Copyright © 2020, The Author(s).

**Database:** EMBASE

## 4b. COVID-19 and associations with frailty and multimorbidity: a prospective analysis of UK Biobank participants.

**Author(s):** Woolford, S J; D'Angelo, S; Curtis, E M; Parsons, C M; Ward, K A; Dennison, E M; Patel, H P; Cooper, C; Harvey, N C

**Source:** Aging clinical and experimental research; Jul 2020

BACKGROUND Frailty and multimorbidity have been suggested as risk factors for severe COVID-19 disease.AIMSWe investigated, in the UK Biobank, whether frailty and multimorbidity were associated with risk of hospitalisation with COVID-19. METHODS 502,640 participants aged 40-69 years at baseline (54-79 years at COVID-19 testing) were recruited across UK during 2006-10. A modified assessment of frailty using Fried's classification was generated from baseline data. COVID-19 test results (England) were available for 16/03/2020-01/06/2020, mostly taken in hospital settings. Logistic regression was used to discern associations between frailty, multimorbidity and COVID-19 diagnoses, after adjusting for sex, age, BMI, ethnicity, education, smoking and number of comorbidity groupings, comparing COVID-19 positive, COVID-19 negative and non-tested groups. RESULTS 4510 participants were tested for COVID-19 (positive = 1326, negative = 3184). 497,996 participants were not tested. Compared to the non-tested group, after adjustment, COVID-19 positive participants were more likely to be frail (OR = 1.4 [95%CI = 1.1, 1.8]), report slow walking speed (OR = 1.3 [1.1, 1.6]), report two or more falls in the past year (OR = 1.3 [1.0, 1.5]) and be multimorbid (≥ 4 comorbidity groupings vs 0-1: OR = 1.9 [1.5, 2.3]). However, similar strength of associations were apparent when comparing COVID-19 negative and non-tested groups. However, frailty and multimorbidity were not associated with COVID-19 diagnoses, when comparing COVID-19 positive and COVID-19 negative participants. DISCUSSION AND CONCLUSIONS Frailty and multimorbidity do not appear to aid risk stratification, in terms of positive versus negative results of COVID-19 testing. Investigation of the prognostic value of these markers for adverse clinical sequelae following COVID-19 disease is urgently needed.

**Database:** Medline

## 4c. Effect of the COVID-19 Epidemic on Physical Activity in Community-Dwelling Older Adults in Japan: A Cross-Sectional Online Survey

**Author(s):** Yamada M.; Kimura Y.; Ishiyama D.; Otobe Y.; Suzuki M.; Koyama S.; Kikuchi T.; Kusumi H.; Arai H.

**Source:** Journal of Nutrition, Health and Aging; 2020

Available at [The journal of nutrition, health & aging](https://link.springer.com/content/pdf/10.1007/s12603-020-1424-2.pdf) - from Unpaywall

Objectives: The objective of this study was to investigate changes in physical activity (PA) between January (before the COVID-19 epidemic) and April (during the COVID-19 epidemic) 2020 in community-dwelling older adults in Japan. Design(s): Cross-sectional online survey. Setting and Subjects: From April 23 to 27, 2020, an online survey was completed by 1,600 community-dwelling older adults in Japan. Method(s): We assessed the frailty status using the Kihon checklist, and other demographics and asked questions regarding PA at two time points: January and April 2020. We defined the total PA time (minutes) per week based on activity frequency and time. Result(s): The study participants' mean age, proportion of women, and prevalence of frailty were 74.0+/-5.6 years, 50% (n=800), and 24.3% (n=388), respectively. We found a significant decrease in total PA time in April 2020 (median [interquartile range (IQR)], 180 [0 to 420]) when compared to January 2020 (median [IQR], 245 [90 to 480]) (P<0.001). We also performed a subgroup analysis according to the frailty category; total PA time significantly decreased in April 2020 when compared to January 2020 for all frailty categories (P<0.001). Conclusion(s): In conclusion, due to the COVID-19 epidemic, the total PA time in April 2020 significantly decreased compared to that in January 2020 in older adults. This finding may lead to a higher incidence of disability in the near future in older people. Copyright © 2020, Serdi and Springer-Verlag International SAS, part of Springer Nature.

**Database:** EMBASE

## 4d. When COVID-19 affects muscle: effects of quarantine in older adults

**Author(s):** Moro T.; Paoli A.

**Source:** European Journal of Translational Myology; 2020; vol. 30 (no. 2); p. 219-222

Available at [European Journal of Translational Myology](http://europepmc.org/search?query=(DOI:10.4081/ejtm.2020.9069)) - from Europe PubMed Central - Open Access

Available at [European Journal of Translational Myology](https://www.pagepressjournals.org/index.php/bam/article/download/9069/8823) - from Unpaywall

At the beginning of 2020 a respiratory diseased named COVID-19 rapidly spread worldwide. Due to the presence of comorbidities and a greater susceptibility to infections, older adults are the population most affected by this pandemic. An efficient pharmacological treatment for COVID-19 is not ready yet; in the meanwhile, a general quarantine has been initiated as a preventive action against the spread of the disease. If on one side this countermeasure is slowing the spread of the virus, on the other side is also reducing the amount of physical activity. Sedentariness is associated with numerous negative health outcomes and increase risk of fall, fractures and disabilities in older adults. Models of physical inactivity have been widely studied in the past decades, and most studies agreed that is necessary to implement physical exercise (such as walking, low load resistance or in bed exercise) during periods of disuse to protect muscle mass and function from catabolic crisis. Moreover, older adults have a blunted response to physical rehabilitation, and a combination of intense resistance training and nutrition are necessary to overcome the loss of in skeletal muscle due to disuse. Copyright © 2020 AME Publishing Company. All rights reserved.

**Database:** EMBASE

## 4e. Impact of sedentarism due to the COVID-19 home confinement on neuromuscular, cardiovascular and metabolic health: Physiological and pathophysiological implications and recommendations for physical and nutritional countermeasures

**Author(s):** Narici M.; De Vito G.; Franchi M.; Paoli A.; Moro T.; Marcolin G.; Grassi B.; Baldassarre G.; Zuccarelli L.; Biolo G.; di Girolamo F.G.; Fiotti N.; Dela F.; Greenhaff P.; Maganaris C.

**Source:** European journal of sport science; May 2020 ; p. 1-22

Available at [European journal of sport science](https://www.tandfonline.com/doi/pdf/10.1080/17461391.2020.1761076?needAccess=true) - from Unpaywall

The COVID-19 pandemic is an unprecedented health crisis as entire populations have been asked to self-isolate and live in home-confinement for several weeks to months, which in itself represents a physiological challenge with significant health risks. This paper describes the impact of sedentarism on the human body at the level of the muscular, cardiovascular, metabolic, endocrine and nervous systems and is based on evidence from several models of inactivity, including bed rest, unilateral limb suspension, and step-reduction. Data form these studies show that muscle wasting occurs rapidly, being detectable within two days of inactivity. This loss of muscle mass is associated with fibre denervation, neuromuscular junction damage and upregulation of protein breakdown, but is mostly explained by the suppression of muscle protein synthesis. Inactivity also affects glucose homeostasis as just few days of step reduction or bed rest, reduce insulin sensitivity, principally in muscle. Additionally, aerobic capacity is impaired at all levels of the O2 cascade, from the cardiovascular system, including peripheral circulation, to skeletal muscle oxidative function. Positive energy balance during physical inactivity is associated with fat deposition, associated with systemic inflammation and activation of antioxidant defences, exacerbating muscle loss. Importantly, these deleterious effects of inactivity can be diminished by routine exercise practice, but the exercise dose-response relationship is currently unknown. Nevertheless, low to medium-intensity high volume resistive exercise, easily implementable in home-settings, will have positive effects, particularly if combined with a 15-25% reduction in daily energy intake. This combined regimen seems ideal for preserving neuromuscular, metabolic and cardiovascular health.Highlights This paper describes the impact of sedentarism, caused by the COVID-19 home confinement on the neuromuscular, cardiovascular, metabolic and endocrine systems. Just few days of sedentary lifestyle are sufficient to induce muscle loss, neuromuscular junction damage and fibre denervation, insulin resistance, decreased aerobic capacity, fat deposition and low-grade systemic inflammation. Regular low/medium intensity high volume exercise, together with a 15-25% reduction in caloric intake are recommended for preserving neuromuscular, cardiovascular, metabolic and endocrine health.

**Database:** EMBASE

## 4f. COVID-19 and the Fears of Italian Senior Citizens.

**Author(s):** de Leo, Diego; Trabucchi, Marco

**Source:** International journal of environmental research and public health; May 2020; vol. 17 (no. 10)

Available at [International Journal of Environmental Research and Public Health](http://europepmc.org/search?query=(DOI:10.3390/ijerph17103572)) - from Europe PubMed Central - Open Access

Available at [International Journal of Environmental Research and Public Health](http://search.ebscohost.com/login.aspx?direct=true&scope=site&site=ehost-live&db=mdc&AN=32443683) - from EBSCO (MEDLINE Complete)

Available at [International Journal of Environmental Research and Public Health](https://www.mdpi.com/1660-4601/17/10/3572/pdf) - from Unpaywall

Italy has been hit very hard by the severe acute respiratory syndrome-coronavirus-2 (SARS-CoV-2) pandemic. This brief report highlights some of the peculiarities manifested by its older adult population, with particular reference to those living in nursing institutions and at home. Mortality data (as of 26 April) are reported, together with reactions to forced isolation, loneliness, and fear of contracting the disease, which represent big challenges for all, especially for frail elderly people.

**Database:** Medline

# Measurement tools

## 5a. The Post-COVID-19 Functional Status scale: a tool to measure functional status over time after COVID-19.

**Author(s):** Klok, Frederikus A; Boon, Gudula J A M; Barco, Stefano; Endres, Matthias; Geelhoed, J J Miranda; Knauss, Samuel; Rezek, Spencer A; Spruit, Martijn A; Vehreschild, Jörg; Siegerink, Bob

**Source:** The European respiratory journal; Jul 2020; vol. 56 (no. 1)

**Publication Type(s):** Letter

Available at [The European respiratory journal](https://erj.ersjournals.com/content/erj/56/1/2001494.full.pdf) - from Unpaywall

**Database:** Medline

## 5b. Prediction of the rehabilitation duration and risk management for mild-moderate COVID-19

**Author(s):** Zheng Q.-N.; Xu M.-Y.; Zheng Y.-L.; Wang X.-Y.; Zhao H.

**Source:** Disaster medicine and public health preparedness; Jun 2020 ; p. 1-27

Available at [Disaster medicine and public health preparedness](https://www.cambridge.org/core/services/aop-cambridge-core/content/view/08FFD7F2365FD04758BFC381DD474E00/S1935789320002141a.pdf/div-class-title-prediction-of-the-rehabilitation-duration-and-risk-management-for-mild-moderate-covid-19-div.pdf) - from Unpaywall

BACKGROUND: More than 80% COVID-19 cases are mild or moderate. In this study, a risk model was developed for predicting rehabilitation duration of the mild-moderate COVID-19 cases, thereby conducting refined risk management for different risk population. METHOD(S): 90 consecutive mild-moderate COVID-19 cases were enrolled. Large-scale datasets were extracted from clinical practices. Through the multivariable linear regression analysis, the model was based on significant risk factors and was developed for predicting the rehabilitation duration of mild-moderate COVID-19. According to the local epidemic situation, risk management was conducted by weighing the risk assessment for different risk populations. RESULT(S): Ten risk factors from 44 high-dimensional clinical datasets were significantly correlated to rehabilitation duration (P < 0.05). Among these, five risk predictors were incorporated into a risk model. Individual rehabilitation durations were effectively calculated. Weighing the local epidemic situation, threshold probability was classified for low risk, intermediate risk, and high risk. According to this classification, risk management was based on a treatment flowchart for tailored clinical decisions-making. CONCLUSION(S): The proposed model is a useful tool for the individualized risk management of mild-moderate COVID-19 cases for the first time, and it may readily facilitate dynamic clinical decision-making for different risk populations.

**Database:** EMBASE

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**Databases searched:** MEDLINE, EMBASE, Cinahl, Emcare, PubMed, Google.

**Search history:**

|  |  |  |  |
| --- | --- | --- | --- |
| **#** | **Database** | **Search term** | **Results** |
| 1 | CINAHL | (covid-19).ti,ab | 237 |
| 2 | CINAHL | (wuhan ADJ2 coronavir\*).ti,ab | 40 |
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| 121 | EMCARE | exp "HOME REHABILITATION"/ | 533 |
| 122 | EMCARE | exp "GERIATRIC REHABILITATION"/ | 1138 |
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| 127 | EMCARE | exp "MUSCLE ATROPHY"/ | 11026 |
| 128 | EMCARE | (recover\*).ti | 23720 |
| 129 | EMCARE | (110 OR 111 OR 112 OR 113 OR 114 OR 115 OR 116 OR 117 OR 118 OR 119 OR 120 OR 121 OR 122 OR 123 OR 124 OR 125 OR 126 OR 127 OR 128) | 158109 |
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| 133 | Medline | (recover\*).ti | 84470 |
| 134 | Medline | (39 OR 40 OR 41 OR 45 OR 46 OR 47 OR 52 OR 53 OR 54 OR 55 OR 56 OR 63 OR 133) | 336543 |
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| 136 | Medline | 135 [Languages English] | 686 |
| 137 | Medline | 135 [DT 2019-2020] [Languages English] | 578 |
| 138 | CINAHL | (recover\*).ti | 24526 |
| 139 | CINAHL | (9 OR 10 OR 11 OR 12 OR 13 OR 14 OR 17 OR 18 OR 22 OR 23 OR 24 OR 25 OR 26 OR 27 OR 138) | 167245 |
| 140 | CINAHL | (68 AND 139) | 302 |
| 141 | CINAHL | 140 [Languages eng] | 294 |
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