# Evidence Search Service Results of your search request

## The effect of covid on the rehabilitation of frail patients

**ID of request:** 28038  
**Date of request:** 3rd March, 2021  
**Date of completion:** 10th March, 2021

If you would like to request any articles or any further help, please contact:  Rachel Playforth at [rachel.playforth@nhs.net](mailto:rachel.playforth@nhs.net)

Please acknowledge this work in any resulting paper or presentation as: Evidence search: The effect of covid on the rehabilitation of frail patients. Rachel Playforth. (10th March, 2021). BRIGHTON, UK: Brighton and Sussex Library and Knowledge Service.

**Sources searched**  
AMED (0)  
Cochrane Library (0)  
EMBASE (7)  
EMCARE (0)  
MEDLINE (5)  
NICE Evidence Search (6)  
PEDro (1)  
PubMed (1)  
TRIP Database (1)

**Date range used** (5 years, 10 years): 2019-   
**Limits used** (gender, article/study type, etc.): English   
**Search terms and notes** (full search strategy for database searches below):

NICE Evidence Search, Trip PRO, Cochrane Library: covid frail rehabilitation; covid elderly rehabilitation; covid dementia rehabilitation

PEDro: covid; coronavirus

Medline, EMBASE, EMCARE, AMED: relevant natural language and controlled vocabulary terms were selected and combined, and final result sets were de-duplicated and reviewed for relevance.

Database terms were broadened to include other respiratory epidemics as requested, but the date limit was retained.

For more information about the resources please go to: <https://www.bsuh.nhs.uk/library/>.

## Summary of Results

Empirical research findings are starting to be reported in the literature, and a good number of relevant institutional publications, guidelines and evidence reviews were also found. If more information is still needed we could look at older evidence from earlier epidemics as well (see above re date limit.)

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## A. National and International Guidance

#### Llywodraeth Cymru / Welsh Government

**Rehabilitation Needs Of People Affected By The Impact Of Covid-19** (2020)

[Available online at this link](https://www.knowledgeshare.nhs.uk/index.php?PageID=link_resolver&link=c927b9ea8d07d9f2c23a0edb91016e3f)

This guidance focuses on the rehabilitation needs of people who have been directly and indirectly affected by Covid-19, while recognising that rehabilitation is also a core component of the majority of essential and specialist services as set out in the Essentials Services Framework. It is a resource to support organisations and services to deliver appropriate and timely rehabilitation to people who have been affected by Covid-19 in Wales, to enable them to return to their optimal level of independence and well-being.

#### National COVID-19 Clinical Evidence Taskforce [Australia]

**Management Of People With Covid-19 Who Are Older And Living With Frailty And/Or Cognitive Impairment** (2020)

[Available online at this link](https://www.knowledgeshare.nhs.uk/index.php?PageID=link_resolver&link=4913766f05568244db642bdf9aeb1600)

Ensure multidisciplinary collaboration amongst the health and social/community care teams within the decision-making process when managing people with multimorbidity, cognitive impairment and functional decline. Early specialist advice should be considered in older people living with frailty and/or with cognitive impairment.

## B. Systematic Reviews

#### International Multiprofessional Steering Committee of Cochrane Rehabilitation REH-COVER action

**Systematic rapid living review on rehabilitation needs due to COVID-19: update to May 31st, 2020** (2020)

[Available online at this link](https://www.knowledgeshare.nhs.uk/index.php?PageID=link_resolver&link=d88846228731050511edf1ce3205fcd5)

Nowadays, all patients with disability, regardless of COVID-19 infection, are suffering because of restrictions imposed to rehabilitation service delivery. Neurological involvement is often present during acute and postacute stage, conveying the risk of a long-lasting disability. Accordingly, careful neurological monitoring should be granted. Although new therapies are under development, the main gap in the available scientific literature is the lack of high-quality primary studies, so experimental studies on the effects of rehabilitation are still warranted.

#### Physical Therapy

**Systematic Review of Changes and Recovery in Physical Function and Fitness After Severe Acute Respiratory Syndrome-Related Coronavirus Infection: Implications for COVID-19 Rehabilitation** (2020)

Rooney S., Webster A., Paul L.

[Available online at this link](https://www.knowledgeshare.nhs.uk/index.php?PageID=link_resolver&link=7ff32697971019703ce752c4f2ab8494)

Objective: This review sought to (1) compare physical function and fitness outcomes in people infected with Severe Acute Respiratory Syndrome-related Coronavirus (SARS-CoV) with healthy controls, (2) quantify the recovery of physical function and fitness following SARS-CoV infection, and (3) determine the effects of exercise following SARS-CoV infection. Methods: Four databases (CINAHL, MEDLINE, ProQuest, and Web of Science Core Collections) were searched in April 2020 using keywords relating to SARS-CoV, physical function, fitness, and exercise. Observational studies or randomized controlled trials were included if they involved people following SARS-CoV infection and either assessed the change or recovery in physical function/fitness or evaluated the effects exercise postinfection. Results: A total 10 articles were included in this review. Evidence from 9 articles demonstrated that SARS-CoV patients had reduced levels of physical function and fitness postinfection compared with healthy controls. Furthermore, patients demonstrated incomplete recovery of physical function, with some experiencing residual impairments 1 to 2 years postinfection. Evidence from 1 randomized controlled trial found that a combined aerobic and resistance training intervention significantly improved physical function and fitness postinfection compared with a control group. Conclusions: Physical function and fitness are impaired following SARS-CoV infection, and impairments may persist up to 1 to 2 years postinfection. Researchers and clinicians can use these findings to understand the potential impairments and rehabilitation needs of people recovering from the current coronavirus 2019 (COVID-19) outbreak. While 1 study demonstrated that exercise can improve physical function and fitness postinfection, further research is required to determine the effectiveness of exercise in people recovering from similar infections (eg, COVID-19). Impact: Considering the similarities in pathology and clinical presentation of SARS-CoV and COVID-19, it is likely that COVID-19 patients will present with similar impairments to physical function. Accordingly, research is required to measure the extent of functional impairments in COVID-19 cohorts. In addition, research should evaluate whether rehabilitation interventions such as exercise can promote postinfection recovery.

## C. Institutional Publications

#### British Geriatrics Society (BGS)

**Identifying older people most vulnerable to COVID-19** (2020)

[Available online at this link](https://www.knowledgeshare.nhs.uk/index.php?PageID=link_resolver&link=50d2c3424a8c7898d5eb62e5fa93cd81)

This position paper aims to summarise the concerns raised by the BGS about current government advice concerning those at greatest risk of the most adverse COVID-19 outcomes, which includes older people, and includes recommendations for how these should be taken forward.

**COVID-19: Rehabilitation of older people** (2020)

[Available online at this link](https://www.knowledgeshare.nhs.uk/index.php?PageID=link_resolver&link=9d2d748599b25ea6cd383c215ff5a970)

This page brings together resources and information relating to the rehabilitation of older people as a result of the COVID-19 pandemic, either following recovery from the virus or as a consequence of an exacerbation of other health issues due to isolation or reduced access to health services.

#### British Society of Rehabilitation Medicine (BSRM)

**Rehabilitation in the wake of Covid-19 - A phoenix from the ashes** (2020)

[Available online at this link](https://www.knowledgeshare.nhs.uk/index.php?PageID=link_resolver&link=024e1422503051bb249b8a12d51dd609)

This document sets out the BSRM’s recommendations for rehabilitation services for adults aged 16 years and over in the wake of the Covid-19 pandemic - in particular, the role of specialist rehabilitation to support patients with more complex rehabilitation needs. The guidance is not just for patients who have had Covid-19, but for all patients leaving intensive and acute care after severe illness.

#### International Long-Term Care Policy Network

**Impact and mortality of COVID-19 on people living with dementia: cross-country report** (2020)

[Available online at this link](https://www.knowledgeshare.nhs.uk/index.php?PageID=link_resolver&link=625875a6336653d4c66d0b701a3aa54a)

This report brings together international evidence on the impact of the COVID-19 pandemic on people living with dementia and an overview of international policy and practice measures to mitigate the impact of COVID-19 among people living with dementia.

#### Royal College of Physicians (RCP)

**Acute care toolkit 3 addendum: COVID-19 and acute care for older people living with frailty** (2020)

[Available online at this link](https://www.knowledgeshare.nhs.uk/index.php?PageID=link_resolver&link=c47674bf228cdb3648c6232fc9993d4d)

The principles of managing frail older patients acutely in urgent care settings remain unchanged. However, it is worth drawing attention to some COVID-19-specific issues. ... COVID-19 appears to result in accelerated frailty, and given its multi-system effects, there will be substantial implications for rehabilitation and recovery services. Similarly, the reported neurological manifestation of COVID-19, such as stroke and delirium, may lead to accelerated cognitive ageing, with important implications for health and social care systems.

## D. Original Research

1. **COVID-19 cognitive deficits after respiratory assistance in the subacute phase: A COVID-rehabilitation unit experience.**  
   Alemanno Federica PloS one 2021;16(2):e0246590.

INTRODUCTION: COVID-19 complications can include neurological, psychiatric, psychological, and psychosocial impairments. Little is known on the consequences of SARS-COV-2 on cognitive functions of patients in the sub-acute phase of the disease. We aimed to investigate the impact of COVID-19 on cognitive functions of patients admitted to the COVID-19 Rehabilitation Unit of the San Raffaele Hospital (Milan, Italy)., MATERIAL AND METHODS: 87 patients admitted to the COVID-19 Rehabilitation Unit from March 27th to June 20th 2020 were included. Patients underwent Mini Mental State Evaluation (MMSE), Montreal Cognitive Assessment (MoCA), Hamilton Rating Scale for Depression, and Functional Independence Measure (FIM). Data were divided in 4 groups according to the respiratory assistance in the acute phase: Group1 (orotracheal intubation), Group2 (non-invasive ventilation using Biphasic Positive Airway Pressure), Group3 (Venturi Masks), Group4 (no oxygen therapy). Follow-ups were performed at one month after home-discharge., RESULTS: Out of the 87 patients (62 Male, mean age 67.23 +/- 12.89 years), 80% had neuropsychological deficits (MoCA and MMSE) and 40% showed mild-to-moderate depression. Group1 had higher scores than Group3 for visuospatial/executive functions (p = 0.016), naming (p = 0.024), short- and long-term memory (p = 0.010, p = 0.005), abstraction (p = 0.024), and orientation (p = 0.034). Group1 was younger than Groups2 and 3. Cognitive impairments correlated with patients' age. Only 18 patients presented with anosmia. Their data did not differ from the other patients. FIM (<100) did not differ between groups. Patients partly recovered at one-month follow-up and 43% showed signs of post-traumatic stress disorder., CONCLUSION: Patients with severe functional impairments had important cognitive and emotional deficits which might have been influenced by the choice of ventilatory therapy, but mostly appeared to be related to aging, independently of FIM scores. These findings should be integrated for correct neuropsychiatric assistance of COVID-19 patients in the subacute phase of the disease, and show the need for long-term psychological support and treatment of post-COVID-19 patients.

[Available online at this link](https://www.knowledgeshare.nhs.uk/index.php?PageID=link_resolver&link=b924416b7edcf53a4a50077e81b827ba)

1. **Frailty and comorbidity in predicting community COVID-19 mortality in the U.K. Biobank: The effect of sampling.**  
   Mak Jonathan K. L Journal of the American Geriatrics Society 2021;:No page numbers.

BACKGROUND/OBJECTIVES: Frailty has been linked to increased risk of COVID-19 mortality, but evidence is mainly limited to hospitalized older individuals. This study aimed to assess and compare predictive abilities of different frailty and comorbidity measures for COVID-19 mortality in a community sample and COVID-19 inpatients., DESIGN: Population-based cohort study., SETTING: Community., PARTICIPANTS: We analyzed (i) the full sample of 410,199 U.K. Biobank participants in England, aged 49-86 years, and (ii) a subsample of 2812 COVID-19 inpatients with COVID-19 data from March 1 to November 30, 2020., MEASUREMENTS: Frailty was defined using the physical frailty phenotype (PFP), frailty index (FI), and Hospital Frailty Risk Score (HFRS), and comorbidity using the Charlson Comorbidity Index (CCI). PFP and FI were available at baseline, whereas HFRS and CCI were assessed both at baseline and concurrently with the start of the pandemic. Inpatient COVID-19 cases were confirmed by PCR and/or hospital records. COVID-19 mortality was ascertained from death registers., RESULTS: Overall, 514 individuals died of COVID-19. In the full sample, all frailty and comorbidity measures were associated with higher COVID-19 mortality risk after adjusting for age and sex. However, the associations were stronger for the concurrent versus baseline HFRS and CCI, with odds ratios of 20.40 (95% confidence interval = 16.24-25.63) comparing high (>15) to low (<5) concurrent HFRS risk category and 1.53 (1.48-1.59) per point increase in concurrent CCI. Moreover, only the concurrent HFRS or CCI significantly improved predictive ability of a model including age and sex, yielding areas under the receiver operating characteristic curve (AUC) >0.8. When restricting analyses to COVID-19 inpatients, similar improvement in AUC was not observed., CONCLUSION: HFRS and CCI constructed from medical records concurrent with the start of the pandemic can be used in COVID-19 mortality risk stratification at the population level, but they show limited added value in COVID-19 inpatients. Copyright © 2021 The Authors. Journal of the American Geriatrics Society published by Wiley Periodicals LLC on behalf of The American Geriatrics Society.

[Available online at this link](https://www.knowledgeshare.nhs.uk/index.php?PageID=link_resolver&link=3ed36253645d33dda51322ed7c0df6da)

1. **Impact of the COVID-19 pandemic on phase 2 cardiac rehabilitation patients in Japan.**  
   Ogura Asami Heart and vessels 2021;:No page numbers.

This study aimed to clarify the effects of the interruption of cardiac rehabilitation (CR) and refraining from going outside due to the COVID-19 pandemic on hemodynamic response and rating of perceived exertion (RPE) during exercise including differences by age in phase 2 CR outpatients. Among 76 outpatients participating in consecutive phase 2 CR in both periods from March to April and June to July 2020, which were before and after CR interruption, respectively, at Sanda City Hospital were enrolled. The inclusion criterion was outpatients whose CR was interrupted due to COVID-19. We compared the data of hemodynamic response and RPE during exercise on the last day before interruption and the first day after interruption when aerobic exercise was performed at the same exercise intensity in the < 75 years group and >= 75 years group. Fifty-three patients were enrolled in the final analysis. Post-CR interruption, peak heart rate increased significantly (p = 0.009) in the < 75 years group, whereas in the >= 75 years group, weight and body mass index decreased significantly (p = 0.009, 0.011, respectively) and Borg scale scores for both dyspnea and lower extremities fatigue worsened significantly (both, p < 0.001). CR interruption and refraining from going outside due to the COVID-19 pandemic affected the hemodynamic response, RPE during exercise and body weight in phase 2 CR outpatients. In particular, patients aged >= 75 years appeared to be placed at an increased risk of frailty.

[Available online at this link](https://www.knowledgeshare.nhs.uk/index.php?PageID=link_resolver&link=fa97525d34323144649aed349a47799e)

1. **Rehabilitation Levels in Patients with COVID-19 Admitted to Intensive Care Requiring Invasive Ventilation An Observational Study**  
   McWilliams D. Annals of the American Thoracic Society 2021;18(1):122-129.

Rationale: Patients with severe coronavirus disease (COVID-19) have complex organ support needs that necessitate prolonged stays in the intensive care unit (ICU), likely to result in a high incidence of neuromuscular weakness and loss of well-being. Early and structured rehabilitation has been associated with improved outcomes for patients requiring prolonged periods of mechanical ventilation, but at present no data are available to describe similar interventions or outcomes in COVID-19 populations. Objective(s): To describe the demographics, clinical status, level of rehabilitation, and mobility status at ICU discharge of patients with COVID-19. Method(s): Adults admitted to the ICU with a confirmed diagnosis of COVID-19 and mechanically ventilated for .24 hours were included. Rehabilitation status was measured daily using the Manchester Mobility Score to identify the time taken to first mobilize (defined as sitting on the edge of the bed or higher) and highest level of mobility achieved at ICU discharge. Result(s): A total of n = 177 patients were identified, of whom n = 110 survived to ICU discharge and were included in the subsequent analysis. While on ICU, patients required prolonged periods of mechanical ventilation (mean 19 6 10 d), most received neuromuscular blockade (90%) and 67% were placed in the prone position on at least one occasion. The mean 6 standard deviation time to first mobilize was 14 6 7 days, with a median Manchester Mobility Score at ICU discharge of 5 (interquartile range: 4-6), which represents participants able to stand and step around to a chair with or without assistance. Time to mobilize was significantly longer in those with higher body mass index (P, 0.001), and older patients (P = 0.012) and those with more comorbidities (P = 0.017) were more likely to require further rehabilitation after discharge. Conclusion(s): The early experience of the COVID-19 pandemic in the United Kingdom resembles the experience in other countries, with high acuity of illness and prolonged period of mechanical ventilation required for those patients admitted to the ICU. Although the time to commence rehabilitation was delayed owing to this severity of illness, rehabilitation was possible within the ICU and led to increased levels of mobility from waking before ICU discharge. Clinical trial registered with ClinicalTrials.gov (NCT04396197).Copyright © 2021 by the American Thoracic Society

[Available online at this link](https://www.knowledgeshare.nhs.uk/index.php?PageID=link_resolver&link=df4c7dcbb27d5d9e5e457877bafc690f)

1. **Comparison of two different frailty measurements and risk of hospitalisation or death from COVID-19: findings from UK Biobank.**  
   Petermann-Rocha Fanny BMC medicine 2020;18(1):355.

BACKGROUND: Frailty has been associated with worse prognosis following COVID-19 infection. While several studies have reported the association between frailty and COVID-19 mortality or length of hospital stay, there have been no community-based studies on the association between frailty and risk of severe infection. Considering that different definitions have been identified to assess frailty, this study aimed to compare the association between frailty and severe COVID-19 infection in UK Biobank using two frailty classifications: the frailty phenotype and the frailty index., METHODS: A total of 383,845 UK Biobank participants recruited 2006-2010 in England (211,310 [55.1%] women, baseline age 37-73 years) were included. COVID-19 test data were provided by Public Health England (available up to 28 June 2020). An adapted version of the frailty phenotype derived by Fried et al. was used to define frailty phenotype (robust, pre-frail, or frail). A previously validated frailty index was derived from 49 self-reported questionnaire items related to health, disease and disability, and mental wellbeing (robust, mild frailty, and moderate/severe frailty). Both classifications were derived from baseline data (2006-2010). Poisson regression models with robust standard errors were used to analyse the associations between both frailty classifications and severe COVID-19 infection (resulting in hospital admission or death), adjusted for sociodemographic and lifestyle factors., RESULTS: Of UK Biobank participants included, 802 were admitted to hospital with and/or died from COVID19 (323 deaths and 479 hospitalisations). After analyses were adjusted for sociodemographic and lifestyle factors, a higher risk of COVID-19 was observed for pre-frail (risk ratio (RR) 1.47 [95% CI 1.26; 1.71]) and frail (RR 2.66 [95% CI 2.04; 3.47]) individuals compared to those classified as robust using the frailty phenotype. Similar results were observed when the frailty index was used (RR mildly frail 1.46 [95% CI 1.26; 1.71] and RR moderate/severe frailty 2.43 [95% CI 1.91; 3.10])., CONCLUSIONS: Frailty was associated with a higher risk of severe COVID-19 infection resulting in hospital admission or death, irrespective of how it was measured and independent of sociodemographic and lifestyle factors. Public health strategies need to consider the additional risk that COVID-19 poses in individuals with frailty, including which additional preventive measures might be required.

[Available online at this link](https://www.knowledgeshare.nhs.uk/index.php?PageID=link_resolver&link=881bb6f406e09c1c30687c49e0664dc5)

1. **Frailty index predicts poor outcome in COVID-19 patients**  
   Bellelli G. Intensive Care Medicine 2020;46(8):1634-1636.

[Available online at this link](https://www.knowledgeshare.nhs.uk/index.php?PageID=link_resolver&link=68053758cf07240a32973ea6a88f4937)

1. **Geriatric Rehabilitation and COVID-19: a Case Report.**  
   Brika Marine SN comprehensive clinical medicine 2020;:1-9.

The COVID-19 infection has particularly affected older adults. Clinical observations in this population highlight major respiratory impairment associated with the development or aggravation of the patient's frailty state. Mr. P is a 93-year-old frail patient, hospitalized after a COVID-19 infection. The assessment process of this patient has been supported by an innovative multi-systemic tool developed in view of the COVID-19 clinical consequences and a systemic evaluation of motor functions by the Frail'BESTest. This process allowed a mixed clinical picture associated with significant respiratory distress (linked with acute respiratory distress syndrome) and an evident motor frailty. The care plan was developed accordingly, and four assessments were done in the same manner until Mr. P returned home. This case report allows us to see a holistic COVID-19 clinical picture, showing the different axes of clinical reasoning to enhance the rehabilitation process. Furthermore, this case report illustrates the importance of rehabilitation in the COVID-19 context. Copyright © Springer Nature Switzerland AG 2020.

[Available online at this link](https://www.knowledgeshare.nhs.uk/index.php?PageID=link_resolver&link=1c8941a10747283a4027ad8ddd518cc2)

1. **Physiotherapy assessment of Mr P., 93-year-old frail patient with Acute Respiratory Distress Syndrome following COVID-19 infection**  
   Bossu M. Kinesitherapie 2020;20(223):19-25.

Mr. P. is a 93-year-old patient hospitalized with a COVID 19 infection. The evaluation of this patient was carried out by means of a specific multisystemic COVID-19 assessment and a systemic evaluation of motor functions. This led to the conclusion of a mixed clinical picture associating major respiratory dysfunction in connection with acute respiratory distress syndrome and associated motor fragility. This diagnosis therefore raises the importance of a holistic assessment to target the profile of COVID-19 patients and associated dysfunctions in order to orient and determine the axes of multidisciplinary rehabilitative care. Evidence index (EVID-i): 3.4.Copyright © 2020 Elsevier Masson SAS

[Available online at this link](https://www.knowledgeshare.nhs.uk/index.php?PageID=link_resolver&link=11ecdf281c99dfc68cd54b6fcdfd350d)

1. **Physiotherapy management for COVID-19 in the acute hospital setting: Recommendations to guide clinical practice**  
   Thomas P. Pneumon 2020;33(1):32-35.

Endorsed by: World Confederation for Physical Therapy, International Confederation of Cardiorespiratory Physical Therapists, Australian Physiotherapy Association, Canadian Physiotherapy Association, Associazione Riabiliatory dell' Insufficieza, Respiratoria, Association of Chartered Society of Physiotherapist in Respiratory Care UK (ACPRC)Copyright © 2020, Technogramma. All rights reserved.

[Available online at this link](https://www.knowledgeshare.nhs.uk/index.php?PageID=link_resolver&link=3507558b1a15eab5cafa0280f9087a59)

1. **The COVID-19 rehabilitation pandemic**  
   de Biase S. Age and Ageing 2020;49(5):696-700.

The coronavirus disease 2019 (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.Copyright © The Author(s) 2020. Published by Oxford University Press on behalf of the British Geriatrics Society. All rights reserved.

[Available online at this link](https://www.knowledgeshare.nhs.uk/index.php?PageID=link_resolver&link=676344db6f68d2157b069c0f3897af6a)

1. **The Impact of Frailty on the Relationship between Life-Space Mobility and Quality of Life in Older Adults During the COVID-19 Pandemic**  
   Saraiva M.D. Journal of Nutrition, Health and Aging 2020;:No page numbers.

Background: The COVID-19 pandemic has led to abrupt restrictions of lile-space mobility. The impact of shelter-in-place orders on older adults' health and well-being is still unclear. Objective(s): To investigate the relationship between life-space mobility and quality of life (QoL) in older adults with and without frailty during the COVID-19 pandemic. Design(s): Multicenter prospective cohort study based on structured telephone interviews. Setting(s): Four geriatric outpatient clinics in the metropolitan area of Sao Paulo, Brazil. Participant(s): 557 community-dwelling adults aged 60 years and older. Measurements: The Life-Space Assessment was used to measure community mobility before and during the COVID-19 pandemic, and a previously validated decrease of >= 5 points defined restricted life-space mobility. Frailty was assessed through the FRAIL (fatigue, resistance, ambulation, illnesses, and loss of weight) scale. The impact of shelter-in-place orders on QoL was evaluated with the question <>, to which participants could respond <>, <>, or <>. We used ordinal logistic regressions to investigate the relationship between restricted life-space mobility and impact on QoL, adjusting our analyses for demographics, frailty, comorbidities, cognition, functionality, loneliness, depression, and anxiety. We explored whether frailty modified the association between life-space mobility and impact on QoL. Result(s): Participants were on average 80+/-8 years old, 65% were women, and 33% were frail. The COVID-19 quarantine led to a restriction of community mobility in 79% of participants and affected the QoL for 77% of participants. We found that restricted life-space mobility was associated with impact on QoL in older adults during the pandemic, although frailty modified the magnitude of the association (P-value for interaction=0.03). Frail participants who experienced restricted life-space mobility had twice the odds of reporting an impact on QoL when compared with non-frail individuals, with respective adjusted odds ratios of 4.20 (95% CI=2.36-7.50) and 2.18 (95% CI=1.33-3.58). Conclusion(s): Older adults experienced substantial decreases in life-space mobility during the COVID-19 pandemic, and this unexpected change impacted their QoL. Providers should be particularly watchful for the consequences of abrupt life-space restrictions on frail individuals.Copyright © 2020, Serdi and Springer-Verlag International SAS, part of Springer Nature.

[Available online at this link](https://www.knowledgeshare.nhs.uk/index.php?PageID=link_resolver&link=5feeb272b5db83027b15b5fc74a7cfd1)

1. **The role of frailty in COVID-19 patients**  
   Bellelli G. Intensive Care Medicine 2020;46(10):1958-1959.

[Available online at this link](https://www.knowledgeshare.nhs.uk/index.php?PageID=link_resolver&link=2c4ff6bfa4ba9b22a696b36538f2c485)

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### Guidance on searching within online documents

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Click on the Search button (illustrated with binoculars). This will open up a search window. Type in the term you need to find and links to all of the references to that term within the document will be displayed in the window. You can jump to each reference by clicking it.

**Word documents**  
Select Edit from the menu, the Find and type in your term in the search box which is presented. The search function will locate the first use of the term in the document. By pressing 'next' you will jump to further references.

## E. Search History

|  | **Source** | **Criteria** | **Results** |
| --- | --- | --- | --- |
| 1. | MEDLINE | exp Coronavirus/ | 61436 |
| 2. | MEDLINE | COVID-19/ | 62844 |
| 3. | MEDLINE | (coronavirus or covid).mp. | 123886 |
| 4. | MEDLINE | (ncov or 2019-nCoV or 2019nCoV or COVID-19 or COVID19 or SARS-CoV-2).mp. | 110844 |
| 5. | MEDLINE | "Severe Acute Respiratory Syndrome".mp. | 20682 |
| 6. | MEDLINE | middle east respiratory syndrome coronavirus/ or sars virus/ or sars-cov-2/ | 53216 |
| 7. | MEDLINE | (SARS or MERS).mp. | 82669 |
| 8. | MEDLINE | Influenza A Virus, H1N1 Subtype/ | 15775 |
| 9. | MEDLINE | "swine flu".mp. | 991 |
| 10. | MEDLINE | 1 or 2 or 3 or 4 or 5 or 6 or 7 or 8 or 9 | 153133 |
| 11. | MEDLINE | Frail Elderly/ or frail\*.mp. or Frailty/ | 29668 |
| 12. | MEDLINE | dementia.mp. or Dementia/ | 133776 |
| 13. | MEDLINE | 11 or 12 | 161584 |
| 14. | MEDLINE | \*Rehabilitation/ or rehabilitation.ti. | 69946 |
| 15. | MEDLINE | exp \*Physical Therapy Modalities/ | 107683 |
| 16. | MEDLINE | (physiotherap\* or "physical therapy" or mobili\*).ti. | 54528 |
| 17. | MEDLINE | falls.ti. or \*Accidental Falls/ | 17557 |
| 18. | MEDLINE | \*"length of stay"/ or \*patient readmission/ | 21175 |
| 19. | MEDLINE | ((length adj3 stay) or readmit\* or readmission\*).ti. | 13574 |
| 20. | MEDLINE | "frailty index".mp. | 1638 |
| 21. | MEDLINE | 14 or 15 or 16 or 17 or 18 or 19 or 20 | 256922 |
| 22. | MEDLINE | 10 and 13 and 21 | 17 |
| 23. | MEDLINE | limit 22 to (english language and yr="2019 -Current") | 15 |

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