

CURRENT AWARENESS BULLETIN



LONG COVID

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Aggarwal, A. et al (21/11/2023) '[Dysregulated Platelet Function in Patients with Post-Acute Sequelae of COVID-19](#)', bioRxiv.

While SARS-CoV-2 is well-known to promote a prothrombotic state, less is known about the thrombosis risk in Post-acute sequelae of COVID-19 (PASC). The objective of this study was to evaluate the platelet function and thrombotic potential in patients following recovery from SARS-CoV-2 with clear symptoms of PASC.

Aschman, T. et al (08/12/2023) '[Post-COVID exercise intolerance is associated with capillary alterations and immune dysregulations in skeletal muscles](#)', *Acta Neuropathologica Communications*, 11(1), pp. 193-2.

This study conducted an in-depth analysis of skeletal muscle biopsies obtained from eleven patients suffering from enduring fatigue and post-exertional malaise after an infection with SARS-CoV-2, and hypothesizes that the initial viral infection may have caused immune-mediated structural changes of the microvasculature, potentially explaining the exercise-dependent fatigue and muscle pain.

Brehon, K. et al (12/12/2023) "'[None of us are lying](#)": an interpretive description of the search for legitimacy and the journey to access quality health services by individuals living with Long COVID', *BMC Health Services Research*, 23(1), pp. 1396.

This study aimed to better understand the need for, access to, and quality of, Long COVID services, exploring health needs and experiences of services, including ability of services to address needs. With Long COVID services continuously evolving, our findings can inform decision makers within the health system to better understand the lived experiences of Long COVID and tailor services and policies appropriately.

Castaldo, M. et al (12/2023) '[COVID-19 and musculoskeletal pain: an overview of the current knowledge](#)', *Minerva Anestesiologica*, 89(12), pp. 1134-1142.

The most common musculoskeletal manifestations of post-COVID-19 condition include fatigue, myalgia, arthralgia or back pain. Despite pain of musculoskeletal origin is one of the most prevalent post-COVID pain symptoms, the exact pathophysiological mechanisms of musculoskeletal post-COVID pain are not completely understood. In this study they aim to highlight the clinical features, the mechanism, and the management possibilities of musculoskeletal post-COVID pain.

Choi, Y. J. et al (28/11/2023) '[Effectiveness of Antiviral Therapy on Long COVID: A Systematic Review and Meta-Analysis](#)', *Journal of Clinical Medicine*, 12(23), pp. 7375. doi: 10.3390/jcm12237375.

This systematic review aimed to evaluate the effectiveness of antiviral drugs in preventing long COVID and related hospitalizations/deaths. Early antiviral therapy was associated with a reduced risk of long Covid and related hospitalization or death. Thus, early antiviral therapy is recommended for at-risk individuals.

Cohen, J. and van der Meulen Rodgers, Y. (13/12/2023) '[An intersectional analysis of long COVID prevalence](#)', *International Journal for Equity in Health*, 22(1), pp. 261-5.

Some U.S. health surveys have found that women, lower income individuals, and those with less education are overrepresented among adults with long COVID; this study conducted an intersectional analysis of the prevalence and outcomes of long COVID in the U.S. Results point to systematic disparities in health, highlighting the urgent need for policies that increase access to quality healthcare, strengthen the social safety net, and reduce economic precarity.

de Araújo Furtado, P. L. (11/05/2023) '[The Effect of Telerehabilitation on Physical Fitness and Depression/Anxiety in Post-COVID-19 Patients: A Randomized Controlled Trial](#)', *International Journal of Telerehabilitation*, 15(1), pp. e6560.

The aim of this research was to evaluate the impact of a telerehabilitation program on physical fitness, muscle strength, and levels of depression and anxiety in post-COVID-19 patients. It found that eight weeks of functional telerehabilitation training is a viable and efficient way to rehabilitate patients affected by COVID-19, as it improved physical conditioning and mental health.

Duncan, E. et al (14/12/2023) '[Investigating Scottish Long COVID community rehabilitation service models from the perspectives of people living with Long COVID and healthcare professionals: a qualitative descriptive study](#)', *BMJ Open*, 13(12), pp. e078740-078740.

This study aimed to explore the perceptions and experiences of barriers and facilitators to accessing

Long COVID community rehabilitation. Three key themes were identified: (1) accessing care for people with Long COVID, (2) understanding Long COVID and its management and (3) strengths and limitations of existing Long COVID rehabilitation services.

Freda, M. F. et al (13/12/2023) '[Long-COVID in children: An exploratory case-control study from a bio-psycho-social perspective](#)', *Journal of Psychosomatic Research*, 176, pp. 111564.

This study aimed to determine psychosocial differences between children with Long-COVID Syndrome (LCS) and two control groups (i.e., children who did not have COVID-19 and children who had previously had COVID-19 but did not develop LCS) from a bio-psycho-social and psychosomatic perspective. This study sheds light on the need of integrating a psychosocial approach into the medical care of children with LCS and their caregivers.

Galderisi, S. et al (07/12/2023) '[Cognitive impairment after recovery from COVID-19: Frequency, profile, and relationships with clinical and laboratory indices](#)', *European Neuropsychopharmacology*, 79, pp. 22-31

This study investigated, in a large sample of patients recovered from COVID-19, the frequency of cognitive impairment (CI), and also evaluated the profile of CI and its relationships with COVID-19 clinical and laboratory indices and with psychopathological features. According to our findings, cognitive functioning should be routinely and periodically assessed in COVID-19 patients, especially in older subjects, who experienced more severe COVID-19 symptoms.

Green, C. E., Leeds, J. S. and Leeds, C. M. (09/12/2023) '[Occupational effects in patients with post-COVID-19 syndrome](#)', *Occupational Medicine*.

This study examined the impact of post-COVID-19 syndrome with respect to effects on quality of life and impact on work in a cohort of people referred to a 'Long COVID' service, and shows the extensive impact of post-COVID-19 syndrome on the ability to return to work. Specific return-to-work guidance is needed to support a large proportion of those struggling with the condition. The involvement of the Occupational Health team should form part of the multidisciplinary, collaborative approach to support rehabilitation and improve long-term outcomes for this condition.

Harris, E. (13/12/2023) '[Long COVID in Nursing Home Residents Manifests as Functional Decline](#)' JAMA Network.

People living in nursing homes tended to need more help with activities of daily living, such as bathing and dressing, for months following infection with SARS-CoV-2 compared with their peers who were not infected, a retrospective cohort study found. Nursing home residents also experienced modest declines in cognition after COVID-19 infection.

Hastie, C. E. (30/11/2023) '[True prevalence of long-COVID in a nationwide, population cohort study](#)', *Nature Communications*, 14(1), pp. 7892-w.

Long-COVID prevalence estimates vary widely and should take account of symptoms that would have occurred anyway. Here we determine the prevalence of symptoms attributable to SARS-CoV-2 infection; Long-COVID is characterised by a wide range of symptoms that, apart from altered taste and smell, are

non-specific. Care should be taken in attributing symptoms to previous SARS-CoV-2 infection.

Hoshijima, H. et al (29/11/2023) '[Incidence of long-term post-acute sequelae of SARS-CoV-2 infection related to pain and other symptoms: A systematic review and meta-analysis](#)', *PLoS One*, 18(11), pp. e0250909.

Persistent symptoms are reported in patients who survive the initial stage of COVID-19, often referred to as "long COVID" or "post-acute sequelae of SARS-CoV-2 infection" (PASC); however, evidence on their incidence is still lacking, and symptoms relevant to pain are yet to be assessed. The current meta-analysis may provide a complete picture of incidence in PASC. It remains unclear, however, whether post-COVID symptoms progress or regress over time or to what extent PASC are associated with age or sex.

Ivantsov, K. et al (2023) '[Fatigue in Patients with Long Covid](#)', *Georgian Medical News*, (342), pp. 108-112

This study aimed to characterize the metabolomic profile in patients with fatigue developing within the Long COVID, during dynamic observation. It discovered that the metabolic profile of patients with Long COVID demonstrated the complex of abnormalities at 60 days after the onset of the disease. These metabolic changes point to possible therapeutic targets for specific pathogenetic pharmacotherapy.

Krotz, A. et al (08/12/2023) '[Reducing sick leave, improving work ability, and quality of life in patients with mild to moderate Long COVID through psychosocial, physiotherapeutic, and nutritive supportive digital intervention \(MiLoCoDaS\): study protocol for a randomized controlled trial](#)', *Trials*, 24(1), pp. 798-7.

Rapidly scalable digital interventions offering support for the frequent subgroup of patients with mild to moderate impairment from Long COVID are urgently needed. The MiLoCoDaS study compares three intensities of a potentially rapidly scalable digital intervention aiming to accelerate recovery. The overall objective is to figure out if there is a difference in the effect sizes between these modalities.

Lau, R. I. et al (2023) '[A synbiotic preparation \(SIM01\) for post-acute COVID-19 syndrome in Hong Kong \(RECOVERY\): a randomised, double-blind, placebo-controlled trial](#)', *The Lancet Infectious Diseases*.

Post-acute COVID-19 syndrome (PACS) affects over 65 million individuals worldwide but treatment options are scarce. We aimed to assess a synbiotic preparation (SIM01) for the alleviation of PACS symptoms.

Lieberwerth, M. and Niemeijer, A. (2024) '[Lost and changed meaning in life of people with Long Covid: a qualitative study](#)', *International Journal of Qualitative Studies on Health and Well-Being*, 19(1), pp. 2289668.

This qualitative empirical study used a Constructivist Grounded Theory approach to investigate the meaning in life of people struggling with long covid (LC) and shows that patients lose their prior understanding of life and come to a changed meaning in life, in part due to the experienced (social) isolation and loss of (both physical and cognitive) abilities caused by LC.

McCarthy, M. W. (15/12/2023) '[Intravenous immunoglobulin as a potential treatment for long COVID](#)', *Expert Opinion on Biological Therapy*, pp. 1-7

One of the first drugs to be studied in a US nationwide initiative is intravenous immunoglobulin (IVIG), which will be a treatment option for subjects enrolled in RECOVER-AUTO, a randomized trial to investigate therapeutic strategies for autonomic dysfunction related to long COVID. This manuscript examines what is known about IVIG in the treatment of long COVID and explores how this therapeutic agent may be used in the future to address this condition.

Medscape (2023) '[New tests may finally diagnose Long Covid](#)'

One of the biggest challenges facing clinicians who treat Long Covid is a lack of consensus when it comes to recognising and diagnosing the condition. But a new study suggests testing for certain biomarkers may identify Long Covid with accuracy approaching 80%.

Obeidat, F. S., Alghwiri, A. A. and Whitney, S. L. (2023) '[Predictors of Dizziness and Hearing Disorders in People with Long COVID](#)', *Medicina*, 59(11), pp. 1901. doi:10.3390/medicina59111901.

This study aimed to explore the presence and correlates of dizziness and hearing loss in a sample of people with long-COVID syndrome. They concluded dizziness and hearing loss are present in long COVID and can be disabling. Females with high levels of fatigue should be questioned about persistent dizziness. Hearing loss should be considered in individuals with neurological symptoms and severe dizziness as a consequence of long COVID.

Overall, B., Langley, K. and Douglass, J. (01/12/2023) '[Manual Lymph Drainage for Post-COVID-19 Related Cough, Breathlessness, and Fatigue; Two Case Reports](#)', *Healthcare*, 11(23), pp. 3085. doi: 10.3390/healthcare11233085.

Manual lymph drainage (MLD) has been used to support recovery during pulmonary rehabilitation and reduce chronic inflammation including symptoms associated with long COVID. MLD may offer a non-invasive, non-pharmaceutical approach to the resolution of long-COVID symptoms such as cough, breathlessness, and fatigue.

Panzeri, A. et al (2023) '[Trauma Shaping the Psychopathological Correlates of Patients with Long-COVID: A 6-Months Longitudinal Study with Repeated Measures Mixed Models](#)', *Psychiatry Research*, 330, pp. 115609

This research aimed at investigating how the experience of trauma can influence the psychological correlates of long-COVID over time in a clinical sample of patients hospitalized because of COVID-19. These findings shed light on the long-term psychological consequences of COVID-19 among hospitalized patients and highlight the key role of trauma, suggesting its assessment to tailor psychological interventions.

Paramythiotis, D. et al (2023) '[Post-COVID-19 and Irritable Bowel Syndrome: A Literature Review](#)', *Medicina*, 59(11), pp. 1961. doi: 10.3390/medicina59111961.

This review aims to analyze the GI involvement and the prolonged symptoms of COVID-19 infection as part of post-Covid syndrome (PCS), in order to explore the potential development of post-infection IBS (PI-IBS) in COVID-19 patients. Irritating factors such as enteric infection, psychosocial conditions, food antigens, and antibiotics may lead to abnormalities in the physiological function of the GI system and

could be involved in the development of PI-IBS.

Paris, D. et al (15/12/2023) '[The biomarkers' landscape of post-COVID-19 patients can suggest selective clinical interventions](#)', *Scientific Reports*, 13(1), pp. 22496-4.

This study investigated the biomarkers that define the post-COVID-19 clinical state, analyzing the exhaled breath condensate (EBC) of 38 post COVID-19 patients and 38 sex and age-matched healthy controls via nuclear magnetic resonance (NMR)-based metabolomics. Taken together, the multiomics data indicated that post-COVID-19 patients before rehabilitation are characterized by persistent inflammation, dysregulation of liver, endovascular thrombotic and pulmonary processes, and physical impairment, which should be the primary clinical targets to contrast the post-acute sequelae of COVID-19.

Pleguezuelos, E. et al (15/12/2023) '[Effect of different types of supervised exercise programs on cardiorespiratory and muscular fitness, pain, fatigue, mental health and inflammatory and oxidative stress biomarkers in older patients with post-COVID-19 sequelae "EJerSA-COVID-19": a randomized controlled trial](#)', *BMC Geriatrics*, 23(1), pp. 865-3.

This study aims to investigate the effects of different exercise programs on physical and mental fitness, physical condition and biomarkers of the immune system and oxidative stress in older patients with post-COVID-19 sequelae. The results of this study will provide insights into the effects of different exercise programs on physical and mental fitness, physical condition and biomarkers of the immune system and oxidative stress in older patients with post-COVID-19 sequelae.

Sanal-Hayes, N. E. M. et al (15/12/2023) '[Post-Traumatic Stress Disorder and Complex Post-Traumatic Stress Disorder in people with long COVID, ME/CFS, and controls](#)', *The American Journal of Medicine*.

This study aimed to determine the prevalence of PTSD and CPTSD in individuals with long COVID and ME/CFS, and age-matched controls. Findings of this study demonstrated that individuals with long COVID generally had more cases of PTSD and CPTSD than individuals with ME/CFS and healthy controls.

Sánchez-García, J. C. et al (2023) '[Long COVID and Physical Therapy: A Systematic Review](#)', *Diseases*, 11(4), pp. 163. doi: 10.3390/diseases11040163.

The aim of this study is to conduct a systematic review of studies conducted in patients with long COVID in conjunction with interventions targeting respiratory function, particularly involving physical activity. The results obtained have positive implications for the advancement of physical activity as a therapeutic intervention for individuals with long COVID-19 and the conceptualization of evidence-based treatment protocols. Statistically significant results have been observed in studies of at least 6 weeks duration, in which inspiratory muscle training exercises are proposed.

Shil, R. S. K. et al (08/12/2023) '[A clinical approach to the investigation and management of long COVID associated neuropathic pain](#)', *European Archives of Psychiatry and Clinical Neuroscience*.

Around one in three people with COVID-19 develop neurological symptoms with many reporting neuropathic pain and associated symptoms, including paraesthesia, numbness, and dysesthesia. Whilst

the pathophysiology of long COVID-19-associated neuropathic pain remains unclear, it is likely to be multifactorial. Early identification, exclusion of common alternative causes, and a biopsychosocial approach to the management of the symptoms can help in relieving the burden of disease and improving the quality of life for patients.

Sousa, F. d. C. et al (2023) '[Possible association of urinary incontinence with post-COVID-19: a report of three cases](#)', *Journal of Infection in Developing Countries*, 17(11), pp. 1544-1548.

This report aims to delineate three cases in women with UI possibly associated with post-severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) infection. This case report is relevant in improving our understanding and lead to future research about the possibility of clinical variations as UI after infection by SARS COV 2 contributing to greater awareness in the diagnostic workup and allowing for earlier treatment and management. It is concluded that the surveillance of the distinct symptomologies associated with the SARS-CoV-2 infection is fundamental, because there is no adequate corroboratory evidence in the scientific literature, for the cases of pelvic floor muscles weakness that causes UI.

Thurgur, H. et al (17/12/2023) '[Feasibility of a cannabidiol \(CBD\)-dominant cannabis-based medicinal product \(CBMP\) for the treatment of Long COVID symptoms: A single arm open-label feasibility trial](#)', *British Journal of Clinical Pharmacology*.

This study aimed to conduct a single arm open-label feasibility trial of the safety and tolerability of a full-spectrum cannabidiol (CBD)-dominant cannabis-based medicinal product (CBMP) for treating the symptoms of Long COVID. The study drug was safe and well tolerated, demonstrating feasibility of CBD-dominant CBMPs in individuals diagnosed with Long COVID..

Vivaldi, G. et al (2023) '[Long-term symptom profiles after COVID-19 vs other acute respiratory infections: an analysis of data from the COVIDENCE UK study](#)', *EClinicalMedicine*, 65, pp. 102251.

This study aimed to compare symptom profiles between people with previous SARS-CoV-2 infection, people with previous non-COVID-19 acute respiratory infections (ARIs), and contemporaneous controls, and to identify clusters of long-term symptoms. Both SARS-CoV-2 and non-COVID-19 ARIs are associated with a wide range of symptoms more than 4 weeks after the acute infection. Research on post-acute sequelae of ARIs should extend from SARS-CoV-2 to include other pathogens.

Wu, J-Y. et al (2023) '[Nutritional deficiency anemia and post-acute sequelae in patients with severe acute respiratory syndrome coronavirus 2 infection: A six-month retrospective cohort analysis of 30 892 patients](#)', *Journal of Medical Virology*, 95(11), pp. e29246.

The effect of anemia on the post-acute outcome of patients with severe acute respiratory syndrome coronavirus 2 infection was unclear. This study aimed to investigate the potential association between nutritional deficiency anemia (NDA) status and post-acute sequelae of patients with SARS-CoV-2 infection.

Yang, J. et al (2023) '[Complementary and alternative medicine for long COVID: a systematic review of randomized controlled trials](#)', *Therapeutic Advances in Chronic Disease*, 14, pp. 20406223231204727

Complementary and alternative medicine (CAM) interventions are growing in popularity as possible treatments for long COVID symptoms. However, comprehensive analysis of current evidence in this setting is still lacking. This study aims to review existing published studies on the use of CAM interventions for patients experiencing long COVID through a systematic review.

Zheng, C. et al (16/12/2023) '[Association of Sedentary Lifestyle with Risk of Acute and Post-Acute COVID-19 Sequelae: A Retrospective Cohort Study](#)', The American Journal of Medicine.

Although various risk factors for COVID-19 sequelae have been identified, little is known about whether a sedentary lifestyle is an independent risk factor. In this retrospective cohort study, 4,850 participants self-reported their COVID-19 sequelae symptoms; and prolonged sedentary behavior was independently associated with a higher risk of both acute and post-acute COVID-19 sequelae, whereas physical inactivity played contradictory roles in COVID-19 sequelae.

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