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BERZELIUS SYMPOSIUM 106



REHABILITATION OF POST COVID-19 CONDITION

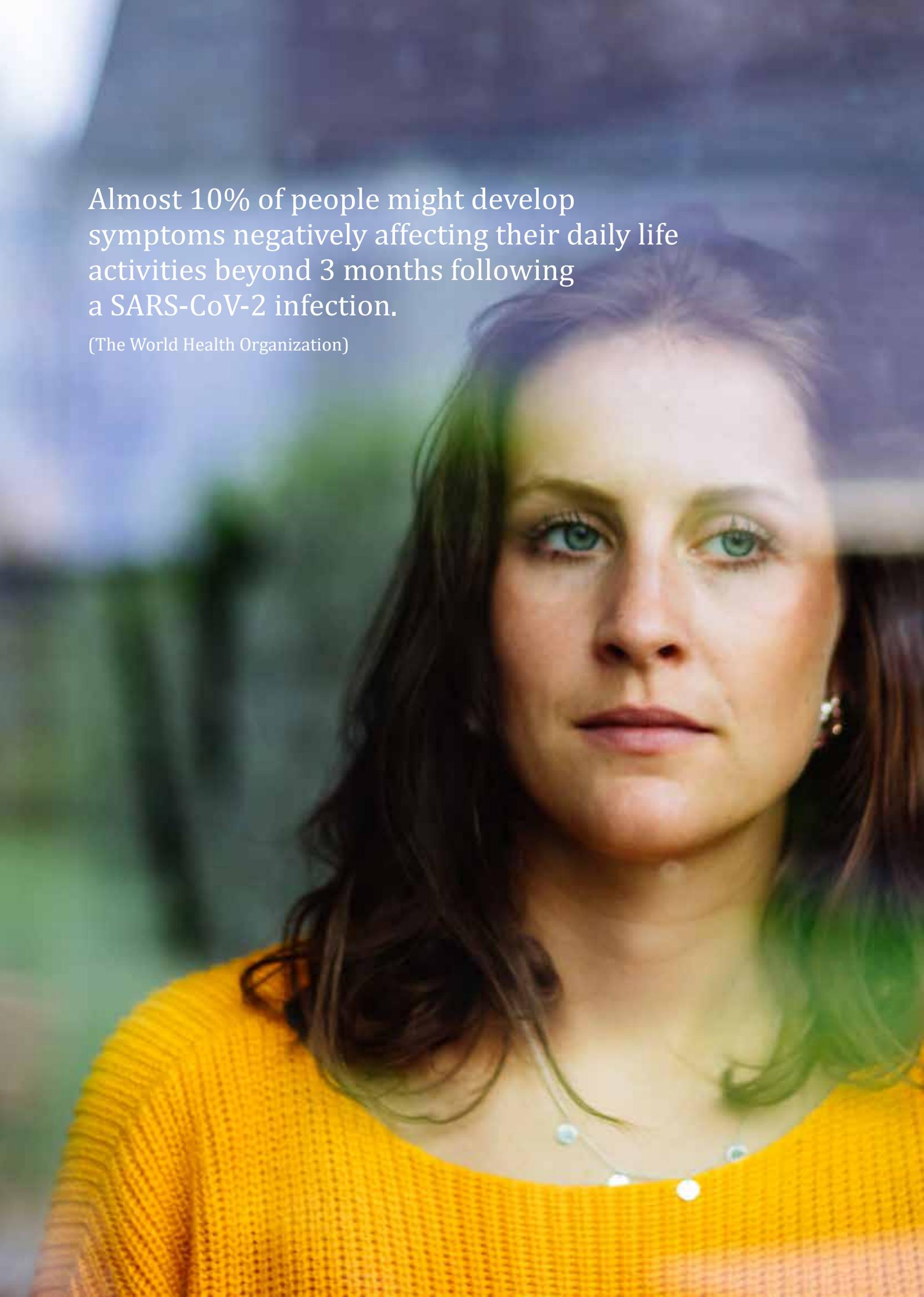
– an update of knowledge

Stockholm 13th January 2023
The Swedish Society of Medicine

Berzelius Symposium 106 is organized by the Swedish Society of Physical and Rehabilitation Medicine in cooperation with Karolinska Institutet and the Swedish Society of Medicine.

Almost 10% of people might develop symptoms negatively affecting their daily life activities beyond 3 months following a SARS-CoV-2 infection.

(The World Health Organization)



BERZELIUS SYMPOSIUM 106

REHABILITATION OF POST COVID-19 CONDITION – AN UPDATE OF KNOWLEDGE

The World Health Organization (WHO) appreciates that almost 10% of people might develop symptoms negatively affecting their daily life activities beyond 3 months following a SARS-CoV-2 infection. There is a huge need of scientific studies in physical and rehabilitation medicine to understand the management of disabling symptoms of the post COVID-19 condition.

This one-day symposium will contain a series of lectures by leading specialists and scientists in physical and rehabilitation medicine in Sweden and abroad, involved in rehabilitation of people suffering from post COVID-19 condition.

The symposium is a first-time scientific event in Sweden gathering clinical researchers and clinicians in the field of physical and rehabilitation medicine and inviting other health workers as well as decision-makers to share the existing knowledge in management of post COVID-19 condition.

This hybrid symposium is organized to increase our understanding in physical and rehabilitation medicine for clinicians and other health care workers who meet patients with persistent symptoms after SARS-CoV-2 infection; the so-called post COVID-19 condition.

Welcome to the symposium!

Organizing and scientific committee

Indre Bileviciute-Ljungar, Stockholm, Kristian Borg, Stockholm and Richard Levi, Linköping, Sweden.



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**Karolinska
Institutet**

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PROGRAM 13 JANUARY 2023

8.00-8.30 Registration of participants

8.30-8.40 Opening

Kristian Borg, professor in physical and rehabilitation medicine at Karolinska Institutet, Head of Swedish Society for physical and Rehabilitation Medicine.

8.40-9.00 The national picture of Post COVID-19 Condition

Thomas Lindén, director of Knowledge-Based Policy of Health Care, National Board of Health and Welfare, Sweden.

Thomas Lindén is a director of Knowledge-Based Policy of Health Care, National Board of Health and Welfare, Sweden. He is also associated professor at dept. of Clinical Neurosciences at University of Gothenburg, Gothenburg, Sweden.

9.00-9.30 WHO guidance for rehabilitation of Post COVID-19 Condition

Wouter De Groot, MD, technical advisor at WHO Rehabilitation, Belgium.

Dr. De Groot works for the Rehabilitation Programme in the Department of Noncommunicable Diseases at the WHO Headquarters in Geneva, Switzerland, where he is dedicated to COVID-19 related activities and strengthening rehabilitation in health information systems. He has a specialty in Physical and Rehabilitation Medicine, and has been head of the inpatient Rehabilitation Department at AZ Rivierenland (Belgium) for 10 years.

9.30-10.00 Post COVID-19 Condition: evaluation, education, multisystemic and physical rehabilitation medicine coordinated therapies

Francois Constant Boyer, professor in physical and rehabilitation medicine at Reims Champagne Ardenne University, France.

Francois Constant Boyer is professor in physical and rehabilitation medicine at Research unit 3797 VieFra, Reims Champagne Ardenne University and working clinically at Neuromuscular expert center, Respiratory, vestibular, stroke and locomotor rehabilitation at Sébastopol Hospital, France.

10.00-10.30 Coffee break

10.30-11.00 Short- and long-term rehabilitation needs in a cohort of previously hospitalized patients with Covid-19 during the 1st pandemic wave: experiences from the Linköping Covid-19 Study

Richard Levi, professor in physical and rehabilitation medicine at Linköping University and Linköping University Hospital, Linköping, Sweden.

Richard Levi is professor in physical and rehabilitation medicine and clinician at dept. of Rehabilitation Medicine, Linköping University and Linköping University Hospital, Linköping, Sweden.

11.00-11.30 The importance of the neuropsychological examination in the rehabilitation of patients with cognitive symptoms following Post COVID-19 Condition. Experiences from the cognitive clinic at Danderyd hospital (Stockholm, Sweden)

Marika Möller, associated professor in neuropsychology at Karolinska Institute, Stockholm, Sweden.

Marika Möller is associated professor in neuropsychology at dept. of Clinical Sciences, Karolinska Institutet and working clinically as neuropsychologist at dept. of rehabilitation medicine, Danderyd University Hospital, Stockholm, Sweden. Her major interests are cognitive fatigue and functioning after brain injury.

11.30-12.00 Multimodal internet-based group rehabilitation for Post COVID-19 Condition after mild infection – results from a randomized study

Indre Bileviciute-Ljungar, associated professor in physical and rehabilitation medicine at Karolinska Institutet, Stockholm, Sweden.

Indre Bileviciute-Ljungar is associated professor in physical and rehabilitation medicine at dept. of Clinical Sciences, Karolinska Institutet and working as pain specialist at Multidisciplinary Pain Clinic, St. Göran Hospital, Stockholm, Sweden. Recent clinical and research activities are focused on pain and autonomic dysfunction after SRS-CoV-2 infection, including multimodal approach and use of ICF (International Classification of Functioning and Disability).

12.00-13.00 Lunch

13.00-13.30 Pulmonary and cardiovascular rehabilitation of patients with Post COVID-19 Condition

Malin Nygren-Bonnier, associated professor in physiotherapy, at Karolinska Institutet, Stockholm, Sweden.

Malin Nygren-Bonnier is associated professor at division of Physiotherapy, depart. of NVS, Karolinska Institutet. She is a leader of a research group working on interventions for people with a decreased lung function due to different problems or disorders, including post COVID-19 condition.

13.30-14.00 Rehabilitation after COVID-19, our experience... Can Telerehabilitation be helpful?

Iuly Treger, MD, PhD, MHA, Director of Rehabilitation at Soroka Medical University Center, and Lena Lutsky Treger, MD, MHA, Clalit Health Services, Israel.

Iuly Treger is Doctor in physical and rehabilitation medicine and Director of Rehabilitation in Soroka Medical University Center. He is a president of Israeli Association of Physical and Rehabilitation medicine. Lena Lutsky Treger is Chief Rehabilitation Specialist at South Department Clalit Health Services, Israel.

14.00-14.30 Coffee break

14.30-15.00 Importance of physical and rehabilitation medicine interventions after SARS-CoV-2 infection

Dovilė Važgėlienė, Doctor in physical and rehabilitation medicine at the Lithuanian University of Health Sciences (LSMU), Kaunas, Lithuania, Gintarė Repečkaitė, Doctor in physical and rehabilitation medicine at the Lithuanian University of Health Sciences (LSMU), Kaunas, Lithuania and Raimondas Kubilius, professor in physical and rehabilitation medicine at Lithuanian University of Health Sciences, Lithuania.

15.30-16.00 The long-term situation after having SARS-CoV-2 infection

Katharina Stibrant Sunnerhagen, professor in physical and rehabilitation medicine at University of Gothenburg, Sweden.

Katharina Stibrant Sunnerhagen is professor in physical and rehabilitation medicine at dept. of Clinical Neuroscience, at University of Gothenburg and head of dept. of Rehabilitation Medicine, Sahlgrenska University Hospital, Gothenburg, Sweden.

16.00-16.45 Panel discussion

16.45-17.00 Closing conference



There is a huge need of scientific studies in physical and rehabilitation medicine to understand the management of disabling symptoms of the post COVID-19 condition.

ABSTRACTS

The national picture of Post COVID-19 Condition

Thomas Lindén, director of Knowledge-Based Policy of Health Care, National Board of Health and Welfare, Sweden.

Post COVID-19 condition occurs in individuals with a history of probable or confirmed SARS-CoV-2 infection, usually 3 months from the onset of COVID-19 with symptoms that last for at least 2 months and cannot be explained by an alternative diagnosis. For most people, the symptoms of an infection with covid-19 gradually decrease, but some get persistent or severe symptoms and need examination, treatment and rehabilitation. Severe fatigue and generally poorer health are common - but the symptoms vary widely. The National Board of Health and Welfare was first commissioned by the government the latter part of 2020 to produce guidance for the health and medical services due to this new disease. The work led to various forms of guidance, with recommendations for the entire chain of care, including support for sick leave. We also continuously showed how the disease affects the healthcare system via statistics from registers and surveys.

WHO guidance for the rehabilitation of Post COVID-19 Condition

Dr. De Groot Wouter, Rehabilitation Programme, Non-communicable Disease Department, World Health Organization.

Since the outbreak of the pandemic, the WHO rehabilitation Programme has developed and published several resources for the rehabilitation of COVID-19 and Post COVID-19 Condition. These include guidance to enhance information systems and research, governing measures, and clinical management. This presentation will address different developments to guide and support the rehabilitation of people with Post COVID-19 Condition, with special attention to the WHO living guideline for the clinical management

Post COVID-19 Condition: multi-component evaluation, individualized physical rehabilitation medicine and coordinated therapies

Francois Constant Boyer, professor in physical and rehabilitation medicine at Reims Champagne Ardenne University, France.

Boyer Fc1,2 (MD, PhD), Taiar R3 (PhD), Rapin A1, 2 (MD, MSH), 1EA 3797, VieFrA, Université Reims Champagne Ardenne, Rue Cognacq Jay, 51095, Reims, France ; 2Groupe Hospitalier Universitaire de Champagne, Unité de Médecine Physique et de Réadaptation, Hôpital Sébastopol, 51092, Reims, France ; 3MATIM, Université de Reims Champagne Ardenne, Reims, France

Key words : COVID-19, post-covid condition, rehabilitation, persisting symptoms, functional status

Introduction

'post covid condition', 'long covid', 'long haulers covid', 'post intensive care syndrome', 'non severe-multi organ sequelae' are different terms to define persistent consequences after an acute infection of SARS-CoV2. How to assess the post-covid condition after acute infection of this viral infection? What are the risk factors for prolonged effects of an acute SARS-CoV2 infection? Have you identified the pathophysiology(ies) responsible for the prolonged post covid syndrome? How to apply self management and coordinate rehabilitation in patients with prolonged and persistent post-covid syndrome?

Methodology

Bibliographic searches are carried out on pubmed, embase and scopus from January 2020 to december 2022 using the terms 'rehabilitation', 'post covid condition', 'long covid', 'cohort studies', 'randomized controlled studies', 'prognosis', 'pathophysiology', 'physical therapies'. When reading the studies, the methodological quality and the generalizability of the results are established.

Results

Definitions of prolonged effects of acute infection vary depending on whether patients were hospitalized, whether there was a critical care intervention, age, number of symptoms in first week, IGg antibody level anti spike, immunosuppression and according to pre-infectious mental comorbidities. The physiopathology is poorly documented but some hypothesis are established. Rehabilitation evaluations are individualized on symptoms and concern the analysis of physical elements (physical fitness, nutrition, strength, pain, fatiguability), mental elements (fatigue, sleep, mood disorders, anxiety, the search for a post –traumatic syndrom) and the primary or secondary cognitive aspects.

Discussion

The care of patients differs depending on whether the patient has been hospitalized, resuscitated, the physical and mental elements are generally associated. Cognitive impairment is not at all associated with the intensity of physical and mental impairment. The pathophysiology remains poorly documented. Controlled intervention trials testing physical therapy or education are insufficient.

Short- and long-term rehabilitation needs in a cohort of previously hospitalized patients with Covid-19 during the 1st pandemic wave: experiences from the Linköping Covid-19 Study

Richard Levi, professor in physical and rehabilitation medicine at Linköping University and Linköping University Hospital, Linköping, Sweden.

The Linköping COVID-19 Study (LinCOS) comprises a longitudinal analysis of post-COVID symptoms and activity limitations in a population-based cohort of patients hospitalized in one of 21 Swedish healthcare regions (Region Östergötland, RÖ) during the first pandemic wave in the spring of 2020. The study was undertaken with the dual purpose of a scientific study and a clinical follow-up, including triage to rehabilitation. Patients with severe premorbid conditions or coincidental COVID-19 diagnosis (ie hospitalized for other conditions) were excluded from the study. Patients were followed-up at four months post-discharge by a structured telephone interview, at which time only 13% were fully recovered. Among those with lingering COVID-related problems, about half reported at least moderate persisting limitations in daily life activities or worse. These patients were invited to a subsequent clinical assessment at five months post-discharge by a rehabilitation team, whereby self-reported problems were assessed for objective correlates and patients were triaged to adequate auxiliary investigations and/or rehabilitative interventions. LinCOS was concluded by a two-year follow-up performed in 2022. It is concluded that at least 25% of patients in the population-based cohort displayed lingering symptoms corresponding to the diagnosis of Post COVID Condition (PCC) at a two-year follow-up. On a positive note, improvements were found with time during the period. LinCOS has yielded eight papers, out of which seven are published and one is under review. The main findings will be summarily presented.

The importance of the neuropsychological examination in the rehabilitation of patients with cognitive symptoms following Post COVID-19 condition. Experiences from the Cognitive Clinic at Danderyd Hospital
Marika Möller, Associate professor, adjunct senior lecturer in neuropsychology, Department of Clinical Sciences, Danderyd Hospital, Karolinska Institutet, Stockholm, Sweden.

Reports of cognitive symptoms are common after COVID-19 – even in patients who have not been hospitalized. Self-reported symptoms have to some extent been able to be validated in later meta-analyses – at least three months after the infection, but it is still unclear how long-lasting the symptoms are, and which type of rehabilitation is best suited for these patients.

Data of neuropsychological function in 80 patients from the COVID clinic at Danderyd University Hospital with perceived cognitive impairments and fatigue at least 3 months and up to two years after a COVID-19 infection were analyzed. At the group level, we found above all impaired verbal learning and memory functions, but when the data was analyzed based on different levels of education, a somewhat more complex picture emerged. Our results are in line with those from meta-analyses, ie impairments are found mainly on tests measuring attention and memory. However, there were very large performance differences between the patients, which indicate that decisions about rehabilitation must be made based on the individual's needs and not on results on group level. Based on this, four different forms of rehabilitation interventions are carried out. The first being feedback from the neuropsychological examination based on the individual test profile and advice on compensatory strategies on one or a few occasions, the second individual meetings with an occupational therapist focusing on practical advice on problems in everyday life and working life, the third internet-based rehabilitation (e-rehab-Cog) and the last multimodal rehabilitation performed during 8 weeks in groups with a complete rehabilitation team. Currently data are collected and hopefully evidence for the efficiency of the different rehabilitation interventions soon will be available.

Multimodal internet-based group rehabilitation for Post COVID-19 Condition after mild infection – results from a randomized study
Indre Bileviciute-Ljungar, associated professor in physical and rehabilitation medicine at Karolinska Institutet, Stockholm, Sweden.

Post COVID-19 condition is characterized by many symptoms affecting daily functioning and activities. In this randomized study we investigated multimodal internet-based rehabilitation approach for people with remaining symptoms after SARS-CoV-2 infection. An internet-based 8 weeks multimodal rehabilitation program in group included weekly 6 hours of rehabilitation sessions (3 days/week) and 3 hours exercise on own hand by using ExorLive application under supervision of a physiotherapist. Psychoeducation by team members (physician, psychologist, physiotherapist and ergotherapist), physical exercises, ACT-based psychological interventions in combination with mindfulness, relaxation, yoga and breathing exercises as well as ergo therapeutic interventions were offered during online sessions. Weekly individual sessions with every team member were also offered with aim to formulate individual rehabilitation goals as a part of rehabilitation process. The study was performed twice during 2021 and once during 2022 and was granted by Vinnova.

From 162 people who registered for the study, a major part of participants were middle aged (mean 45 years) females (82% women) after mild SARS-CoV-2 infection (mean symptom duration 54 weeks). Among other questionnaires, 67 participants completed

International Classification of Functioning and Disability categories before and after 8 weeks multimodal internet-based rehabilitation program. Forty-two participants act as waiting list controls with corresponding measurements. Results indicate improved functions in both groups after 8 weeks. However, the rehabilitation group scored convincingly more improvements in functions as compared to the waiting list (22 categories presented). Several activities and participation categories were improved in rehabilitation group while the controls practically did not show any improvement (16 categories presented).

Results indicate that multimodal internet-based rehabilitation in group should be an option for people suffering from post COVID-19 condition. Long-term follow-up will be completed during 2023.

Pulmonary and cardiovascular rehabilitation of patients with Post COVID-19 Condition

Malin Nygren-Bonnier, physiotherapist, associate professor, Karolinska Institutet and Karolinska University Hospital.

COVID-19 may affect several physiological systems including the respiratory, cardiovascular and neurological systems and can cause cardiovascular and pulmonary sequelae such as thrombosis, myocarditis, postural orthostatic tachycardia syndrome (POTS), endothelial dysfunction, air trapping, or pulmonary fibrosis. Some of the most common remaining symptoms for patients with Post COVID-19 condition are due to pulmonary and cardiovascular sequelae such as dyspnea, a dysfunctional breathing pattern and chest pain, but a variety of other persistent symptoms such as fatigue, cognitive impairment and depression are also common. Altogether, these symptoms affect the physical, psychological, and cognitive function and leads to an impaired health-related quality of life (HRQoL). Regardless of severity, both for patients who as been hospitalized and for those who have not been hospitalized but still suffer from the long-term consequences, rehabilitation is suggested to improve function and HRQoL. For those with persistent breathlessness, fatigue, reduced exercise capacity, pulmonary muscle weakness and cardiovascular conditions, cardiopulmonary rehabilitation programs is recommended. These rehabilitation programs are based on an individualized physical training to improve. However, some individuals with Post COVID-19 condition may experience post-exertional malaise after physical activity or exercise and therefore a gradual increase in physical activity and exercise should be recommended.

In this presentation the most common pulmonary and cardiovascular conditions will be demonstrated and the clinical findings of the assessments of function. An overview of the latest recommendations for cardiopulmonary rehabilitation will be presented as well as some of on-going studies and preliminary results.

Rehabilitation after COVID-19, our Experience... Can Telerehabilitation be helpful?

Iuly Treger, MD, PhD, MHA, Director of Rehabilitation at Soroka Medical University Center, Beer Sheva, Israel, President, Israel Association of Physical & Rehabilitation Medicine, Lena Lutsky Treger, MD, MHA, Director of Rehabilitation at South Department, Clalit Health Services, Israel.

Since 1995 the National Health Insurance Law came into effect and health care in Israel became universal. The law determined a uniform benefits package for all

citizens, which each of the Health Maintenance Organizations is required to fund for its members. A primary medical rehabilitation after severe injuries and diseases is included into the health package till the time limit of 3 months after the injury and is covered by the National Insurance. In South of the country Clalit Health Fund manages its rehabilitation services as a unified professional space, as in- and outpatient programs. Through the COVID-19 pandemics it allowed to manage all rehabilitation services in the region in optimal, professional, and cost-effective way.

According to our experience patients with severe COVID-19 with long periods of artificial ventilation and heavy functional decline need to be hospitalized in inpatient rehabilitation department for multiprofessional and intensive rehabilitation program. All of them can be divided into 3 main groups: patients with predominantly pulmonary complains; with weakness and deconditioning; and patients with neurological complications. Length of stay differs between groups, but all of them show very good functional improvement and can be discharged home for outpatient rehabilitation and strengthening program.

Patients with light or intermediate symptoms of Post COVID-19 are mostly managed in our region by family practitioner and in outpatient mono-therapy HMO clinics, according to the most significant complaint. Nevertheless, in severe cases with multiple signs and major decline in functional ability and quality of life, multiprofessional rehabilitation project under the supervision of PRM doctor must be ordered to achieve the best improvement.

In our experience Telerehabilitation programs can help a lot in managing the growing number of patients, including Post COVID-19 victims. The explosive growth of those programs through the pandemics due to understandable reasons was followed by significant decline and even kind of abstention after. Despite of that, we believe, that both the professional community and patients will find the optimal way to use telerehabilitation programs in everyday practices.

Importance of physical rehabilitation interventions after SARS-CoV-2 infection - Lithuanian experience

Dovilė Važgėlienė (MD PhD), Gintarė Repečkaitė (MD PhD) and Raimondas Kubilius, professor in physical and rehabilitation medicine at Lithuanian University of Health Sciences, Lithuania.

Studies have shown that persistent symptoms after SARS-CoV-2 infection might be associated with age, gender, sociodemographic factors, comorbidities and acute infection. We have previously reported a study of 1,050 participants (mean age 41 years, 88% women) performed during 2021 and showing that a presence of acute and, in particularly, persistent symptoms after mild infection was predicted by taking daily medication before infection. In the next step we completed the survey with question on pharmacological and non-pharmacological treatments. Our preliminary results from 484 participants (mean age 44 years, 89% women, 46% having any comorbidity prior to infection) indicate that approximately 10% got a new diagnosis and almost 30% started with new medication or supplements/vitamins after mild SARS-CoV-2 infection. The most frequent pharmacological treatment before infection was against cardiovascular disease (20%). Preliminary results indicate that 31% of 2654 participants asked and got physical rehabilitation interventions for remaining symptoms after SARS-CoV-2 infection during 2022. The complete analysis of survey will be performed during 2023.

When restoring functions and activities, physical and rehabilitation medicine also provides interventions according to the need of the patient. However, the evidence regarding stimulation techniques for postCOVID-19 syndrome is absent.

Therefore, we have initiated a study on Transcutaneous Electrical Diaphragm Stimulation (TEDS) to investigate if TEDS might be beneficial for patients with both acute and persistent symptoms after SARS-CoV-2 infection.

Altogether our results indicate that physical and rehabilitation medicine is important when treating both acute and persistent symptoms after SARS-CoV-2 infection and might be an alternative or complement to pharmacological treatments.

The long-term situation after having SARS-CoV-2 infection

Katharina Stibrant Sunnerhagen, professor in physical and rehabilitation medicine at University of Gothenburg, Sweden.

Most people who catches COVID-19 infection experience mild or moderate symptoms. Approximately 10-15 % progress to severe illness and around 5 % become critically ill. Most people recover from the infection in 2-6 weeks. Remaining problems long after the infection are seen both in those that have been critically ill and requiring hospitalization and people who remained at home.

In the general population, remaining symptoms might occur in about one out of eight people with COVID-19. Common symptoms of post-COVID-19 were chest pain, breathing difficulties and pain when breathing, experiencing a lump in the throat, sore muscles, impaired smell or taste, alternately feeling hot or cold, tingling sensations and fatigue.

In Sweden, the median duration of sick leave due to COVID-19 infection in the first wave (11,955 people), was 35 days (average 59.4 days). Moreover, 2.9% remained on sick leave for at least 12 months. Having been hospitalized or having several periods of sick leave the year prior covid, was associated with longer sick leave. Qualitative interviews (11 persons, 9 men and 2 women, with an average age of 54 years at the time of covid) indicate that at 12 months post discharge (late first and early second wave) from the hospital, the year was characterized by difficulties both physically and mentally, which created worries for the future. As in many other conditions, the recovery was fast in the beginning but a year after, people experienced a plateau and that they were not back to normal. However, many express a gratitude of being alive. Long-term after covid can lead to a life with a greater focus on intrinsic values and close social relations.

THE SWEDISH SOCIETY OF MEDICINE (SSM)

The Swedish Society of Medicine (SSM) is the independent scientific and professional organisation of the Swedish medical profession. We were founded in 1808 and are one of the oldest medical organisations in Europe. We are a nonprofit organisation and a forum for discussing and developing health and health care by promoting Medical Research, Ethics, Education and Quality.



Jöns Jacob Berzelius, one of the most prominent natural scientists of the 19th century, was born in 1779 in Väversunda, in the county of Östergötland in southern Sweden, a region with rich cultural traditions. Orphaned at an early age, he went to several fosterhomes and received his schooling in nearby Linköping. After graduating in medicine at the University of Uppsala, he moved to Stockholm, where he became assistant master without pay at the so-called »Surgical School«, and worked as a doctor for poor people. At the age of 28 he became professor of medicine and pharmacy.

In 1808 Berzelius was one of the seven men who founded The Swedish Society of Medicine »For the perfection of science through mutual mediation of knowledge and collective experience, for the promotion of friendly confidence between doctors«.

Berzelius have enriched our knowledge of nature of life phenomena, established the atomic weights of most of the known elements, presented his electrochemical theory for the understanding of the nature of chemical compounds and laid the foundation for the sciences of the chemistry of rock types. He also found that elements combine with each other according to fixed numerical relationships. In addition to this, in his striving for order and method, with his talent for simplicity and clarity in expression, he created the chemical symbolic language in 1813, which since that time has been an essential instrument of chemistry.

With time he became a practised lecturer but preferred to express himself in writing and this he did superbly. Impressive are the great scientific works where he also demonstrated his interest and ability to spread knowledge about the latest advances of natural sciences.

Berzelius delight in research and debate was united with a great humility before the great scientific questions. Both his attitude and artistry of formulation is illustrated by the following passage in his *Manual of Cheamistry* (vol 3, 1818):

»All our theory is but a means of consistently conceptualizing the inward processes of phenomena, and it is presumable and adequate when all scientifically known facts can be deduced from it. This mode of conceptualization can equally well be false and, unfortunately, presumable is so frequently. Even though, at a certain period in the development of science, it may match the purpose just as well as a true theory. Experience is augmented, facts appear which do not agree with it, and one is forced to go in search of a new mode of conceptualization within which these facts can also be accomodated; and in this manner, no doubt, modes of conceptualization will be altered from age to age, as experiance is broadened, and the complete truth may perhaps never be attained. But even if the goal can never be reached, let us never abondon our endeavor to get closer to it.«

Parts of this text is found in: Berzelius – Creator of the chemical language, by Carl Gustaf Bernhard, the Royal Swedish Academy of Sciences

HISTORY OF THE SSM BUILDING



In 1879, the Swedish Society of Medicine (SSM) moved from what was then the home of Karolinska Institutet at Norr Mälarstrand to its own premises in Jakobsgatan in Stockholm. It soon outgrew this location and a search for new premises was resumed. On Walpurgis night in 1889, six men were inside the Katarina lift at Slussen in Stockholm.

A fault developed in the machinery, causing the lift cage to fall. One of the passengers, Carl Westman, was injured, but a fellow passenger, Johan Rissler, a surgeon and member of the building committee of the Society of Medicine, immediately assisted him.

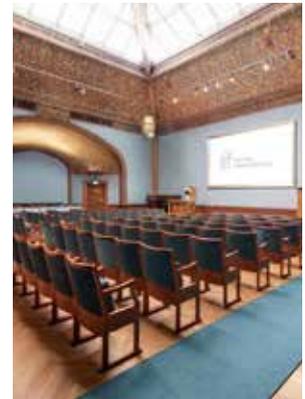


In 1904, the Society announced an architectural competition for a building on a site it had purchased in Klara Östra Kyrkogata. The winner was Carl Westman, and the building was finished two years later.

The Society's building which dates from 1906, was a breakthrough for the architect Carl Westman and the national romantic style architecture he favoured.



The building itself is work of art – from its facade of handmade brick and Christian Eriksson's granite reliefs in the entrance to its mosaic floors, carved balustrades, chandeliers, and ventilation grilles – all Westman signatures. The building today is a Swedish, turn of the century architectural treasure.





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