



BEST GREETINGS FROM GBW- BAD
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WFNR World Federation for Neurorehabilitation

Jointly with



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Post COVID Management options

The definition of post-COVID syndrome by NICE is based on **duration** of symptoms (at least 12 weeks) but takes no account of severity and complexity – which will vary between patients.



Long Covid is an emerging problem in patients who have recovered from initial COVID

nature

<https://doi.org/10.1038/s41586-021-03553-9>

Accelerated Article Preview

High-dimensional characterization of post-acute sequelae of COVID-19

Received: 18 January 2021

Ziyad Al-Aly, Yan Xie & Benjamin Bowe

Accepted: 14 April 2021



6-month neurological and psychiatric outcomes in 236 379 survivors of COVID-19: a retrospective cohort study using electronic health records



Maxime Taquet, John R Geddes, Masud Husain, Sierra Luciano, Paul J Harrison

Summary

Lancet Psychiatry 2021;
8: 416–27
Published Online
April 6, 2021

Background Neurological and psychiatric sequelae of COVID-19 have been reported, but more data are needed to adequately assess the effects of COVID-19 on brain health. We aimed to provide robust estimates of incidence rates and relative risks of neurological and psychiatric diagnoses in patients in the 6 months following a COVID-19 diagnosis.

Rough Estimate : At least 8% of recovered COVID patients have remaining non respiratory sequelae

Steps to limit transmission during therapy sessions

The general behavioural guidelines to properly address these aspects should be based on a series of coordinated clinical, organizational, technical and informational measures:

- **early and preventive identification** of the symptomatic cases, possibly with remote assessments (e.g. preventive information and questionnaires to patients/caregivers, phone triage or preadmission triage or preliminary interview, designated protected areas for pre-admission evaluation, etc.);
- **physical distancing** measures in compliance to rules and recommendations issued by the authorities (organization of spaces according to distancing needs, restrictions and modifications of policy rules for access to services, etc.);
- use of **personal protective equipment** (PPE) according to the guidelines of authorities;
- Early discharge as appropriate, Outpatient care
- Communication with and Support to patient and caregiver
- adoption of alternative modalities for the delivery of care whenever possible (**remote consultation, telerehabilitation**, educational and training material available in remote mode, etc.).
- **Increase COVID-19 vaccine supplies and uptake**

Long COVID what do we know?

--- **Clinical phenomenology includes neurological, cognitive and emotional signs and symptoms**

--- **Long lasting sequelae of COVID19 are frequent**

--- **Post exertional malaise and fatigue problems are reported by patients frequently**

--- **The precise incidence of neuropsychological (cognitive, emotional fatigue) sequelae is unclear and depends on sample characteristics and strategy of data collection (clinical testing, social media interviews etc)**

--- **Neurological rehab needs extension into Long COVID related problems**

Management Strategies for Long COVID

The basis of evidence based interventions is still very limited

We will not be able to wait for results of ongoing prospective trials

But we can use strategies with surface validity:

--- respiratory training

--- neuromuscular training

--- cognitive training

--- behavioral training strategies to cope with

* Fatigue

* Brain fog

* Emotional Depression, Hypoarousal

** Relaxation

** Sleep hygiene

Cognitive behaviour therapy for chronic fatigue syndrome

At the moment cognitive behavioural therapy treatment seems to be the best evidence based treatment



Comparison of adaptive pacing therapy, cognitive behaviour therapy, graded exercise therapy, and specialist medical care for chronic fatigue syndrome (PACE): a randomised trial

P D White, K A Goldsmith, A L Johnson, L Potts, R Walwyn, J C DeCesare, H L Baber, M Burgess, L V Clark, D L Cox, J Bavinton, B J Angus, G Murphy, M Murphy, H O'Dowd, D Wilks, P McCrone, T Chalder*, M Sharpe*, on behalf of the PACE trial management group†

The National Institute of Health and Care Excellence (NICE) cautions against using **graded exercise therapy** for people recovering from COVID-19. Graded exercise therapy (GET) is a structured exercise programme that increases the amount of physical exertion a person performs over time. The National Institute of Health and Care Excellence (NICE) recently removed **graded exercise therapy** from their draft guidelines for ME/CFS and published a press release about the change in guidance. The Workwell Foundation opposes GET in ME/CFS.



Behavioral training strategies

Fatigue goals

- **Intro** How to define goals : with Fatigue
- **Intro:** The SMART-Rule
- **Exercise :** SMART goal
- Definition
- **Exercise :** Put activities and to do in day plan
- **Exercise:** Rethink Your goals and values



SMART Rule for goal definition

Goal should be

- S = Specific
- M = Measurable
- A = Attractive/action-oriented
- R = Realistic
- T = Time-bound
- **Not good :** „I want to do more sport (vague, not explicit,no time framework,)
- **Better :** „Ich want to do 20 min of Yoga or walk on Mo,,Wed Fri between 6 an 7 pm

Behavioral training strategies

Reframe thinking

- **Intro** “reframing”
- **Exercise:** rephrasing sentences in a positive way
- **Intro:** Gratefulness
- **Exercise:** 3 items I am grateful for
- **Exercise :** define your own strength



Sleep and Relaxation

- **Psychoeducation Sleep**
- **Exercise** sleep diary
- **Psychoeducation Relaxation**
- **Exercise :** Energy-Manager
- **Exercise :** Your best moment
- **Exercise :** Pleasant activities



Relaxation techniques

- PMR
- Imagination
- Respiratory
- Yoga-Videos
- Qi Gong-exercises
- Formal Mindfulness Training



And how can patients be reached best?



Telemedicine and Virtual Reality for Cognitive Rehabilitation: A Roadmap for the COVID-19 Pandemic

Elisa Mantovani ^{1†}, Chiara Zucchella ^{2†}, Sara Bottiroli ^{3,4}, Angela Federico ¹, Rosalba Giugno ⁵, Giorgio Sandrini ^{4,6}, Cristiano Chiamulera ^{7‡} and Stefano Tamburin ^{1*†§}

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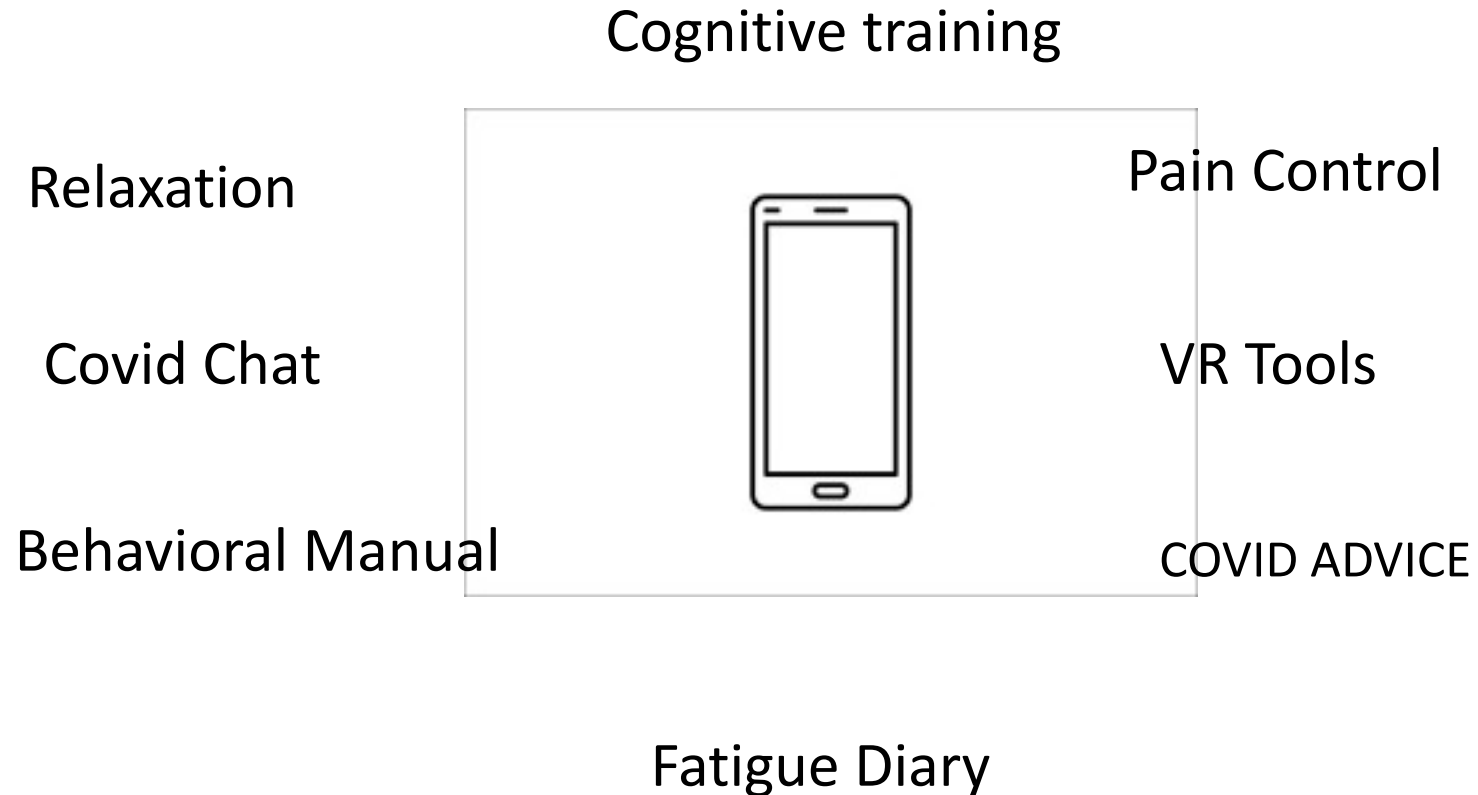
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The current COVID-19 pandemic presents unprecedented new challenges to public health and medical care delivery. To control viral transmission, social distancing measures have been implemented all over the world, interrupting the access to routine medical care for many individuals with neurological diseases. Cognitive disorders are common in many neurological conditions, e.g., stroke, traumatic brain injury, Alzheimer's disease, and other types of dementia, Parkinson's disease and parkinsonian syndromes, and multiple sclerosis, and should be addressed by cognitive rehabilitation interventions. To be effective, cognitive rehabilitation programs must be intensive and prolonged over time; however, the current virus containment measures are hampering their implementation. Moreover, the reduced access to cognitive rehabilitation might worsen the relationship between the patient and the healthcare professional. Urgent measures to address issues

THERAPEUTIC NEEDS

- What we need is a holistic LONG COVID treatment concept with low threshold and far reaching efficacy
- Therefore we decided to design a LONG Covid assistance APP aimed to:
 - Assist knowledge transfer
 - Provide behavioral assistance
 - Provide treatment tools (also in VR/AR)
 - Ease communication between patient/ care givers and health professionals

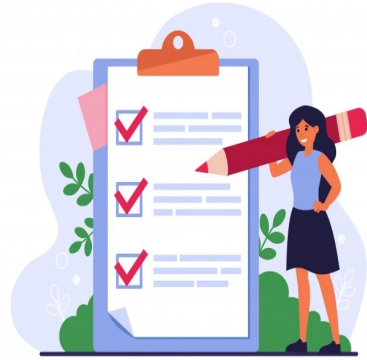
LONG COVID ASSIST APP



Therapy-Tools in APP



psychoeduc
ation



plan your
day



think
positive



set your
goals



self-care



stress
management



just relax

THE AIMEDIS PLATFORM

Aimedis
Long-Covid-
Monitoring

ADDITIONAL FUNCTION INCL.
DEDICATED COVID CONSULTANT,
E-LEARNING CONTENT,
ENERGY MANAGEMENT & TRAINING
EXERCISES

Symptoms

| | | | | | |
|---------------------|-----------------------|-----------------------|-----------------------|----------------------------------|--|
| Fatigue | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Headache | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Shortness of breath | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input checked="" type="radio"/> | <input type="radio"/> |
| Loss of smell | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Persistent cough | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Sore throat | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Fever | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Unusual muscle pain | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Skipped meals | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Chest pain | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Diarrhea | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Hoarse voice | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Abdominal pain | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Delirium | | | | | <input type="radio"/> Yes <input type="radio"/> No |
| Oxygen therapy | | | | | <input type="radio"/> Yes <input type="radio"/> No |
| ECMO therapy | | | | | <input type="radio"/> Yes <input type="radio"/> No |
| Sepsis | | | | | <input type="radio"/> Yes <input type="radio"/> No |
| Multiorgan failure | | | | | <input type="radio"/> Yes <input type="radio"/> No |

Submit Feedback

 Chat with Covid consultant

 Covid eLearning

 Energy Management

 Exercises

POST COVID 19 Aiding APP

THE AIMEDIS PLATFORM

Aimedis
Long-Covid-
Monitoring

BOTH ON WEB & MOBILE APP
(NATIVE iOS & ANDROID)



9:41

Long-Covid observation module

This tool can be used to track your condition after a Covid-19 disease. Please enter symptoms, your condition etc. by filling out this form at least once a week. If required you can contact our Covid-19 consultant, learn more about your condition and manage consequences of Covid-19 better.

Today 24 Sep 23 Sep 21 Sep 19 Sep

Please determine your energy level.

☐ ☐ ☐ ☐ ☒

Fatigue-questions based on the Chalder-fatigue scale

Do you have problems with tiredness?

☒ Yes ☐ No

Do you need to rest more?

☐ Yes ☐ No

Do you feel sleepy or drowsy?

☐ Yes ☐ No

Do you have problems starting things?

☐ Yes ☐ No

Do you lack energy?

☐ Yes ☐ No

How is your memory?

☐ ☐ ☐ ☐ ☒

Symptoms

Fatigue

☐ ☐ ☐ ☐ ☒

Headache

☐ ☐ ☐ ☐ ☐

Shortness of breath

☐ ☐ ☐ ☐ ☐

Loss of smell

☐ ☐ ☐ ☐ ☐

Persistent cough

☐ ☐ ☐ ☐ ☐

Oxygen therapy

☐ Yes ☐ No

Submit Feedback

[Chat with Covid consultant](#)

[Covid eLearning](#)

[Exercises](#)

[Energy Management](#)

- The aiding app will be available free of charge by late october 2021 in the following languages:

- 1) English
- 2) French
- 3) Spanish
- 4) Portuguese
- 5) German
- 6) Russian
- 7) Turkish
- 8) Swahili
- 9) Chinese (Mandarin)
- 10) Arabic
- 11) Dutch

QUESTIONS ???

COMMENTS???

Please contact me on
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