



**Cochrane  
Rehabilitation**



UNIVERSITÀ  
DEGLI STUDI  
DI MILANO



I.R.C.C.S. Istituto  
Ortopedico Galeazzi



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**Trusted evidence.  
Informed decisions.  
Better health.**

# Overview of Cochrane Evidence relevant to rehabilitation for Post COVID-19 condition

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# Cochrane Rehabilitation Field: a bridge

Cochrane



Rehabilitation  
stakeholders

Ponto Rialto Venezia

# REH-COVER action

## REHabilitation – COVID-19 Evidence-based Response

### COVID-19 HISTORY

**December 2019**  
31| Discovery of SARS-CoV-2

**January 2020**  
23| lockdown of Wuhan, Hubei region (China)  
31| First case of COVID-19 in Italy

**February 2020**  
21| First cluster of cases in Italy  
22| First death in Italy  
23| First lockdown in red zones in Italy

**March 2020**  
11| Country lockdown in Italy  
13| Declaration of pandemic by WHO

### REH-COVER ACTION



**March 2020**  
Decision to start with a living rapid systematic review

► [Eur J Phys Rehabil Med.](#) 2020 Oct;56(5):642-651. doi: 10.23736/S1973-9087.20.06501-6.  
Epub 2020 Jul 24.

## Rehabilitation and COVID-19: the Cochrane Rehabilitation 2020 rapid living systematic review

Maria G Ceravolo <sup>1</sup>, Chiara Arienti <sup>2</sup>, Alessandro de Sire <sup>3 4</sup>, Elisa Andrenelli <sup>5</sup>, Francesco Negrini <sup>6</sup>,  
Stefano G Lazzarini <sup>2</sup>, Michele Patrini <sup>2</sup>, Stefano Negrini <sup>6 7</sup>,

International Multiprofessional Steering Committee of Cochrane Rehabilitation REH-COVER action

Collaborators, Affiliations + expand

PMID: 32705860 DOI: 10.23736/S1973-9087.20.06501-6

**Free article**

### Update in

[Rehabilitation and COVID-19: the Cochrane Rehabilitation 2020 rapid living systematic review. Update as of July 31st, 2020.](#)

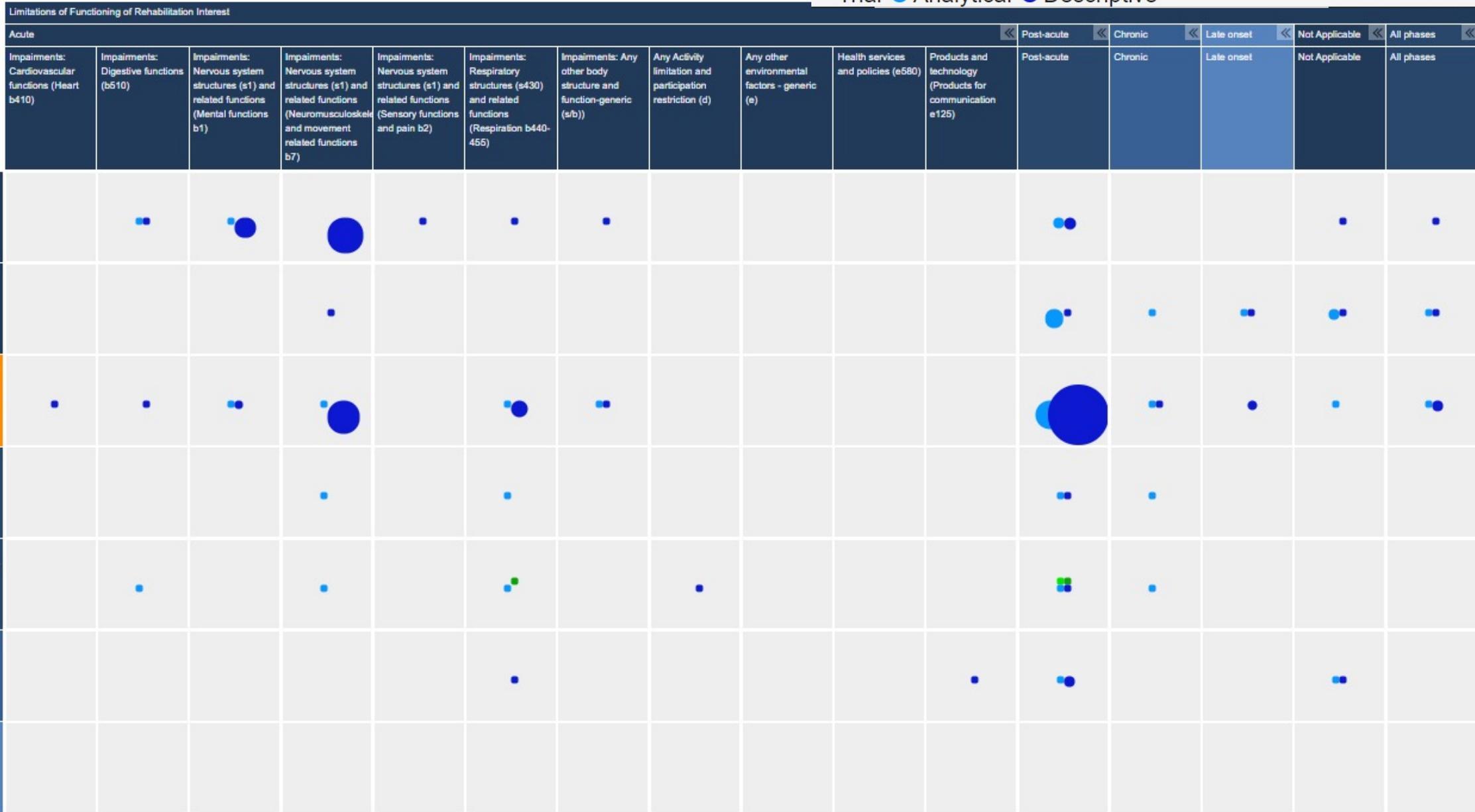
Negrini F, de Sire A, Andrenelli E, Lazzarini SG, Patrini M, Ceravolo MG; International Multiprofessional Steering Committee of Cochrane Rehabilitation REH-COVER action.

[Eur J Phys Rehabil Med.](#) 2020 Oct;56(5):652-657. doi: 10.23736/S1973-9087.20.06539-9. Epub 2020 Sep 1.  
PMID: 32869962

[Rehabilitation and COVID-19: a rapid living systematic review 2020 by Cochrane Rehabilitation Field. Update as of September 30th, 2020.](#)

Andrenelli E, Negrini F, De Sire A, Patrini M, Lazzarini SG, Ceravolo MG; International Multiprofessional Steering Committee of Cochrane Rehabilitation REH-COVER action.

[Eur J Phys Rehabil Med.](#) 2020 Oct 29. doi: 10.23736/S1973-9087.20.06672-1. Online ahead of print.  
PMID: 33118719



## Complete table: Rehabilitation and COVID-19: the Cochrane Rehabilitation 2020 rapid living systematic review

Last updated November 2, 2020

Abbreviations
References
☰
🗑️

ID	Update	Author	DOI	Year	Country	Dates	Aim of the study	Study Design	Type of rehabilitation service	Research Question
1	June	Aoyagi Y	<a href="https://doi.org/10.1007/s00455-020-10140-z">10.1007/s00455-020-10140-z</a>	2020	Japan	N/R	To report the first case of a patient with oropharyngeal dysphagia associated with COVID-19 and discuss the potential underlying cause.	Descriptive: Case Report	Rehabilitation in acute care	Epidemiology - Clinical presentation



**Evidence «on»**

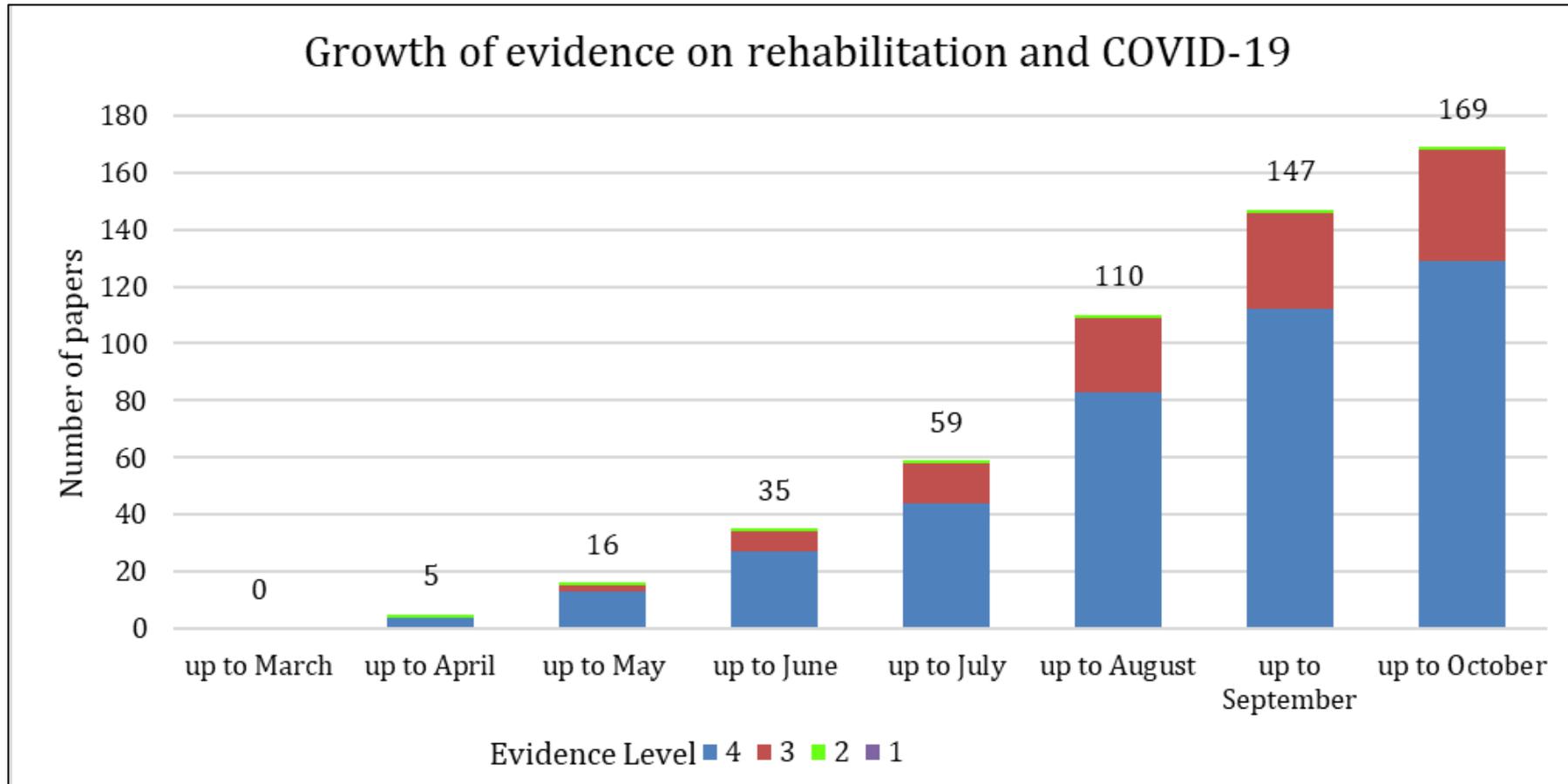
versus

**Evidence «relevant to»**



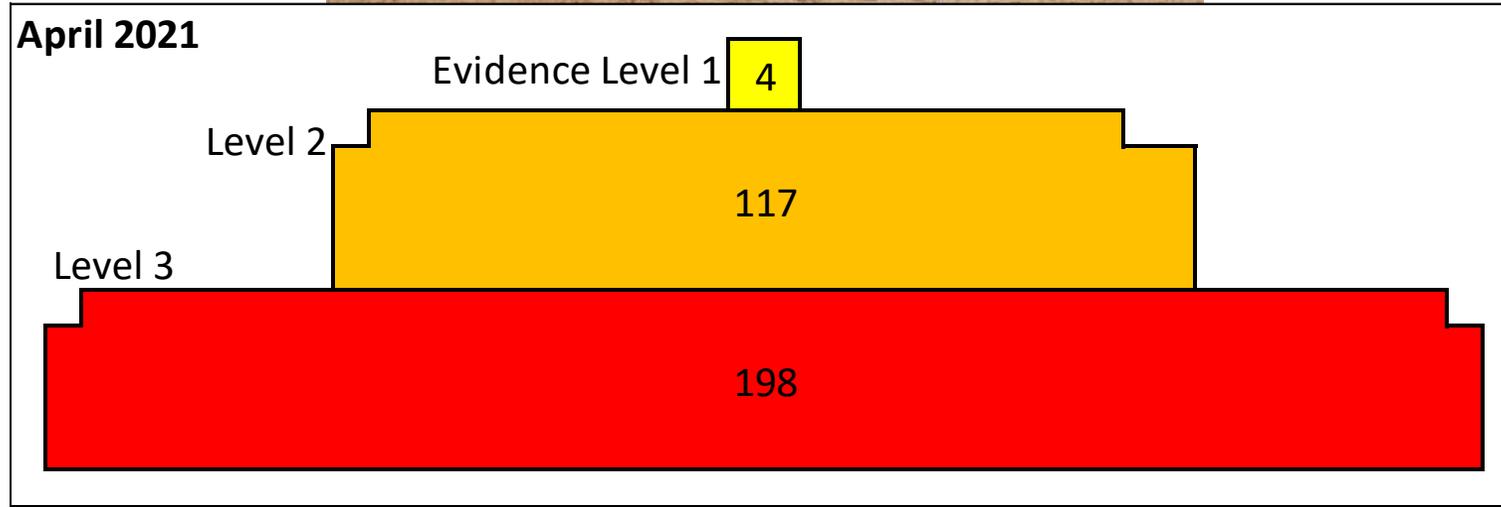


# Best available evidence (Oxford EBM Levels)





# Climbing the pyramid of evidence



# Rapid reviews on expected COVID-19 sequelae

## 1. Multiple Organ Dysfunction Syndrome (MODS)

- J Rehabil Med 2021

## 2. Acute Respiratory Distress Syndrome (ARDS)

- Cochrane Library - protocol accepted, under submission

## 3. Post-Traumatic Stress Disorders (PTSD) (only psychological treatments as part of the rehabilitation process)

- submitted

## 4. Post Intensive Care Syndrome (PICS)

## 5. Restrictive Lung Diseases

## 6. *(Post-extubation and neurological dysphagia)*

# Toward a Post COVID-19 condition WHO interim guideline

1. shortness of breath, **dyspnea**, breathlessness
2. **fatigue**, post-exertional fatigue, exhaustion, reduced exercise capacity, weakness, reduced functional performance
3. **orthostatic intolerance**, Postural Orthostatic Tachycardia Syndrome (POTS), autonomic nervous system dysfunction
4. post-exertional symptom exacerbation, **post-exertional malaise**
5. **dysphagia**, swallowing disorder
6. attention deficit, memory and concentration impairment, executive dysfunction, **cognitive** communication disorder
7. (anxiety) & (depression)

# Actions

Systematic reviews on current **evidence on** rehabilitation and post COVID-19 condition (long COVID)

1. Interventions efficacy
2. Health Systems management of rehabilitation services

Overview of Cochrane Reviews of current **evidence relevant to** rehabilitation and post COVID-19 condition (long COVID)

3. Symptoms (impairments and activity limitations)

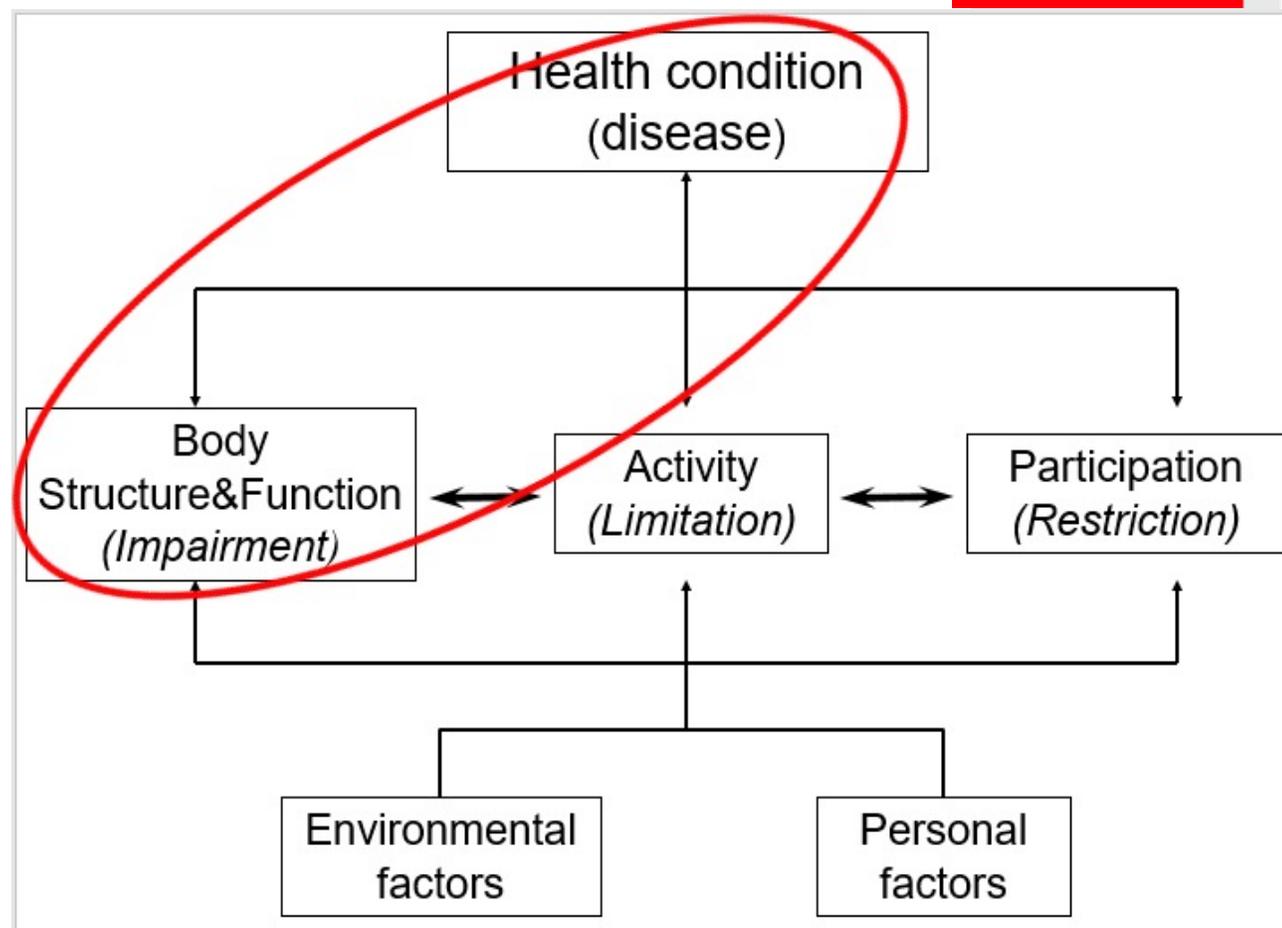
# Evidence on Post COVID-19 condition

**Population:** Post COVID-19 condition

**Interventions:** any

**Comparison:** any

**Outcome:** any relevant symptom



# Evidence relevant to Post COVID-19 condition

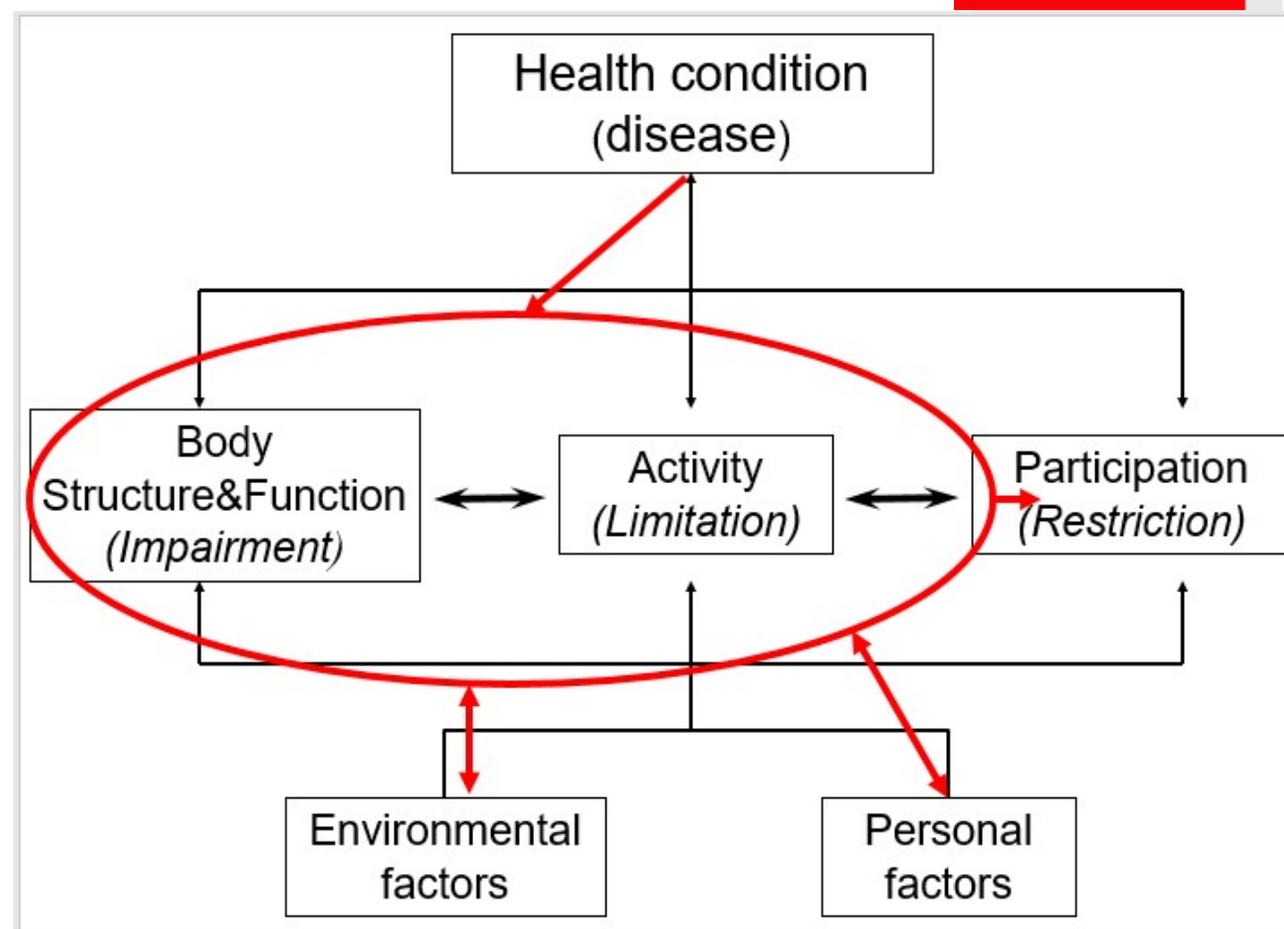
**Outcome:** known Post COVID-19 condition symptoms

- Impairments
- Activity limitations

**Interventions:** any

**Comparison:** any

**Population:** any comparable health condition



# Methods

All **Cochrane Reviews** of the last **5 years** (RCTs up to 6-7 years ago)

- **Population**
  - adults
  - chronic, stable health condition
- **Interventions & Comparison:** all
- **Outcome:** pre-defined symptoms

**Mapping** of **GRADEd** (strength of evidence) results according to:

- Intervention
- Health condition

# Toward a Post COVID-19 condition WHO interim guideline

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## Dyspnea – Comparison: no/sham/usual care

Comparisons vs no/sham/usual care	Chronic respiratory diseases	Stable COPD	Interstitial lung disease	Idiopathic pulmonary fibrosis	Cancer
Pulmonary rehabilitation			L	L	
Pulmonary rehabilitation/exercise training		M			
Exercise training					L VL
Upper limb training		M			
Integrated disease management		M			
Multicomponent intervention (rehabilitation, organisation of care, pharmacotherapy)		na			
Non-Invasive ventilation		na na na			
Neuromuscular Electrical Stimulation		VL			
Physical activity counselling		L			
Singing		VL			
Supervised maintenance programme		na			
Telerehabilitation	L				

## Dyspnea – as an adjunct treatment

Treatment studied	Adjunct treatment	Stable COPD	
Exercise training and drugs	Behaviour modification	M	
Exercise training and drugs	Behaviour modification and drugs	M	M
Structured exercise training	Self-management	L	L
Active mind-body movement therapies	Pulmonary rehabilitation	VL	
In-person physical activity counselling intervention	Pulmonary rehabilitation	L	
inspiratory muscle training	Pulmonary rehabilitation	M	
Non-invasive ventilation	Pulmonary rehabilitation	L	
Physical activity counselling intervention	Optional supervised exercise	L	

## Dyspnea – Comparison: any other intervention

Treatment	Comparison	Chronic respiratory diseases			
		Stable COPD	Bronchiectasis	Cystic fibrosis	
NIV in overnight ventilation	Room air			na	
NIV in overnight ventilation	Oxygen			na	
Pulmonary telerehabilitation	Pulmonary Rehabilitation	L			
Active mind-body movement therapies	Pulmonary Rehabilitation		VL		
Web-based pulmonary rehabilitation	Pulmonary Rehabilitation		L		
Oscillatory PEP therapy	Active cycle of breathing technique with Gravity-assisted drainage			L	
Water-based exercise training	Land-based exercise training		L		

# What next

## WHO

- Expert opinions (development group) to define **interim guidance** on Post COVID-19 condition

## Cochrane Rehabilitation

- Completion of the work and publication of results

## Research community

- Use of results as hypothesis gathering to **develop «evidence on»**

## Clinical community

- **Possible interventions** while waiting for «evidence-on»



## SAVE THE DATE

COCHRANE REHABILITATION  
5<sup>TH</sup> ANNIVERSARY (Online)

**DECEMBER 13 / 14, 2021**

Discover the future  
of Cochrane Rehabilitation

**DECEMBER 16, 2021**

Take action with Cochrane Rehabilitation

Trusted evidence.  
Informed decisions.  
Better health.

Thank you

More details on  
how to be involved  
will be shared when  
available