

# Post infectieuze aandoeningen waaronder restklachten na SEPSIS



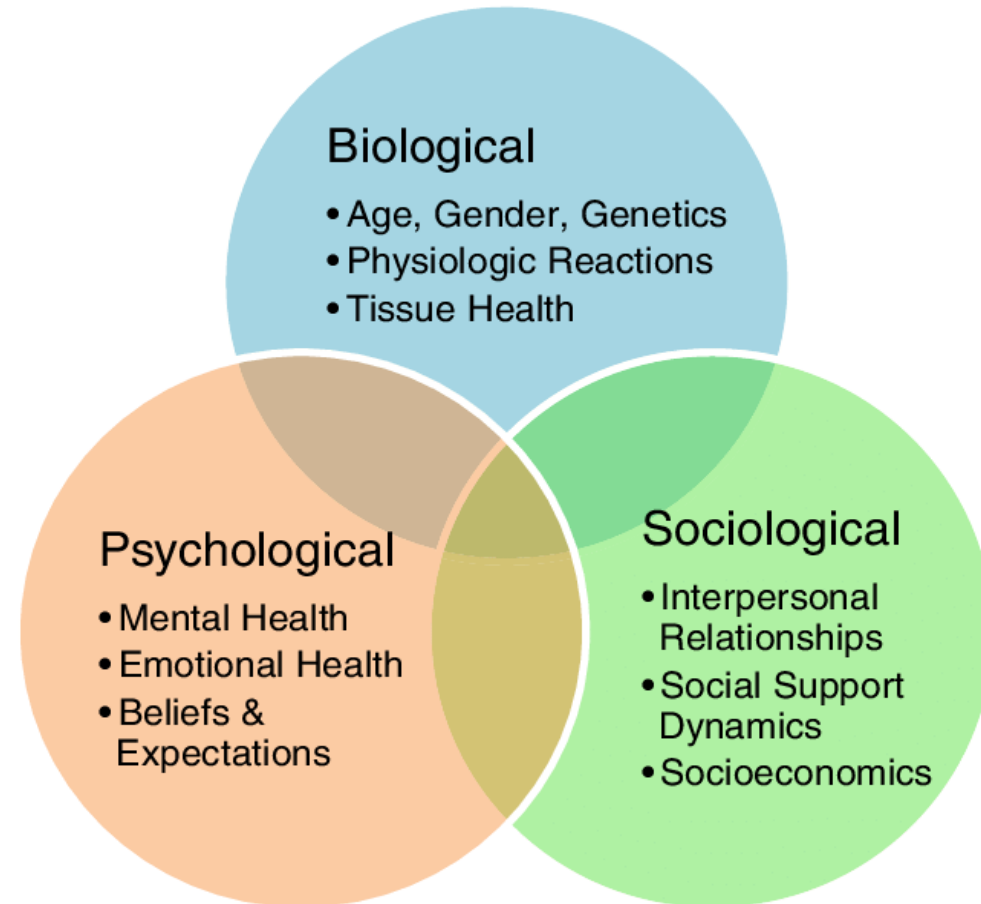






# Bio psychosociale Model

- Zowel als oorzakelijk en
- als behandeloptie centraal



# PAIS

[Review](#)[> Nat Med.](#) 2022 May;28(5):911-923. doi: 10.1038/s41591-022-01810-6.

Epub 2022 May 18.

## Unexplained post-acute infection syndromes

Jan Choutka <sup>1</sup>, Viraj Jansari <sup>2</sup>, Mady Hornig <sup>3</sup>, Akiko Iwasaki <sup>4 5 6 7</sup>Affiliations [+](#) expandPMID: 35585196 DOI: [10.1038/s41591-022-01810-6](https://doi.org/10.1038/s41591-022-01810-6)

### Erratum in

[Author Correction: Unexplained post-acute infection syndromes.](#)

Choutka J, Jansari V, Hornig M, Iwasaki A.

## Diverse Postinfectieuze aandoeningen

Pathogen	Name of PAIS
Viral pathogens	
SARS-CoV-2	Post-acute sequelae of SARS-CoV-2 infection (PASC) Post-acute COVID-19 syndrome (PACS) Long COVID
Ebola	Post-Ebola syndrome (PES) Post-Ebola virus disease syndrome (PEVDS)
Dengue	Post-dengue fatigue syndrome (PDFS)
Polio	Post-polio syndrome (PPS)
SARS	Post-SARS syndrome (PSS)
Chikungunya	Post-chikungunya chronic inflammatory rheumatism (pCHIK-CIR) Post-chikungunya disease
EBV	No name
West Nile virus	No name
Ross River virus <sup>a</sup>	No name
Coxsackie B <sup>a</sup>	No name
H1N1/09 influenza <sup>a,b</sup>	No name
VZV <sup>a,b</sup>	No name
Non-viral pathogens	
<i>Coxiella burnetii</i>	Q fever fatigue syndrome (QFS)
<i>Borrelia</i> <sup>c</sup>	Post-treatment Lyme disease syndrome (PTLDS)
<i>Giardia lamblia</i> <sup>a,d</sup>	No name



- Choutka, J., Jansari, V., Hornig, M. *et al.* Unexplained post-acute infection syndromes Nat. Med (2022)

# Post infectieuze klachten

- Vermoeidheidssyndroom
- Reductie van gecompliceerd klinisch beeld

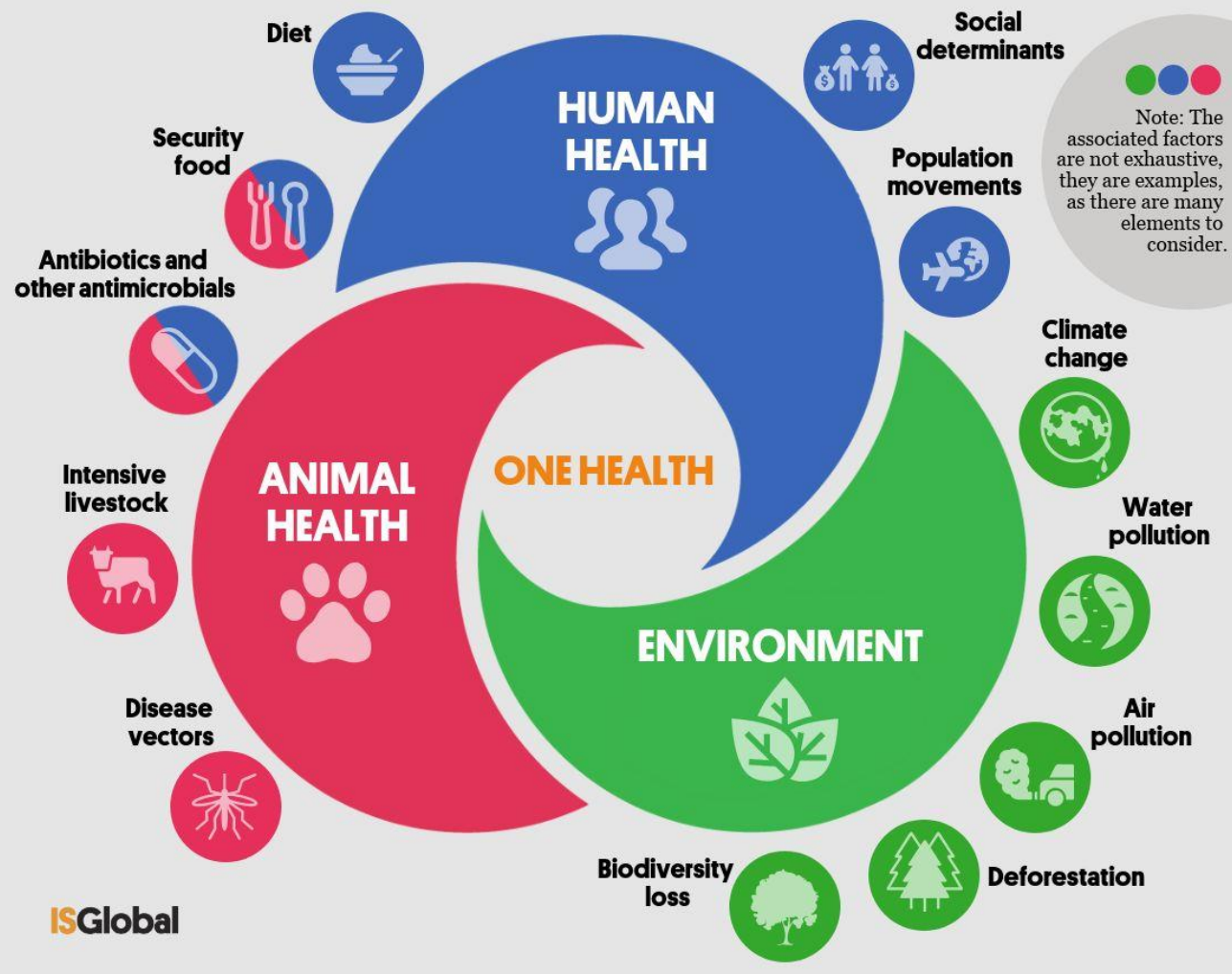
# Post infectieuze klachten

- Vermoeidheidssyndroom
- Reductie van gecompliceerd klinisch beeld
- 
- Belangrijkste Klachten zijn
  1. Invaliderende vermoeidheid
  2. Exertional intolerantie PEM
  - 3. Brakke slaap**
  4. Neurocognitieve problemen,wo geheugen
  5. Dysautonomie waaronder POTS
  6. Spier en gewrichtsklachten
  7. Wisselend verloop over tijd en snel infecties



# ONE HEALTH

Human health and animal health are interdependent.  
At the same time, both depend on the environment.





**Figuur 2.1** Onderzoeksbied.

Waarde per km<sup>2</sup> per gemeente



■ VGO-onderzoekscentrum

*Het kaartje geeft een beeld van de dichtheid van landbouwhuisdieren op basis van de standaardopbrengst per km<sup>2</sup> per gemeente. De gele vierkantjes geven de locaties aan van het VGO-gezondheidsonderzoek.*

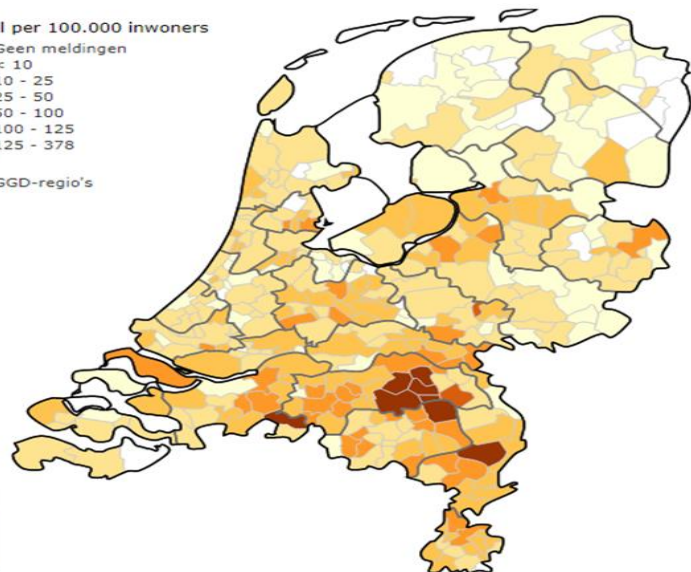
### Gemelde COVID-19 patiënten

Per 100.000 inwoners per gemeente tot en met 23-3-2020

Aantal per 100.000 inwoners



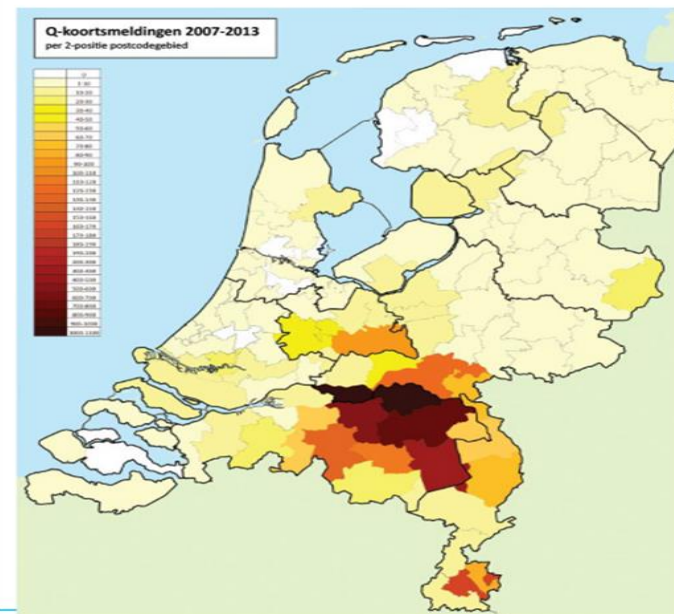
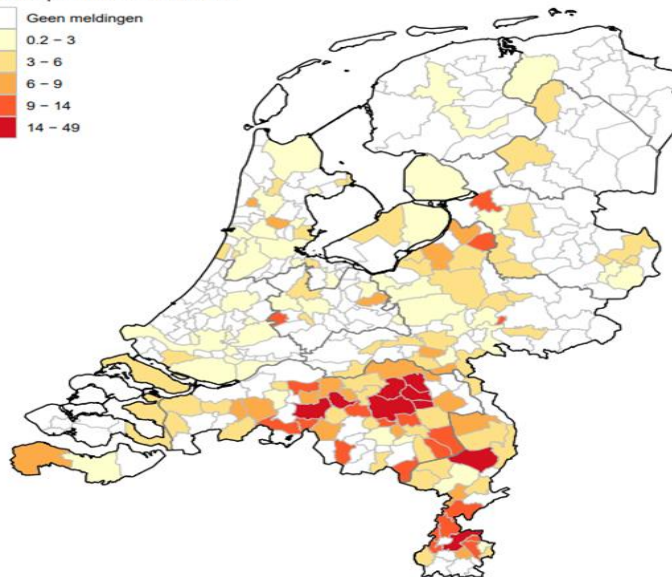
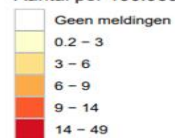
— GGD-regio's



### Overleden COVID-19 patiënten

Per 100.000 inwoners per gemeente tot en met 26-03-2020, 10:00 uur

Aantal per 100.000 inwoners



## **Vuile lucht zorgde mogelijk voor 400 tot 800 extra coronadoden**



**Door vuile lucht zijn mogelijk honderden mensen extra overleden aan het coronavirus. Mensen die in gebieden met slechte luchtkwaliteit woonden, liepen een groter risico na besmetting te overlijden. Sowieso hadden ze meer kans het virus op te lopen en waren hun coronaklachten erger.**



[ARTIKELN](#) / [OVERIG](#) / [OVERIG](#) /

**'La médecine c'est  
guérir parfois,  
soulager souvent,  
consoler toujours';**




## Trends in Molecular Medicine

 CellPress  
OPEN ACCESS

### Review

# Unravelling shared mechanisms: insights from recent ME/CFS research to illuminate long COVID pathologies

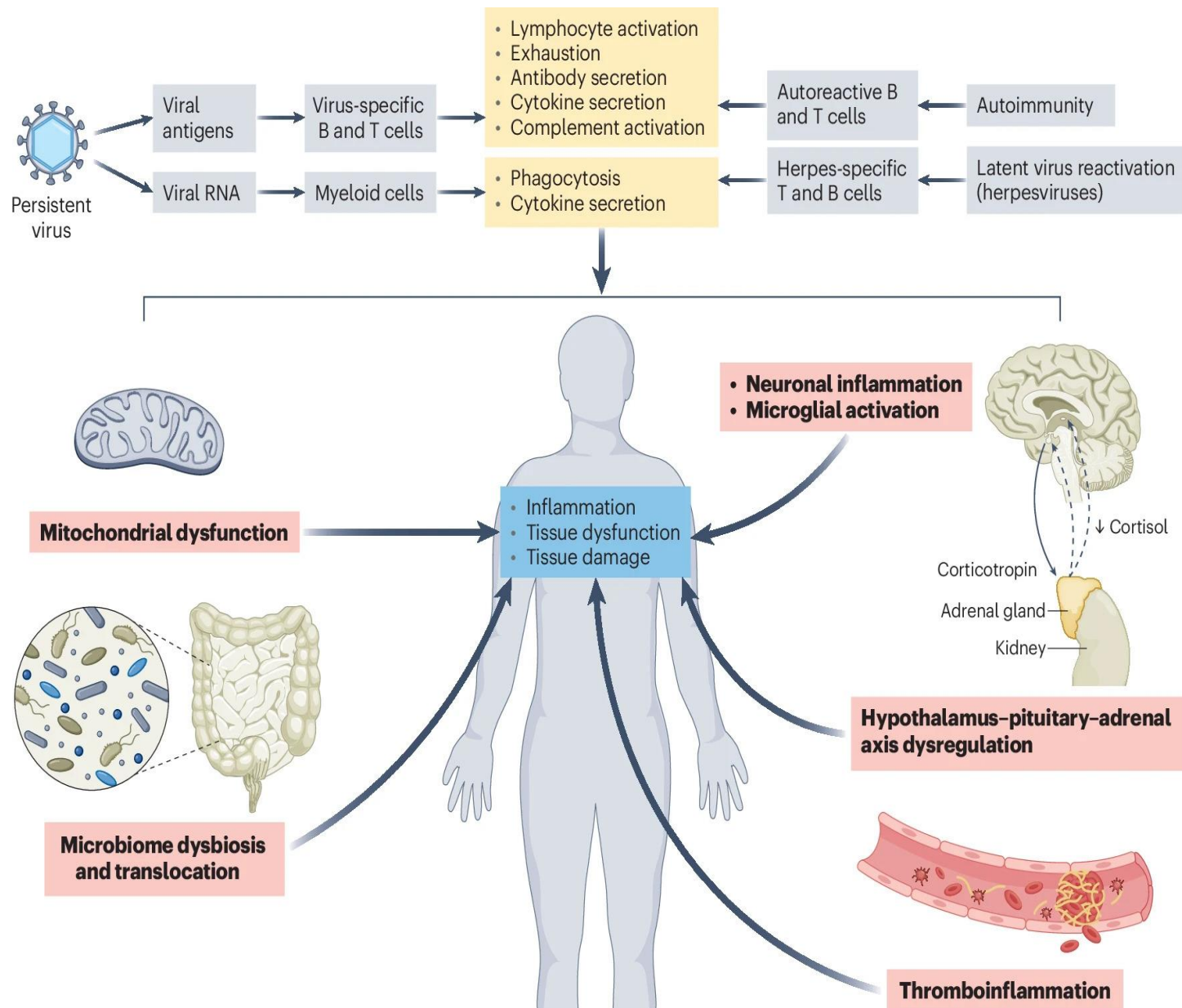
Sarah J. Annesley <sup>1,\*</sup> Daniel Missailidis,<sup>1</sup> Benjamin Heng,<sup>2</sup> Elisha K. Josev,<sup>3,4,5,7</sup> and Christopher W. Armstrong<sup>6,7</sup>

**Myalgic encephalomyelitis/chronic fatigue syndrome (ME/CFS) is a debilitating chronic illness often triggered by an initiating acute event, mainly viral infections. The transition from acute to chronic disease remains unknown, but interest in this phenomenon has escalated since the COVID-19 pandemic and the post-COVID-19 illness, termed 'long COVID' (LC). Both ME/CFS and LC share many clinical similarities. Here, we present recent findings in ME/CFS research focussing on proposed disease pathologies shared with LC. Understanding these disease pathologies and how they influence each other is key to developing effective therapeutics and diagnostic tests. Given that ME/CFS typically has a longer disease**

### Highlights

Approximately half of patients with long COVID (LC) fulfil the diagnostic criteria for myalgic encephalomyelitis/chronic fatigue syndrome (ME/CFS). The two conditions share clinical similarities and proposed disease pathologies, but it is still unclear whether they also share common molecular abnormalities.

Most consistently altered pathologies in



Figuur 3 uit 'Long COVID science, research and policy' beschikbaar via Al-Aly et al., aug. '24, Nature Medicine



# Zes theorieën

**Ontregeling van het immuunsysteem**

Aanhoudende infectie

Virale replicatie

Reactivering

Ontregeling van het immuunsysteem, met of zonder reactivering van onderliggende pathogenen, waaronder herpesvirussen zoals EBV en HHV-6

**Microbiota dysbiose**

Effecten van SARS-CoV-2 op de microbiota en viroom (inclusief persistentie van SARS-CoV-2)

**Auto-immuniteit en immunoprimering**

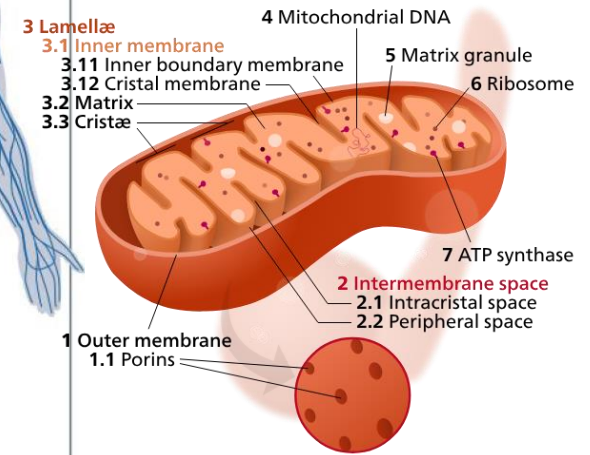
Auto-immuniteit en geprimeerde immuuncellen van moleculaire nabootsing

**Bloedstolling en endotheliale afwijkingen**

Microvasculaire bloedstolling met endotheliale disfunctie

**Disfunctionele neurologische signalering**

Disfunctionele signalering in de hersenstam en/of nervus vagus



REVIEW | VOLUME 404, ISSUE 10453, P707-724, AUGUST 17, 2024

Download Full Issue

Subscribe Save Share Reprints Request

## Long COVID: a clinical update

Prof Trisha Greenhalgh, MD • Prof Manoj Sivan, MD • Alice Perlowski, MD • Prof Janko Ž Nikolich, MD

Published: July 31, 2024 • DOI: [https://doi.org/10.1016/S0140-6736\(24\)01136-X](https://doi.org/10.1016/S0140-6736(24)01136-X) • Check for updates

PlumX Metrics

Summary

References

Article info

Linked Articles

## Summary

Post-COVID-19 condition (also known as long COVID) is generally defined as symptoms persisting for 3 months or more after acute COVID-19. Long COVID can affect multiple organ systems and lead to severe and protracted impairment of function as a result of organ damage. The burden of this disease, both on the individual and on

Request your institutional access to this journal

ADVERTISEMENT

THE LANCET Summit

Cancer control in China

## Abstract

Sepsis is a global health challenge, with over 49 million cases annually. Recent medical advancements have increased in-hospital survival rates to approximately 80%, but the escalating incidence of sepsis, owing to an ageing population, rise in chronic diseases, and antibiotic resistance, have also increased the number of sepsis survivors. Subsequently, there is a growing prevalence of “post-sepsis syndrome” (PSS). This syndrome includes long-term physical, medical, cognitive, and psychological issues after recovering from sepsis. PSS puts survivors at risk for hospital readmission and is associated with a reduction in health- and life span, both at short and long term, after hospital discharge. Comprehensive understanding of PSS symptoms and causative factors is vital for developing optimal care for sepsis survivors, a task of prime importance for clinicians. This review aims to elucidate our current knowledge of PSS and its relevance in enhancing post-sepsis care provided by clinicians.

**Keywords:** post-sepsis syndrome, sepsis, long-term outcome

## Introduction

Sepsis is defined as a dysregulated host response to infection and is a leading cause of death worldwide, affecting over 49 million people and causing approximately 11 million deaths annually<sup>1</sup> - a concern that the World Health Organization recognizes as a global health priority.<sup>2</sup> Notably, these



# Post-Sepsis Syndrome: a Compelling Review Analyses the Long-Term Effects of Sepsis

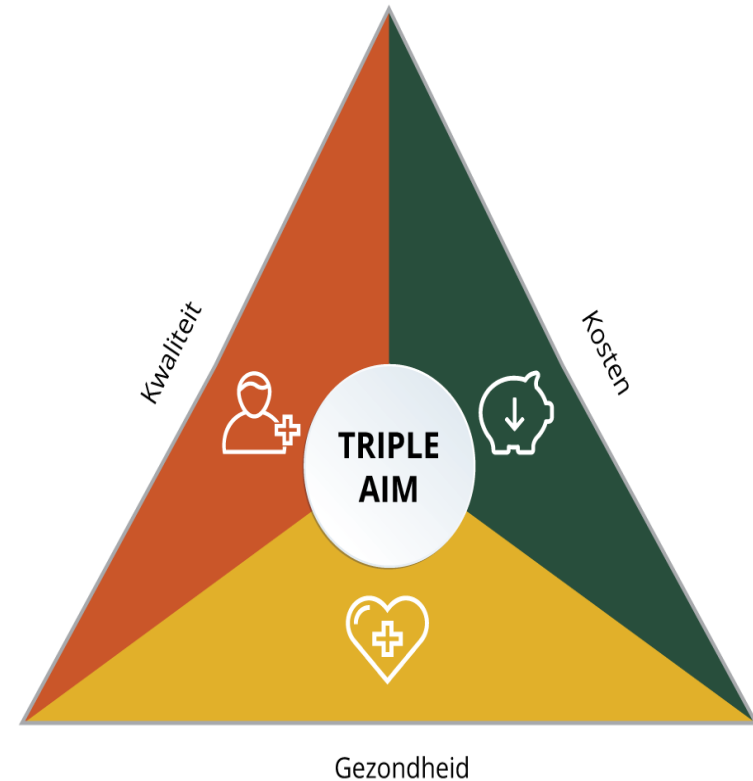


# Wat moet er gaan gebeuren

## Post infectieuze aandoeningen

- Vanuit de basis kennis bij paramedici en huisartsen op bouwen
- Kaderarts infectie ziekten NHG
- Regionale centra waar patienten in samenspraak met huisarts door deskundig team breed gezien kunnen worden.
- Een klein aantal topklinische locaties met onderzoeks mogelijkheden

## TRIPLE AIM





voorbij voeding



geen stress

betekenisvol leven

onbewerkt eten

voldoende beweging

voldoende slaap

Voldoende slaap

geen stress

Onbewerkt eten

RABBOUD REFLECTS

# The data is clear: long Covid is devastating people's lives and livelihoods

*Tedros Adhanom  
Ghebreyesus*

Wed 12 Oct 2022 10.00 CEST



The impact of long Covid needs urgent action - and there are five key elements to drive the effort forward, writes the WHO director general

● [Read the Guardian's new series, Living with long Covid](#)





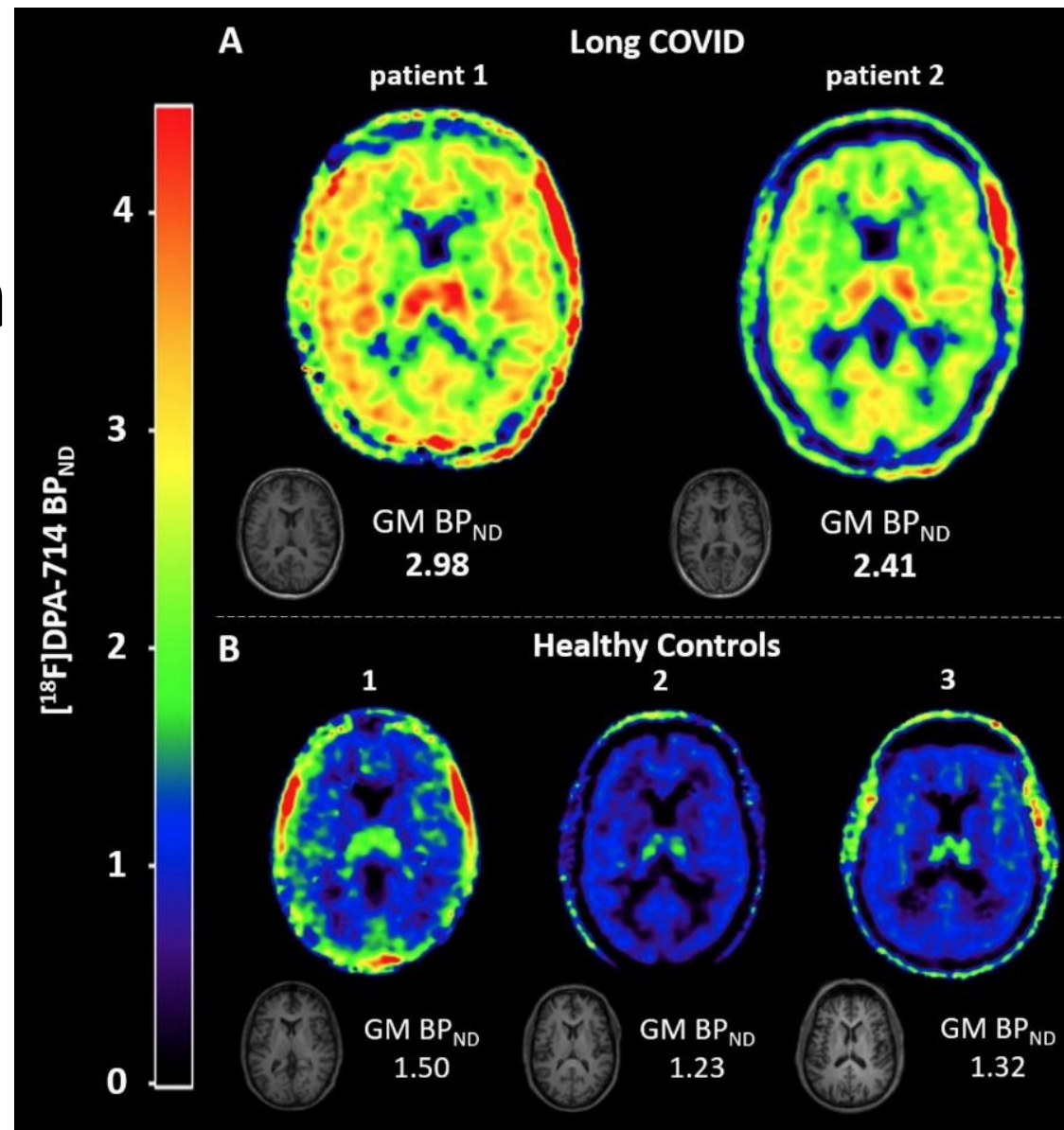
# Ontsteking in het brein

Voorpublicatie UMCU/A-UMC

Long COVID is associated with extensive in-vivo neuroinflammation on [<sup>18</sup>F]DPA-714 PET

D. Visser et al

Juni 2022



# Persistent complement dysregulation with signs of thromboinflammation in active Long Covid

CARLO CERVIA-HASLER , SARAH C. BRÜNINGK , TOBIAS HOCH , BOWEN FAN, GIULIA MUZIO , RYAN C. THOMPSON , LAURA CEGLAREK ,

ROMAN MELEDIN , PATRICK WESTERMANN , [...], AND ONUR BOYMAN 

+18 authors

[Authors Info & Affiliations](#)

SCIENCE • 19 Jan 2024 • Vol 383, Issue 6680 • DOI: 10.1126/science.adg7942

” 2



[nature](#) > [nature communications](#) > [articles](#) > [article](#)

Article | [Open access](#) | [Published: 04 January 2024](#)

# Muscle abnormalities worsen after post-exertional malaise in long COVID

[Brent Appelman](#), [Braeden T. Charlton](#), [Richie P. Goulding](#), [Tom J. Kerkhoff](#), [Ellen A. Breedveld](#), [Wendy Noort](#), [Carla Offringa](#), [Frank W. Bloemers](#), [Michel van Weeghel](#), [Bauke V. Schomakers](#), [Pedro Coelho](#), [Jelle J. Posthuma](#), [Eleonora Aronica](#), [W. Joost Wiersinga](#), [Michèle van Vugt](#) ✉ & [Rob C. I. Wüst](#) ✉

[Nature Communications](#) **15**, Article number: 17 (2024) | [Cite this article](#)

Download PDF



**Sections**

[Figures](#)

[References](#)

[Abstract](#)

[Introduction](#)

[Results](#)

[Discussion](#)

[Methods](#)