

Clustering of Long Covid symptoms

Source:

Global Burden of Disease Long COVID Collaborators. Estimated Global Proportions of Individuals With Persistent Fatigue, Cognitive, and Respiratory Symptom Clusters Following Symptomatic COVID-19 in 2020 and 2021. *JAMA*. 2022;328(16):1604–1615.

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- 1) persistent fatigue with bodily pain (myalgia) or mood swings.
- 2) cognitive problems (forgetfulness or difficulty concentrating, commonly referred to as brain fog); and
- 3) ongoing respiratory problems (shortness of breath and persistent cough as the main symptoms).

Two severity levels for cognitive problems were selected, as well as three severity levels for ongoing respiratory symptoms.

Table 1. Health States, Symptom Descriptions, and Disability Weights Used for the 3 Long COVID Symptom Clusters

Symptom cluster	Health state	Symptom description	Disability weight (95% UI) ^a
Ongoing respiratory problems			
Mild symptoms	Mild chronic respiratory problems	Cough and shortness of breath after heavy physical activity, but able to walk long distances and climb stairs	0.02 (0.01-0.04)
Moderate symptoms	Moderate chronic respiratory problems	Cough, wheezing, and shortness of breath even after light physical activity; feel tired and can only walk short distances or climb a few stairs	0.23 (0.15-0.31)
Severe symptoms	Severe chronic respiratory problems	Cough, wheezing, and shortness of breath all the time; great difficulty walking even short distances or climbing any stairs, feel tired when at rest, and have anxiety	0.41 (0.27-0.56)
Cognitive problems			
Mild symptoms ^b	Mild cognitive problems	Some trouble remembering recent events and find it hard to concentrate and make decisions and plans	0.07 (0.05-0.10)
Severe symptoms ^b	Moderate cognitive problems	Memory problems and confusion, feel disoriented, hear voices sometimes that are not real, and need help with some daily activities	0.38 (0.25-0.51)
Persistent fatigue with bodily pain or mood swings	Postacute consequences of an infectious disease	Always tired and easily upset; feel pain all over the body and have depression	0.22 (0.15-0.31)

Abbreviation: UI, uncertainty interval.

^a Quantifies health loss as a fraction of time lived within a health state (0 indicates full health; 1 indicates complete loss of health).

^b Also used in the Global Burden of Disease Study for mild and moderate dementia. Additional details appear in eSection 1 in Supplement 1.

Questionnaire section	Clusters			
	1	2	3	Remaining symptoms
Shortness of breath at rest			X (severe)	
Shortness of breath at exertion			X	
Cough			X	
Fever				X
Diarrhea				X
Chest tightness				X
Chest pain				X
Altered sense of smell				X
Altered sense of taste				X
Headache				X
Myalgia	X			
Dizziness or vertigo				X
Muscular strength and mobility	X			
Tingling and numbness	X			
Fatigue	X			
Hair loss				X
Vision problems				X
Concentration problems		X		
Insomnia				X
Mood	X			
Anxiety	X			
Social contacts				X
Cognitive difficulties		X		

Cluster 1: persistent fatigue with bodily pain (myalgia) or mood swing

Cluster 2: cognitive problems (forgetfulness or difficulty concentrating, commonly referred to as brain fog)

Cluster 3: ongoing respiratory problems (shortness of breath and persistent cough as the main symptoms)