

How do vaccines affect Covid-19 long-haulers? Here's what the evidence says so far.

<https://www.advisory.com/en/daily-briefing/2021/03/17/coronavirus>

- In December 2020, NIH held a workshop and suggested 10% to 30% of Covid-19 patients experience long-term symptoms. Now new questions are emerging about Covid-19 long haulers reporting improvements in their symptoms after getting vaccinated.
- The reports are prompting researchers to ask a new set of questions, including: Are Covid-19 long-haulers experiencing a placebo effect from Covid-19 vaccines? Why would vaccines, which stimulate the immune system, help long-haulers if their immune systems have never reset?
- Although there's no conclusive research on whether Covid-19 vaccines alleviate long-term Covid-19 symptoms, some new research is beginning to shed light on question.
- In a [blog post](#) for Elemental, Iwasaki outlined three reasons why Covid-19 vaccines might improve long-haulers' symptoms: T cells that were boosted by the vaccine could eliminate a viral reservoir, heightened immune responses could clear virus fragments, or the vaccine may "divert autoimmune cells" if long-term symptoms stem from an inappropriate autoimmune response.
- For now, researchers are continuing to investigate whether vaccines improve the symptoms of long-haulers. NIH, for example, announced it will spend more than \$1.1 billion over four years to study the effects of long-term Covid-19

Are vaccines safe in patients with Long COVID? A prospective observational study

<https://www.medrxiv.org/content/10.1101/2021.03.11.21253225v3>

- Although the efficacy of SARS-CoV-2 vaccination to prevent symptomatic COVID-19 is well established, there are no published studies on the impact on symptoms in patients with Long Covid.
- **Methods:** Patients initially hospitalized with COVID-19 were prospectively recruited to an observational study with clinical follow-up at 3 months (June-July 2020) and 8 months (Dec 2020-Jan 2021) post-admission.
 - Participants who received the Pfizer-BioNTech or Oxford-AstraZeneca vaccine between January to February 2021 were identified and matched 2:1 (in terms of 8-month symptoms) with participants from the same cohort who were unvaccinated.
 - All were reassessed at 1 month post vaccination.
 - Validated quality of life (SF-36), mental wellbeing (WEMWBS) and ongoing symptoms were assessed at all timepoints.
 - Formal statistical analysis compared the effect of vaccination on recent quality of life using baseline symptoms, age, and gender in linear regression.
- **Results:** 44 vaccinated participants were assessed at a median of 32 days post-vaccination with 22 matched unvaccinated participants.

- Most were highly symptomatic of Long Covid at 8 months (82% in both groups had at least 1 persistent symptom), with fatigue (61%), breathlessness (50%) and insomnia (38%) predominating.
 - There was no significant worsening in quality-of-life or mental wellbeing metrics pre versus post vaccination.
 - Nearly two-thirds (n=27) reported transient (<72hr duration) systemic effects (including fever, myalgia and headache).
- When compared to matched unvaccinated participants from the same cohort, those who had receive a vaccine had a small overall improvement in Long Covid symptoms, with a decrease in worsening symptoms (5.6% vaccinated vs 14.2% unvaccinated) and increase in symptom resolution (23.2% vaccinated vs 15.4% unvaccinated) (p=0.035).
 - No difference in response was identified between Pfizer-BioNTech or Oxford-AstraZeneca vaccines.
- **Conclusions:** Receipt of vaccination with either an mRNA or adenoviral vector vaccine was not associated with a worsening of Long Covid symptoms, quality of life, or mental wellbeing. Individuals with prolonged COVID-19 symptoms should receive vaccinations as suggested by national guidance.

International Survey:

Medinger's survey had 473 responses -- 80% from the U.K. and 15% from the U.S.; 86% women -- and he had the help of a statistician when analyzing his results. The majority of patients received Pfizer's vaccine (60%), followed by AstraZeneca (30%) and Moderna (9%).

One week after their first dose, 9% of patients said their long COVID symptoms had improved, and by 2 weeks, 16% said their symptoms were much better.

Among all people who had their vaccine 2 weeks ago or longer, 27% said their long COVID symptoms are slightly better, while just 14% said their symptoms were slightly worse. About 5% felt completely back to normal and only 3.8% felt much worse than previously.

"Taking the vaccine is more likely to completely resolve your symptoms than it is to make you feel much worse," Medinger said. "It's almost twice as likely to make you feel slightly better than slightly worse."