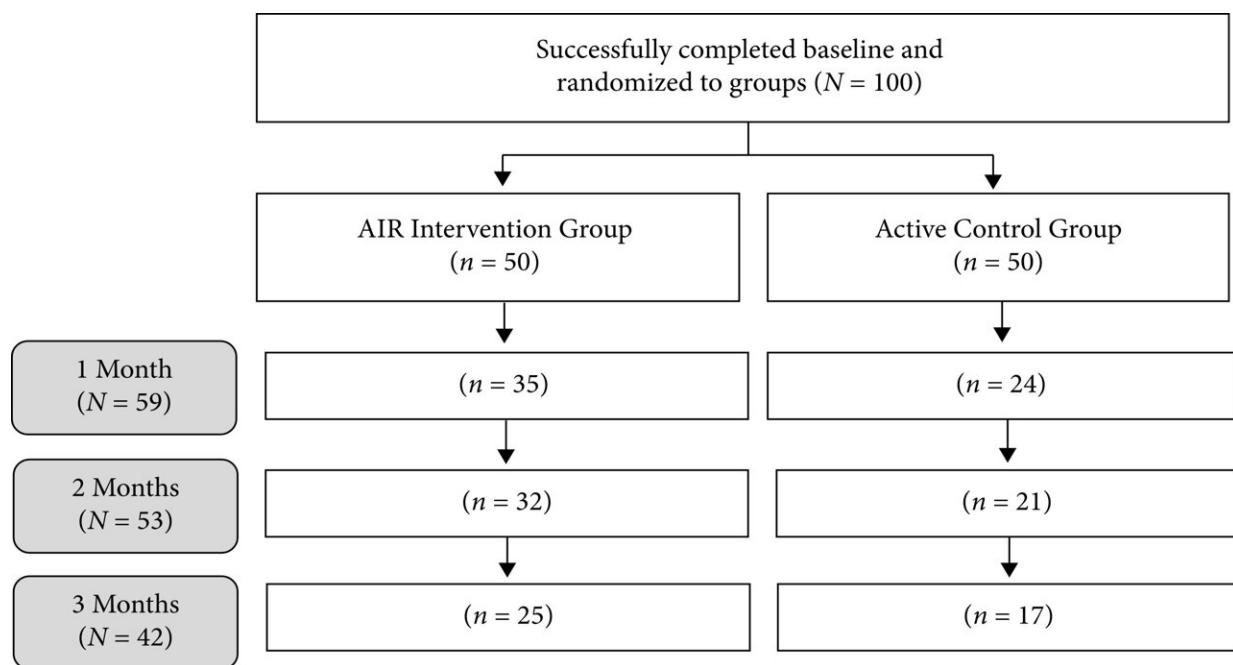


# Research shows amygdala and insula retraining significantly reduces long COVID fatigue

July 17 2023



Flowchart of participants. *Note.* AIR = Amygdala and Insula Retraining.  $n = 2$  participants in the AIR group did not complete measures at all four time intervals.

A new study conducted by Luther College finds that a neuroplasticity-based treatment using an online amygdala and insula retraining (AIR) program significantly reduces fatigue and increases energy levels among

long COVID patients when compared to a general wellness program.

Patients in the AIR group reported four times the reduction in fatigue and almost double the increased energy levels of the standard wellness group. It is the first study demonstrating the effectiveness of a neuroplasticity brain retraining program in addressing long COVID-induced prolonged fatigue. Long COVID affects approximately 10–30% of individuals after an acute COVID-19 infection.

The findings of this randomized clinical trial were published online today by the *Evidence-Based Complementary and Alternative Medicine Journal*.

"These novel findings suggesting that AIR may be a viable means of reducing fatigue are both timely and pertinent as so little is known about how to treat symptoms of long COVID—and so many patients suffer from them. Numerous symptoms, including extreme fatigue, can persist for months, resulting in social and [economic hardship](#) for individuals and their families," said lead study author Loren L. Toussaint, Ph.D., Professor of Psychology at Luther College.

"This research suggests that AIR—a low-cost and widely available online intervention—could help alleviate the common [symptom](#) of prolonged fatigue in long COVID."

Previous research suggests that long COVID symptoms are akin to those of other chronic conditions, such as Myalgic Encephalomyelitis/Chronic Fatigue Syndrome and are likely caused by [chronic inflammation](#) and immunological dysregulation in the body, ultimately leading to a myriad of downstream symptoms, particularly exhaustion.

Participants in the study were divided into two groups: one receiving an AIR program (commercially available online as the Gupta Program and

now also via a smartphone app) and the other engaging in a general wellness program (commercially available as 12 Weeks to Wellness) as a control. The study evaluated the outcomes based on objective measures of fatigue reduction and energy level improvements. Key findings include:

- Patients using the online AIR program experienced almost twice as much improvement in [energy levels](#) and demonstrated a fourfold increase in effectiveness in reducing [fatigue](#) when compared to the wellness program. The AIR intervention employed neuroplasticity techniques designed to create new neural pathways and retrain the amygdala and insula so the immune and autonomic nervous systems can return to homeostasis.
- The study's results on the effectiveness of AIR are consistent with previous research demonstrating its effectiveness in alleviating symptoms of other [chronic conditions](#), such as Chronic Fatigue Syndrome (CFS) and Fibromyalgia. Other published research has supported this theory of immune conditioning in the insula, reinforcing the concept of using neural retraining to reduce stimulation in the nervous and immune systems.

"Approaches that offer some relief from long COVID are urgently needed as long COVID, the often-overlooked and persistent consequence of the global pandemic, continues to affect a significant number of individuals worldwide even as it has receded from the public consciousness," said Dr. Toussaint.

**More information:** Loren L. Toussaint et al, Amygdala and Insula Retraining (AIR) Significantly Reduces Fatigue and Increases Energy in People with Long COVID, *Evidence-Based Complementary and Alternative Medicine Journal* (2023). [DOI: 10.1155/2023/7068326](https://doi.org/10.1155/2023/7068326).

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Provided by Luther College

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