# Study reveals root cause of long-term COVID symptoms

Researchers put the clues together to find the virus actually alters how cells function in some people

## National Jewish Health

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### **NEWS PACKAGE**

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SUGGESTED TEASE	MILLIONS OF AMERICANS HAVE CONTRACTED COVID-19, AND FOR AN INCREASING NUMBER, THE ORDEAL CONTINUES FOR MONTHS.  COMING UP, A NEW STUDY REVEALS HOW THE VIRUS CAUSES LONG-TERM AND POTENTIALLY DANGEROUS SYMPTOMS FOR CERTAIN PEOPLE.	
ANCHOR LEAD	AS COVID CASES CONTINUE TO CLIMB <sup>1</sup> , DOCTORS ARE SEEING MORE AND MORE PATIENTS STRUGGLING WITH A WIDE RANGE OF DEBILITATING AND POTENTIALLY DANGEROUS SYMPTOMS SEVERAL MONTHS AFTER CONTRACTING THE VIRUS, FROM A RACING HEART RATE TO EXTREME FATIGUE AND EVEN COGNITIVE ISSUES. BECAUSE WE ARE STILL LEARNING HOW THE VIRUS AFFECTS THE BODY, THE CAUSES BEHIND THIS POST-COVID SYNDROME ARE A MYSTERY. NOW, A NEW STUDY <sup>2</sup> FROM NATIONAL JEWISH HEALTH REVEALS ANSWERS THAT MAY LEAD TO TREATMENTS FOR PATIENTS WHO CONTINUE TO LIVE WITH ONGOING EFFECTS OF THE VIRUS.	
(PACKAGE START)CG: Courtesy: National Jewish Health	(Nats - Sound) :02	
:00 - :03 Video of Joanna competing in triathlon	JOANNA ZIEGER (ZYE-ger) IS AN OLYMPIC TRIATHLETE AND IRONMAN CHAMPION. :04	
Shots of Joanna walking dog	(Nats - walking dog) :01	
Shots of Joanna working	BUT THESE DAYS, JOANNA HAS TROUBLE JUST TAKING HER DOG FOR A WALK OR CLIMBING A FLIGHT OF STAIRS. SHE ALSO STRUGGLES WITH BRAIN FOG AND MEMORY ISSUES, SYMPTOMS THAT NEVER WENT AWAY AFTER CONTRACTING COVID-19 FIVE MONTHS AGO. :11	
CG: Joanna Zeiger Post-COVID syndrome patient	"It's been a very difficult transition, both work-wise and exercise-wise and for my mental health, just not having all of that." :10	

Shots of Joanna in exam room JOANNA TURNED TO NATIONAL JEWISH HEALTH FOR HELP. WHERE DOCTORS AND RESEARCHERS HAVE ESTABLISHED THE CENTER FOR POST-COVID CARE AND RECOVERY TO FIND THE COMMON LINK BETWEEN THOSE WHO EXPERIENCE LONG-TERM EFFECTS OF THE VIRUS.:11 "We see young and old, we see folks who had mild CG: Irina Petrache, MD acute COVID or severe acute COVID. There was no clear **National Jewish Health** predisposing comorbidity.":14 HEART AND LUNG TESTS WERE USUALLY Shots of Dr. Olin greeting Joanna NORMAL IN THESE PATIENTS. SO RESEARCHERS in exercise room LOOKED DEEPER TO THE CELLULAR LEVEL USING A UNIQUE EXERCISE TEST THAT PRODUCES Shots of exercise bike test HUNDREDS OF DATA POINTS AT ONCE.:10 "Putting it together and really looking at what it is that's Dr. Petrache (CG'd earlier) causing that person to stop exercising is kind of where the money is.":08 (Nats of Joanna and Dr. Olin during exercise bike test) Shots of Dr. Olin reviewing real "You were breathing, essentially, too much, like more than time data your body needs, which is a pattern we've seen with certain people with COVID.":08 RESEARCHERS DETERMINED THAT, IN CERTAIN Shots of exercise bike test PEOPLE, THE VIRUS ACTUALLY HINDERS CELLS FROM GENERATING ENERGY. AND WHILE THIS TEST REVEALED THAT DYSFUNCTION IN MUSCLE TISSUE, THEY BELIEVE Shots of Dr. Petrache reviewing THIS SAME CELL PROCESS COULD BE LINKED TO research POST-COVID SYMPTOMS IN THE NEUROLOGICAL AND PULMONARY SYSTEMS AS WELL. IT'S A DISCOVERY THAT HELPS EXPERTS BETTER Shots of Joanna walking dog UNDERSTAND THE PROBLEM SO THEY CAN BEGIN TO HELP THOSE LIKE JOANNA GET BACK TO THEIR LIVES.:22 "There are a lot of people out there struggling with long Joanna Zeiger (CG'd earlier) COVID symptoms. And a lot of them are very serious and life-altering.":08 AT NATIONAL JEWISH HEALTH, THIS IS BARB Shots of Joanna walking dog CONSIGLIO REPORTING.:03 (PACKAGE END) -----EXPERTS SAY THERE IS STILL WORK TO BE DONE ANCHOR TAG BEFORE TREATMENTS FOR POST-COVID SYNDROME ARE AVAILABLE. THEY STRESS THAT THE BEST WAY TO AVOID

THESE HARMFUL EFFECTS OF THE VIRUS IS TO

PREVENT INFECTION IN THE FIRST PLACE BY WEARING A MASK AND GETTING VACCINATED.

#### **SOCIAL MEDIA**

## Share it! Suggested tweet:

In a new study, researchers at <a href="MIJHealth">MIJHealth</a> examined why some people continue to struggle with symptoms months after contracting COVID. They found that the virus can actually alter cell function, a discovery that will help experts begin to develop treatments. <a href="https://bit.ly/3Fip1hu">https://bit.ly/3Fip1hu</a>

Suggested post:

Many patients continue to experience debilitating and potentially dangerous symptoms months after contracting COVID. Researchers at National Jewish Health conducted extensive testing in their Center for Post-COVID Care and Recovery and found, in some people, the virus actually alters how cells function — a discovery that will help experts begin to develop treatments for those who continue to struggle with post-COVID syndrome. <a href="https://bit.ly/3Fip1hu">https://bit.ly/3Fip1hu</a>

#### **EXTRA BITES**

Dr. Petrache says researchers and doctors are dedicated to finding answers:

"With the tests that we have available here and the great minds of our doctors and curiosity that they have to try to leave no page unturned in terms of finding out why these patients have the complaints that they have. Some are subtle and some are quite obvious.":20

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Dr. Petrache says exercise testing provides hundreds of clues to put together:

"At the end of an exercise testing, we can get a myriad, hundreds of data points, and then put them together in a report and learning. That's in a way as hard as getting the person to exercise and gathering the data." :19

Dr. Petrache says prevention is the best approach as the COVID-19 pandemic continues:

"We're continuing to see waves of disease and waves of reinfection with different versions of the virus, et cetera. We have to be quite aware and do everything we can to prevent the disease to begin with." :20

Dr. Petrache says they want to help people get back to their active lives:

"Many of them are athletes. Many of them are people who value in their lives a high level of activity. So we definitely want to come up with therapeutic options." :14

CG: Irina Petrache, MD National Jewish Health CG: Joanna Zeiger
Post-COVID syndrome patient

Joanna says researchers have made a lot of progress: "There's an understanding more now of what's going on, and they have their testing protocols down. And there's really good communication between the doctors, and they communicate well with me, which I really appreciate as well." :15

Joanna says she's glad to help move research forward: "Maybe the information they gather from me and from all the other patients will help them build a database of information that they can use to unravel what's going on." :11

Joanna describes what happens to her during physical activity: "As soon as I start to move my heart rate just skyrockets. Just walking up the stairs, my heart rate can go up 50 or 60 beats. And so, I haven't been able to run.":10

### References

<sup>1</sup>COVID Data Tracker Weekly Review, Centers for Disease Control and Prevention, Dec. 17, 2021. Online: <a href="https://www.cdc.gov/coronavirus/2019-ncov/covid-data/covidview/index.html">https://www.cdc.gov/coronavirus/2019-ncov/covid-data/covidview/index.html</a>

<sup>2</sup>Decreased Fatty Oxidation and Altered Lactate Production During Exercise in Post-Acute COVID-19 Patients, American Journal of Respiratory and Critical Care Medicine, Volume 205, Issue 1, Oct. 2021. Online: https://www.atsjournals.org/doi/full/10.1164/rccm.202108-1903LE

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