Even acute symptoms of measles can be very unpleasant. They include mouth ulcers, ear infections, croup, laryngitis and diarrhoea.

"The way we stop this is to vaccinate," Moss says.

Should I get a booster?

The first measles vaccine wasn't introduced in the United States until 1963. But people who were born in the United States before 1957 do not need a measles vaccine, because when they were children, measles was so common that they have almost certainly had the disease already.

Other groups that do not need a fresh dose of vaccine include people who were fully vaccinated with two doses of the MMR (measles, mumps and rubella) vaccine, which applies to most people born after 1989. That formulation contains live but weakened virus and causes a powerful and long-lasting immune response.

Those born between 1957 and 1963 have a "reasonable" chance of having had measles in childhood and might also have been vaccinated, Moss says, so their risk of contracting measles now is "relatively low".

But a minority of people vaccinated against measles between 1963 and 1967 received an inactive-virus vaccine, which is less effective than a live-virus vaccine. People who either received the inactive vaccine or don't know whether they did should be revaccinated, according to the US Advisory Committee on Immunization Practices.

Many people received the live-virus vaccine between 1963 and 1989, but the recommendation during that period was to get just one dose. Does this mean they need a second dose now? "I don't think so, as a general rule," says Offit. A single dose has a very high effectiveness rate of 93%, and "people are basically protected for life", says Moss.

But it might be worth considering getting a second dose if you live in an area experiencing an outbreak, plan to travel internationally or need to protect an immunocompromised loved one. "If you were living in Gaines County, Texas, you should," says Moss.

By Julian Nowogrodzki

HAROLD M. LAMBERT/LAMBERT/GETTY

A gripping title can entice more people to read — and cite — scholarly papers.

CATCHY, CLEAR, CONCISE: THREE-PART PHRASES BOOST PAPER CITATIONS

Memorable 'tripartite' phrases in titles make research studies more likely to be read and cited.

By Dalmeet Singh Chawla

From 'Envy, inequality and fertility' to 'Market size, trade and productivity', using catchy three-part phrases in the titles of research papers can boost their citations, suggests a study. The analysis used algorithms to examine some 235,000 economics papers and 93,000 medical and life-sciences papers that contain three-part phrases in their titles. The medical and life-sciences studies that used the format attracted 32 extra citations, on average, than did papers that didn't contain such phrases, and the economics papers with this format received an extra 3.5 citations.

"When you have a catchy title, people are more likely to read at least the abstract or the whole paper," says study co-author Klaus Wohlrabe, an economist at the Leibniz Institute for Economic Research in Munich, Germany. The analysis was published last month on the SSRN preprint server (L. Bornmann and K. Wohlrabe *Pattern, Perception, and Performance: Tripartite Phrases in Academic Paper Titles* CESifo Working Paper 11671; Center for Economic Studies and Ifo Institute, 2025).

Previous analyses have found that using shorter titles, funny ones or including certain punctuation marks, such as hyphens, commas, brackets or colons, can also help studies to garner more citations.

The economics papers were published in journals indexed by the scholarly database Web of Science between 2006 and 2019. The life-sciences and medicine studies — peer reviewed from 2001 to 2023 — were rated 'good', 'very good' or 'excellent' by the post-publication appraisal service Faculty Opinions.

Wohlrabe says that medical and life-sciences studies with three-part phrases in their titles attract more extra citations than do corresponding economics publications because "the average citations for a medicine or life-sciences article is much higher than in economics".

Rhythmic patterns

The study says that 'tripartite phrases' enhance clarity by breaking down complex ideas into interconnected parts, create rhythmic patterns that are memorable and aim to communicate multiple aspects of research concisely.

Such phrases are already commonly used in the scholarly literature, Wohlrabe adds, with around 9% of the economics papers and 4% of life-sciences and medicine papers in the sample containing tripartite phrases in their titles.

Wohlrabe says that it's possible that academics will start using three-part phrases more often after realizing that the format might attract citations, but notes that this might not be suitable for every paper.

"Looking at titles is very worthwhile because they are the first impression that the article makes on a reader," says Stefanie Haustein, an information scientist at the University of Ottawa in Canada. The analysis is "very well executed", she adds, and shows that tripartite phrases help to attract citations.

But Haustein says that it's difficult to directly compare the economics data set with the life-sciences and medicine one because in the latter group, the authors didn't include studies rated below 'good'. "It's a very selective set of papers, while economics is just anything in the Web of Science that falls in the category," she adds.

There could also be a difference in writing styles in various fields or between authors who have English as their first language and those who do not, Haustein notes, leading to differences in the use of three-part phrases.

MAN SURVIVES WITH TITANIUM HEART FOR 100 DAYS — A WORLD FIRST

The device, to be tested in more people, could be used temporarily for those waiting for a donor organ.

By Smriti Mallapaty

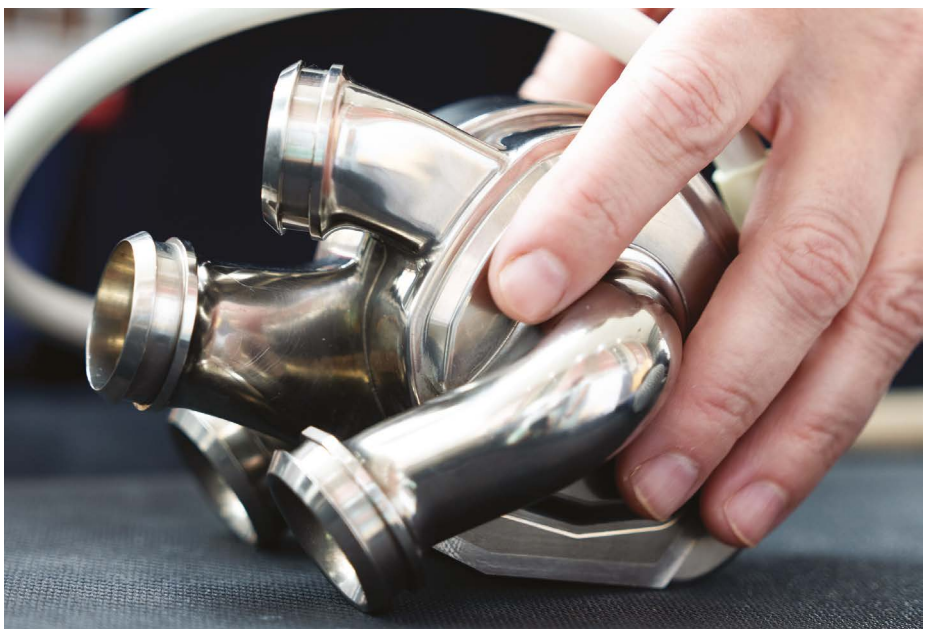
An Australian man in his forties has become the first person in the world to leave hospital with an artificial heart made of titanium. The device is used as a stopgap for people with heart failure who are waiting for a donor heart, and previous recipients of this type of artificial heart had remained in US hospitals while it was in place.

The man lived with the device for more than three months until he underwent surgery to receive a donated human heart. The man is recovering well, according to a statement from St Vincent's Hospital Sydney in Australia, where the operations were conducted.

The Australian is the sixth person globally to receive the device, known as BiVACOR, but the first to live with it for more than a month.

"This is certainly an important development in the field," says Julian Smith, a cardiac surgeon at the Victorian Heart Institute at Monash University in Melbourne, Australia.

"It is incredibly innovative," says Sarah Aitken, a vascular surgeon at the University of Sydney, but she adds that there are still many unanswered questions about the level of function that people with it can achieve and the ultimate cost of the device. "This kind of research is really challenging to do because it is very expensive" and the surgery involved is very high-risk, says Aitken.



The BiVACOR, pictured, is a total heart replacement made of titanium.

JASON FOCHTMAN/*HOUSTON CHRONICLE* VIA GETTY

The latest success will help researchers to understand how people cope with this device in the real world, says Joseph Rogers, a heart-failure cardiologist and president of the Texas Heart Institute in Houston. "They weren't being constantly monitored by medical teams," says Rogers, who led the first trial of the device in the United States last year.

In all cases, the BiVACOR was used as a temporary measure until a donor heart became available. Some cardiologists say that it could become a permanent option for people not eligible for transplants because of their age or other health conditions, although the idea still needs to be tested in trials. In the United States, close to 7 million adults live with heart failure, but only about 4,500 heart transplants were performed in 2023, in part because of a shortage of donors.

Suspended rotor

BiVACOR was invented by biomedical engineer Daniel Timms, who founded a company named after the device, with offices in Huntington Beach, California, and Southport, Australia.

The device is a total heart replacement and works as a continuous pump in which a magnetically suspended rotor propels blood in regular pulses throughout the body. A cord tunnelled under the skin connects the device to an external, portable controller that runs on batteries by day and can be plugged into mains electricity at night.

Many mechanical heart devices support the left side of the heart, and typically work by pooling blood in a sack, which flexes some 35 million times a year to pump blood. But these devices have many parts and often fail. BiVACOR, which only has one moving part, will in theory experience fewer problems of mechanical wear, says Rogers.

US trials

The Australian recipient of BiVACOR had severe heart failure, and received the titanium device in a six-hour operation in November. In February, he was discharged from hospital, then stayed in a residence close by and led a relatively normal life. In March, he received a donor heart.

In the US trial led by Rogers, five men in their mid-forties to mid-sixties received an earlier version of the BiVACOR device last year. The device sustained these people for up to a month in hospital but was not designed to support them at home. All five individuals were later discharged with donor hearts. Rogers plans to present the results at