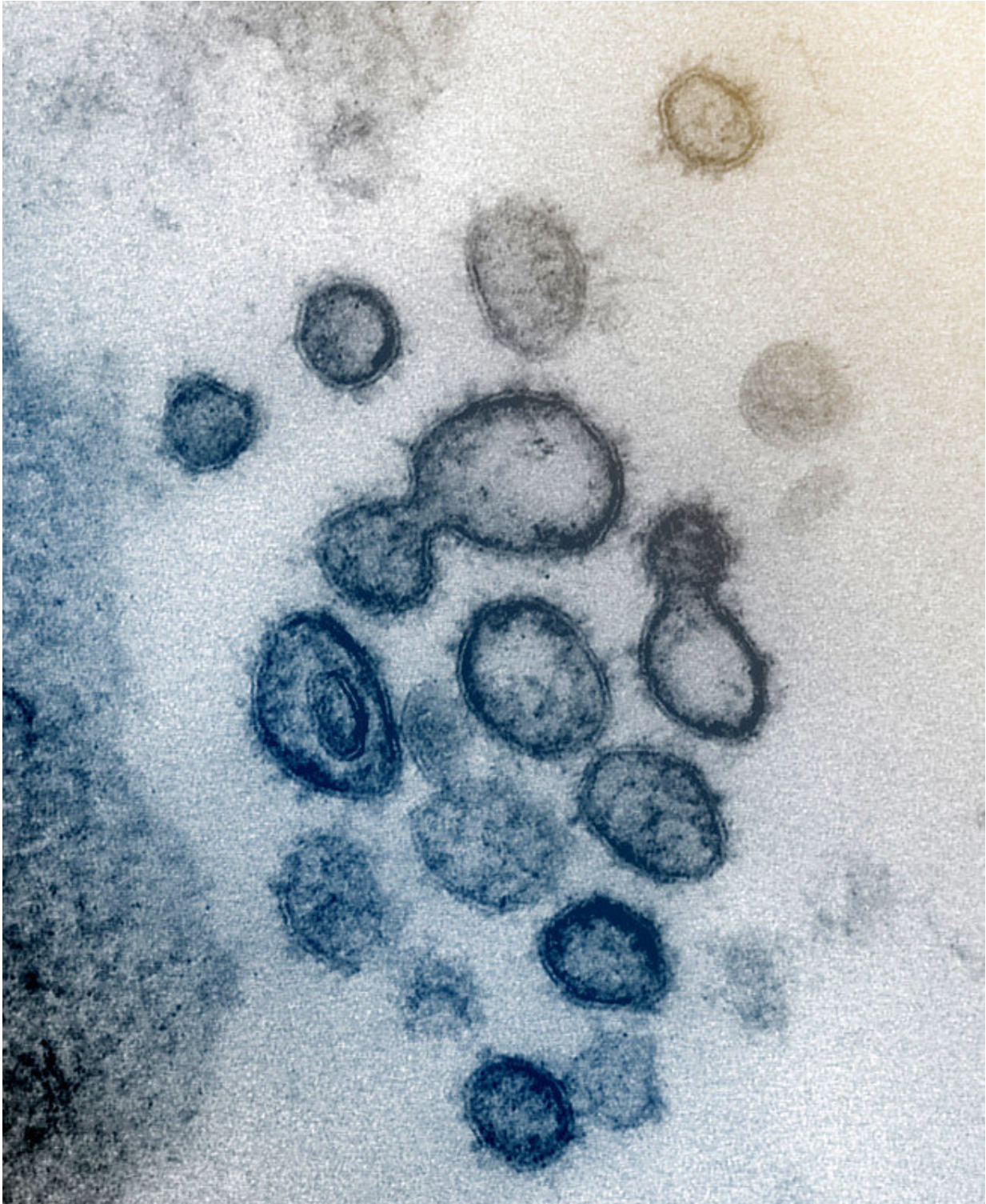


Quarantine on cruise ship resulted in more coronavirus patients: study

March 2 2020, by Ola Nilsson



This transmission electron microscope image shows SARS-CoV-2 -- also known as 2019-nCoV, the virus that causes COVID-19 -- isolated from a patient in the US. Virus particles are shown emerging from the surface of cells cultured in the

lab. The spikes on the outer edge of the virus particles give coronaviruses their name, crown-like. Credit: NIAID-RML

The cruise ship Diamond Princess was quarantined for over two weeks, resulting in more coronavirus-infected passengers than if they would have disembarked immediately, the opposite of what was intended. This is the conclusion of a study conducted at Umeå University in Sweden.

"The infection rate onboard the vessel was about four times higher than what can be seen on land in the worst infected areas of China. A probable cause is how close people stay to one another onboard a vessel," says Joacim Rocklöv, Professor of epidemiology at Umeå University and principal author of the article.

After a person traveling with the cruise ship Diamond Princess disembarked in Hong Kong and was tested positive for the coronavirus, Japanese authorities decided to disallow the 3,700 passengers onboard to leave the ship when it reached Yokohama. The ship was hence put in [quarantine](#) until 19 February. Passengers who showed signs of illness were, as far as possible, separated from other passengers onboard. When the quarantine in Yokohama was removed and passengers could finally disembark, a total of 619 passengers had been infected by the coronavirus.

"If the ship had been immediately evacuated upon arrival in Yokohama, and the passengers who tested positive for the [coronavirus](#) and potential others in the risk zone had been taken care of, the scenario would have looked quite different. Our calculations show that only around 70 passengers would have been infected, a number that greatly falls short of the over 600 [infected] passengers the quarantine resulted in. The precautionary measure of putting the entire ship under quarantine was

understandable, but due to the high risk of transmission on the ship, the decision is now questionable," says Joacim Rocklöv.

At the same time, the study also shows that if the precautionary measures of isolating potential carriers had not been carried out onboard, another 2,300 people would have been infected.

The study is published in the *Journal of Travel Medicine*.

More information: J Rocklöv et al, COVID-19 outbreak on the Diamond Princess cruise ship: estimating the epidemic potential and effectiveness of public health countermeasures, *Journal of Travel Medicine* (2020). [DOI: 10.1093/jtm/taaa030](https://doi.org/10.1093/jtm/taaa030)

Provided by Umea University

Citation: Quarantine on cruise ship resulted in more coronavirus patients: study (2020, March 2) retrieved 5 May 2024 from

<https://medicalxpress.com/news/2020-03-quarantine-cruise-ship-resulted-coronavirus.html>

<p>This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.</p>
--