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## Covid-19: Peak of viral shedding is later with omicron variant, Japanese data suggest

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Patients with the omicron variant of covid-19 shed virus for longer after symptoms emerge, show data from Japan, potentially jeopardising hopes that the period of isolation for people testing positive could be shortened.

Preliminary data from the National Institute of Infectious Diseases—which conducts disease surveillance in Japan—suggest that the amount of viral RNA is highest three to six days after diagnosis or symptom onset.<sup>1</sup>

The isolation period for people testing positive for covid-19 was recently cut from 10 days to seven in England if two lateral flow tests returned negative results on days six and seven. Similar cuts to isolation have followed in Scotland, Wales, and Northern Ireland.

Staff absences because of isolation have caused severe workforce shortages for critical services, including the NHS, schools, and transport, leading to calls for the UK to follow the US and cut the isolation period to five days.

One of the proponents of shortening isolation, Paul Hunter, a professor in medicine at the University of East Anglia, said that the latest Japanese data “muddy the waters.”

“I’m still working my way through the evidence for and against given that the Japanese study has now shifted the balance,” he said.

Previous studies suggest that the peak transmission period for people with other variants was between two days before symptoms emerged and three days afterward, with virus shedding peaking on or before symptom onset.<sup>2</sup> The Japanese study suggests that with omicron, the peak of virus shedding may be two or three days later, Hunter said.

In Japan, people infected with SARS-CoV-2 are admitted to hospital under the Infectious Diseases Control Law or the Quarantine Act and released only after two consecutive negative tests by nucleic acid amplification or antigen quantification methods. Concerns that these discharge criteria may lead to prolonged hospital stays led the National Institute of Infectious Diseases to examine the duration of virus shedding to determine the period of potential infectiousness for patients with omicron.

Quantification of SARS-CoV-2 RNA in 83 respiratory specimens from 21 cases using quantitative reverse transcriptase polymerase chain reaction and virus isolation tests revealed that the amount of viral RNA was highest three to six days after diagnosis or symptom onset, and then gradually decreased. A similar trend was seen for positive virus detected in respiratory samples, with no infectious virus detected

in samples after 10 days since diagnosis or symptom onset.

One factor in favour of shortening the isolation period is that testing is “missing” about two thirds of infections anyway, Hunter said. Previously just under half of covid-19 cases were detected by testing, but since omicron emerged this figure had dropped to under a third, he said.

Hunter added that because many people have been exposed to omicron and it is circulating widely, isolation becomes less effective as a tool. “It will have some value for people in healthcare settings who are managing really ill people, but we’re getting to the point—probably soon, if we’re not there already—where the value will be less,” he said.

1 National Institute of Infectious Diseases. Japan. Active epidemiological investigation on SARS-CoV-2 infection caused by Omicron variant (Pango lineage B.1.1.529) in Japan: preliminary report on infectious period. 5 January 2022. [www.niid.go.jp/niid/en/2019-ncov-e/10884-covid19-66-en.html](http://www.niid.go.jp/niid/en/2019-ncov-e/10884-covid19-66-en.html).

2 He X, Lau EHY, Wu P, et al. Temporal dynamics in viral shedding and transmissibility of covid-19. *Nat Med* 2020;26:672-5. doi: 10.1038/s41591-020-0869-5 pmid: 32296168

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