

COVID-19

LITERATURE REPOSITORY

Should I be worried about carrying the virus that causes COVID-19 (SARS-CoV-2) home on my clothes?

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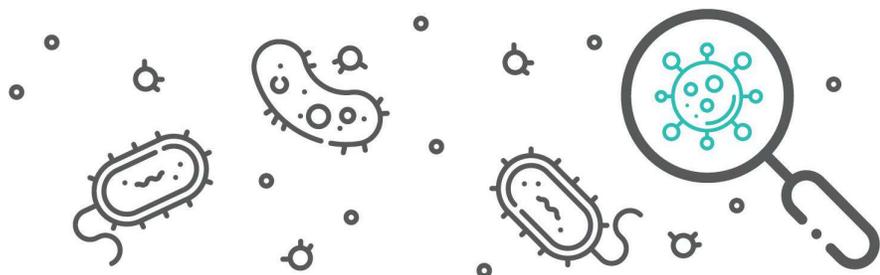
Health care workers frequently ask whether they can carry SARS-CoV-2 virus home on their clothes and pass it on to family members or even infect themselves later in the day.

There are two major reasons they can feel reassured: factors relating to the virus and factors relating to the current state of the COVID-19 pandemic in Australia.

Factors relating to the virus

SARS-CoV-2 is an enveloped RNA virus, like influenza, with poor stability in air and on porous surfaces. This instability derives from disruption of the lipid envelope with minimal insult and from the innate nature of RNA which readily degrades under environmental conditions. In terms of pathogen stability, bacterial spores sit at the most robust end of the spectrum and enveloped RNA viruses at the least robust, with most bacterial pathogens in between.

The only information on the environmental stability of SARS-CoV-2 comes from artificial experiments in which drops of virus were pipetted onto surfaces; the surfaces were tested for virus some time later. Detecting the virus does not mean it is infectious.³ On cloth, the viral load decreased 100-fold after 30 minutes and was not detectable by day 2.³ No virus was detected from printing and tissue paper after 3 hours and from treated wood by day 2. By contrast, SARS-CoV-2 could be detected from treated smooth surfaces (glass and banknote) on day 2 and from stainless steel or plastic on day 4. Virus could be detected on the outside of a surgical mask on day 7, but only one-thousandth of the original amount.³ In another study the half-life (time taken for the amount to reduce by half) of virus on cardboard was 3.5 hours.⁴



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The virus is inactivated readily by soap and water or by alcohol which both disrupt the lipid envelope.³ After handling of masks, eye protection, clothes, shoes, or any solid objects, hand washing with soap and water or alcohol-based hand rub prior to touching the face will destroy the virus. Virus inactivation is enhanced at temperatures of 56-70°C.⁴

Lack of evidence of transmission via clothes

At the time of writing, over 2.5 million people have been infected worldwide with SARS-CoV-2, including thousands of health care workers in the US⁵, China, Italy and Spain. Despite intense media attention, there has not yet been one case report of COVID-19 acquired from contaminated clothes, nor of infection of a health worker's household member without the HCW themselves being infected (which might imply indirect transmission via clothes or other contaminated objects). Similarly, acquisition via contaminated clothing has not been demonstrated for other respiratory viruses which share common transmission features with SARS-CoV-2.

Factors relating to the situation in Australia

Given the current low prevalence of COVID-19 in our community and in paediatric hospitals in particular, the risk that health care workers in our setting will be exposed to the virus is very low and the risk they will carry it home on clothes so low as to be considered negligible.

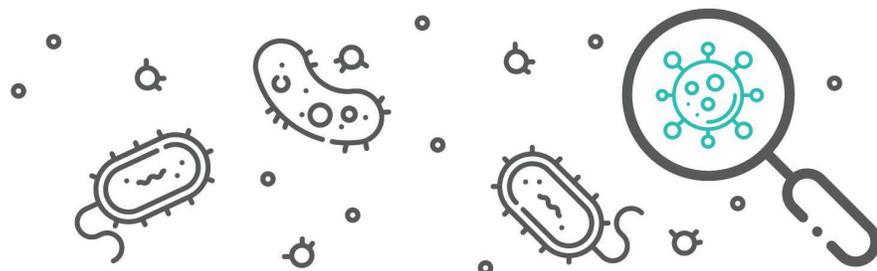
Recommendation

We advise staff to follow normal infection control practice, wear appropriate personal protective equipment for higher-risk situations and observe hand-washing recommendations. Staff can safely wear their ordinary clothes to and from work.

We recognise that some health care workers will nevertheless be concerned about potential contamination of clothes at work. Such staff might prefer to wear a separate set of clothes for work (washed at any temperature in normal detergent after use). Hospital-issued scrubs should not be used as their supply is limited and we must not compromise their availability for surgical procedures. Staff who buy their own scrubs are advised not to wear them to and from work due to recent targeted attacks on health care workers.

Key Points:

1. Transmission of COVID-19 is the same as for other respiratory viruses (entry via nose, mouth or eyes only). Transmission via clothes has not been demonstrated for any related respiratory viruses nor for the virus causing COVID-19.
2. Washing contaminated clothing in a washing machine, even on a cold cycle, will inactivate the virus as the surfactants and alkalis in laundry powder will disrupt the viral envelope.

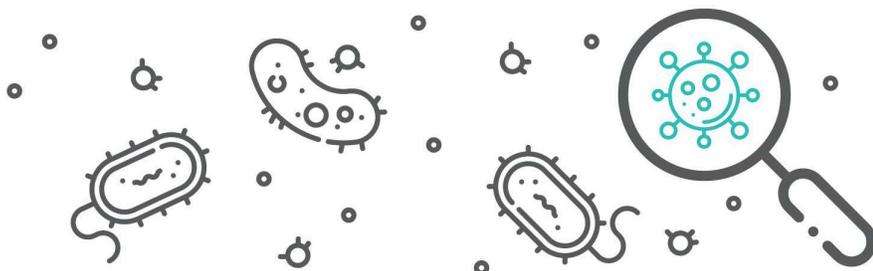


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3. If staff members are concerned, they can change their clothes (either just before leaving work or straight after arriving home), and wash any clothes they worry may be contaminated in a washing machine, performing hand hygiene afterwards.
4. COVID-19 infection rates are low currently in Australia and New Zealand (April 2020), especially in children. At the moment it is very unlikely that a staff member's clothing will become contaminated with this virus while working at an Australasian children's hospital.

References:

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