

SYNOPSIS

03/19/2020

Review of “COVID-19 and the risk to health care workers: a case report”

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One-Minute Summary

- This report describes **the exposure of 41 health care workers (HCWs)** who wore various forms of personal protective equipment (PPE) **to care for an undiagnosed COVID-19 patient.**
- The patient was admitted to a hospital in Singapore in February 2020 for community-acquired pneumonia and with no exposure history for COVID-19.
- He was admitted on oxygen therapy and required **endotracheal intubation** and **mechanical ventilation** in the intensive care unit the following day. Intubation was difficult and assisted with a video laryngoscope and airway bougie. After three days, he was extubated to non-invasive ventilation.
- Nasopharyngeal swabs taken on the day of extubation for routine surveillance confirmed COVID-19.
- The hospital conducted a thorough contact tracing investigation of 41 HCWs exposed to **aerosol-generating medical procedures (AGMPs)** for at least 10 minutes within 2 metres of the patient.
- 35/41 (85%) HCWs wore **surgical masks**, the other six (15%) wore **N95 respirators.**
- **None of the 41 HCWs developed symptoms and all tested negative by PCR for COVID-19.**
- This case report suggests that, even for AGMPs, **surgical masks are equally effective to N95 respirators when used with hand hygiene and other infection prevention and control measures.**

Additional Information

- All exposed HCWs were placed under home isolation for 14 days, and monitored daily for cough, dyspnea, myalgia, as well as twice-daily temperature measurements. No symptoms developed.
- Nasopharyngeal swabs for COVID-19 PCR were done on days one, two, four or five and on day 14 after exposure. All were negative.

PHO Reviewer’s Comments

- This case report adds important additional information to what we know so far about COVID-19 [routes of transmission](#). The predominant method of transmission of COVID-19 is most likely droplet or direct/indirect contact transmission. PPE, which includes surgical mask, eye

protection, gloves, gown, and meticulous hand hygiene, is likely effective in protecting HCWs from COVID-19.

- This case report further suggests that surgical masks may provide adequate protection even in the context of AGMPs; however, the extent of viral shedding by the patient at the time of intubation was not known.
- The authors' appropriately acknowledge that this is a case report and additional studies should be performed evaluating the most appropriate PPE for HCWs to protect against COVID-19.
- Additional information, such as the quality of hand hygiene and additional PPE practices (such as wearing eye protection) by these HCWs, would have been helpful to have been included in this case report.

Citation

Ontario Agency for Health Protection and Promotion (Public Health Ontario). Review of "COVID-19 and the risk to health care workers: a case report". Toronto, ON: Queen's Printer for Ontario; 2020.

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