



### Implement Engineering Controls

From the CDC updated guidelines:

*"Consider designing and installing engineering controls to reduce or eliminate exposures by shielding HCP and other patients from infected individuals. Examples of engineering controls include physical barriers or partitions to guide patients through triage areas, curtains between patients in shared areas, closed suctioning systems for airway suctioning for intubated patients, as well as appropriate air-handling systems (with appropriate directionality, filtration, exchange rate, etc.) that are installed and properly maintained<sup>1</sup>."*

In these dynamic times when we have a new disease process we do not fully have a grasp on, we look to the guidelines set forth by the CDC and WHO. The CDC and WHO recommendations include the implementation of engineering controls. Engineering controls for infectious disease isolation provide front-line healthcare providers the tools to keep our patients and staff safe. We as a healthcare society always strive to provide the best care for our patients while adhering to the CDC and WHO recommendations.

Regrettably, healthcare organizations often face a lack of staff, especially in times of crisis, along with possible and realized shortages of personal protective equipment, currently being seen in China<sup>4</sup>. With this, healthcare providers may take short cuts and place themselves at risk in order to care for their patients.

But what if they didn't have to? What if there was a product that could help minimize close patient interaction to only the most pertinent times while being monitored or on a mechanical ventilator? Scales, et al, demonstrated during his research that our most vulnerable healthcare professionals were the ones who were dealing with mechanically ventilated or non invasive ventilated patients<sup>7</sup>. Nurses were shown to have a higher instance of being infected when a patient was on NIPPV<sup>9</sup>. What If there was a product that could allow for manipulation of a mechanical ventilator and bedside monitor from outside the room, that could be a safe and effective new barrier precaution?

Scales, et al, put it best:

*"In addition, protocols for managing patients with SARS should include not only contact and respiratory precautions but also procedures that minimize patient contact since duration and proximity of contact increase the risk for transmission of SARS. Finally, additional precautions should be taken when performing high-risk procedures, such as endotracheal intubation<sup>8</sup>."*

Though many of the healthcare workers in the ICU were exposed to the patient with SARS, this experience suggests that the greatest risk for SARS transmission occurs in those healthcare workers with prolonged exposure or direct physical contact with the patient. Use of gowns, gloves, and masks as barriers appears to reduce the risk for SARS transmission in most but not all situations. Additional information will be needed to determine if modes of transmission beyond droplet spread are important. This information will be helpful to institutions dealing with similar exposures to patients with SARS and developing quarantine protocols.



For more information, please call 1-855-550-VENT  
or email [ventilator@nihonkohden.com](mailto:ventilator@nihonkohden.com)

### References

- <sup>1</sup>Guideline for Isolation Precautions: Preventing Transmission of Infectious Agents in Healthcare Settings (2007) Update JULY 2019 <https://www.cdc.gov/infectioncontrol/guidelines/isolation/index.html>.
- <sup>2</sup>WHO statement on cases of COVID-19 surpassing 100 000. (2020, March 7). Retrieved March 10, 2020, from <https://www.who.int/news-room/detail/07-03-2020-who-statement-on-cases-of-covid-19-surpassing-100-000>.
- <sup>3</sup>Live Updates: China Says 1,700 Health Workers Have Contracted Coronavirus <https://www.nytimes.com/2020/02/14/world/asia/china-coronavirus.html>.
- <sup>4</sup>Coronavirus: New China figures highlight toll on medical staff <https://www.bbc.com/news/world-asia-china-51501005>.
- <sup>5</sup>Sepkowitz KA and Eisenberg L: Emerging Infectious Diseases Vol. 11, No. 7, July 2005
- <sup>6</sup>Interim Infection Prevention and Control Recommendations for Patients with Confirmed 2019 Novel Coronavirus (2019-nCoV) or Persons Under Investigation for 2019-nCoV in Healthcare Settings Updated February 12, 2020 <https://www.cdc.gov/coronavirus/2019-nCoV/hcp/infection-control.html>.
- <sup>7</sup>Illness in Intensive Care Staff after Brief Exposure to Severe Acute Respiratory Syndrome <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3033076/> Damon C. Scales, Karen Green, Adrienne K. Chan, Susan M. Poutanen, Donna Foster, Kylie Nowak, Jane M. Raboud, Refik Saskin, Stephen E. Lapinsky, and Thomas E. Stewart.
- <sup>8</sup>Young JG, D' Cunha C: the SARS Provincial Operations Centre. SARS—directive to all Ontario acute care hospitals for high-risk procedures. Ontario Ministry of Health and Long Term Care. Directive 03-11, June 16, 2003. (Accessed June 17, 2003). Available from: URL: <http://www.oma.org/phealth/sars.htm>.

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