

# Precautions in the Operating Room during COVID-19 Pandemic

Sir,

Severe acute respiratory syndrome coronavirus-2 (SARS-CoV-2, COVID 19) outbreak was declared a public health emergency by the World Health Organization (WHO).<sup>1</sup> With the first case in Pakistan being reported on 26<sup>th</sup> February 2020.<sup>2</sup> There is evidence of human to human transmission; and taking historic realities into consideration that SARS and Middle-East respiratory syndrome-related coronavirus, were acquired by many patients and doctors in the hospital; and as the virus has been identified in almost all bodily fluids, surgeons are at a considerable risk of acquiring the infection during surgery.<sup>3</sup>

This outbreak has led to cancellation of elective surgical procedures with only emergency surgeries being carried out in majority of the tertiary care hospitals. Hence, the need for a structured protocol is deemed necessary in order to protect the surgical team irrespective of the COVID-19 status of the patient.

A standard operating room (OR) should be designed at a positive pressure gradient relative to the surrounding with high frequency of air changes (25/hour), reducing the viral load. However, a negative pressure environment is ideal for reducing the risk of viral dissemination beyond the operating room.<sup>4</sup> Post-procedure, all medical equipment, which should be initially covered with plastic, be cleansed with ammonium chloride disinfectant wipes. The OR should then be cleaned with sodium hypochlorite 1000 ppm and treated with ultraviolet C-irradiation or hydrogen peroxide vaporisation. The breathing circuit and soda lime canister of the ventilator should be discarded for contamination reduction.<sup>5</sup> Furthermore, it is unclear in the literature review whether laparoscopic, endoscopic, and open procedures confer increased risk to the surgeon to aerosolised viral particles.

The patient should be covered with surgical mask, head cap, and directly transferred to the OR for assessment and induction by limited personnel. The least possible attire of personal protection equipment (PPE) required with confirmed or suspected COVID-19 patient care providence should include N95 mask, face shield, head cover, gown and gloves. A donning and doffing buddy system should be utilised and there should be specific measures to discard the PPEs.

With no specific treatment available at present for COVID-19, there is an utmost need to prevent hospital-acquired infection as it could prove fatal for healthcare workers due to high viral load. We, therefore, recommend all possible precautions to be taken during the pandemic while operating.

## CONFLICT OF INTEREST:

Authors declared no conflict of interest.

## AUTHORS' CONTRIBUTION:

KH: Substantial contribution to the design of the work and manuscript drafting.

SJ: Literature review and revision for critical intellectual content.

SAAJ: Proof reading and final approval for the version to be published and in agreement to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved.

## REFERENCES

1. Statement on the second meeting of the International Health Regulations (2005) Emergency Committee regarding the outbreak of novel coronavirus (2019-nCoV) [Internet]. Who.int. 2020 [cited 30 March 2020]. Available from: [http://www.who.int/news-room/detail/30-01-2020-statement-on-the-second-meeting-of-the-international-health-regulations-\(2005\)-emergency-committee-regarding-the-outbreak-of-novel-coronavirus-\(2019-ncov\)](http://www.who.int/news-room/detail/30-01-2020-statement-on-the-second-meeting-of-the-international-health-regulations-(2005)-emergency-committee-regarding-the-outbreak-of-novel-coronavirus-(2019-ncov)).
2. Shahid A. Two coronavirus cases confirmed in Pakistan. Pakistan Today [Internet]. 2020 [cited 30 March 2020]. Available from: <http://www.pakistantoday.com.pk/2020/02/26/sindh-health-two-coronavirus-cases-confirmed-in-pakistan-confirms-first-coronavirus-case-in-karachi/>.
3. De Wit E, van Doremalen N, Falzarano D, Munster VJ. SARS and MERS: Recent insights into emerging coronaviruses. *Nat Rev Microbiol* 2016; **14**(8):523-34.
4. Air | Appendix | Environmental Guidelines | Guidelines Library | Infection Control | CDC [Internet]. Cdc.gov. 2020 [cited 1 April 2020]. Available from: [http://www.cdc.gov/infection\\_control/guidelines/environmental/appendix/air.html](http://www.cdc.gov/infection_control/guidelines/environmental/appendix/air.html)
5. Zhao S, Ling K, Yan H, Zhong L, Peng X, Yao S, et al. Anesthetic management of patients with covid 19 infections during emergency procedures. *J cardiothorac vascular anesthesia* 2020; **34**(5):1125-31.

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