The 2019 novel coronavirus disease (COVID-19) pandemic continues to infect an outsized number of patients, with fever, dry cough, fatigue and shortness of breath, Acute Respiratory Distress Syndrome (ARDS) as major symptoms. These symptoms also are the risk factors for ventilator dependence. Respiratory droplets, close contact transmission and aerosol transmission during a relatively closed environment are the main routes of transmission. Thus, surgical procedures may place clinicians at particularly high risk when caring for infected patients.

Worldwide medical systems have faced many challenges because of the COVID-19 pandemic. COVID-19 brought serious threats to the protection of medical staff additionally to the overall public. Among medical staff, surgeons, anesthesiologists and operating nursing staff are at the highest risk of infection thanks to the exposure to respiratory droplets or aerosol from infected patients during airway manipulations and surgery. Thus, effective personal protective procedures and cautions should be taken to stop medical staff from COVID-19 infection. Our knowledge of the protective measures of COVID-19 during the perioperative period is insufficient and limited.

The coronavirus disease 2019 (COVID-19) pandemic has had a considerable effect on surgeons and patients who require surgical care. Providing look after patients with surgical disease requires a unique and intimate relationship between the patient and surgeon, and this interaction and contact can’t be replaced by telehealth. As such, the surgical workforce has faced distinct challenges compared with nonsurgical specialties during the COVID-19 pandemic. Specific issues include the simplest approach to protect health care personnel and therefore the patient, the ability to efficiently regulate delivery of surgical care, the detrimental effects on patients with surgical disease, the financial implications of the pandemic on health care systems; the management of surgical workforce shortages, the implications for education, research, and career development; and therefore the emotional toll to all or any involved.

In the operating room, universal use of smoke evacuators to suction away the smoke plumes generated by electrocautery has been encouraged to attenuate the risk of exposure to health care personnel of aerosolized tissue. Special precautions should be taken for all surgical cases that involve the airway and alimentary canal, and minimally invasive procedures that need the creation of a pneumoperitoneum must be safely managed or avoided if possible. Overall, it’s imperative that universal pandemic precautions, including appropriate PPE, are observed whenever surgical care is delivered.

Surgical patients have unique risks due to COVID-19. Operating on patients with either asymptomatic or symptomatic COVID-19 increases the risk for perioperative morbidity and mortality. Another major challenge for surgery has been the necessity to effectively and safely stop nonurgent and nonemergency surgery. With the ramp-down within the operating rooms, programs also got to restructure how personnel are deployed to deliver care to patients with COVID-19. Several institutions have shared best practices on the way to restructure surgical residency programs and provide care to patients with SARS-CoV-2 while minimizing risk to non-infected patients and other health care professionals.

The COVID-19 pandemic has also created challenges within the education of the future surgical workforce. During the initial phases of the pandemic, when PPE shortages were common, most medical students were removed from clinical care rotations. With the shutdown of nonurgent, nonemergency surgery, residents were not gaining experience within the clinic. The implications for this are far-reaching. Regarding the medical students, their exposure to surgery is now limited. Fewer medical students may choose careers in surgery thanks to limited exposure. For those medical students who wanted to pursue surgery, concern associated with the close patient-physician contact needed for surgery may lead them to settle on a special profession.