Patient safety is a central tenet of modern healthcare, with significant resources dedicated to reducing avoidable harm. However, the unprecedented risks associated with the coronavirus disease 2019 (COVID-19) pandemic have forced healthcare systems to identify the most appropriate responses to these new challenges. In this article, the author analyzes representative studies to address the impact of the COVID-19 pandemic on patient and healthcare worker (HCW) safety, particularly as applied to perioperative healthcare.

Nosocomial COVID-19 infection remains a significant concern for patient safety. Two separate studies found that perioperative infection with COVID-19 was associated with significantly greater mortality rates compared to uninfected controls. This risk is magnified by the high transmissibility of the virus, which puts both patients and HCWs at mutual risk. Indeed, the author notes that the pandemic has strongly linked patient and HCW safety.

The many unknowns surrounding the COVID-19 pandemic initially created much uncertainty for governing bodies attempting to establish the safest policies for both patients and HCWs. Fortunately, further research has since clarified some of these questions. For example, there is strong evidence that completely segregating hospital areas into COVID and non-COVID areas is effective, with hospitals that have established “COVID-free” areas reporting significantly reduced complication and mortality rates than those that did not. Moreover, proper between-case infection control does appear to reduce operating room (OR) cross-contamination: the author notes 1 study in which there were no reported cases of patients acquiring COVID-19 after being treated in an OR that had been previously used for a COVID-positive patient. Finally, minimally invasive surgery and surgical energy devices such as electrocautery were both initially challenged as possible sources of aerosolized viral transmission. However, follow-up investigations later established that there is little evidence supporting an open approach over a laparoscopic 1, with 1 study even noting that minimally invasive surgery reduced perioperative COVID-19 infection rates compared to open surgery. Similarly, studies have demonstrated that there is no evidence of viral particles within smoke generated in the OR.

However, the author notes that there is less consensus on other topics. Early in the pandemic, the American College of Surgeons and United Kingdom guidelines recommended medical management of some typical surgical cases (e.g., appendicitis or cholecystitis). Although this change did not markedly alter patient outcomes, several studies have raised concerns that these patients are at higher risks for long-term complications. Alternatively, German guidelines did not change their appendicitis recommendations. Although follow-up studies identified an increase in complicated appendectomies (likely due to delayed presentation during the pandemic), the German guidelines did not lead to an increase in postoperative morbidity or mortality. Taken together, these studies illustrate the unclear benefits of these different approaches.

Despite these attempts to mitigate COVID-19 risk for HCWs, the pandemic has nevertheless exacted a heavy toll on HCWs. The author references multiple studies which report significantly increased rates of COVID-19 infection in HCWs compared to the general population. Indeed, the early phases of the pandemic saw nearly 1 in 100 COVID-19 infected HCWs die. Multiple surveys and studies have identified the substantial psychological impact this toll has had on HCWs.

The author then discusses the indirect health risks associated with the pandemic. Most notably, the decision to cancel elective procedures endangered patients awaiting elective but non-optional procedures. One study noted a reduction in diagnosis of early-stage colon and lung cancers and a concomitant increase in advanced presentation of these diseases following the onset of the pandemic. Other indirect mechanisms by which COVID-19 has threatened patient safety include personal protective equipment hampering clear communication and intensive care units isolation beds forcing a reduction in patient surveillance by staff.

This article thus reviews the major topics in patient and HCW safety during the COVID-19 pandemic. Although there has been promising progress in specific initiatives and research questions, there is still much work to be done to secure the safety of patients and HCWs. Above all, this article highlights how intertwined patient safety include personal protective equipment hampering clear communication and intensive care units isolation beds forcing a reduction in patient surveillance by staff.

Richard Appel, BS
Larry H. Hollier Jr., MD, FACS
Houston, TX
larryh@bcm.edu

Driver fatigue remains one of the leading causes of motor vehicle crashes (MVC) according to a study performed by the National Transportation Safety Board. In medicine, one of the most challenging times in a career is residency, a required multi-year training experience after graduating medical school. Subsequently, residents, especially those in general surgery (GS), have been shown to have high rates of fatigue, burnout, and poor job satisfaction. In this study, the authors address the incidence of hazardous driving events (HDE) in GS residents with considerations for residency duty hour violations and psychiatric well-being.

The purpose of the study was to evaluate MVC, the leading cause of death among residents, and its association with GS resident fatigue. To conduct the study, Northwestern University in Chicago, Illinois surveyed more than 7000 surgery residents from 260 programs after completing their American Board of Surgery In-Training Examination (ABSITE). The survey asked about incidences of HDEs such as nodding off while driving, near miss MVC, and MVC. It also included recording the number of ACGME duty hour violations and the general health questionnaire 12, a proven survey tool to evaluate psychiatric well-being. The study had a...