

Disclaimer

The EAU Guidelines Office COVID-19 recommendations are to support health-care systems under severe constrain during the pandemic but their application should be modulated according to local pandemic conditions and restrictions in clinical and surgical activity due to local medical directives and guidance.

GENERAL RECOMMENDATIONS FOR SURGICAL PROCEDURES

1. Depending on the resources and capacity we recommend treating only high-priority and emergency cases surgically during the COVID pandemic.
2. Consider not only equipment, OR and ICU beds capacity but also blood supplies available, drugs shortage in order to prioritize your surgeries.
3. Consider that even if capacity is available low priority patients increase the footfall and the risk of COVID transmission between patients and staff.
4. Consider that surgery has been reported to be harmful in asymptomatic patients who subsequently tested COVID positive [1].
5. Consider treating intermediate priority patients if capacity is available but not during the COVID surge
6. Consider older patients with comorbidity at severe risk of COVID infection and a fatal outcome. Therefore, carefully balance if in high-priority cases surgery is the only alternative.
7. Where ventilator capacity for COVID patients has been breached, high-priority surgical candidates requiring ICU ventilation should be triaged according to local recommendations – or if unavailable – age and comorbidity.
8. Follow the local recommendations to test staff and patients for COVID, if resources are available. These may differ per hospital and country and familiarize yourself with them. Be aware that they may change as new information is coming in.
9. Follow the local recommendations for personal protective equipment (PPE), if resources are available; the Society of American Gastrointestinal and Endoscopic Surgeons (SAGES) advise full PPE irrespective of COVID status of the patient. Familiarize yourself with their recommendation [2, 3].
10. Wear full PPE for COVID positive patients according to the World Health Organization (WHO). This should include double gloves, gowns, face shields and virus-proof masks [3, 4].
11. Intubation and extubation should preferably take place in a negative pressure room if available [5].
12. All non-essential staff should stay outside the operating room during the procedure
13. Set electrosurgery units to the lowest possible settings to reach the required effect.
14. Avoid or reduce use of monopolar electrosurgery, ultrasonic dissectors, and advanced bipolar devices as these can lead to particle aerosolization.
15. Use, if available, monopolar diathermy handheld devices with attached smoke evacuators.
16. Clean surgical equipment of COVID positive or suspected patients separately.

GENERAL GUIDANCE ON WHAT TO DO WHEN FACED WITH A KNOWN COVID-19 POSITIVE PATIENT NEEDING SURGERY (these measures partially also applicable for COVID-19-negative patients)

1. A specially equipped dedicated OR has to be prepared for these cases. For endourology, a mobile C-arm fluoroscopic X-ray system for radiological imaging and experienced personal for its handling has to be in the special operating room.
2. Surgeons and operating team (surgeons, anaesthetists, nurses, technicians, nursing assistants / healthcare workers and hospital housekeepers) in OR should be completely protected against infection of COVID-19 and adopt adequate protection devices.
3. All minimally invasive procedures should be preferably performed by experienced surgeons and with the minimum number of experienced OR staff members required. Additionally, no external observer is allowed in the OR [6] (<https://uroweb.org/wp-content/uploads/ERUS-guidelines-for-COVID-def.pdf>)
4. To date, there is no specific data demonstrating an aerosol presence of the COVID-19 virus released during minimally invasive abdominal surgery.
5. Smoke evacuation systems with active filtered smoke evacuation mode, capable of filtering the aerosolized particles from the carbon dioxide should be provided during laparoscopic surgeries [2].
6. Utilizing CO₂ insufflation with a closed system with appropriate filtering of aerosolized particles
 - a. Not inserting 8 mm instruments in a 12 mm da Vinci trocar without a reducer
 - b. Not inserting a 5 mm instrument in a 12 mm da Vinci trocar even with the reducer in place
 - c. Turning CO₂ insufflation off and venting the gas through a filter prior to specimen extraction
- d. Consultation with the CO₂ insufflation manufacturer used in your hospital may be necessary to ensure proper settings are selected for maximal filtration effect.
- e. The full recommendation of SAGES on this topic as well as the cited published evidence can be found on the SAGES website [2]. A recent publication that reports the experience of minimally invasive surgeons from China and Italy in the setting of known/suspected COVID-19 can be accessed at the Annals of Surgery [7].
7. For (robot-assisted) laparoscopy and retroperitoneoscopy lowest allowed intraabdominal pressure with the use of intelligent integrated Insufflation systems is recommended [6] (ERUS).
8. It is recommended lowering electrocautery power setting as much as possible in order to reduce the surgical smoke production especially in laparoscopic surgery. During access, electrocautery should be provided with automatic suction system.
9. Evacuation of irrigation fluid during endourological procedures (cystoscopy, TURB, BPH endoscopic surgery, URS, RIRS, PCNL) should be collected through a close system.

GENERAL GUIDANCE FOR TESTING PATIENTS BEFORE SURGERY IN COVID PERIOD

1. Patients with clinical symptoms like fever and respiratory distress and/or with travel history to endemic areas and previous contact with COVID-19 patients should all undergo preoperative COVID-19 test. In an emergency situation it is suggested to handle those patients as COVID-19 positive patient in order to reduce risk of contagion for both patients and health-care workers.
2. Patients without any clinic symptoms and without travel history to endemic areas and previous contact in the last 2 weeks with a COVID-19 positive patient: Testing of elective patients is recommended whenever possible within 48 hours prior to surgery in an outpatient clinic setting. One may consider starting with PCR testing and withholding a chest CT only if the PCR is positive for a COVID-19 infection. However, this might have severe logistical implications (patients need to visit the hospital repeatedly) and joint testing of PCR and CT may be a more desirable and practical approach, depending on the local situation. Main reason for that approach:
 - a. Patients may be in the incubation period of a COVID-19 infection and subsequently develop COVID-19 post-operatively, placing them at risk for adverse post-operative outcomes [1].
 - b. Patients may be asymptomatic/mildly symptomatic carriers and shedders of SARS-CoV-2 and place hospital workers at risk, particularly during intubation and aerosolizing procedures.
 - c. Patients may be asymptomatic/mildly symptomatic carriers and shedders of SARS-CoV-2 and place other hospitalized patients at risk, who are often in higher age groups with co-morbidities and at higher risk of severe COVID-19 disease.
3. The group is aware that at present, different triage policies may be applicable depending on region or country. Even following accounts of the false negative results of the test and the fact that PPE has to be adopted in all surgical patients, information on the test may be useful in the postoperative period.
4. In addition, we strongly recommend advising patients to comply with general directions regarding social distancing as stated by the government since this will likely lower the risk for COVID-19 disease at the time of operation.

GENERAL GUIDANCE ON OTHER ASSISTANCE ASPECTS BEYOND SURGERY

1. TELEMEDICINE
2. Potential or proven COVID-19-positive patients must be treated according to local, national and WHO-requirements [4]. In that case a comprehensive and robust infection control workflow has to be followed [8].
3. A network of expert high-volume centres at the regional, national or even supranational level, should guarantee the continuity of the oncological care in an appropriate way, ensuring the availability of hospitalization beds and the timely management of the new patients.
4. Remote consultation and multidiscipline team (MDT) are recommended to offer the optimum therapeutics.
5. Testing for SARS-CoV-2 should be considered before any high-dose chemotherapy.
6. Guide the patients to get access to non-emergency medical services such as chronic diseases treatment online to reduce the number of visitors in hospitals.
7. Encourage patients to take full advantage of digital self-service devices to avoid contact with others to reduce the risk of cross infections.

References

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