

# ESTES Educational Committee and Emergency Surgery Section

## RECOMMENDATIONS FOR EMERGENCY SURGERY DURING COVID-19 PANDEMIC

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**COVID-SARS-19PANDEMIC** is putting the health system under great pressure.

Furthermore, at this point in time, it is impossible to foresee its duration.

From ESTES Emergency Surgery Section and ESTES Educational Committee, we have produced this concise set of recommendations, focusing mainly on organizational issues that need to be implemented at the Hospital Level.

In fact, while it is paramount to follow one's national health system guidelines, one should also focus on local realities and resources, since even in the best-structured health systems every single hospital will face different challenges in this pandemic.

For these reasons, Surgical Services along with the Crisis Management Task Force should work as a team to create and communicate with promptness contingency plans which should ideally address the following issues:

- 1) **Organizational:** In many hospitals, surgical rotas could be affected both by sick leaves and by reallocation of surgeons to different tasks. We strongly advise preparing early for these scenarios. It is not advisable to implement these changes in the rush of the moment. We suggest at least the following measure should be implemented.
  - a. Identify a clear order of hierarchy, so it will always be clear who is in charge of making decisions and representing the Surgical Department in the event of not availability of the Chief.
  - b. At least one member of the Department should participate as a COVID Coordinator and share daily updates with the Crisis Management Task Force (this is a "rapidly changing scenario" situation).
  - c. Shifts should be planned no more than 2 weeks ahead, considering the possibility of rapidly changing scenarios.
  - d. Consider the restructuring of elective non-oncological procedures and if in need canceling activities of the Day Surgery and all non-emergency or Oncological cases. Consider giving preference to patients not requiring UCI in case of a shortage of UCI beds.
  - e. Clinics and patient post-op follow up should be done by phone whenever possible and all non-essential appointments should be rescheduled.
  - f. Plan ahead for the replacement of key members of the team.

- g. Identify and state clearly the skills of all surgical members and their degree of autonomy to facilitate re-allocation to a different task.
- h. Provide courses on **COVID-19** and how it affects the surgical patient.
- i. Optimize the presence of your working force, with the presence of the minimum number of surgeons necessary for daily tasks, avoiding surplus of personnel without activities.
- j. Maintain close contacts with the members of the Surgical Service (instant messengers are advised).
- k. Continue with the daily ward and surgical patients handover routine using online resources and web conferences limiting physical meetings and case discussions.
- l. Have available disinfectant gels in the department and look after daily cleaning of keyboards, mobile phones, and beepers in common working areas.

2) **Personal Protective Equipment:** We are aware that PPEs are not readily available in many Hospitals. Furthermore, different policies are continuously made, showing differences at regional and national levels, based on the availability of PPEs and the new understanding of COVID-19 disease. For these reasons, it is not possible to give clear cut indications on PPEs use. In any case, whatever the local policies, we advise:

- a. Make sure that Surgeons are well aware of:
  - i. what PPEs are available (ideally it should be the impermeable gown, eyewear, face shields, long nitrile gloves).
  - ii. which PPEs should be used with “confirmed cases” according to WHO definition.
  - iii. which PPEs should be used with “probable cases” according to WHO definition.
  - iv. which PPEs should be used with “suspect cases” according to WHO definition.
  - v. develop an educational program with drills of the proper donning and doffing technique.
  - vi. use donning and doffing checklist that should be available for the surgical team and OR staff.
- b. maintain a rigorous chain of contact of your Surgeons with all your patients, which should include:
  - i. The ID of the patient
  - ii. Date, time and hour of the encounter
  - iii. personnel present during the encounter
  - iv. type of PPEs used during the encounter
  - v. COVID status of the patient
- c. Communicate as soon as possible with Occupational Health in case of any risk exposure or of a new diagnosis of COVID among your surgical staff.

- d. Classification of contact in the hospital setting
  - i. Close contact with a patient that has suspected/confirmed COVID-19 with proper use of PPE.
  - ii. Close contact with a patient that has suspected/confirmed COVID-19 without proper use of PPE.
  - iii. Casual contact with a patient that has suspected/confirmed COVID-19 without proper use of PPE.
  - iv. International healthcare assistance is given in areas with sustained local transmission of COVID-19.

3) **Patient testing for COVID-9:** Ideally, all patients assessed during this pandemic should be tested for COVID-19, and patients with acute surgical disease will benefit greatly from this approach. We understand that at the current moment this may not be possible in all the hospitals of the Health System, it may vary depending on local policies and resources available. However, we can provide the following recommendations:

- a. establish clearly which patients will be tested according to your Hospital policies.
- b. Always request a CT Thorax to all the patients you request a CT Abdomen.
- c. In case you don't need a CT Abdomen for your diagnosis, consider requesting at least a Chest X-Ray or if available a chest-US.
- d. review frequently the need for testing.

4) **Operating Rooms:** We believe that contingency plans on Operating Room use may already have been implemented in most Hospitals. In any case, we advise:

- a. Identify which OR will be used for:
  - i. "confirmed" cases
  - ii. "probable" cases
  - iii. "suspect" cases
- b. It is strongly recommended as a minimum, to allocate a dedicated OR for all "confirmed" cases. The technical characteristics of the OR shall be specified and verified by your local authority.
- c. Keep a registry of all the personnel entering and leaving the OR, with the type of PPEs used by each of them. entry and exit
- d. Nominate the person responsible in case of any problem regarding OR use.
- e. Identify the donning and doffing areas with visible checklists according to the institution's protocol.

5) **Surgical technique:** at this moment many Societies are discussing the potential danger of laparoscopy related to the diffusion of COVID-19 among healthcare personnel due to the surgery-generated smokes and aerosolization of the virus in the air. Other parties believe that the risk is somehow exaggerated or nonexistent. Strong scientific evidence is lacking on both sides of the matter. Also, many makeshift devices are being advertised to reduce

this possible contamination. In this situation, we can only advise to standardize techniques as much as possible and do not leave space to personal preferences. We think that the benefits must be sought in simplifying the logistic restoring of material, avoiding misunderstanding with the other healthcare personnel. We advise the following:

- a. State clearly whether or not laparoscopy will be performed routinely.
  - b. In case that laparoscopy is the technique, it seems advisable to work with low pressures and evacuate all the pneumoperitoneum prior to specimen or trocar extraction.
  - c. Diathermy and advanced sealing devices should be used with low energy avoiding unnecessary smoke during the procedure.
  - d. In the case of using a smoke extractor, use always the same type. In the case of makeshift smoke extractor inform your Occupational Health Department and obtain their approval.
  - e. In general, the emergency surgical procedure should be as simple and short as possible, have a mindset of acute care damage control at all times.
  - f. Avoid sharp objects to a maximum, manipulation will be done with instruments, never directly with the hands.
  - g. Prioritize the use of mechanical sutures
  - h. Don't leave room to personal preferences regarding instruments, techniques, etc
  - i. Foresee future equipment availability.
  - j. Have all the required equipment and material inside the OR prior to the initiation of the procedure, avoiding unnecessary door openings of the OR.
  - k. Leave the possibility of technical changes, but only in very selected cases.
  - l. In case of discrepancies between teams (surgeons/anesthesia/nurses, etc) know who is responsible to make the final decision.
  - m. Consider using Alert signs on the OR door that will alert personnel that it is a COVID-19 case.
  - n. Establish clear communication with the anesthetists and keep in mind that for general anesthesia procedures it is best to enter the OR after the patient has airway control (in case of general anesthesia), limiting the potential exposure of the surgical team during the intubation and extubation period.
  - o. Immediately after the procedure the patient should be transferred to an isolation room in recovery or is possible can recover in the same designated OR prior to returning to their isolation room or ICU.
- 6) **Clinical pathways:** Many Health Systems are struggling to cope with the number of COVID-19 patients who need hospitalization. Surgical Services need to be able to postpone as many surgical procedures as possible, both elective and emergency. At the same time this should be done in the safest way for the patients. This is not an easy task but needs to be done. Also, these decisions will surely be brought under judgment when this crisis will be over. It is imperative, both for patients' and surgeons' safety, to standardize the clinical pathways in each hospital. We advise the following:

- a. Maintain a Virtual MDT meeting to discuss all oncologic cases, to share the burden of the decision.
- b. Identify all elective procedures which cannot be postponed for more than 4 weeks.
- c. Liaise at the regional level on how and where to manage the no-deferrable elective cases.
- d. Keep written records of all the decisions made, and who is accountable for them.
- e. Assess specifically how you are going to treat the most common surgical emergency in your Hospital.

These should include:

- i. Acute appendicitis
  - ii. Acute cholecystitis
  - iii. Colonic obstruction
  - iv. Small bowel obstruction
- f. Assess your trauma pathway and identify early if and how it should be affected.
    - i. Avoid placing chest tubes in the trauma bay and consider placing them in the OR, they have the potential risk of aerosolization of COVID-19 virus to the trauma bay.
    - ii. When placing chest tubes for pneumothorax, hemothorax or hemo-pneumothorax use of PEEs is advisable.
    - iii. Considering that all-penetrating trauma requiring emergency surgery could be a potential COVID-19 case, so take the previously mentioned precaution.

References:

1. Ti LK, Ang LS, Foong TW, Ng BSW. What we do when a COVID-19 patient needs an operation: operating room preparation and guidance. *Can J Anaesth*. 2020 Mar 6. doi: 10.1007/s12630-020-01617-4.
2. Surgical Care and Coronavirus Disease 2019 (COVID-19). American College of Surgeons <https://www.facs.org/about-acsc/covid-19/information-for-surgeons>
3. W. Guan, Z. Ni, Yu Hu, W. Liang, C. Ou, J. He, L. Liu, H. Shan, C. Lei, D.S.C. Hui, B. Du, L. Li, G. Zeng, K.-Y. Yuen, R. Chen, C. Tang, T. Wang, P. Chen, J. Xiang, S. Li, Jin-lin Wang, Z. Liang, Y. Peng, L. Wei, Y. Liu, Ya-Hua Hu, P. Peng, Jian-ming Wang, J. Liu, Z. Chen, G. Li, Z. Zheng, S. Qiu, J. Luo, C. Ye, S. Zhu, and N. Zhong. *Clinical*

Characteristics of Coronavirus Disease 2019 in China. The new England journal of medicine 2020 Feb, 10.1056/NEJMoa2002032

4. Zheng M, Boni L, Fingerhut A. Minimally invasive surgery and the novel coronavirus outbreak: lessons learned in China and Italy. Annals of Surgery. 2020.