Guidance and workflow of endoscopy reopening during COVID-19 pandemic

On March 19, 2020 the WHO declared coronavirus disease (COVID-19), caused by SARS-CoV-2, as a pandemic and it was crucial during the rapid spread of COVID-19 to postpone all elective and non-emergency endoscopic procedures. In April 2020 the Saudi Gastroenterology Association published a position statement to guide gastroenterologists in Saudi Arabia on endoscopy services during the COVID-19 pandemic, similar to other international societies worldwide. The pandemic has led to a challenge for endoscopists as many urgent cases were deferred. In order to care for our patients, it was a must to resume endoscopic services gradually for those cases as soon as it is feasible with the least possible risk of exposing staff, patients, and healthcare providers. The decision of reopening ultimately depends on each endoscopy unit and the capacity of healthcare institution in terms of testing and tracing as well as staffing. The endoscopy unit at King Saud University Medical City (KSUMC) decided to start the process of reopening especially with substantial decrease in the number of COVID-19 cases requiring ventilators. A task-force was formed to provide a roadmap for safe reopening, which in turn could facilitate and guide other units towards restarting outpatient and routine procedures, with a phased approach based upon categories. Nevertheless, the suggested protocol should be updated based on best available local public health information from the Ministry of Health.

The main purpose of this commentary is to present recommendations during the gradual reopening of endoscopy units, where indeed it is anticipated that readiness to resume endoscopic procedures will vary based on the status of each endoscopy unit and the guidance from the concerned health authorities. Our unit, which performs around 6000 procedures annually, had more than 800 requests pending since the start of the pandemic, with numerous inquiries from patients seeking information about the risk of infection or the precautions to be taken when attending the unit.

Currently, there are no formal evidence-based recommendations from clinical societies or healthcare authorities on resuming endoscopy procedures although, a few reports from international societies are emerging highlighting the potential rearrangements of care and resetting of the endoscopy flow. During the preparation we faced multiple layers of complexity on the reopening scenario, however, this is a novel situation with limited options and we tried our best to keep the process simple and applicable. Table 1 shows the general information

Table 1: General Information for the endoscopy staff and patients prior to and on the day of the procedure

| General Information: |
|----------------------|
| This workflow is applicable for all outpatient and inpatient endoscopic procedures at KSUMC and all endoscopy staff must be familiar and appropriately follow the new workflow. |
| Given the current situation of the COVID-19 pandemic, the re-opening for outpatient endoscopic procedures will be carried out in phases (three phases). |
| Scheduling patients for endoscopic procedures should be prioritized as emergency (category A), urgent (category B) or elective (category C) [2]. |
| Emergency cases will be performed without delay as inpatient procedures and if the patient is confirmed positive for COVID-19, procedures should be done in negative-pressure room with full Personal Protective Equipments [PPE][1] | Respiratory PPE (N95 mask/PAPRs), two pairs of gloves, boots/shoe covers, disposable hairnet, protective eyewear (goggles or disposable face shield), and water-proof disposable coversalls. |
| Risk stratification for patients who need urgent or electives cases will be performed by endoscopy nurse through a phone call 72 hours prior to the procedures using (MOH) COVID-19 screening score. If the patient has high score, he/she needs to call the helpline from MOH. |
| For low risk patients, please follow the re-opening plan and workflow attached and the procedures should be done in regular room with proper PPE | Surgical mask, gloves, shoe covers, protective eyewear goggles or disposable face shield, and water-proof disposable gown[1]. |
| Checkpoints at the hospital entrance to screen the patients and ask if there has been any history of cough or fever within the preceding 3 days. |
| Respecting 1–2 m distance between chairs where patients sit waiting for the procedures. |
| Patients should be wearing masks at all times and no relatives are allowed to enter inside the endoscopy unit. For inpatients should be brought directly into the endoscopy room with a mask and once the procedure is done the patient will be shifted immediately back to the floor to limit exposure in the recovery areas. |
| Rooms must be cleaned in between the procedures which will increase the total procedure time. |
| Scopes cleaning will continue the same as prior the pandemic following the local hospital and infection control recommendations. |
| Biopsies will be taken only if needed and will be labeled as a biohazard sample for all cases and handled carefully as per protocol by endoscopy and lab staff. |
| Adequate number and different sizes of PPE should be available in the unit all the time and a request to maintain adequate supply for the PPE should be made to cover the unit's needs for a minimum of 8 weeks. |
Table 2: Definition and workflow of the re-opening phases

| Phase | Category | Indications                                                                 | Action plans                                                                                                                                 |
|-------|----------|-----------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------|
| ONE (EARLY RECOVERY) 20% OF TOTAL UNIT CAPACITY | Emergency procedures | -Significant gastrointestinal bleeding -Caustic ingestions -Foreign body impaction -Cholangitis -Gastric leak or biliary leak -Volvulus -Luminal obstruction requiring stenting -Biliary obstruction requiring stenting -Infected pancreatic fluid collection | All patients will be admitted through emergency room (ER) in the COVID ward, nasal swab to be done if the result is negative the procedure will be done in a regular procedure room with proper PPE. If the result is positive, the procedure will done in negative pressure room with full PPE. |

Figure 1: (a). Flowchart 1 demonstrate the specific steps for pre-procedure protocols for phase one. (b). Flowchart 2 demonstrate the specific steps for pre-procedure protocols for phase two

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which addresses the staff’s, patients, and caregivers, safety recommendations pre-procedure and on the day of the procedure. Scheduling the procedures was prioritized based on its urgency and the potential of serious outcomes if the procedure was delayed. The reopening was divided into three phases and Table 2 shows the details of each phase along with the workflow. A significant number of COVID-19 infections are being transmitted from asymptomatic individuals\(^7\) thus requiring all patients to be tested for SARS-CoV-2 within 48-72 hours of a scheduled procedure. Flowcharts 1 and 2 demonstrate the specific steps for pre-procedure protocols for phases 1 and 2 respectively, and the role of individual endoscopy staff as shown in Figure 1a and b.

In conclusion, the COVID-19 pandemic will continue to be a burden on our healthcare systems. The decision to reopen endoscopy units should be taken based on the locally available resources respecting infection control recommendations. Finally reopening endoscopic activity should be made in phases with clear guidance for each phase.

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