

A Clinical and Procedural Guideline for Gastrointestinal Endoscopy Units during COVID-19 Pandemic Era

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ABSTRAK

Organisasi Kesehatan Dunia (WHO) telah menyatakan COVID-19 sebagai pandemi global karena ada semakin banyak kasus yang dikonfirmasi untuk infeksi SARS-CoV-2, jumlah negara yang terkena dampak dan tingkat kematian yang tinggi. Pandemi COVID-19 global juga akan mempengaruhi berbagai aspek perawatan kesehatan termasuk layanan endoskopi. Perkumpulan Endoskopi Gastrointestinal Indonesia (PEGI) yang memberikan ruang lingkup bagi dokter yang melakukan prosedur endoskopi telah menyusun pedoman klinis dan prosedural yang dapat menjadi acuan bagi dokter yang melakukan endoskopi gastrointestinal di Indonesia.

Kata kunci: COVID-19, gastroenterologi, prosedur, endoskopi.

ABSTRACT

The World Health Organization (WHO) has declared COVID-19 as global pandemic since there are tremendous growing numbers of confirmed cases for SARS-CoV-2 infection, the number of affected countries and high mortality rate. The global COVID-19 pandemic also will affect various aspects of health care including endoscopic service. The Indonesian Society for Digestive Endoscopy (ISDE), which provides a scope for doctors who perform endoscopic procedures, has developed a clinical and procedural guideline that may serve as a reference for doctors performing gastrointestinal endoscopy in Indonesia.

Keywords: COVID-19, gastroenterology, procedure, endoscopy.

INTRODUCTION

The COVID-19 has been declared as a pandemic and national health emergency condition. This guideline is developed based on the World Health Organization (WHO) warning system and it may be revised in consistent with ongoing health situation in the community. The content and recommendation contained in the

guideline is basically interpretation of the best information that has been published by experts.

This guideline aims to complete existing information; however, it does not serve as a substitution of any relevant recommendation or policy of any institution associated with infectious disease. When adopting any recommendation or suggestion, clinicians must adjust their

endoscopy units according to available resources and prevention strategy on infectious disease at their work places.

THE CURRENT SITUATION OF COVID-19 AND TRANSMISSION RISKS

The latest information, which is provided on <https://covid19.who.int> website by September, 15th 2020, shows that there have been 28,918,900 positive confirmed cases with 922,252 cases (3.19%) of death. While in Indonesia for the same exact period as provided by the <https://covid19.go.id/peta-sebaran> website, there have been 221,253 positive confirmed cases with 8,841 (39.96%) death toll. The mechanism of transmission for COVID-19 has been confirmed that the disease is transmitted through droplets and surrounding objects contaminated with the virus (called fomites) among close contact with someone who has been infected. There has been no report associated with airborne transmission as the main mechanism of virus transmission and there has been no available valid evidence on this issue despite the WHO has advised the possibility of airborne transmission of the virus. Aerosol transmission particularly occurs when opening mouth or at the anal opening which may serve as a potent transmission route. Some case report studies have declared that the virus can be identified viable in fecal specimens of infected patients. However, the fecal-oral route of transmission has not been proven to be the mechanism of transmission for COVID-19; nevertheless, research providing clinical evidences on fecal-oral route of COVID-19 transmission are still ongoing.¹

Currently, SARS COV2 virus has been isolated from fecal specimens, which confirms the presence of virion release into the gastrointestinal tract. Therefore, fecal-oral route may become an additional route of transmission for the virus that shall call for attention in future.²

Most of COVID-19 patients have symptoms of fever (98.6%), fatigue (69.6%), dry cough (59.4%) and other constitutional symptoms. However, many patients also have gastrointestinal complaints such as diarrhoea (10.1%) and nausea (10.1%).³ Potent transmission routes during gastrointestinal endoscopic procedure may

include transmission through respiratory tract secretion for endoscopic procedure of upper gastrointestinal tract (esophagoduodenoscopy) and through exposure to faeces when clinicians performing colonoscopy procedure (either by inhalation, splashing of virus to conjunctiva and direct contact).^{4,5}

In order to minimize the risk of inhaling droplets, it is recommended to maintain a distance at least 6 (six) feet or 2 (two) meters of someone who has a potency of being infected. Some experts estimate that the incubation period of COVID-19 is approximately 1 to 14 days and for most cases it is about 5 (five) days. To prevent COVID-19 transmission at gastrointestinal endoscopy unit, some recommended measures that should be applied and followed are as follows:

Patient Selection and Screening

If the infection rate is still high, limit endoscopic procedure only for emergency condition such as gastrointestinal bleeding, foreign body, acute cholangitis, tumor that call for immediate histopathological diagnosis or to create nutritional access such as PEG. It is highly recommended to cancel any elective procedure until the critical period of SARS COV2 is over. (**Table 1**) All patients must undergo screening to identify their travel history, any contact with confirmed case or any evidence of COVID-19 associated symptoms. If the patients have any positive screening result, they will be asked to delay the procedure for at least 14 (fourteen) days. Patients with fever or any symptom of fatigue/ malaise, cough and/or diarrhoea should be transferred to emergency department (ED) for further management.

If there is no significant history of travelling or contact found, then the procedure can be performed for patients. A screening form containing information about travelling history, risk of potent exposure and existing symptoms found in the patient must be filled out by the patient and/or interviewer prior to the procedure is carried out.

In addition to the routine informed consent form, be sure that the patients or their family have signed their "informed consent for gastrointestinal endoscopic procedure during SARS-COV2 crisis."⁴

Table 1. Classification of Endoscopic Procedure Types.

Urgent	Semi-urgent (selection depending on cases)	Elective
Gastrointestinal bleeding	Endoscopic therapy for neoplasia (polypectomy/EMR/ESD)	Surveillance endoscopy or evaluation (polyp, IBD, history of gastrointestinal cancer)
Treatment for perforation or leakage	Endoscopy for cases with high suspicion of cancer	Therapeutic endoscopy for non-cancer cases
Biliary sepsis	Enteroscopy for occult gastrointestinal bleeding	Diagnostic EUS for benign disorders
Foreign body	ERCP for pancreatobiliary malignancy	ERCP for non-urgent cases (replace the plastic stent, chronic pancreatitis, evaluation ERCP)
Gastrointestinal obstruction in need of stent installation		
Urgent nutritional access		

EMR = endoscopic mucosal resection; ESD = endoscopic submucosal dissection; IBD = inflammatory bowel disease; EUS = endoscopic ultrasound; ERCP = endoscopic retrograde cholangio-pancreatography.

It is recommended to perform a screening test using chest X-ray followed by PCR swab testing, which is modified accordingly with available facilities. Up to now, most hospitals have demanded RT PCR swab as a screening test for endoscopic procedures.

All patients and their relatives (only one adult who is responsible for the patient) must comply to undergo body temperature checking and must wear surgical mask before entering the endoscopy unit.

Endoscopy Room

Some issues must be concerned, particularly about the number of people in the endoscopy room. Limit the number of operating endoscopy room in order to keep up the supply of personal protective equipment. The procedure is performed by a skilled endoscopy expert (a consultant) to limit the time and procedure exposure (e.g. to limit the involvement of fellow or trainee).^{6,7}

For highly-suspected cases or confirmed cases, the procedure must be performed in a negative pressure room.^{6,8} Clean all surfaces in the endoscopy room thoroughly after each procedure has been completed. Provide fresh bed sheets and pillow sheets following the completion of each procedure. It is recommended to perform disinfection procedure for walls, desks or endoscopic instruments using chlorine sprays. The floor should be cleaned on a daily basis using detergent containing chlorine.⁸ The report of endoscopic results can be written or

typed in a separate clean room and it should be supervised by an endoscopic expert.⁶

Protection Measures for Staff/ Health Care Personnel

Each staff with complaints of fever, fatigue, dry cough, diarrhoea or history of contact with any patient that has been infected by COVID-19 must be identified and referred to the infection control committee in order to get appropriate care. Temperature checking must be performed using non-contact thermometer for every person



Disposable waterproof gown
N-95/FFP2/FFP3 masks
Goggle eyeglasses or face shield
Cap (hairnet)
Double-layered gloves

Figure 1. Recommendation for Putting on Personal Protective Equipment (PPE).

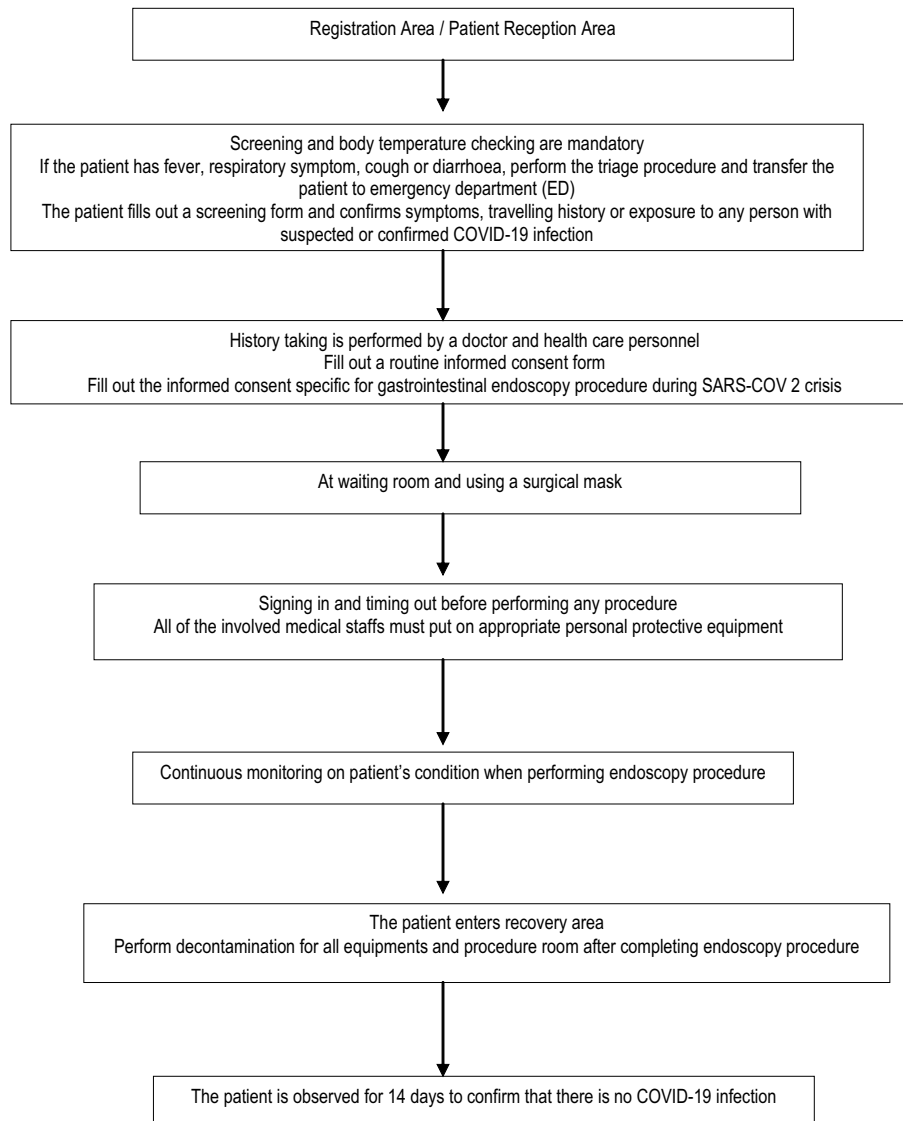


Figure 2. Diagnostic and Therapeutic Flowchart at Endoscopy Unit during SARS COV2 Crisis.

at the beginning of working day and before entering the endoscopy unit.

The staff personnel are recommended to change their attire with the clothes that has been provided by their hospital when they enter the endoscopy unit. The previous clothing (the attire that they bring from their home) must be stored and re-use again when the staff is leaving the endoscopy unit (at the end of working day). For patients who have been confirmed negative or having a low risk, Biosafety level II protective equipments for the staffs who perform direct contact with the patients (endoscopy expert, anaesthesiologist, nurse and assistant) must be provided including: disposable waterproof

gown, N95/FFP2/FFP3 masks or surgical masks, goggle eyeglasses, cap, shoe cover during the procedure.⁶⁻⁸

For cases with assumed high-risk or confirmed infection, protective equipment of Biosafety Level III are required for the staffs that perform direct contact with the patients (endoscopy expert, anaesthesiologist, nurse and assistant): waterproof gown, full face shield or N95 mask with goggle eyeglasses and boots, double-layered gloves and air filter/ negative pressure room.⁶⁻⁸

Biosafety Level III protective equipments are required when performing tracheal intubation, maintaining airway and sputum suction even for

patients with assumed low-risk or unconfirmed infection.^{3,8} The staff at patient reception must also be protected at least by using surgical masks.^{3,8}

After all of the procedures have been completed, all of the personal protective equipment (PPE) must be taken off and discarded appropriately, i.e. to the infectious waste container and conform to the applicable institutional policy. Hands and open area must be washed and disinfected immediately. Surgical masks are required for all unit areas. Shower/ hand wash sink must be available and easily accessed when there a contact or contamination occurs.

Waiting Room and Recovery Area

We should also pay attention to waiting room in order to prevent transmission. The waiting room must be spacious enough with at least 3 to 6 feet or 1 to 2 meter(s) distance between one and another patient in order to prevent droplet inhalation. The recovery area must have adequate privacy and space with at least 6 (six) feet or 2 (two) meters between one and another patient in order to stay away from droplet inhalation as well as for monitoring and treatment.

Scope/ Processing Accessory and Disinfection

For low-risk case, re-processing is performed after carrying out the universal precaution standard measure. For high-risk or confirmed cases, 2 (twice) re-processing is necessary. Accessories must be discarded immediately into appropriate infectious waste containers and the waste disposal must conform to applicable institutional policy.

CONCLUSION

COVID-19 pandemic has affected all aspects of health care including the gastrointestinal endoscopy services. On the other hand, the necessity for endoscopy service still exists for various types of gastrointestinal disease. Gastrointestinal endoscopic services may yet be provided well by following a strict screening standard, selecting patients based on the aspect of urgency for endoscopic procedure, providing adequate protection for health care personnel and managing the flow of service and facilities for performing endoscopic procedure. It aims to improve the safety of patients and health care providers during the COVID-19 pandemic era.

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