



Uniendo la Endoscopía
de las Américas

RECOMMENDATIONS FOR THE ENDOSCOPY UNITS DURING THE CORONAVIRUS INFECTION OUTBREAK (COVID-19)

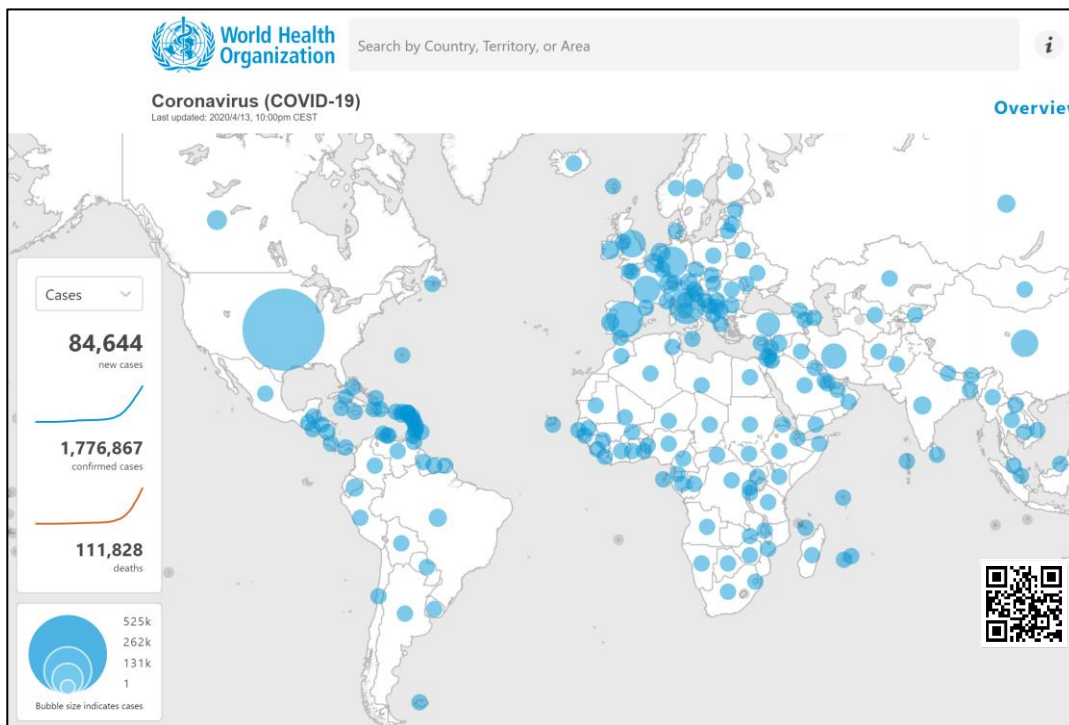
Background:

The epidemiological and clinical situation in the Americas is changing on a daily basis. During the last few weeks, new information becomes available.

Given this unique situation and the rapid changes experienced, the Interamerican Society for Digestive Endoscopy (SIED) has issued a document of recommendations for Endoscopy Units on March 13, with the aim to prevent outbreaks and maintain a high-quality endoscopy service without subjecting patients and staff to undue health hazards. The following document is the third version, updated and released on April 14, 2020.

Among the national societies, members of SIED, there are several that are facing more severe situations. We encourage to take this recommendation into account beyond the epidemiological situation, particularly in the use of PPE and general measures to contain the spread of the virus.

Also, we encourage to monitor the psychological and economic impact of the pandemic.



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Virus transmission occurs mainly through droplets and aerosols from infected patients. The potential for fecal-oral transmission remains a concern. The clinical manifestations of COVID-19 vary from asymptomatic to a severe critical respiratory illness leading to respiratory failure, shock, multiorgan dysfunction and death. Typical clinical symptoms included cough and sputum, sore throat, fever, fatigue, and shortness of breath. Fever may be absent in a significant number of patients. Gastrointestinal symptoms are not uncommon. Even though, severe illness is more frequent in the elderly and in patients with comorbidities, it can be seen at all ages and particularly in healthcare workers. More than 40% of all SARS-CoV-2 infections may be transmitted in the pre-symptomatic phase, especially in pediatric patients.

As the pandemic progresses, all patients undergoing GI endoscopy should be considered at high risk for being infectious or become infected.

Health care providers performing endoscopy face a significant risk during this COVID-19 pandemic. This risk encompasses inhalation of airborne droplets, aerosols, conjunctival contact, and fecal/oral contamination.

Peri-endoscopic aerosolized infections have also been reported, potentially placing upper GI endoscopy among the high-risk aerosol-generating procedures (AGPs). In addition, live virus has been found in patient stools.

KEY POINTS

- SARS-CoV-2 could be transmitted by symptomatic as well as asymptomatic patients.
- Elective procedures should be postponed but an appropriate clinical assistance must be ensured.
- If possible, human resources should be organized in teams trying not to overlap endoscopists and non-medical staff with same skills.
- The psychological and economic impact during the pandemic is a major concern for the SIED board and we encourage to organize local strategies to mitigate these circumstances.
- The appropriate use of personal protective equipment (PPE) is critical during endoscopic procedures. “Practice, Rehearsal, and Performance” should be established.
- Hand hygiene with soap and water, or with a hand sanitizer, is of paramount importance and needs to be emphasized and practiced.
- The aim is to limit the spread of the virus and perform safety endoscopy on a highly select group of patients that would benefit from the procedure.

These recommendations are based on clinical guidelines, communications from Ministries of Health and Scientific Societies and new evidence available. Please refer to the SIED online COVID resource center for detailed recommendations from member societies (<http://siedonline.org/recursos-sied-para-el-covid-19/>).

These recommendations do not constitute a rigid guide nor are they a mandatory document but are intended to provide information to guide work in endoscopy units in the Americas. These recommendations do not replace those issued by local health authorities in each country, city or hospital center.

Clinical activity in the Endoscopy Units:

All digestive endoscopy, including but not limited to upper endoscopy, colonoscopy, enteroscopy and therapeutic procedures such as Endoscopic Retrograde Cholangiopancreatography (ERCP) and Endoscopic Ultrasound (EUS) are considered aerosol-generating procedures (AGPs).

Although the risk of fecal transmission for SARS-Cov-2 is not clear, it remains plausible, as SARS-CoV-2 has been detected in the stool of patients with and without symptoms. A recent study showed that there is prolonged presence of SARS-Cov-2 viral RNA in fecal samples for up to 47 days after onset of the first symptoms.

It may also persist in the respiratory tract, despite negative results. This can result in viral transmission via aerosolization and fecal-oral route of contamination. It is important for staff performing colonoscopies to be aware of this potential risk, and colonoscopy should be considered a high-risk procedure.

The recommendation to reduce the number of procedures is still active. At this time, a careful review of all scheduled endoscopies is recommended. The recommendation to defer all “elective” procedures must be managed in the context with clinical indication for endoscopy and must be balanced with the local need for diagnostic and therapeutic endoscopy. Dialogue with referring providers, hospital leadership and local health authorities is encouraged to avoid adverse outcomes.

The position statements of the *Asian Pacific Society for Digestive Endoscopy (APSDE-COVID statements)* recommend that endoscopy centers resume an elective endoscopy service in a stepwise manner in phases and this can be a measure to follow in order to guide the resume of procedures.

Provision of endoscopy service during COVID-19 pandemic		
COVID-19 in the community	PPE supply	Endoscopy service
Exponential increase in new cases of COVID-19	Critical (reserve <7 days)	<ul style="list-style-type: none"> ▶ Urgent endoscopy only ▶ Semi-urgent endoscopy – withhold ▶ Elective endoscopy – withhold
Rapid increase in new cases of COVID-19	Very low (reserve <4 weeks)	<ul style="list-style-type: none"> ▶ Urgent endoscopy only ▶ Semi-urgent endoscopy – to be individualised ▶ Elective endoscopy – withhold
Down trend in new cases of COVID-19	Suboptimal (reserve 4–8 weeks)	<ul style="list-style-type: none"> ▶ Urgent endoscopy – full capacity ▶ Semi-urgent endoscopy – full capacity ▶ Elective endoscopy – resumed with 50% capacity
No new cases of COVID-19 diagnosed for at least 2 weeks	Normal (12 weeks reserve)	<ul style="list-style-type: none"> ▶ Urgent endoscopy – full capacity ▶ Semi-urgent endoscopy – full capacity ▶ Elective endoscopy – full capacity

PPE, personal protective equipment.

The following table is a suggestion for stratification of patients in order to select the most urgent clinical indications.

ELECTIVE PROCEDURES	NON-URGENT/NON-ELECTIVE	URGENT
POSTPONE	DISCUSS on a case by case basis	PERFORM
All routine diagnostic endoscopy	Severe iron deficiency anemia and suspected GI source (new onset/endoscopy will change management).	Acute GI bleeding
Screening or surveillance in a patient with asymptomatic upper GI disease	High clinical suspicious of cancer (e.g. alarm symptoms (suggestive but not mandatory) weight loss, dysphagia, non-acute GI bleeding, vomiting, and anorexia) that cannot be explained by non-invasive testing (imaging).	Dysphagia impacting oral intake
Screening or surveillance colonoscopy	Acute need for enteral nutrition: placement or feeding tubes, PEG placement.	Foreign body
Evaluation of non-urgent symptoms: e.g. EGD for non-alarm symptoms, such as vague abdominal pain, nausea, GERD	Endoscopic resection of selected GI lesions (Polypectomy, EMR, ESD).	Caustic ingestion
EUS for pancreatic cyst or small submucosal lesion	Prosthesis removal where waiting would cause potential harm to patient.	Cholangitis
Endoscopic therapy for benign GI disorders: e.g. bariatric, etc.	Any significant upper/lower GI symptom that will aid in diagnosis/management of suspected disease that the patient and physician believe cannot wait 3 months to evaluate.	Palliation of GI obstruction if symptoms need urgent treatment.
	EUS/staging for malignancy.	Endoscopic treatment of urgent post-operative complications such as leaks, perforations.
	Infected pancreatic collections drainage.	
	Small bowel enteroscopy for occult GI bleeding.	

Personnel/Staff:

Only essential personnel should be present during endoscopy procedures. All healthcare personnel entering the endoscopy room must wear personal protective equipment (PPE). Accessories such as earrings, collars, watches etc. should be avoided. Masks should be worn by all personal (endoscopists, nurses, administrative, cleaning and maintenance staff) in all areas of the Endoscopy Unit.

Interrogation about common symptoms of infection (cough, runny nose, headache, anosmia, odynophagia, difficulty breathing) as well as temperature measurement should be done to everyone that enters the endoscopy unit. If temperature exceeds 37.3°C or symptoms are identified report to hospital responsible.

Endoscopy teams should be selected and acting in an on-duty rotation basis. The overriding strategy is to modify consultative services to both reduce virus exposure and preserve resources. Teams are rotated to keep as many providers at home for one to two weeks at a time.

Psychological impact during the pandemic: it is imperative to monitor psychological and physical impact, burn out, post-traumatic stress disorder (PTSD) as well as the economic impact of the pandemic on the healthcare personnel. These effects are a major concern for the SIED, and we encourage to organize local strategies to mitigate these circumstances. “Mental health days” may be increasingly necessary.

Strictly follow standard preventive measure. This includes hand hygiene (alcohol-based hand sanitizer solution, soap and water), avoid touching eyes, nose and mouth and respiratory hygiene measures when coughing or sneezing. Safety distance must be encouraged in general areas.

Personal Protective Equipment (PPE) during endoscopy procedures: hospital headquarters should obtain the appropriate PPE. Institutional guidelines must be followed. A shortage in PPE has been reported, responsible and proper use are strongly encouraged.

The Personal Protective Equipment must include:

- A. Disposable hairnet.
- B. Respirator masks such as N95 or FFP-2 or 3.
- C. Face protections: goggles and face shield.
- D. Double gloves.
- E. Waterproof gowns.
- F. Shoe protectors.

If necessary, each facility should consider decontamination of masks and other PPE. A surgical mask can be used on top of the N95 or similar to potentially increase its re-usability. These methods should be validated by Infection Control at each institution and by no mean the safety of the staff can be jeopardized.

The following diagram is a guide for the use of PPE. Please note that for endoscopy procedures we recommend use both goggles and face shield. And 2 pairs of gloves. The criteria for the sequencing may vary with local guidelines.

Steps to put on personal protective equipment (PPE)

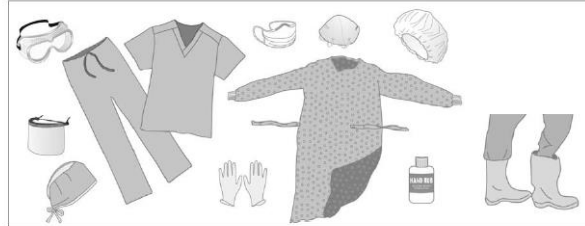
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Always put on essential required PPE when handling either a suspected, probable or confirmed case of viral haemorrhagic fever.

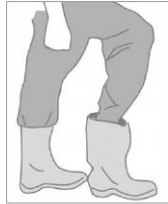
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The dressing and undressing of PPE should be supervised by another trained member of the team.

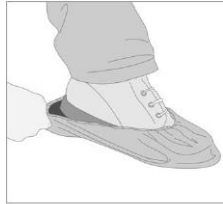
3 Gather all the necessary items of PPE beforehand. Put on the scrub suit in the changing room.



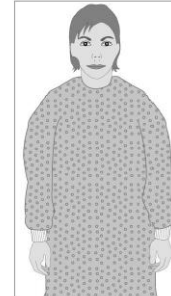
4 Put on rubber boots. If not available, make sure you have closed, puncture and fluid resistant shoes and put on overshoes.



OR, IF BOOTS UNAVAILABLE



5 Place the impermeable gown over the scrubs.

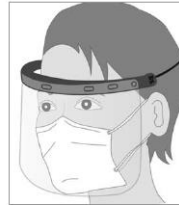
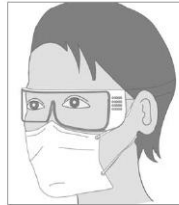


6 Put on face protection:

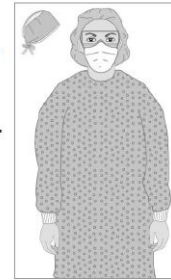
6a Put on a medical mask.



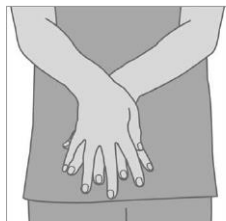
6b Put on goggles or a face shield.



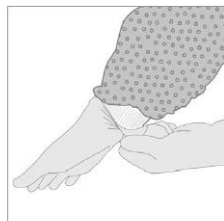
7 If available, put a head cover on at this time.



8 Perform hand hygiene.



9 Put on gloves* (over cuff).



10 If an impermeable gown is not available, place waterproof apron over gown.



While wearing PPE:

- Avoid touching or adjusting PPE
- Change gloves between patients
- Remove gloves if they become torn or damaged
- Perform hand hygiene before putting on new gloves

* Use *double gloves* if any strenuous activity (e.g. carrying a patient or handling a dead body) or tasks in which contact with blood and body fluids are anticipated. Use *heavy duty/rubber gloves* for environmental cleaning and waste management.



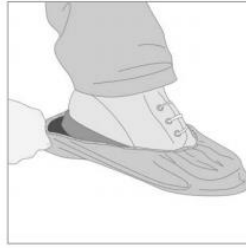
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Steps to remove personal protective equipment (PPE)

- 1** Remove waterproof apron and dispose of safely. If the apron is to be reused, place it in a container with disinfectant.



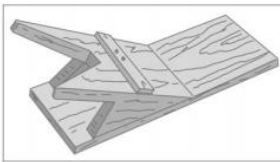
- 2** If wearing overshoes, remove them with your gloves still on (If wearing rubber boots, see step 4).



- 3** Remove gown and gloves and roll inside-out and dispose of safely.



- 4** If wearing rubber boots, remove them (ideally using the boot remover) without touching them with your hands. Place them in a container with disinfectant.



- 5** Perform hand hygiene.



- 6** If wearing a head cover, remove it now (from behind the head).



- 7** Remove face protection:

- 7a** Remove face shield or goggles (from behind the head). Place eye protection in a separate container for reprocessing.



- 7b** Remove mask from behind the head. When removing mask, untie the bottom string first and the top string next.



- 8** Perform hand hygiene.



Source: Modified from Clinical Management of Patients with Viral Haemorrhagic Fever: A pocket Guide for the Front-line Health Worker. World Health Organization, 2014



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Patients

Since most countries are now affected by community spread and COVID-19 testing is not widely available, we recommend that all patients undergoing endoscopic procedures are considered at risk to be infected or infect others. We recognize that this is a rapidly changing phenomenon and recommendations may change with the advent of improved testing capabilities and technologies.

Performance of endoscopic procedures

If possible, procedures for positive or suspected patients should be performed in an ad-hoc area, ideally (but not mandatory) in a negative pressure room, and the regulatory protocol for disinfection and air flow clearance must be followed to prevent infection of other patients or medical personnel. If these rooms are not available, endoscopy should be performed in a dedicated room with adequate ventilation.

All patients entering the GI endoscopy unit should wear respiratory protective equipment (facial mask) and gloves. Remove the mask just before the endoscope insertion. The use of masks with a hole for the insertion of the endoscope has been reported to decrease the spread of aerosols during high endoscopy.

For the informed consent it is recommended that the legal department of each institution be asked about the appropriateness to include or not an annexed information about risk of coronavirus transmission.

Biopsy samples obtained from the infected person can also be a source of infection. All specimens from patients with COVID-19 should be handled with extra precaution and with appropriate protective equipment.

Care givers or relatives of patients are strictly prohibited from entering the endoscopy department except in special circumstances in which patients require specific assistance (e.g. pediatric cases only one relative can be present).

We recommend waiting at least 30 minutes in a negative pressure room between procedures or 60 minutes in a ventilated room, for any aerosolized particles in the air to disappear and prevent inhalation and infection in patients and health care personnel.

Thorough and per protocol cleaning of the room is recommended after every endoscopic procedure. Stretchers, endoscopy towers, and contact areas must be cleaned after each procedure, with appropriate disinfecting solution available in each center.

The report, computer, telephone should be maintained with the maximum hygiene and only be touched with clean hands. A thorough cleaning of these items must be made between each procedure. Keyboard can be protected by a clear plastic cover.

Disinfect with 0.5% hypochlorite solution or 70% alcohol spray.

Anesthesia

In the case of tracheal intubation for anesthesia:

- Intubate and extubate the patient in a negative pressure room if available.
- During intubation and extubation, only anesthesia staff should be present in the endoscopy room.
- Avoid transient deflation of the distal balloon of the endotracheal tube during Upper Digestive Endoscopy in a ventilated patient, since this carries a high risk of aerosols carrying the virus.
- If available place a high-efficiency filter on the expiratory valve of the self-inflating bag.

Endoscopy Disinfection

Endoscopy Disinfection staff must wear a N95 mask or similar and appropriate PPE.

An appropriate handling of disposable material and reprocessing through high-level washing and disinfection with demonstrated activity against encapsulated viruses (such as coronaviruses) must be followed in accordance with institutional guidelines and available products. All equipment must be processed including the water bottles between each procedure.

It is likely that current endoscope disinfection techniques are enough since these agents are viricidal.

SIED is available for joint discussion with colleagues and healthcare centers for the continuous improvement of these recommendations and will continue to monitor the situation and update these recommendations.

This document was prepared by the SIED COVID-19 Response Taskforce

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