



## Hysteroscopy in COVID 19 pandemic: safety concerns

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The coronavirus disease (COVID-19) pandemic is a global health crisis that negatively impacts the health infrastructure by diverting resources to manage this infection. The long-term impact on the health of patients due to a lack of appropriate medical care to avoid COVID-19 infection is already visible in the mortality rates of the general population. The presence of the severe acute respiratory syndrome coronavirus 2 in the female genital tract is not clear. Bubbles produced during hysteroscopy tend to cool down to the temperature of the distension medium and then dissolve. Hence, aerosols are not produced during hysteroscopy, which is usually performed in an office setting. If anesthesia is required, conscious sedation or regional anesthesia should preferably be used to reduce aerosol production. Hence, hysteroscopy is not an aerosol-generating procedure and the risk of COVID-19 infection is low; therefore, hysteroscopy should not be ruled out in emergencies.

**Keywords:** COVID-19; Hysteroscopy; Aerosols; Electrosurgery

### Introduction

The coronavirus disease (COVID-19) pandemic is a global health crisis that negatively impacts the health infrastructure by diverting resources to manage this infection [1]. Nevertheless, we must cater to the needs of health emergencies. The long-term impact on the health of patients due to the lack of appropriate medical care to avoid COVID-19 infection is already visible in the mortality rates of the general population [2]. Hysteroscopy is not an aerosol-generating procedure; hence, the theoretical risk of COVID-19 infection is low, although the actual risk of contracting the infection is unknown [3].

Hysteroscopy is the gold standard for the diagnosis and treatment of various intrauterine conditions. It is usually performed in an office setting without anesthesia and is well tolerated [3]. Hysteroscopic procedures have the advantages of early ambulation, reduced morbidity, shorter hospital stays, and early return to work [4]. The concerns associated with hysteroscopy that can increase the risk of severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) infection include smoke production by use of electrosurgical devices, use of general anesthesia, and exposure to contaminated fluid from the pressurized uterine cavity [4].

### Safety concerns with hysteroscopy: does hysteroscopy increase the risk of COVID-19 infection?

Hysteroscopy is not an aerosol-generating procedure; hence, the theoretical risk of COVID-19 infection is low, although the actual risk of contracting the infection is unknown. Bubbles produced using thermal devices during hysteroscopy (monopolar, bipolar, or laser) are rapidly cooled to the temperature of the liquid-distending medium and subsequently dissolve into it. Generated cell fragments and volatile gases at  $\leq 37^{\circ}\text{C}$  are suctioned through the outflow channel in a closed circuit with no aerosol generation, thereby minimizing the risk of viral transmission [3,5].

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Although studies have found SARS-CoV-2 in respiratory secretions, blood, urine, feces, and tears, its presence in the female genital tract is not clear [5]. SARS-CoV-2 was not found in vaginal secretions of pregnant and non-pregnant females in two studies [6,7], but a recent study detected a viral load in vaginal swabs by polymerase chain reaction in COVID-positive patients [8]. Studies on previous epidemic infections with the Ebola/Zika virus shown their presence in the female genital tract of affected patients [9,10].

Although the risk of SARS-CoV-2 transmission is low in hysteroscopy, certain precautions need to be taken to reduce transmission risk [1,3,5,11-14].

## 1. General precautions

- Pre-procedure screening of patients for COVID-19 with a questionnaire about symptoms and performing testing.
- Adequate distancing in the waiting area of the attendants should be available.
- Use of face masks and hand sanitizers should be encouraged.
- Personnel protective equipment should be used by health-care workers.
- Minimize the number of personnel and limit the inflow-outflow of staff from the procedure room.
- Avoid the physical presence of trainees; train them through videos or online lectures instead.
- Provide enough time for decontamination of the procedure room if more than one case is posted on the same day.

## 2. Specific precautions

- Perform only those hysteroscopic procedures where delays can lead to adverse outcomes. Perform hysteroscopy for acute emergencies, such as cervical or cesarean scar ectopic pregnancies, heavy vaginal bleeding from submucosal fibroids or polyps, or potentially harmful conditions, such as retained products of conception or malignancies.
- If the patient is found to be positive for SARS-CoV-2 infection, postpone the procedure for 2 weeks.
- If hysteroscopy is urgently required in a COVID-positive patient, perform the procedure in COVID operation theatres with negative pressure and independent ventilation.
- Limit the number of attendants with the patient.
- Avoid multiple insertions and removals of the hysteroscope inside the uterine cavity.
- As far as possible, perform hysteroscopy in an office set-

ting. If inpatient admission and anesthesia are required, conscious sedation or regional anesthesia should preferably be used.

- Prefer non-smoke-generating instruments, such as hysteroscopic scissors, graspers, or tissue retrieval systems. According to the joint statement by Royal College of Obstetricians and Gynaecologists, British Society of Gynaecological Endoscopy, British Gynaecological Cancer Society, hysteroscopy with the use of a tissue retrieval system or electrosurgery does not increase the risk of SARS-CoV-2 transmission as the virus has not been detected in the female genital tract.
- A suction device should be connected to the outflow sheath.
- Minimize the contamination with blood, genital tract secretions, feces, or urine during the procedure.
- Subsequent follow-up should be done by teleconsultation.

## Conclusion

To conclude, although the risk of viral transmission is low during hysteroscopy, necessary precautions must be adopted. In case of emergency or potentially harmful conditions, appropriate medical care, and where required, a hysteroscopic procedure should be offered to the patient. Hysteroscopy should preferably be performed in an office setting, and if required, regional anesthesia or conscious sedation should be the first choice.

## Conflict of interest

No potential conflict of interest relevant to this article was reported.

## Ethical approval

This study does not require approval of the Institutional Review Board because no patient data is contained in this article. The study was performed in accordance with the principles of the Declaration of Helsinki.

## Patient consent

Written informed consent and use of images from patient are not required for this publication as it does not involve patient data.

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