



British Society of Paediatric Gastroenterology Hepatology and Nutrition

Restarting neurogastroenterology and motility investigations in paediatrics. BSPGHAN Motility Working Group guidance (June 2020)

During the height of Sars-CoV-2 transmission there were almost complete halt to gastrointestinal motility investigations as they are considered non urgent aerosol generating procedures (AGP). With the infection rate receding in the UK, most NHS Trusts are slowly increasing capacity for elective work. Particular attention is drawn to AGP to minimise the infection risk to children and healthcare professionals. The Motility Working Group aim to provide guidance for clinicians on the safe restoration of selected gastrointestinal motility investigations; this guidance is based on the current evidence but this is a rapidly evolving subject and the guidance may change over time. The working group will endeavour to update this document if new information become available.

Insertion and removal of impedance and manometry catheters and conducting breath tests can generate upper airway respiratory droplets, considering the highest concentration of Coronavirus is localised in nasopharynx, those procedures are considered AGP and the equipment used can be contaminated with the virus. It is also known that Coronavirus is shed from upper and lower gastrointestinal (GI) mucosa and several studies have reported positive PCR (but not culture) in stool samples rendering anorectal manometry and endoanal ultrasound as procedures with potential risk of aerosol and droplets generating.

Restarting GI physiological testing:

Most GI physiological investigations can be deferred safely and it is likely that endoscopic procedures will resume in advance of GI motility testing. However, certain clinical scenarios may necessitate urgent investigation such as dysphagia, aspirations, apnoea and investigations required prior to surgical interventions.

The working group recommends clinicians should use a structured system to prioritise and risk stratify children based on clinical need (The Royal Colleges of Surgeons structured classification approach has been adopted by most UK hospitals)

Patients' pathway prior to procedure

Due to high risk of aerosol generation during the procedure and the risk of coming in contact with mucosal secretion and droplets, the working group recommends following the same pathway used for endoscopy to identify children with active infection, which involve risk management, screening questionnaires to identify symptoms in the index child and the household members. PCR testing and/or antibody screening for the child should be used prior to the procedure when appropriate. In case of a positive or inconclusive RT-PCR result, the procedure should be postponed until the window of possible transmission has passed.

General measures

Healthcare professionals should follow their local infection prevention and control (IPC) policies, in case of discrepancy with this document, Trusts and local IPC policies and guidelines should be followed.

The working group recommends all GI motility testing are performed in a dedicated room with only the necessary furniture and equipment to minimise surface contamination. Only essential staff should be present during the procedure. All staff should wear appropriate PPE throughout the procedure and movement to or from the room should be discouraged while the procedure is taking place.

The working group recommends allowing sufficient time between patients to accommodate equipment/services cleaning and clearing of aerosol particles and droplets as per room ventilation systems according to local IPC guidelines.

The working group recommends healthcare professionals performing GI motility investigations should wear hospital clothing (e.g. scrubs) and follow their local IPC procedure to dispose of such items.

The working group acknowledges that performing GI motility investigations on children while healthcare professionals are wearing full personal protective equipment (PPE) may provoke children's anxiety and can cause distress for some children, every effort should be made to prepare children and their families before the procedure. (A short video created by Edinburgh Children' Hospital to explain the need for PPE can be helpful to use).

Procedure specific guidance:

Oesophageal manometry

Placement of the manometry catheter should be considered as AGP. Clinicians should wear level 2 PPE with filtering face piece 3 (FFP3) masks, eye protection, fluid resistant long sleeves apron and disposable gloves.

During catheter insertion, the child's head should be lower than the clinician head to prevent direct splash of droplets or aerosols to the clinician's face.

Local anaesthetic spray should not be used to reduce the risk of aerosol formation. A lubricant gel should be used instead.

Thorough cleaning of all manometry machine parts should be done after each procedure using appropriate cleaning wipes as per local IPC guidance.

Standard methods to clean the manometry catheter should be followed as the current evidence suggest it is effective against coronavirus.

pH impedance

For catheter insertion, similar procedure to insertion of oesophageal manometry catheter should be followed.

Catheter removal should also be considered as AGP.

After removal, the catheter should be disposed of in the appropriate clinical waste in concordance with local IPC guidelines

The recording device should be cleaned with the appropriate biocidal wipes according to the manufacturer recommendations.

Ideally, the recording device should be sealed wrapped in transparent plastic to prevent direct contact with the child or carer' body.

Device bag and body straps should be washed and cleaned between patients according to local IPC policies.

Breath test

In the hydrogen breath tests there is a theoretical risk of virus particle dispersion through aerosolized breaths. As in paediatric patients this test cannot be performed by patients themselves, the personnel involved should wear level 2 PPE with filtering face piece 3 (FFP3) masks, eye protection, fluid resistant long sleeves apron and disposable gloves.

Also, the personnel involved in the analysis should wear appropriate PPE while handling sample tubes or replacing/disposing equipment parts.

Anorectal manometry, endoanal ultrasound and biofeedback

They are not strictly an aerosol generating procedures but as Coronavirus RNA was detected in stool samples and Covid-19 is known to cause lower GI symptoms, there are potentials of virus contaminated droplet formation. Also it is not possible to maintain physical distance during such procedure may increase transmission risk.

The working group recommends using fluid repellent surgical mask, eye protection, long sleeves fluid resistant apron and disposable gloves.

The cough manoeuvre should be discouraged during anorectal manometry.

Single use catheter should be disposed of according to local guidelines

The manometry machine should be thoroughly cleaned between patients according to local guidelines and protocols

References:

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2. Sultan S, Lim JK, Altayar O, et al. AGA Institute Rapid Recommendations for Gastrointestinal Procedures During the COVID-19 Pandemic [published online ahead of print, 2020 Mar 31]. *Gastroenterology.* 2020;S0016-5085(20)30458-3. doi:10.1053/j.gastro.2020.03.072
3. AGIP Council Guidance in Relation to GI Physiology Provision during the COVID-19 Pandemic (BSG)<https://www.gov.uk/government/publications/wuhan-novel-coronavirus-infection-prevention-and-control/covid-19-personal-protective-equipment-ppe>