

## Opinion

# Triage guidance for upper gastrointestinal physiology investigations during restoration of services during the COVID-19 pandemic

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## BACKGROUND

The COVID-19 pandemic has adversely affected capacity across the board; for gastrointestinal (GI) medicine it has had a direct impact on endoscopy and GI physiology testing. Upper GI physiology investigations are elective investigations, aimed at determining causes of symptoms in patients in whom structural causes have been excluded. These tests include oesophageal manometry and 24 hour ambulatory reflux monitoring, the results of which are subsequently used to guide patient management. International recommendations are available to address and help guide departments through some of the challenges posed by the pandemic.<sup>1,2</sup> The Association of Gastrointestinal Physiologists (AGIP) council published guidelines regarding GI physiology service provision during the COVID-19 pandemic in May 2020.<sup>3</sup> This guidance detailed necessary requirements for personal protective equipment (PPE) as well as highlighting the need to consider workflow changes. These changes may arise both as a result of increased time needed for physiology procedures, and as a result of new pressures on endoscopy services as a whole. The guidance also highlighted the requirement for local multidisciplinary team discussions to prioritise cases on the basis of urgency and local therapeutic availability.

The following article provides a framework for triaging patients referred into upper GI physiology services using standardised decision making based on

clinical need. These triaging guidelines were initially compiled by the authors and subsequently subject to review and approval by the AGIP council, an elective group comprising representatives from the Gastroenterology, Surgery, Physiology and the Healthcare Science workforces.

## TRIAGE GUIDELINES

**Table 1** proposes a triaging hierarchy for patients referred for upper GI physiology testing based on patient symptoms and clinical background (higher position indicating more urgent need). A traffic light system is used to categorise referral types according to degree of urgency, with red denoting the most urgent. Thus, patients with dysphagia are prioritised in order to reduce risk of potential nutritional and symptomatic compromise. It is recognised, however, that there are local differences with regards to availability of endoscopy and radiology and therefore timescales within which patients should be seen are likely to vary.

The requirements of testing prior to physiology and the specific physiological tests recommended are documented, but do not differ from standard clinical practice prior to the COVID-19 pandemic. Where appropriate, alternatives to physiology are also detailed. As per the British Society of Gastroenterology guidelines, ‘recent’ endoscopy is a prerequisite to oesophageal physiology.<sup>4</sup> In patients who do not report dysphagia,

**Table 1** Triage hierarchy for upper gastrointestinal (GI) physiology investigations after the initial COVID-19 peak. Traffic light colour scheme denotes order of clinical priority (higher position indicating higher priority). Red: patients who must be prioritised and in whom delayed investigation could have negative clinical consequences. Amber: patients who may be considered for endoscopic or surgical intervention and thus should be prioritised for physiology based on symptom severity and available capacity. Green: patients who can be delayed until routine clinical services resume

Presenting symptoms	Criteria prior to physiology	Physiology test	Interim approach pending physiology test
Suspected primary dysmotility (eg, suspected achalasia)	Endoscopy and biopsies	HRM	Liquid/soft, fortified diet
Symptom recurrence following treatment of a known major motor disorder (eg, symptoms post achalasia therapy)	Endoscopy (since last therapy or recently)	HRM	Liquid/soft, fortified diet Optimise acid-reducing/antacid medication if required
Suspected dysmotility in patients with known systemic disease (eg, severe dysphagia in known scleroderma)	Endoscopy and biopsies	HRM±24 hours pH/impedance study (pH/impedance study if reflux-like symptoms and HRM unremarkable)	Liquid/soft, fortified diet Optimise acid-reducing/antacid medication if required
Combined reflux with (moderate/intermittent) dysphagia	Endoscopy and biopsies	HRM±24 hours pH/impedance study (pH/impedance study unless obstruction/other explanation on HRM)	Liquid/soft, fortified diet Optimise acid-reducing/antacid medication
Reflux symptoms — patient is fit for/seeking antireflux surgery	Recent endoscopy Barium swallow if suspicion of large HH/postsurgery OGJ anomaly	HRM+24 hours pH/impedance study	Optimise acid-reducing/antacid medication
Refractory confirmed reflux — patient is fit for/seeking antireflux surgery	Recent endoscopy Barium swallow if suspicion of large HH/postsurgery OGJ anomaly	HRM+24 hours pH/impedance study (on PPI/H <sub>2</sub> RA)	Optimise acid-reducing/antacid medication
Atypical reflux symptoms	Recent endoscopy Barium swallow if suspicion of proximal oesophageal symptoms or OGJ anomaly	HRM+24 hours pH/impedance study	Optimise acid-reducing/antacid medication
Rumination syndrome Supragastric belching Other suspected functional disorder	Recent endoscopy Barium swallow if suspicion of proximal oesophageal symptoms or OGJ anomaly	Postprandial HRM±24 hour pH/impedance study	Face-to-face (if permissible) or virtual cognitive behavioural therapy±diaphragmatic breathing teaching

HH, hiatus hernia; H<sub>2</sub>RA, histamine H<sub>2</sub> receptor antagonist; HRM, high-resolution oesophageal manometry; OGJ, oesophagogastric junction; PPI, proton pump inhibitor.

a barium oesophagogram may be considered an appropriate alternative if the capacity for X-ray services is sufficient; however, endoscopy remains the preferred option. A barium oesophagogram may also be a useful adjunct to assess the oesophagogastric junction structurally, as well as proximal oesophageal symptoms (e.g. to exclude a web, diverticulum or stricture).

Reflux testing to investigate reflux-like symptoms in isolation remains non-essential, with the exception of postbariatric surgery patients with severe regurgitation. The expectation is that triaging with regard to reflux testing (eg, off or on proton pump inhibitors) will remain in line with standard practice,<sup>4 5</sup> but will be delayed until routine services resume. However, there are reasonable exceptions, such as those patients who require investigation for a primary motility disorder and present with a reflux component. In such cases subsequent ambulatory reflux monitoring following a manometry procedure would be a sensible approach. Such decisions will need to be made by individual departments and will adapt in line with clinical capacity and priority as the COVID-19 pandemic evolves.

## SUMMARY

The world has had to accommodate new ways of working as a result of the COVID-19 pandemic and healthcare services are not exempt from having to adjust. Clinical departments across the board have had to adapt in order to meet clinical need in times of new constraints. Upper GI physiology investigations were largely paused during the initial COVID-19 peak but require strategies for ensuring that patients are seen with an urgency that reflects their clinical need. This document provides a triage guideline to do this, prioritising those patients who present with dysphagia and thus may be at risk of nutritional compromise. Absolute timescales whereby patients are seen will be dependent on a number of local factors, including clinical availability of staff, availability of PPE, suitable space and other interacting services including endoscopy and radiology. This document provides a hierarchical approach to the prioritisation of patients referred for upper GI physiology investigations in the post-COVID-19 era.

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