

Table 1 Overview of endoscopic procedures performed and serious pathology detected in COVID-19 era versus pre-COVID-19 era

	COVID-19 era	Pre-COVID-19 era	P value
Procedure, n (%)			
Gastroscopy	54 (38.3)	220 (53.7)	0.002
Colonoscopy	87 (61.7)	190 (46.3)	
Procedure timing, n (%)			
Emergency	16 (11.3)	18 (4.4)	0.004
Elective	125 (88.7)	392 (95.6)	
Highly significant pathology, n (%)			
Upper GI malignancy	4 (7.4)	4 (1.8)	0.128
Lower GI malignancy	2 (2.3)	3 (1.6)	0.466
Adenoma >2 cm	3 (3.4)	5 (2.6)	0.443
HGD polyp	3 (3.4)	5 (2.6)	0.443
New diagnosis IBD	5 (5.7)	1 (0.5)	0.014

GI, gastrointestinal; HGD, high-grade dysplasia; IBD, inflammatory bowel disease.

detection rate (pre-COVID 1.91%; COVID-19 impacted 6.61%; $p < 0.001$); however, despite this, endoscopic cancer detection reduced by 58% overall, with a concerning 72% detection reduction for colorectal cancer. Similarly, in the USA, a recent report found a 50% reduction in colorectal diagnosis as a result of the pandemic.²

COVID-19 remains an ongoing worldwide pandemic. Gastrointestinal (GI) endoscopy is considered an aerosol-generating procedure for SARS-CoV-2 transmission.³ There remain limited data to provide insight into creating a safe model for rationing of GI endoscopy that does not compromise patient care. At the beginning of the COVID-19 pandemic, our hospital in Melbourne, Australia, mobilised a model of care that deferred all non-urgent category 2 and all category 3 cases, alongside specific clinics created with experienced endoscopists to re-triage outstanding cases. Screening colonoscopy as part of the national bowel cancer screening programme following positive faecal occult blood tests (FOBTs) was largely continued as per the Gastrointestinal Society of Australia Guidelines.^{4,5} We have evaluated the outcomes of this model of care. Endoscopic and histological data were collected on all patients who had an emergency or elective gastroscopy or colonoscopy during our 5-week lockdown period (26 March to 1 May 2020) and the same analysis was performed on all those who underwent an endoscopic procedure during the exact period 12 months prior (26 March to 1 May 2019).

Sixty-six per cent less procedures were performed during the COVID-19 era ($n = 141$ (79% category 1, 21% category 2) vs 410 (45% category 1, 45% category 2, 10% category 3; $p < 0.001$)) in the


pre-COVID era (table 1). Colonoscopy was reduced to 46% of pre-COVID levels and gastroscopy to 25%. Despite this, a comparable number of highly significant pathology was found. The six new malignancy diagnoses in the COVID-19 era were in keeping with our median monthly cancer rate of 5.5 (IQR 3–6.3) over the last 2 years. Of the 4621 gastroscopies and 4573 colonoscopies performed in the past 2 years, 94% of the newly diagnosed upper and lower GI cancers were triaged as category 1 endoscopies and only 6% were category 2.

Compared with the UK, Australia has experienced a far less intensive COVID-19 crisis to date, although a substantial reduction in endoscopy has also occurred. Our findings suggest the risk of missing significant and time-critical pathology can be mitigated by a model of care prioritising category 1 and urgent category 2 upper and lower GI endoscopies. Thus, increasing from minimal endoscopic activity up to 34% of usual levels may achieve a dramatic increase in malignancy diagnosis while still preserving capacity for COVID-19 patient care within the hospital system. Questions remain regarding the duration of the shutdown and its impact. Additionally, the pandemic's influence on screening programmes including FOBT and visits to primary care for concerning GI symptoms are yet to be evaluated.

With COVID-19 remaining a worldwide pandemic, its impact on endoscopy services and cancer detection will undoubtedly become increasingly significant. For that reason, continuing to perform diagnostic endoscopic procedures above a minimum threshold will be critical to prevent a cancer healthcare crisis in the future.

COVID-19 and its impact on endoscopy services: what is the threshold for missed malignant diagnosis?

We read the study by Rutter *et al*¹ with interest. The substantial decrease in the cancer detection rate in the UK as a consequence of a reduction in endoscopy activity during the COVID-19 era is alarming. Early in the lockdown, UK endoscopy activity dropped to as low as 5% of pre-COVID levels, with activity only increasing to 20% after 10 weeks. More selective screening did significantly increase the per-procedure cancer

Tony He,¹ Michael B MacIsaac,¹ Simon J Hume,¹
Alexander J Thompson,^{1,2}
Julien D Schulberg ^{1,2}

¹Department of Gastroenterology, St Vincent's Hospital, Melbourne, Victoria, Australia

²Department of Medicine, The University of Melbourne, Melbourne, Victoria, Australia

Correspondence to Dr Julien D Schulberg, Department of Gastroenterology, St Vincent's Hospital, Melbourne, Victoria, Australia; julien.schulberg@svha.org.au

Contributors TH: literature review, data collation, statistical analysis and drafting of manuscript. MM: data collation and statistical analysis. SJH: data collation. AT: manuscript review. JDS: literature review, data collation, statistical analysis and manuscript review.

Funding The authors have not declared a specific grant for this research from any funding agency in the public, commercial or not-for-profit sectors.

Competing interests None declared.

Patient and public involvement Patients and/or the public were not involved in the design, or conduct, or reporting, or dissemination plans of this research.

Patient consent for publication Not required.

Provenance and peer review Not commissioned; internally peer reviewed.

This article is made freely available for use in accordance with BMJ's website terms and conditions for the duration of the covid-19 pandemic or until otherwise determined by BMJ. You may use, download and print the article for any lawful, non-commercial purpose (including text and data mining) provided that all copyright notices and trade marks are retained.

© Author(s) (or their employer(s)) 2021. No commercial re-use. See rights and permissions. Published by BMJ.



To cite He T, MacIsaac MB, Hume SJ, et al. *Gut* 2021;**70**:1414–1415.

Received 10 August 2020

Accepted 12 August 2020

Published Online First 26 August 2020

Gut 2021;**70**:1414–1415. doi:10.1136/gutjnl-2020-322769

ORCID iD

Julien D Schulberg <http://orcid.org/0000-0002-0257-6535>

REFERENCES

- 1 Rutter MD, Brookes M, Lee TJ, et al. Impact of the COVID-19 pandemic on UK endoscopic activity and cancer detection: a national endoscopy database analysis. *Gut* 2021;**70**:537–43.
- 2 Kaufman HW, Chen Z, Niles J, et al. Changes in the number of US patients with newly identified cancer before and during the coronavirus disease 2019 (COVID-19) pandemic. *JAMA Netw Open* 2020;**3**:e2017267.
- 3 Soetikno R, Teoh AYB, Kaltenbach T, et al. Considerations in performing endoscopy during the COVID-19 pandemic. *Gastrointest Endosc* 2020;**92**:176–83.
- 4 Cancer Council Australia Colorectal Cancer Guidelines Working Party. *Clinical practice guidelines for the prevention, early detection and management of colorectal cancer*. Sydney: Cancer Council Australia 2017, 2017.
- 5 Kaffes A, Devereaux B, Strasser S. Updated GESA recommendations on endoscopic procedure triage during the COVID-19 pandemic 2020.