


# Paving the road to recovery: the colorectal surgery ERAS pathway during the COVID-19 pandemic

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Dear Editor,

NHS England reports that 4.7 million people are awaiting an operation in England, the highest in a decade. Healthcare systems are seeking methods to limit an accumulating impact on services. Clinical pathways can be used to improve patient outcomes when recovery is relatively predictable<sup>1</sup>. The Enhanced Recovery After Surgery (ERAS) pathway has been shown to reduce rates of postoperative complications, reduce length of stay, and readmission and mortality rates<sup>2</sup>. Implementation of this pathway during and after the COVID-19 pandemic could help reduce time spent in hospital, exposure to nosocomial infections, improve patient flow and help clear waiting lists. Preliminary data from Italy, however, suggested that a colorectal surgery ERAS pathway could not be implemented effectively during a national crisis<sup>3</sup>. Conversely, although supporting data are limited, it has been speculated that ERAS could play a vital role in the UK's response to the pandemic<sup>4</sup>.

In conjunction with national guidance<sup>5</sup> the authors' tertiary colorectal centre implemented a brief moratorium on elective procedures during March and April 2020. Urgent and emergency cases received rapid SARS-CoV-2 PCR swab testing. Beyond April, elective cases were reintroduced with a pre-admission 14-day isolation period and 3-day preoperative SARS-CoV-2 PCR swab.

The effect of the COVID-19 pandemic on colorectal ERAS pathway adherence and patient outcomes was explored. Complete methodology and demographics can be found in [Table S1](#). Patients were split into two cohorts; those admitted before (January 2019–February 2020, 110 patients) and during (March 2020–December 2020, 56 patients) the pandemic ([Table 1](#)). Compliance with 14 ERAS pathway factors, spanning 3 days after the operation and shown to be influential on postoperative outcomes<sup>2</sup>, was assessed retrospectively ([Table S2](#)).

Mann–Whitney U test analysis revealed an increase in colorectal surgery ERAS pathway compliance during the pandemic ( $P < 0.001$ ) compared with before ([Table 1](#) and [Fig. S1](#)). No significant difference in length of stay ([Table 1](#) and [Fig. S2](#)) was observed. This was on the background of a reduction in admissions to 80 during year 2020 from 104 (median over past 10 years). Analysis using  $\chi^2$  test did not reveal a significant difference in postoperative complications ([Table S3](#)) or 30-day post-discharge readmission rates ([Table 1](#)). The 30-day post-discharge mortality rate remained at zero in both groups and no patients tested positive for SARS-CoV-2 PCR swabs during admission.

The colorectal surgery ERAS pathway has passed the ultimate stress test; it is safe, straightforward and improves outcomes. It should form part of the post-pandemic recovery with the aim to clear waiting lists.

**Table 1** Surgical pathway adherence represented by compliance to the ERAS pathway and surgical approach and postoperative outcomes for colorectal ERAS patients before and during the pandemic

	Before pandemic (n = 110)	During pandemic (n = 56)	Overall (n = 166)	P†
<b>Pathway adherence</b>				
Mean ERAS compliance (%)	58.6	68.2	61.8	<0.001
<b>Surgical approach</b>				
Laparoscopic	41 (37.3)	27 (48.2)	68 (41.0)	0.175
Planned open	52 (47.3)	22 (39.2)	74 (44.6)	0.328
Converted to open	17 (29.3)	4 (19.9)	21 (23.6)	0.082
Robotic	0 (0)	3 (5.4)	3 (1.8)	–
<b>Postoperative outcomes</b>				
Length of stay (days) <sup>‡</sup>	7 (5–12)	7 (4–10)	7 (4.75–11)	0.172
Complications	55 (50.0)	23 (41.1)	78 (47.0)	0.276 <sup>‡</sup>
30-day post-discharge readmissions	10 (9.1)	3 (5.4)	13 (7.8)	0.397 <sup>‡</sup>
30-day post discharge mortality rate	0 (0)	0 (0)	0 (0)	N/A

Values in parentheses are percentages unless indicated otherwise; †values are median (i.q.r.). ‡Mann–Whitney U test, except. <sup>‡</sup> $\chi^2$  test.

Received: May 06, 2021. Accepted: May 08, 2021

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Disclosure. The authors declare no conflicts of interest.

## Supplementary material

[Supplementary material](#) is available at BJS online.

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