Crohn's Disease

Study Protocol - July 2021

Study Advisory Group Members

This multidisciplinary and lay group has been convened to guide the development of the study and to identify the primary aim and objectives to be met.

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Non-clinical staff

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Introduction

Crohn's disease is a chronic, relapsing inflammatory condition of the gastrointestinal tract that typically affects the ileum and colon. The incidence of Crohn's disease in the UK is 83 per 10^6/year, with a population prevalence of approximately 284 per 10^5 and typically occurs between the second and fourth decades of life with another peak after age 60. The disease can cause significant psychosocial stress affecting education, employment and inter-personal relationships[1,2]. The cost of care of IBD is considerable, estimated to be at least £720 million per annum- comparable to the cost of treating cancer or heart disease[3].

Despite rapid advances in drug therapy, progressive inflammation can still lead to complications such as strictures, fistulae and abscesses in over 50% of patients and 70-90% of patients will eventually need surgery[4]. The likelihood of surgery has been reported to be 16.3% one year after diagnosis, rising to 47% at 5 years[5].

Complication rates of surgery for Crohn's disease are high, with overall rates of 28-33%, anastomotic septic complications 8-13%[5,6] and mortality 1%. This compares to anastomotic septic complications of 4.6-4.9%, and mortality of 0.3% for general colorectal surgery[7]. Timing of surgery for Crohn's disease was listed in the top 10 non-cancer research priorities by the Association of Coloproctology in a recent Delphi exercise of its entire membership[8].

The increasing use of more potent immunosuppressive therapy (anti-TNF inhibitors, vedolizumab, and now ustekinumab) in addition to thiopurines and methotrexate makes it possible that a decision to resect may be delayed longer than in the past, and emergency or urgent surgery, (if it becomes necessary) will be carried out with these drugs having been recently administered, with potential for increased risk of sepsis[9 10].

Of those responding to the IBD UK Patient Survey, 23% (2,292) had been admitted to hospital for an overnight stay or longer during the previous 12 months. Of this group, 72% were emergency admissions, while 9% had been admitted more than once during the same 12-month period. Emergency admissions and emergency surgery are often a result of missed opportunities for earlier treatment.

Information, education and support for people with Crohn's disease who have surgery is generally provided, although the findings of the IBD UK report (2021) highlight opportunities to think about its impact, accessibility and quality in fully supporting informed choices and feeling well-prepared.

Patients with Crohn's disease do not fall neatly into the framework that governs most surgical practice. Cancer patients are powerfully prioritised by mandated targets yet patients with Crohn's disease, a severe and debilitating illness, are not afforded the same protection. Urgent, rather than emergency, surgical treatment is not reflected in the way waiting lists are managed. People needing surgery for Crohn's disease find themselves given lower priority than cancer and long waiting patients.

The decision regarding the need for and timing of operative intervention is often difficult; requiring effective multi-disciplinary working and high quality patient information and

involvement. This can be particularly difficult to provide if a patient ends up requiring emergency surgical treatment for a problem that could have been managed as a planned procedure by a specialist team.

This study is particularly timely since the Covid pandemic has seriously disrupted the flow of elective surgical patients. Crohn's patients are likely to have been shielding and the lack of face-to-face clinical time will have exacerbated the delays from which these patients so often suffer.

Guidelines and standards

The BSG guidelines include recommendations around the assessment and management of nutrition in patients with IBD[14]

ASCRS guidelines[11] (Strong DCR 2015) state that "anti-TNFs, high-dose corticosteroids, and/or cyclosporine may warrant staged procedures because of concerns about post-operative complications". ECCO guidelines (Gionchetti JCC 2016) likewise states "Prednisolone 20mg daily or equivalent for more than six weeks is a risk factor".

Key Performance Indicators developed from a European Delphi process (presented at ECCO 2015) recommend as pre-operative measures: gastroenterology review to optimise drugs; dietetic referral to optimised nutritional status where indicated; and presence of IBD nurse during surgical consultation to address social and psychological concerns[12].

NICE Guideline on Crohn's Disease[13] states that surgery should be considered as an alternative to medical treatment early in the course of the disease for people whose disease is limited to the distal ileum, taking into account the benefits and risks

The NICE Quality Standards state that people having surgery for inflammatory bowel disease have it undertaken by a colorectal surgeon who is a core member of the inflammatory bowel disease multidisciplinary team.

'My Crohns and Colitis Care' (Crohn's Colitis UK 2015) recommends that every patient with Crohn's disease should have access to a specialist IBD team. The IBD standards (IBDUK) set out what the service should look like[16]. CCUK produced a report in 2021 stating that many of the previous recommendations had still not been met[17].

The ACPGBI guidelines recommend that surgery should be considered for a wide range of indications. It is vital that this is carried out by an integrated team focusing on the optimization of a patient's condition in order to minimize the risk of complications.

The British Society of Gastroenterology consensus guidelines on the management of inflammatory bowel disease in adults state that that surgery should always be discussed as an option in patients failing a therapeutic agent, particularly as there is generally a reduction in response to each successive immunosuppressive or biologic drug. Treatment decisions should be personalised, including use of laparoscopic techniques [14]

The IBD Standards (2019) state that patients should have access to coordinated surgical and medical clinical expertise, including regular combined or parallel clinics with a specialist colorectal surgeon and IBD gastroenterologist. Elective IBD surgery should be performed by a recognised colorectal surgeon who is a core member of the IBD team in a unit where such operations are undertaken regularly. The IBD standards cover the pathway of care from diagnosis, pre-optimisation, the perioperative and post-operative period and follow-up after surgery and advocate throughout, the importance of patient information and support as well as a high-quality specialist service.

Aims and objectives

Overall aim:

The aim of this study is to review of remediable factors in the quality of care provided to patients aged 16 and over with a diagnosis of Crohn's disease who underwent an abdominal surgical procedure.

Objectives

Organisational

To review the structures and systems in place to deliver a high-quality service to patients with Crohn's disease throughout their pathway of care against existing standards where available, including:

- The presence of an IBD/ Crohn's disease specialist service and the structure of the service
- With sufficient multidisciplinary expertise and staffing; performing sufficient numbers of required procedures
- Adequate facilities for imaging
- The pathway of care:
    - Specialised commissioning pathway- how are these decisions made? Is there a robust process/pathway?
    - Mental health
    - Medicine review
    - Recovery/rehabilitation to discharge
    - Pre-operative assessment
    - Pain
    - Nutrition
    - Risk stratification
- Protocols and policies
- The impact of the COVID-19 pandemic on the service
- Information, education and support for patients with Crohn's disease
- Communication
- Quality improvement/audit

Clinical

To explore remediable factors in the patient pathway of care against existing standards where available, with a focus on the following:

- Delays in diagnosis
    - Delay in surgery (length of wait; moving from elective onto emergency lists)

    - Information, education and support provided to patients– in particular understanding surgery, mental well-being, pre-surgery optimisation and fertility/sex

- Preoperative care (BSG guidelines and IBD Standards- see above)
    - Nutrition
    - Mental Health
    - Pain
    - Medications Management

- Decision making/care planning
    - Multidisciplinary team involvement
    - Surgery/medications
    - Laparoscopic/ open
    - Delays to surgery once a decision has been made to operate
- Pre-operative medications management
    - Biologics
    - Pain
    - Steroids

- Emergency care management
- Perioperative care
    - Identification and Management of complications
    - Stoma education/support (as applicable)
    - Identification and management of complications
    - Rehabilitation
    - Returning to work
    - Mental health
    - Communication between teams and in terms of integrated care between primary and secondary care – care planning, monitoring, discharge and recovery.
- Post-operative care
    - Medication review
    - Regular review
    - Managing complications
    - Mental health
- Effective discharge planning and follow-up

Methods

Patient focus groups and survey

These data collection methods will occur before (focus groups) or during (survey) the data collection described below. There will be no linkage between the data sources and patients will have consented to participate in this part of the study, so participation does not fall under CAG approval.

Focus groups

As part of the scoping of this study, we have worked with patients with Crohn's disease to identify the key areas of care to review, and to ensure a patient-centred study. To this end, a series of four focus groups were undertaken prior to the meeting of the Study Advisory Group.
The results of these focus groups have fed into the development of the study aims and objectives, and a summary is included in Appendix 1.

Patient survey
The views of patients with Crohn's disease will be further interrogated through an anonymous online survey using Qualtrics. In order not to repeat the IBDUK patient survey from 2019[18], this survey will focus primarily on the effect of COVID-19 on the care provided to patients with Crohn's disease

Clinical and organisation data collection

Population/inclusions
Data will be collected on patients aged 16 and older, admitted to hospital as an elective or emergency admission, with an ICD10 code (K50-51.9) Crohn's disease and who underwent intestinal surgery with one of the OPCS codes from chapters G (upper digestive tract: G58-83) or H (lower digestive tract: H01-H62). See Appendix 2 for details

Exclusions
- Patients under the age of 16 years

Participating providers of healthcare
All acute hospital providers to which patients with Crohn's disease might be admitted for treatment/surgery will be asked to participate in the study.

Incidence and prevalence

Hospital Episode Statistics (England) Admissions coded for ICD10 code for Crohn's disease K50-51.9	**Type of admission**	**Number of admissions**
	All	128,692
2019/20	emergency	1721
	elective	1433
PEDW Statistics (Wales) Admissions coded for ICD10 code for Crohn's disease K50-51.9	**Type of admission**	**Number of admissions**
2019/20	All	4470
	Emergency	413

Sample size
Based on population data, over a one-year period in England (2019/20) there were 1433 elective and 1721 emergency admissions to hospital for Crohn's disease.

In order to sample patients for inclusion both prior to, and during, the COVID-19 pandemic data will be requested for the following two time periods:

- September – February 2019-20
- and September – February 2020-21

It is estimated that there could be ~600 elective patients and ~700 emergency patients identified during each 5-month period

Data source	Target number
Organisational questionnaire	~300
Clinician questionnaires	~500
Case note reviews	~500

Sampling patients from two 6-month study periods will allow for assessment of the impact of COVID-19 on the service and to factor in patients with multiple admissions and would enable the sample to be limited to a maximum of two questionnaires per clinician.

Methods of data collection

Sample identification
Within each Trust/Health Board NCEPOD has a Local Reporter (usually employed in clinical audit) who is responsible for providing the details of patients for inclusion in the sample to NCEPOD. At the start of the study the Local Reporter will be contacted and sent details of the study criteria.

Patients with Crohn's disease, who have undergone a surgical procedure*, will be identified retrospectively through ICD10 and OPCS coding via completion of a spreadsheet with selected data from central hospital records. This will include patient details (NHS number, hospital number, age), admission/discharge dates, patient discharge destination (including death), whether admission was elective or emergency, source of admission, ICD10 codes (primary and all), details of the admitting consultant, details of any critical care admissions, the details (OPCS codes, dates) of any surgery/procedures undertaken (including PEG/ RIG insertion).

Once a list of patients has been gathered, ~500 patients will be sampled for inclusion in the clinical questionnaire and peer review process to ensure hospitals and clinicians are not overburdened.
Cases for review would be limited at a maximum of 7 per hospital ensuring the selection has adequate representation of patients who had elective and emergency surgery. Sampling would ensure there was a mix of elective and emergency patients

**Coded with a relevant OPCS code as listed in Appendix 2*

Questionnaires
Clinician questionnaire

A clinical questionnaire will be sent to the consultant responsible for carrying out the surgical procedure. Within this request there will be instruction to pass the questionnaire on to / ask for input from the most appropriate clinician for completion, including the gastroenterologist who cared for the patient during the admission. The clinical questionnaires will be sent to the NCEPOD Local Reporter for dissemination. Reminders will be sent at six weeks and ten weeks where the data is outstanding. Clinicians will be asked to return copied extracts of the patients' case notes to NCEPOD alongside the completed questionnaires (where applicable).

Case note review
The case note review will focus on the group of patients who had an admission during the study periods: September- February 2019/20 and 2020/21

Notes relating to the index admission will include:

- Clinical notes for the duration of the admission
- Operation notes/anaesthetic records/consent forms
- Nursing notes
- Referral letters
- Radiology reports
- Stoma nursing notes
- Allied Health Professional notes – including physiotherapy, occupational therapy, dietetics
- Critical care notes
- Fluid balance
- Weight charts
- MUST charts
- Food charts
- Drug charts
- Observations charts
- Discharge summary
- Follow up appointments for 6-months following discharge

In addition, Relating to the 3-year period prior to the index admission:

- Clinic letters
- Discharge summaries for any previous admissions
- Correspondence to and from the patient – letters, emails etc.
- Primary care notes (where applicable)

Upon receipt at NCEPOD the case notes will be redacted if not already done so.

Organisational questionnaire
Data collected will include information about the organisation of services, care pathways (including specialist commissioned pathways), the use of guidelines and protocols, and multidisciplinary team working (as per organisational objectives).

Reviewer assessment form

A multidisciplinary group of reviewers (details below) will be recruited to assess the case notes and questionnaires and give their opinions on the quality of care via the reviewer assessment form.

Study method test

The data collection methods and data collection tools will be tested to ensure they are robust.

Study promotion

Prior to data collection, NCEPOD will contact all local reporters and ambassadors and send a study poster to display locally to advertise the study. Social media will also be used to publicise the study.

Analysis and Review of Data

Reviewers

A multidisciplinary group of reviewers will be recruited to assess the case notes and questionnaires and provide their opinion on the care the patients received. The reviewer group will comprise Surgeons, Anaesthetists, Dietitians, Gastroenterologists, acute care physicians, nursing, dietetics, pharmacists; specialist IBD nurses/advanced practitioners, Stoma nurses.

An advertisement will be sent to Local Reporters to disseminate throughout the relevant departments. It will also be placed on the NCEPOD website. Successful applicants will be asked to attend a training day where they will each assess the same two sets of case notes to ensure consistent assessment. A number of meeting dates will be arranged, and each reviewer will then be asked to attend a further 6 meetings.

The meetings will either be in the NCEPOD office or carried out on-line using MS TEAMS. NCEPOD staff will ensure there is a mix of specialties (including a core number of surgeons and gastroenterologists) represented at each meeting from across England, Wales and Northern Ireland. Each meeting will be chaired by an NCEPOD Clinical Co-ordinator who will lead discussion around the sets of cases under review. Towards the end of the study the reviewers will be invited to attend a meeting where the data will be presented to and discussed with them. The reviewers will also be sent two copies of the draft report for their comment as this is developed.

Confidentiality and data protection

All electronic data are held in password protected files and all paper documents in locked filing cabinets. As soon as possible after receipt of data NCEPOD will encrypt electronic identifiers and anonymise paper documents. Section 251 approval has been obtained to perform this study without the use of patient consent in England and Wales.

Dissemination

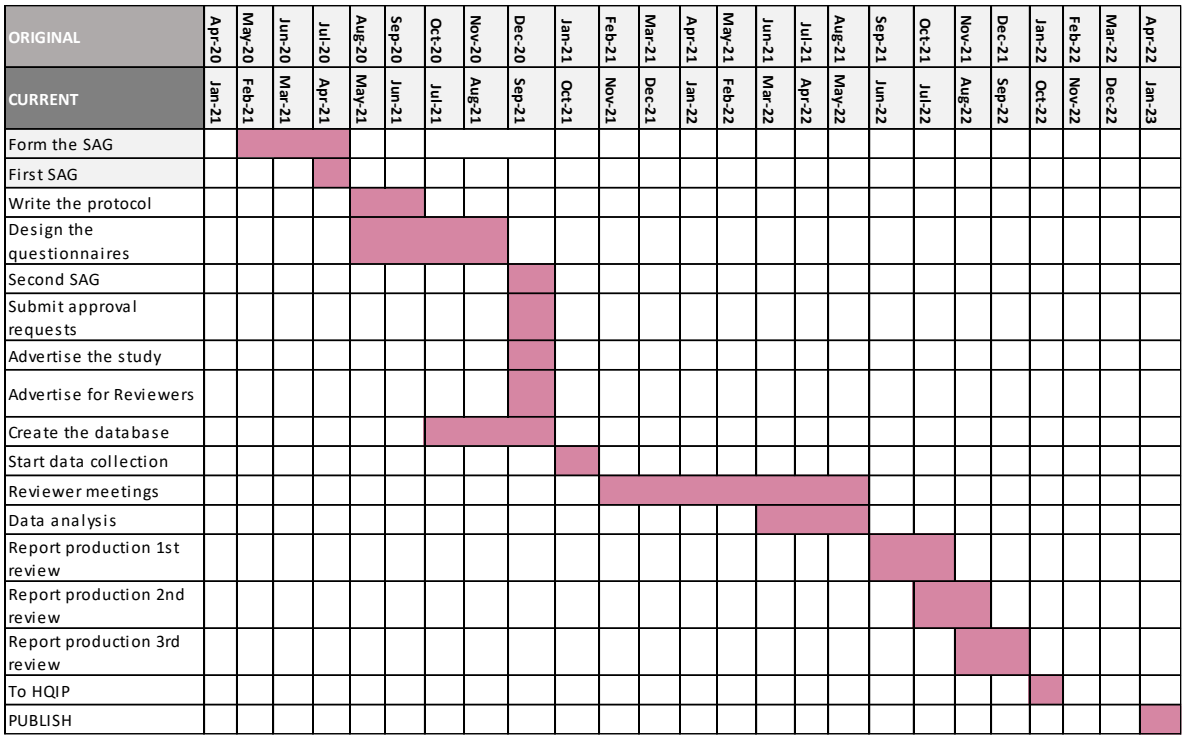
On completion of the study a report will be published and widely disseminated.

Data sharing

Post publication of the study, there is the potential to share anonymised data sets with interested parties working in the same field. This will be undertaken following a strict

process and will ensure the data does not become identifiable in their nature due to small numbers.

Timeline



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Appendix 1- Scoping focus group summary

At the beginning of the NCEPOD Crohn's disease study, a series of focus groups were carried out in order to inform the overall aim and key themes / objectives of the study.

Participants were recruited through an advertisement with CCUK as well as through social media. A total of 14 patients who had undergone a surgical procedure for their Crohn's disease were recruited. The participants were of a range of ages and from all around the country.

The following areas of care were identified as being important for the study to include and these have been incorporated into the aims and objectives:

1) **Misdiagnosis / delay in diagnosis**
2) **Nutrition**

- Lack of advice support at time of diagnosis
- Recording of intolerances on case notes
- Variable access to dietitian in hospital
- Food in hospital should be tailored to Crohn's patients' needs
- Vitamin supplements not easily accessible

3) **Information and support**

- CCUK -only through posters in waiting room, not directed by HC professionals to any support, leaflets
- Access to IBD team/nurses variable, but very good where exists

4) **Communication**

- About the condition and directed to support available
- Informed consent – for surgery, medication- pros and cons
- Advice on discharge- wound care, recognize infection/ complication, helpline etc.
- Links between GP and hospital; medics and surgeons

5) **Mental Health support**
6) **Surgery**

- Consent often not informed- pros and cons risk/ benefit
- Better when IBD team involved
- Emergency surgery
- After care variable- lack of advice information – care at home

7) **Medications**

- Biologics
- Side effects
- Immunosuppressed – management risk of infection, COVID
- Pain medication not well managed

8) **Other**

- Access to toilet on Gastro ward
- Cleanliness – toilets on Gastro wards need more frequent cleaning
- Secondary symptoms- lack of awareness- GP- Fatigue, joint pain, skin, eyes watering
- General attitudes- healthcare professionals not believing the patient
- Treat the patients holistically, not list of symptoms
- Treat with Dignity where possible

Appendix 2- Relevant OPCS–4 codes

The OPCS-4 codes come as either 3 or 4 digit codes. The 3 digit ones are broad categories of types of operation and the 4 digit ones are more precise definitions of the broad categories.

CHAPTER G- UPPER DIGESTIVE TRACT (G58-G83)
G58 Excision of jejunum
G58.1 Total jejunectomy and anastomosis of stomach to ileum
G58.2 Total jejunectomy and anastomosis of duodenum to ileum
G58.3 Total jejunectomy and anastomosis of duodenum to colon
G58.4 Partial jejunectomy and anastomosis of jejunum to ileum
Includes: Jejunectomy and anastomosis of jejunum to jejunum
G58.5 Partial jejunectomy and anastomosis of duodenum to colon
G58.8 Other specified
G58.9 Unspecified
Includes: Jejunectomy nec
G59 Extirpation of lesion of jejunum
G59.1 Excision of lesion of jejunum
G59.2 Open destruction of lesion of jejunum
G59.8 Other specified
G59.9 Unspecified
G60 Artificial opening into jejunum
G60.1 Creation of jejunostomy
G60.2 Refashioning of jejunostomy
G60.3 Closure of jejunostomy
G60.8 Other specified
G60.9 Unspecified
G63 Other open operations on jejunum
G63.1 Open biopsy of lesion of jejunum
Includes: Open biopsy of jejunum
Biopsy of lesion of jejunum nec
Biopsy of jejunum nec
G63.2 Incision of jejunum
G63.3 Closure of perforation of jejunum
G63.4 Open intubation of jejunum
G63.8 Other specified
G63.9 Unspecified
G69 Excision of ileum (Includes: Small intestine nec)
G69.1 Ileectomy and anastomosis of stomach to ileum
G69.2 Ileectomy and anastomosis of duodenum to ileum
G69.3 Ileectomy and anastomosis of ileum to ileum
G69.4 Ileectomy and anastomosis of ileum to colon
G69.8 Other specified
G69.9 Unspecified, Includes: Ileectomy nec
G67 Other operations on jejunum
G67.1 Intubation of jejunum for decompression of intestine

G67.8 Other specified
G67.9 Unspecified
G70 Open extirpation of lesion of ileum
Includes: Small intestine nec
G70.2 Excision of lesion of ileum nec
G70.3 Open destruction of lesion of ileum
G70.8 Other specified
G70.9 Unspecified
G71 Bypass of ileum. Includes: Small intestine nec
G71.1 Bypass of ileum by anastomosis of jejunum to ileum
G71.2 Bypass of ileum by anastomosis of ileum to ileum
G71.3 Bypass of ileum by anastomosis of ileum to caecum
G71.4 Bypass of ileum by anastomosis of ileum to transverse colon
G71.5 Bypass of ileum by anastomosis of ileum to colon nec
Includes: Bypass of ileum by anastomosis of ileum to rectum
G71.8 Other specified
G71.9 Unspecified
G72 Other connection of ileum. Includes: Small intestine nec. Excludes: When associated with concurrent excision of ileum (G69)
G72.1 Anastomosis of ileum to caecum
G72.2 Anastomosis of ileum to transverse colon
G72.3 Anastomosis of ileum to colon nec
G72.4 Anastomosis of ileum to rectum
G72.5 Anastomosis of ileum to anus and creation of pouch hfq- ileo-anal pouch
G72.8 Other specified
G72.9 Unspecified
G73 Attention to connection of ileum. Includes: Small intestine nec
G73.1 Revision of anastomosis of ileum
G73.2 Closure of anastomosis of ileum
G73.8 Other specified
G73.9 Unspecified
G74 Creation of artificial opening into ileum
Includes: Small intestine nec
G74.1 Creation of continent ileostomy
G74.2 Creation of temporary ileostomy
G74.3 Creation of defunctioning ileostomy
Includes: Creation of split ileostomy
G74.8 Other specified
G74.9 Unspecified
G75 Attention to artificial opening into ileum
Includes: Small intestine nec
G75.1 Refashioning of ileostomy
G75.2 Repair of prolapse of ileostomy
G75.3 Closure of ileostomy
G75.4 Dilation of ileostomy

G75.5 Reduction of prolapse of ileostomy
G75.8 Other specified
G75.9 Unspecified
G78 Other open operations on ileum
Includes: Small intestine nec
G78.1 Open biopsy of lesion of ileum
Includes: Open biopsy of ileum
Biopsy of lesion of ileum nec
Biopsy of ileum nec
G78.2 Strictureplasty of ileum
G78.4 Closure of perforation of ileum
G78.5 Exclusion of segment of ileum
G78.8 Other specified
G78.9 Unspecified
G82 Other operations on ileum
Includes: Small intestine nec
G82.2 Intubation of ileum for decompression of intestine
G82.8 Other specified
G82.9 Unspecified
H01 Emergency excision of appendix
H01.1 Emergency excision of abnormal appendix and drainage hfq
H01.2 Emergency excision of abnormal appendix nec
H01.3 Emergency excision of normal appendix
H01.8 Other specified
H01.9 Unspecified
Includes: Emergency appendicectomy nec

CHAPTER H - LOWER DIGESTIVE TRACT (CODES H01-H62)
H02 Other excision of appendix
H02.2 Planned delayed appendicectomy nec
H02.3 Prophylactic appendicectomy nec
H02.4 Incidental appendicectomy
Includes: Appendicectomy performed during course of other abdominal operation
Note: Use as secondary code when performed during creation of caecostomy (H14.9)
H02.8 Other specified
H02.9 Unspecified
Includes: Appendicectomy nec
H03.1 Drainage of abscess of appendix
H03.2 Drainage of appendix nec
H03.8 Other specified
H03.9 Unspecified
H04 Total excision of colon and rectum
H04.1 Panproctocolectomy and ileostomy
Includes: Proctocolectomy nec
H04.2 Panproctocolectomy and anastomosis of ileum to anus and creation of pouch hfq

H04.3 Panproctocolectomy and anastomosis of ileum to anus nec
H04.8 Other specified
H04.9 Unspecified
H05 Total excision of colon
H05.1 Total colectomy and anastomosis of ileum to rectum
H05.2 Total colectomy and ileostomy and creation of rectal fistula hfq
H05.3 Total colectomy and ileostomy nec
H05.8 Other specified subtotal excision of colon
H05.9 Unspecified subtotal excision of colon
H06 Extended excision of right hemicolon
Includes: Excision of right colon and other segment of ileum or colon and surrounding tissue. Caecum
H06.1 Extended right hemicolectomy and end to end anastomosis
H06.2 Extended right hemicolectomy and anastomosis of ileum to colon
H06.3 Extended right hemicolectomy and anastomosis nec
H06.4 Extended right hemicolectomy and ileostomy hfq
H06.8 Other specified
H06.9 Unspecified
H07 Other excision of right hemicolon
Includes: Limited excision of caecum and terminal ileum caecum
H07.1 Right hemicolectomy and end to end anastomosis of ileum to colon
Includes: Ileocaecal resection
H07.2 Right hemicolectomy and side to side anastomosis of ileum to transverse colon
H07.3 Right hemicolectomy and anastomosis nec
H07.4 Right hemicolectomy and ileostomy hfq
H07.8 Other specified
H07.9 Unspecified
H08 Excision of transverse colon
H08.1 Transverse colectomy and end to end anastomosis
H08.2 Transverse colectomy and anastomosis of ileum to colon
H08.3 Transverse colectomy and anastomosis nec
H08.4 Transverse colectomy and ileostomy hfq
H08.5 Transverse colectomy and exteriorisation of bowel nec. Note: Use secondary code for type of exteriorisation of bowel (H14 H15)
H08.8 Other specified
H08.9 Unspecified
H09 Excision of left hemicolon
H09.1 Left hemicolectomy and end to end anastomosis of colon to rectum
H09.2 Left hemicolectomy and end to end anastomosis of colon to colon
H09.3 Left hemicolectomy and anastomosis nec
H09.4 Left hemicolectomy and ileostomy hfq
H09.5 Left hemicolectomy and exteriorisation of bowel nec. Note: Use secondary code for type of exteriorisation of bowel (H14 H15)
H09.8 Other specified
H09.9 Unspecified

H10 Excision of sigmoid colon
H10.1 Sigmoid colectomy and end to end anastomosis of ileum to rectum
H10.2 Sigmoid colectomy and anastomosis of colon to rectum
H10.3 Sigmoid colectomy and anastomosis nec
H10.4 Sigmoid colectomy and ileostomy hfq
H10.5 Sigmoid colectomy and exteriorisation of bowel nec. Note: Use secondary code for type of exteriorisation of bowel (H14 H15)
H10.8 Other specified
H10.9 Unspecified
H11 Other excision of colon
Includes: Excision of colon where segment removed is not stated
H11.1 Colectomy and end to end anastomosis of colon to colon nec
H11.2 Colectomy and side to side anastomosis of ileum to colon nec
H11.3 Colectomy and anastomosis nec
H11.4 Colectomy and ileostomy nec
H11.5 Colectomy and exteriorisation of bowel nec
Note: Use secondary code for type of exteriorisation of bowel (H14 H15)
H11.8 Other specified
H11.9 Unspecified, Includes: Colectomy nec, Hemicolectomy nec
H12 Extirpation of lesion of colon. Includes: Caecum
H12.2 Excision of lesion of colon nec
H12.3 Destruction of lesion of colon nec
H12.8 Other specified
H12.9 Unspecified
H13 Bypass of colon. Includes: Caecum. Excludes: Bypass of colon when associated with excision of colon (H04-H11)
H13.1 Bypass of colon by anastomosis of ileum to colon
H13.2 Bypass of colon by anastomosis of caecum to sigmoid colon
H13.3 Bypass of colon by anastomosis of transverse colon to sigmoid colon
H13.4 Bypass of colon by anastomosis of transverse colon to rectum
H13.5 Bypass of colon by anastomosis of colon to rectum nec
H13.8 Other specified
H13.9 Unspecified
H14 Exteriorisation of caecum
H14.1 Tube caecostomy
H14.2 Refashioning of caecostomy
H14.3 Closure of caecostomy
H14.8 Other specified
H14.9 Unspecified. Includes: Caecostomy nec
H15 Other exteriorisation of colon
H15.1 Loop colostomy
H15.2 End colostomy
H15.3 Refashioning of colostomy
H15.4 Closure of colostomy
H15.5 Dilation of colostomy

H15.6 Reduction of prolapse of colostomy
H15.8 Other specified
H15.9 Unspecified. Includes: Colostomy nec
H16 Incision of colon. Includes: Caecum
H16.1 Drainage of colon
Includes: Drainage of pericolonic tissue
H16.2 Caecotomy
H16.3 Colotomy
H16.8 Other specified
H16.9 Unspecified
H19 Other open operations on colon. Includes: Caecum. Excludes: Repair of intestinovesical fistula (M37.2)
H19.1 Open biopsy of lesion of colon
Includes: Open biopsy of colon, Biopsy of lesion of colon, Biopsy of colon
H19.8 Other specified
H19.9 Unspecified
H30 Other operations on colon
H30.8 Other specified
H30.9 Unspecified
H34 Open extirpation of lesion of rectum
H34.1 Open excision of lesion of rectum
H34.2 Open cauterisation of lesion of rectum
H34.4 Open laser destruction of lesion of rectum
H34.5 Open destruction of lesion of rectum nec
H34.8 Other specified
H34.9 Unspecified
H33 Excision of rectum. Includes: Excision of whole or part of rectum with or without part of sigmoid colon
H33.1 Abdominoperineal excision of rectum and end colostomy
H33.2 Proctectomy and anastomosis of colon to anus
H33.3 Anterior resection of rectum and anastomosis of colon to rectum using staples.
Includes: Rectosigmoidectomy and anastomosis of colon to rectum
H40 Operations on rectum through anal sphincter
H40.1 Transsphincteric excision of mucosa of rectum
H40.2 Transsphincteric excision of lesion of rectum
Includes: Transsphincteric biopsy of lesion of rectum. Transsphincteric biopsy of rectum
H40.3 Transsphincteric destruction of lesion of rectum
H40.4 Transsphincteric anastomosis of colon to anus
H40.8 Other specified
H40.9 Unspecified
H33.4 Anterior resection of rectum and anastomosis nec
H33.5 Rectosigmoidectomy and closure of rectal stump and exteriorisation of bowel. Note: Use secondary code for type of exteriorisation of bowel (G74 H14-H15)
H33.6 Anterior resection of rectum and exteriorisation of bowel. Note: Use secondary code for type of exteriorisation of bowel (G74 H14-H15)

H33.8 Other specified
H33.9 Unspecified. Includes: Rectosigmoidectomy nec
H41 Other operations on rectum through anus
H41.1 Rectosigmoidectomy and peranal anastomosis
H41.2 Peranal excision of lesion of rectum.
Includes: Peranal biopsy of lesion of rectum, Peranal biopsy of rectum
H41.3 Peranal destruction of lesion of rectum
H41.4 Peranal mucosal proctectomy and endoanal anastomosis
H41.8 Other specified
H41.9 Unspecified
H46 Other operations on rectum
H46.8 Other specified
H46.9 Unspecified
H47 Excision of anus
H47.1 Excision of sphincter of anus
H47.8 Other specified
H47.9 Unspecified
H48 Excision of lesion of anus. Includes: Perianal region
H48.1 Excision of polyp of anus
H48.2 Excision of skin tag of anus
H48.3 Excision of perianal wart
H48.8 Other specified
H48.9 Unspecified
H49 Destruction of lesion of anus. Includes: Perianal region
H49.1 Cauterisation of lesion of anus
H49.2 Laser destruction of lesion of anus
H49.3 Cryotherapy to lesion of anus
H49.8 Other specified
H49.9 Unspecified
H54 Dilation of anal sphincter
H54.1 Anorectal stretch. Excludes: Forced manual dilation for haemorrhoid (H53.2)
H54.8 Other specified
H54.9 Unspecified
H55 Other operations on perianal region
H55.1 Laying open of low anal fistula
H55.2 Laying open of high anal fistula
H55.3 Laying open of anal fistula nec
H55.4 Insertion of seton into high anal fistula and partial laying open of track hfq
H55.5 Fistulography of anal fistula
H55.8 Other specified
H55.9 Unspecified
H56 Other operations on anus
H56.1 Biopsy of lesion of anus. Includes: Biopsy of anus
H56.2 Lateral sphincterotomy of anus
H56.3 Incision of septum of anus

H56.4 Excision of anal fissure
H56.8 Other specified
H56.9 Unspecified
H58 Drainage through perineal region
H58.1 Drainage of ischiorectal abscess
H58.2 Drainage of perianal abscess
H58.3 Drainage of perirectal abscess
H58.8 Other specified
H58.9 Unspecified
H62 Other operations on bowel. Includes: Sigmoid colon, Colon, Rectum
H62.1 Laser recanalisation of bowel nec
H62.2 Mobilisation of bowel nec
H62.3 Dilation of bowel nec
H62.4 Intubation of bowel nec
H62.5 Irrigation of bowel nec. Includes: Lavage of bowel nec, Washout of bowel nec
H62.8 Other specified
H62.9 Unspecified