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GM Lower GI Triage and Colonic Imaging Guidelines

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Title of paper:	**GM Lower GI Triage and Colonic Imaging Guidelines**
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Purpose of the paper:	To outline agreed GM-wide guidance relating to the Lower GI suspected cancer pathway, particularly Straight to Test (STT) inclusion/exclusion criteria and standardised indications/contraindications for colonic imaging. There is a particular focus on CT Colonography (CTC). These guidelines were developed as part of the GM CTC Recovery Plan Project and were approved by the GM Colorectal Pathway Board on 16th October 2023.
Summary outline of main points / highlights / issues	• Standardised Lower GI STT exclusions • Standardised CTC indications/contraindications • Permitted requesters of CTC • Guidance around the use of CTC in the absence of a PR result • Guidance for STT teams around gaining informed consent for CTC.
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1.Purpose of this document

This document describes guidelines relating to LGI triage processes, CTC indications/exclusions and the clinical groups permitted to request a CTC procedure. The document was developed as part of work undertaken by the GM CTC Recovery Plan Expert Reference Group to improve turnaround times for CTC across GM and reduce variation. Following stakeholder consultation during August 2023, these guidelines were approved by the GM Colorectal Pathway Board on 16th October 2023. Trusts are now requested to implement the guidelines as follows in Sections 2-8.

A review is anticipated in April 2024, to consider any challenges experienced during implementation and to review related data around CTC and the wider Lower GI pathway. However, we welcome discussion at any time in relation to the guidelines and their implementation.

2.Clinical exclusions from STT

For patients on a LGI suspected cancer pathway, the STT offer will be either STT endoscopy, STT CTC or STT CT, with relevant upskilling to be provided to teams where required.

To maximise the appropriate use of STT, the following rationale should be used:

1. All patients with an anal, rectal, or abdominal mass will be triaged directly to a face-to-face clinic.
2. All other patients will have a STT phone call initially.
3. If required, patients assessed via a STT phone call will subsequently be booked a face-to-face clinic if one or more of the following criteria is met:

    - The patient has a Rockwood score of 5 or higher.
    - The patient has other mobility issues that would prevent colonoscopy or CTC.
    - The patient has complex comorbidities that mean it would be unsafe for them to take bowel preparation.
    - The patient's BMI means that they are unsuitable to use a trolley.
    - The patient has a known or suspected issue around the capacity for informed consent.

Under these guidelines, age alone should no longer be used as a criterion to triage a patient to a face-to-face appointment. This is particularly pertinent for CTC patients, who are typically an

older cohort and may previously have been triaged to a face-to-face clinic even if they did not have frailty, comorbidity or capacity issues. If a patient requires an interpreter, they should still be triaged following the rationale described above.

By carrying out an initial STT phone call with all patients who do not present with an anal, rectal or abdominal mass, the goal is to maximise the appropriate use of the STT route to identify the most appropriate diagnostic test, as well as to identify a cohort of patients who currently attend a face-to-face appointment but who do not want to undergo further investigations on their cancer pathway.

3.CTC indications

CTC is as effective as colonoscopy in excluding colorectal cancer[1]. However, if a polyp or suspicious lesion is identified, a subsequent colonoscopy would be required for the purposes of biopsy. It is, therefore, important that the appropriate patients are indicated for CTC from the outset, to reduce the likelihood of a patient requiring a second diagnostic procedure.

Following the GM FIT negative pathway[2] (and in line with national guidance), patients with FIT < 10 and no other concerning symptoms will be stepped down from a LGI urgent cancer pathway following assessment and with appropriate safety-netting.

For patients with FIT > 10, CTC should be reserved for the following scenarios, unless otherwise contraindicated:

a. Suspected colorectal cancer following failed colonoscopy.
b. Suspected colorectal cancer where there is prior patient experience of intolerable or failed colonoscopy.
c. Patients at low risk of colorectal cancer, with risk stratification based on FIT result. Patients with a FIT result between 10 and 20 are suitable for CTC as a first-line test. However, the use of CTC for this patient cohort will depend on local capacity and demand.
d. Patient preference based upon informed consent, but patients should in this scenario be recommended to have colonoscopy if they have FIT > 20.

The current national CTC guidance[3] recommends that FIT should be ordered, with the results used to stratify patients, with a view to using CTC as a first-line test for patients at lower risk of

[1] Computed_Tomography_Colonography_and_Lower_Gastrointestinal_Cancer_Pathways_-_Planning_for_the_Next_Decade.pdf (rcr.ac.uk), British Society of Gastrointestinal and Abdominal Radiology, January 2023.
[2] GM FIT-negative pathway for patients in secondary care, December 2022.
[3] Computed_Tomography_Colonography_and_Lower_Gastrointestinal_Cancer_Pathways_-_Planning_for_the_Next_Decade.pdf (rcr.ac.uk), British Society of Gastrointestinal and Abdominal Radiology, January 2023.

colorectal cancer. However, no precise FIT limit is provided, due to national variation in typical patient FIT levels.

Colonoscopy is certainly the preferred approach for patients with very high FIT levels. For patients with FIT less than 10 and no other concerning symptoms, the GM FIT-negative pathway is appropriate, in line with national guidance around FIT-negative patients. However, there is currently no evidence-based consensus on the appropriate FIT limit at which CTC is preferable to colonoscopy as a first-line test.

As a conservative starting point, indicating CTC for patients with a FIT result of between 10 and 20 are indicated for CTC (with reference to local CTC capacity and demand). CT colonography may have a role in future for patients with FIT up to 100, who would be considered low-to-intermediate risk[4]. However, GM is initially focusing on patients with FIT between 10 and 20 due to capacity considerations.

The Equalities Impact Assessment for this proposal has identified that there is currently a skew towards the use of CTC in female patients, with over 60% of CTC activity across GM being for female patients[5]. The reason for this is not fully understood at present, **but teams are asked to be mindful that they present colonic imaging options in the same way to both male and female patients.**

4.CTC contraindications

The absolute contraindications for CTC are:

1. Acute GI obstruction, ileus, recent perforation (within 6 weeks).[6]
2. Acute toxic megacolon
3. Absolute dysphagia / known / suspected aspiration
4. Ileostomy
5. Recent heart attack (within 6 weeks)
6. Active Inflammatory Bowel Disease of the colon.
7. Broncho-oesophageal fistula.

[4] Monahan KJ, Davies MM, Abulafi M, Banerjea A, Nicholson BD, Arasaradnam R, Barker N, Benton S, Booth R, Burling D, Carten RV, D'Souza N, East JE, Kleijnen J, Machesney M, Pettman M, Pipe J, Saker L, Sharp L, Stephenson J, Steele RJ. Faecal immunochemical testing (FIT) in patients with signs or symptoms of suspected colorectal cancer (CRC): a joint guideline from the Association of Coloproctology of Great Britain and Ireland (ACPGBI) and the British Society of Gastroenterology (BSG). Gut. 2022 Jul 12;71(10):1939–62. doi: 10.1136/gutjnl-2022-327985. Epub ahead of print. PMID: 35820780; PMCID: PMC9484376.

[5] Source: GM Diagnostic Imaging Dataset, Jan – May 2023.

[6] Suggested 6-week delay for CTC following a perforation. However, this can be assessed on an individual patient basis by the primary clinician managing the patient, in consultation with local radiology team. In this situation it is crucial to seek input from radiology before making a CTC request.

More detailed guidance on contraindications that apply in certain situations will be provided in a GM-wide standardised CTC request form, which is currently under development.

5.Specific scenarios of relevance

For the avoidance of doubt, the appropriate use of CTC (and other forms of colonic imaging) is explored in Table 1 below, in numerous specific scenarios. **The guidance provided is based on the assertion that the appropriate use of CTC is in excluding colorectal cancer.** In general, the decision to use CTC should be strongly influenced by the FIT score.

Presentation	**Action**	**Notes**
Patient has FIT < 10 and no other colonic symptoms.	Patient not indicated for CTC. Stepped down from the LGI pathway after consultation, following GM FIT-negative pathway and with appropriate safety-netting.	Follows national guidance.
Patient has FIT between 10 and 20	Patient indicated for STT CTC unless otherwise contraindicated. Colonoscopy can be used if local CTC capacity cannot accommodate.	Patient is at low risk of colorectal cancer.
Patient has FIT > 20	Patient not indicated for STT CTC. Refer for colonoscopy unless otherwise contraindicated.	Patient is at higher risk of colorectal cancer.
Patient has FIT < 10 with colonic symptoms	Patient not indicated for CTC. Suggested STT alternatives are CT abdomen/pelvis or routine colonoscopy, depending on presentation.	Patient is at low risk of colon cancer.
Patient has FIT < 10 with weight loss/abdominal pain and no colonic symptoms.	At triage consider internal redirect to NSS where there is capacity. Where appropriate, a request for colonic imaging may be made in	Using the NSS route in this scenario ensures a holistic approach will be taken. Joint working across Trusts between NSS

	parallel to the internal NSS redirect, to avoid delays.	teams may alleviate capacity issues.
Patient has rectal bleeding	Patient not indicated for CTC. Redirect to rectal bleed pathway.	CTC has no place in evaluation of rectal bleeding which is predominantly due to anorectal pathology that is outside the scope of CTC.
Patient has iron-deficiency anaemia	Patient not indicated for STT CTC. Consider internal NSS redirect. Refer to iron-deficiency anaemia pathway, once available.	Iron-deficiency anaemia pathway is currently being worked up for GM, as part of NSS.
Patient has new onset of colonic symptoms.	Refer for colonoscopy or CTC, as indicated above based on FIT result.	If the patient has FIT < 10, note that colonic imaging is not indicated as part of the colorectal cancer pathway, as above.
Area of colonic thickening identified on an un-prepped CT scan	CTC may be helpful, but this is a scenario that must be discussed with a consultant radiologist if a CTC is desired. Refer for colonoscopy if FIT > 10. In general, if FIT < 10, patient should be stepped down from the cancer pathway, but this must be considered in context for the individual patient. Consider routine gastroenterology referral.	Though CTC is helpful in differentiating pathological colonic thickening from a benign incidental finding, if pathology is identified then endoscopy will be required.
Assessment of diverticular stricture / colon upstream of stricture	Discuss patient at MDT, with suggested offer of surgery. However, patient choice and patient fitness for surgery should be considered, with the opportunity to offer interval CTC, if appropriate, to assess change /	Colonic imaging rarely influences decision making in this scenario

	likelihood of cancer for the purpose of managing patient expectations.	
Patient has history of perforation due to colonoscopy	Use of CTC must be considered carefully in the context of the overall case. STT CTC is contraindicated in this scenario.	Barotrauma of CTC may cause perforation if there is an inherent weakness in the colonic wall.
Patient recently had a biopsy	Refer to CTC or colonoscopy as indicated above, based on FIT level.	Mucosal biopsy does not increase risk of CTC perforation. Hot biopsy is no longer used in practice.
Patient had recent therapeutics	If cold snare, no delay required before CTC. If diathermy used, consider a delay of 2 weeks before CTC.	Deeper thermal injury caused by diathermy increases risk of perforation when colonic wall is pressurised.
Patient has fistula	Not indicated for CTC or colonoscopy. Discuss with local radiology team to identify appropriate cross-sectional imaging in line with local guidance.	
Patient has a colostomy	CTC is possible in some scenarios but should be discussed with local radiology team before a CTC request is made.	
Patient has partial or completely de-functioned bowel	CTC not indicated. Refer for colonoscopy unless otherwise contraindicated.	No evidence to support CTC in this scenario.
Patient has suspected/known Inflammatory Bowel Disease	Not indicated for CTC Refer for colonoscopy unless otherwise contraindicated.	CTC has extremely limited value in assessing IBD.

Polyp surveillance	CTC only to be used if the patient is contraindicated for colonoscopy.	Colonoscopy is the appropriate test for polyp surveillance in the vast majority of patients.
Genetic or metabolic predisposition to colon cancer, e.g. Lynch Syndrome, acromegaly	Not indicated for CTC Refer for colonoscopy unless otherwise contraindicated.	
Patient had a negative CTC within the last 3 years but presents with new or persistent colonic symptoms	Order FIT test. The original CTC should be reviewed by a reporting radiologist, ideally not the same person who reported the original scan. If FIT > 10 upgrade/refer on LGI urgent suspected cancer pathway. If FIT < 10 refer for routine colonoscopy unless otherwise contraindicated. If contraindicated for colonoscopy, discuss with a consultant GI radiologist before referring for CTC.	

Table 1. The appropriate use of CTC and other colonic imaging in a selection of relevant scenarios.

For the purposes of this pathway, colonic symptoms are defined as abdominal pain or discomfort that is related to bowel habit (relieved or exacerbated by passing stool or flatus), new onset of a change in bowel habit (either constipation or diarrhoea), unexplained bloating or the passage of fresh or altered blood.

6.Permitted requesters of CTC

To minimise the number of inappropriate CTC requests received by radiology teams, the ability to request a CTC will be limited to specialist teams. This applies to all CTC requests. In this context, specialist teams are defined as:

- Gastroenterologists (with consultant oversight)
- Gastroenterology specialist nurses
- Colorectal surgeons (with consultant oversight)
- Colorectal specialist nurses
- Nurse endoscopists

The ability for any individual within these groups to request a CTC will also be subject to local governance and Ionising Radiation (Medical Exposure) Regulations (IRMER) training. Requests from locums require some form of local governance and agreement to guarantee quality of requests.

7.CTC in the absence of a PR check

Where the results of a PR check performed by primary care are not detailed on the suspected cancer referral form, and the patient is assessed via the STT route, the lack of a PR result should not be a barrier to booking or performing a CTC. However, since CTC does not adequately assess the anorectal junction, the patient should not be stepped down from the LGI suspected cancer pathway until a PR check has been performed.

The GM-wide standardised CTC request form will state that the procedure does not adequately assess the anorectal junction, and that the secondary care clinician who is responsible for the patient's care should ensure that a PR check is carried out before the patient is stepped down from the suspected cancer pathway. This will also be noted on the CTC report, for the avoidance of doubt.

8.Informed consent for CTC

Radiology teams have raised the issue of patients withdrawing consent for CTC on or close to the day of the procedure, due predominantly to a lack of prior understanding of what the procedure entails. To address this issue, work was undertaken together with patient representatives to identify the key pieces of information required at the point of initial assessment to allow patients to give informed consent for CTC.

The following checklist is intended to be used either during a STT phone call or face-to-face clinic appointment. To avoid overwhelming the patient with information, it intentionally does not include all information typically provided in a patient information leaflet. Instead, the checklist covers the key pieces of information that may impact on the patient's willingness to consent for the procedure. The checklist is as follows:

Before the day of the test

- Bowel preparation will be needed (type/details dependent on Trust).
- This will cause diarrhoea, so the patient will need to stay close to a toilet while taking the bowel preparation.

- Dietary restrictions may be required on the day prior to and on the day of the test (details Trust-specific)
- Certain medications can't be taken in the days prior to the test. (If this applies, the patient should understand at the point of consent which medications should be stopped and when, due to the potential impact on their day-to-day life during those days).

The test

- The test will normally take place in the morning and typically takes 20-30 minutes.
- Sedation is not required for the test.
- A needle will be inserted into the arm, in case dye is needed to help with the quality of the pictures.
- A short, soft tube about the size of a little finger, will be inserted into the back passage.
- Some carbon dioxide gas is blown into the bowel so that clear pictures can be taken.
- Some patients report a feeling of bloating or pressure when the gas is first put in, but the discomfort should start to ease after a few minutes after the gas starts to be absorbed by your body.
- A CT scanner is used to take the images, it looks like a big donut.
- To have the procedure you will need to be able to get up onto the table and lie down.
- During the procedure you will need to be able to turn yourself over onto your stomach and onto either side.
- Once you are on the table, the table slides inside the scanner up to your shoulders.
- The hole is quite wide and only about 60cm long, so people do not usually feel claustrophobic.
- You will be asked to hold your breath for a short time while the pictures are taken.
- The scanner is quite noisy, it sounds similar to a washing machine on full spin.
- We may need to give you some medicine (Buscopan) to relax your bowel. If this is used, it can sometimes cause tiredness, blurry vision, inability to concentrate/make decisions or dizziness for a short time afterwards.
- Once the images have been taken then the tube will be taken out of your bottom.
- You will be able to visit the toilet after the procedure.

After the procedure

- You will need to stay at the hospital for a certain amount of time following the procedure (Trust-specific), so that we can monitor you.
- The gas may make you feel a bit bloated for the rest of the day. Your body will absorb some of this gas and some will be released as wind.
- If we need to give you a bowel relaxant and you experience tiredness, blurry vision, inability to concentrate/make decisions or dizziness you should not drive until these symptoms have resolved.

Risks

- CT colonography is generally regarded as a very safe test.
- Like any X-ray examination, this test uses radiation, which may mean there is a slight increase in the likelihood of developing cancer in the future. You are being offered this test because we believe that the benefits outweigh the risks.
- We will keep the radiation dose as low as we possibly can, while still making sure that your scan is of adequate quality.
- The amount of radiation you will be exposed to is less than or equal to the natural radiation we all receive from our surroundings over a period of approximately 3 years.
- There is a small risk of the gas causing a perforation (hole) in the bowel lining. This is very rare and only happens to around 1 in every 3000 patients who have the test.
- Sometimes you may need an injection of x-ray dye (contrast agent), which outlines the blood vessels and organs on the scan. This may make you feel warm for a minute or two.
- It is very rare, but a small number of patients may have an allergic reaction to the contrast.
- There is also a very small risk that the contrast agent can damage the kidneys, but this risk can be minimised by staying well hydrated before and after the procedure.
- If something suspicious is found during this test, we might ask you to then have a colonoscopy.
- This is the downside of a CTC – the pictures are taken from outside of your body, so we can't take a sample of any suspicious findings. A colonoscopy would be needed for this.