NICE National Institute for Health and Care Excellence

NICE guideline

Colorectal cancer

NICE guideline
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Your responsibility

The recommendations in this guideline represent the view of NICE, arrived at after careful consideration of the evidence available. When exercising their judgement, professionals and practitioners are expected to take this guideline fully into account, alongside the individual needs, preferences and values of their patients or the people using their service. It is not mandatory to apply the recommendations, and the guideline does not override the responsibility to make decisions appropriate to the circumstances of the individual, in consultation with them and their families and carers or guardian.

All problems (adverse events) related to a medicine or medical device used for treatment or in a procedure should be reported to the Medicines and Healthcare products Regulatory Agency using the Yellow Card Scheme.

Local commissioners and providers of healthcare have a responsibility to enable the guideline to be applied when individual professionals and people using services wish to use it. They should do so in the context of local and national priorities for funding and developing services, and in light of their duties to have due regard to the need to eliminate unlawful discrimination, to advance equality of opportunity and to reduce health inequalities. Nothing in this guideline should be interpreted in a way that would be inconsistent with complying with those duties.

Commissioners and providers have a responsibility to promote an environmentally sustainable health and care system and should assess and reduce the environmental impact of implementing NICE recommendations wherever possible.

Contents

This guideline replaces CG131, CSG5 and TA93.

This guideline is the basis of QS20.

Overview

This guideline covers managing colorectal (bowel) cancer in people aged 18 and over. It aims to improve quality of life and survival for adults with colorectal cancer through management of local disease and secondary tumours (metastatic disease).

For recommendations on when to refer people from primary care to a specialist, see the NICE guideline on recognition and referral for suspected cancer.

Who is it for?

- Healthcare professionals
- Commissioners and providers
- People with colorectal cancer and their families and carers

Recommendations

People have the right to be involved in discussions and make informed decisions about their care, as described in NICE's information on making decisions about your care.

Making decisions using NICE guidelines explains how we use words to show the strength (or certainty) of our recommendations, and has information about prescribing medicines (including off-label use), professional guidelines, standards and laws (including on consent and mental capacity), and safeguarding.

Health and social care professionals should follow our general guidelines for people delivering care:

- Improving supportive and palliative care for adults with cancer
- Patient experience in adult NHS services
- People's experience in adult social care services
- Alcohol-use disorders: prevention
- Depression in adults with a chronic physical health problem
- Overweight and obesity management
- Shared decision making
- Tobacco: preventing uptake, promoting quitting and treating dependence
- Workplace health

1.1 Reduction in risk of colorectal cancer in people with Lynch syndrome

1.1.1 Consider aspirin, to be taken daily and for a period of more than 2 years, to reduce the risk of colorectal cancer in people with Lynch syndrome.

In January 2020 this was an off-label use of aspirin. See NICE's information on prescribing medicines.

NICE has produced a patient decision aid to support discussions about taking aspirin.

For a short explanation of why the committee made this recommendation and how it might affect practice, see the rationale and impact section on prevention of colorectal cancer in people with Lynch syndrome.

Full details of the evidence and the committee's discussion are in evidence review A1: effectiveness of aspirin in the prevention of colorectal cancer in people with Lynch syndrome.

1.2 Information for people with colorectal cancer

1.2.1 Give people information on all treatment options for colorectal cancer available to them, including:

- surgery, radiotherapy, systemic anticancer therapy or palliative care
- the potential benefits, risks, side effects and implications of treatments, for example, possible effects on bowel and sexual function (see also recommendation 1.6.2 in the section on management of low anterior resection syndrome), quality of life and independence.

1.2.2 Advise people with colorectal cancer of possible reasons why their treatment plan might need to change during their care, including:

- changes from laparoscopic to open surgery or curative to non-curative

treatment, and why this change may be the most suitable option for them

- the likelihood of having a stoma, why it might be necessary and for how long it might be needed.

1.2.3 If recovery protocols (such as 'enhanced recovery after surgery', ERAS) are used, explain to people with colorectal cancer what these involve and their value in improving their recovery after surgery.

1.2.4 Ensure that appropriate specialists discuss possible side effects with people who have had surgery for colorectal cancer, including:

- altered bowel, urinary and sexual function
- physical changes, including anal discharge or bleeding.

If relevant, have a trained stoma professional provide information on the care and management of stomas and on learning to live with a stoma.

1.2.5 Emphasise to people the importance of monitoring and managing side effects during non-surgical treatment to try to prevent permanent damage (for example, monitoring prolonged sensory symptoms after platinum-based chemotherapy treatment, which can be a sign that the dose needs to be reduced to minimise future permanent peripheral neuropathy).

1.2.6 Give people who have had treatments for colorectal cancer information about possible short-term, long-term, permanent and late side effects which can affect quality of life, including:

- pain
- altered bowel, urinary or sexual function
- nerve damage and neuropathy
- mental and emotional changes, including anxiety, depression, chemotherapy-related cognitive impairment, and changes to self-perception and social identity.

1.2.7 Help people prepare for discharge after treatment for colorectal cancer by giving them advice on:

- adapting physical activity to maintain their quality of life
- diet, including advice on foods that can cause or contribute to bowel problems such as diarrhoea, flatulence, incontinence and difficulty in emptying the bowels
- stopping smoking (see the NICE guideline on tobacco: preventing uptake, promoting quitting and treating dependence)
- how long their recovery might take
- how, when and where to seek help if side effects become problematic.

For a short explanation of why the committee made these recommendations and how they might affect practice, see the rationale and impact section on information for people with colorectal cancer.

Full details of the evidence and the committee's discussion are in evidence review E3: information needs of people prior, during and after treatment for colorectal cancer.

1.3 Management of local disease

Acute left-sided large bowel obstruction

1.3.1 Consider stenting for people presenting with acute left-sided large bowel obstruction who are going to have treatment with palliative intent.

1.3.2 Offer either stenting or emergency surgery for people presenting with acute left-sided large bowel obstruction if potentially curative treatment is suitable for them.

For a short explanation of why the committee made these recommendations and how they might affect practice, see the rationale and impact section on acute left-sided large bowel obstruction.

Full details of the evidence and the committee's discussion are in evidence review C9: effectiveness of stenting for acute large bowel obstruction.

People with rectal cancer

Treatment for people with early rectal cancer (cT1-T2, cN0, M0)

1.3.3 Offer one of the treatments shown in table 1 to people with early rectal cancer (cT1-T2, cN0, M0) after discussing the implications of each treatment and reaching a shared decision with the person about the best option.

Table 1 Treatment choices for early rectal cancer (cT1-T2, cN0, M0), and implications of each treatment

-	Transanal excision (TAE), including transanal minimally invasive surgery (TAMIS) and transanal endoscopic microsurgery (TEMS)	Endoscopic submucosal dissection (ESD)	Total mesorectal excision (TME)
Type of procedure	Endoscopic/Surgery	Endoscopic	Surgery
Minimally invasive procedure	Yes	Yes	Possible
Resection of bowel (may have more impact on sexual and bowel function)	No	No	Yes
Stoma needed (a permanent or temporary opening in the abdomen for waste to pass through)	No	No	Possible
General anaesthetic needed (and the possibility of associated complications)	Yes	No, conscious sedation	Yes

-	Transanal excision (TAE), including transanal minimally invasive surgery (TAMIS) and transanal endoscopic microsurgery (TEMS)	Endoscopic submucosal dissection (ESD)	Total mesorectal excision (TME)
Able to do a full thickness excision (better chance of removing cancerous cells and more accurate prediction of lymph node involvement)	Yes	No	Yes
Removal of lymph nodes (more accurate staging of the cancer so better chance of cure)	No	No	Yes
Conversion to more invasive surgery needed if complication	Possible	Possible	Possible
Further surgery needed depending on histology	Possible	Possible	Usually no
Usual hospital stay	1 to 2 days	1 to 2 days	5 to 7 days
External scarring	No	No	Yes

-	Transanal excision (TAE), including transanal minimally invasive surgery (TAMIS) and transanal endoscopic microsurgery (TEMS)	Endoscopic submucosal dissection (ESD)	Total mesorectal excision (TME)
Possible complications include (in alphabetical order)	Abdominal pain Bleeding Mild anal incontinence Perirectal abscess/ sepsis and stricture (narrowing) Perforation Suture line dehiscence (wound reopening) Urinary retention	Abdominal pain Bleeding Bloating Perforation	Adhesions Anastomotic leak (leaking of bowel contents into the abdomen) Anastomotic stricture (narrowing at internal operation site) Bleeding Incisional hernia (hernia where the surgical incision was made) Injury to neighbouring structures Pelvic abscess Urinary retention

Some of the potential complications shown in the table were identified from the evidence review, others are based on the committee's expertise and experience.

For a short explanation of why the committee made this recommendation and how it might affect practice, see the rationale and impact section on treatment for people with early rectal cancer.

Full details of the evidence and the committee's discussion are in evidence review C1: treatment for early rectal cancer.

Preoperative treatment for people with rectal cancer

1.3.4 Do not offer preoperative radiotherapy to people with early rectal cancer (cT1-T2 cN0, M0), unless as part of a clinical trial.

1.3.5 Offer preoperative radiotherapy or chemoradiotherapy to people with rectal cancer that is cT1-T2, cN1-N2, M0, or cT3-T4, any cN, M0.

For a short explanation of why the committee made these recommendations and how they might affect practice, see the rationale and impact section on preoperative treatment for people with rectal cancer.

Full details of the evidence and the committee's discussion are in evidence review C1: treatment for early rectal cancer and evidence review C2: preoperative radiotherapy and chemoradiotherapy for rectal cancer.

Surgery for people with rectal cancer

1.3.6 Offer surgery to people with rectal cancer (cT1-T2, cN1-N2, M0, or cT3-T4, any cN, M0) who have a resectable tumour.

1.3.7 Inform people with a complete clinical and radiological response to neoadjuvant treatment who wish to defer surgery that there is a risk of recurrence, and there are no prognostic factors to guide selection for deferral of surgery. For those who choose to defer, encourage their participation in a clinical trial and ensure that data is collected via a national registry.

For a short explanation of why the committee made these recommendations and how they might affect practice, see the rationale and impact section on surgery for people with rectal cancer.

Full details of the evidence and the committee's discussion are in evidence review C4: deferral of surgery in people having neoadjuvant therapy for rectal cancer.

Surgical technique for people with rectal cancer

1.3.8 Offer laparoscopic surgery for rectal cancer.

Laparoscopic resection is recommended as an alternative to open resection in NICE technology appraisal guidance for treating rectal cancer when both techniques are considered suitable. For full details, see the guidance on laparoscopic surgery (TA105, 2006).

1.3.9 Consider open surgery if clinically indicated, for example by locally advanced tumours, multiple previous abdominal operations or previous pelvic surgery.

1.3.10 Consider robotic surgery only within established programmes that have appropriate audited outcomes.

1.3.11 Consider transanal total mesorectal excision (TME) surgery only in the context of research, in line with the NICE interventional procedures guidance on transanal total mesorectal excision for rectal cancer. **[amended 2021]**

For a short explanation of why the committee made these recommendations and how they might affect practice, see the rationale and impact section on surgical technique for people with rectal cancer.

Full details of the evidence and the committee's discussion are in evidence review C3: optimal surgical technique for rectal cancer.

People with locally advanced or recurrent rectal cancer

1.3.12 Consider referring people with locally advanced primary or recurrent rectal cancer that might potentially need multi-visceral or beyond-TME surgery to a specialist centre to discuss exenterative surgery.

For a short explanation of why the committee made this recommendation and how it might affect practice, see the rationale and impact section on locally advanced or recurrent rectal cancer.

Full details of the evidence and the committee's discussion are in evidence review C5: effectiveness of exenterative surgery for locally advanced or recurrent rectal cancer.

Surgical volumes for rectal cancer operations

1.3.13 Hospitals performing major resection for rectal cancer should perform at least 10 of these operations each year.

1.3.14 Individual surgeons performing major resection for rectal cancer should perform at least 5 of these operations each year.

For a short explanation of why the committee made these recommendations and how they might affect practice, see the rationale and impact section on surgical volumes for rectal cancer operations.

Full details of the evidence and the committee's discussion are in evidence review F1: surgical volumes and outcomes for rectal cancer.

Adjuvant systemic anticancer therapy for people with rectal cancer

1.3.15 For people with stage 3 rectal cancer (pT1-4, pN1-2, M0) treated with short-course radiotherapy or no preoperative treatment, offer:

- capecitabine in combination with oxaliplatin (CAPOX) for 3 months, or if this is not suitable

- either:
  - oxaliplatin in combination with 5-fluorouracil and folinic acid (FOLFOX) for 3 to 6 months, or
- single-agent fluoropyrimidine (for example, capecitabine) for 6 months.

Base the choice on the person's histopathology (for example pT1-T3 and pN1, and pT4 and/or pN2), performance status, personal preferences, any comorbidities and age.

In August 2025, the use of some treatments was off label:

- capecitabine in combination with oxaliplatin (though CAPOX is common in UK clinical practice)
- capecitabine and FOLFOX as adjuvant treatment in rectal cancer.

See NICE's information on prescribing medicines.

For a short explanation of why the committee made this recommendation and how it might affect practice, see the rationale and impact section on duration of adjuvant chemotherapy for people with colorectal cancer.

Full details of the evidence and the committee's discussion are in evidence review C8: optimal duration of adjuvant chemotherapy for colorectal cancer.

People with colon cancer

Preoperative treatment for people with colon cancer

1.3.16 Consider preoperative systemic anticancer therapy for people with cT4 colon cancer.

For a short explanation of why the committee made this recommendation and how it might affect practice, see the rationale and impact section on preoperative treatment for people with colon cancer.

Full details of the evidence and the committee's discussion are in evidence review C7: preoperative chemotherapy for non-metastatic colon cancer.

Surgical technique for people with colon cancer

1.3.17 Laparoscopic resection is recommended as an alternative to open resection in NICE technology appraisal guidance for treating colon cancer when both techniques are considered suitable. For full details, see the guidance on laparoscopic surgery (TA105, 2006).

Adjuvant systemic anticancer therapy for people with colon cancer

1.3.18 For people with stage 3 colon cancer (pT1-4, pN1-2, M0), offer:

- capecitabine in combination with oxaliplatin (CAPOX) for 3 months, or if this is not suitable
- either:
  - oxaliplatin in combination with 5-fluorouracil and folinic acid (FOLFOX) for 3 to 6 months, or
- single-agent fluoropyrimidine (for example, capecitabine) for 6 months.

  Capecitabine monotherapy and oxaliplatin in combination with 5-fluorouracil and folinic acid are recommended as options in NICE technology appraisal guidance for the adjuvant treatment of stage 3 (Dukes' C) colon cancer. For full details, see the guidance on capecitabine and oxaliplatin (TA100, 2006).

  Base the choice on the person's histopathology (for example pT1-T3 and pN1, and pT4 and/or pN2), performance status, personal preferences, any comorbidities and age.

In August 2025, the use of some treatments was off label:

- capecitabine in combination with oxaliplatin (though CAPOX is common in UK clinical practice)
- capecitabine for 3 months' duration of adjuvant treatment.

See NICE's information on prescribing medicines.

For a short explanation of why the committee made this recommendation and how it might affect practice, see the rationale and impact section on duration of adjuvant chemotherapy for people with colorectal cancer.

Full details of the evidence and the committee's discussion are in evidence review C8: optimal duration of adjuvant chemotherapy for colorectal cancer.

1.4 Molecular biomarkers to guide systemic anticancer therapy

Also see the NICE diagnostics guidance on molecular testing strategies for Lynch syndrome in people with colorectal cancer.

1.4.1 Test for RAS and BRAF V600E mutations in all people with metastatic colorectal cancer suitable for systemic anticancer treatment.

For a short explanation of why the committee made this recommendation and how it might affect practice, see the rationale and impact section on molecular biomarkers to guide systemic anticancer therapy.

Full details of the evidence and the committee's discussion are in evidence review B1: use of molecular biomarkers to guide systemic therapy.

1.5 Management of advanced or metastatic

colorectal cancer

Systemic anticancer therapy for untreated advanced or metastatic colorectal cancer

High MSI or MMR deficiency disease

1.5.1 Nivolumab with ipilimumab is recommended as an option in NICE technology appraisal guidance for untreated unresectable or metastatic colorectal cancer with high microsatellite instability (MSI) or mismatch repair (MMR) deficiency. For full details, see the guidance on nivolumab plus ipilimumab (TA1065, 2025).

1.5.2 Pembrolizumab is recommended as an option in NICE technology appraisal guidance for untreated metastatic colorectal cancer with high MSI or MMR deficiency. It should be stopped after 2 years or earlier if disease progresses. For full details, see the guidance on pembrolizumab (TA709, 2021).

EGFR-expressing, RAS wild-type disease

1.5.3 Cetuximab is recommended as an option in NICE technology appraisal guidance for untreated epidermal growth factor receptor (EGFR)-expressing, RAS wild-type metastatic colorectal cancer in combination with:

- 5-fluorouracil, folinic acid and oxaliplatin (FOLFOX) or
- 5-fluorouracil, folinic acid and irinotecan (FOLFIRI).

For full details, see the guidance on cetuximab (TA439, 2017).

RAS wild-type disease

1.5.4 Panitumumab is recommended as an option in NICE technology appraisal guidance for untreated RAS wild-type metastatic colorectal cancer in combination with:

- FOLFOX or
- FOLFIRI.

For full details, see the guidance on panitumumab (TA439, 2017).

Other systemic anticancer therapy for untreated disease

1.5.5 Capecitabine is recommended as an option in NICE technology appraisal guidance for untreated metastatic colorectal cancer. For full details, see the guidance on capecitabine (TA61, 2003).

1.5.6 For medicines not recommended in NICE technology appraisal guidance for untreated metastatic colorectal cancer, see the guidance on:

- bevacizumab in combination with 5-fluorouracil plus folinic acid (TA118, 2012)
- bevacizumab in combination with oxaliplatin and either fluorouracil plus folinic acid or capecitabine (TA212, 2010).

Systemic anticancer therapy for previously treated advanced or metastatic colorectal cancer

Other treatment options may also be available for second-line treatment. See the NHS England Cancer Drug Fund list.

High MSI or MMR deficiency disease

1.5.7 Nivolumab with ipilimumab is recommended as an option in NICE technology appraisal guidance for treating metastatic colorectal cancer with high MSI or MMR deficiency after fluoropyrimidine-based combination chemotherapy. For full details, see the guidance on nivolumab with ipilimumab (TA716, 2021).

1.5.8 Pembrolizumab is recommended as an option in NICE technology appraisal guidance for treating unresectable or metastatic colorectal cancer with high MSI

or MMR deficiency after fluoropyrimidine-based combination chemotherapy, only if nivolumab with ipilimumab cannot be used. It should be stopped at 2 years of uninterrupted treatment, or earlier if the cancer progresses. For full details, see the guidance on pembrolizumab (TA914, 2023).

BRAF V600E mutation-positive disease

1.5.9 Encorafenib with cetuximab is recommended as an option in NICE technology appraisal guidance for treating BRAF V600E mutation-positive metastatic colorectal cancer after previous systemic treatment. For full details, see the guidance on encorafenib plus cetuximab (TA668, 2021).

Other systemic anticancer therapy for previously treated disease

1.5.10 For medicines recommended as options in NICE technology appraisal guidance for metastatic colorectal cancer previously treated with fluoropyrimidine-based chemotherapy, anti-vascular endothelial growth factor (VEGF) therapy or anti-EGFR therapy, see the guidance on:

- trifluridine–tipiracil with bevacizumab, after 2 systemic treatments (TA1008, 2024)
- fruquintinib, after 2 systemic treatments, if trifluridine–tipiracil with bevacizumab is not suitable (TA1079, 2025)
- regorafenib (TA866, 2023)
- trifluridine–tipiracil (TA405, 2016).

1.5.11 For medicines not recommended in NICE technology appraisal guidance for previously treated metastatic colorectal cancer, see the guidance on:

- aflibercept in combination with irinotecan and fluorouracil-based therapy after oxaliplatin-based chemotherapy (TA307, 2014)
- cetuximab monotherapy or combination chemotherapy, bevacizumab in combination with non-oxaliplatin chemotherapy and panitumumab

monotherapy after first-line chemotherapy (TA242, 2012).

Neurotrophic tyrosine receptor kinase (NTRK) fusion-positive solid tumours

1.5.12 For NTRK inhibitors recommended as options in NICE technology appraisal guidance through the Cancer Drugs Fund for treating locally advanced or metastatic NTRK fusion-positive solid tumours when there are no other satisfactory treatment options, see the guidance on:

- entrectinib (TA644, August 2020)
- larotrectinib (TA630, May 2020).

People with an asymptomatic primary tumour

1.5.13 Consider surgical resection of the primary tumour for people with incurable metastatic colorectal cancer who are receiving systemic anticancer therapy and have an asymptomatic primary tumour. Discuss the implications of the treatment options with the person before making a shared decision (see table 2).

Table 2 Factors to take into account when considering resection of the asymptomatic primary tumour

Option	Advantages	Disadvantages
Resection of the asymptomatic primary tumour	Possible improvement in overall survival rate (based on low quality evidence from research) Avoidance of primary tumour-related symptoms such as obstruction, perforation, bleeding and pain	Around 5 in 100 people will have severe postoperative complications (based on moderate quality evidence from research) Systemic therapy still needed, and may be delayed if surgical complications occur

Option	Advantages	Disadvantages
No resection (systemic anticancer therapy only)	Avoids surgery and the potential for postoperative complications	Around 20 in 100 people will develop primary tumour-related symptoms such as obstruction, perforation, bleeding and pain that need surgery (based on low quality evidence from research)

Advantages and disadvantages in table 2 are based on committee expertise unless otherwise indicated.

For a short explanation of why the committee made this recommendation and how it might affect practice, see the rationale and impact section on asymptomatic primary tumour.

Full details of the evidence and the committee's discussion are in evidence review D1: surgery for asymptomatic primary tumour.

People with metastatic colorectal cancer in the liver

1.5.14 Consider resection, either simultaneous or sequential, after discussion by a multidisciplinary team with expertise in resection of disease in all involved sites.

1.5.15 Consider perioperative systemic anticancer therapy if liver resection is a suitable treatment.

1.5.16 Consider chemotherapy with local ablative techniques for people with colorectal liver metastases that are unsuitable for liver resection after discussion by a specialist multidisciplinary team.

1.5.17 Do not offer selective internal radiation therapy (SIRT) as first-line treatment for people with colorectal liver metastases that are unsuitable for local treatment. See the NICE interventional procedures guidance on selective internal radiation therapy for unresectable colorectal metastases in the liver, which recommends that SIRT should only be offered:

- with special arrangements for clinical governance, consent, and audit or

research to people who are chemotherapy intolerant or who have liver metastases that are refractory to chemotherapy

- in the context of research to people who can have chemotherapy.

For a short explanation of why the committee made these recommendations and how they might affect practice, see the rationale and impact section on metastatic colorectal cancer in the liver.

Full details of the evidence and the committee's discussion are in evidence review D2a: treatment for metastatic colorectal cancer in the liver amenable to treatment with curative intent and evidence review D2b: optimal combination and sequence of treatments in patients presenting with metastatic colorectal cancer in the liver not amenable to treatment with curative intent.

People with metastatic colorectal cancer in the lung

1.5.18 Consider metastasectomy, ablation or stereotactic body radiation therapy for people with lung metastases that are suitable for local treatment, after discussion by a multidisciplinary team that includes a thoracic surgeon and a specialist in non-surgical ablation.

1.5.19 Consider biopsy for people with a single lung lesion to exclude primary lung cancer.

For a short explanation of why the committee made these recommendations and how they might affect practice, see the rationale and impact section on metastatic colorectal cancer in the lung.

Full details of the evidence and the committee's discussion are in evidence review D3: treatment for metastatic colorectal cancer in the lung amenable to local treatment.

People with metastatic colorectal cancer in the peritoneum

1.5.20 For people with colorectal cancer metastases limited to the peritoneum:

- offer systemic anticancer therapy, **and**
- within a multidisciplinary team, discuss referral to a nationally commissioned specialist centre to consider cytoreductive surgery and hyperthermic intraperitoneal chemotherapy (HIPEC).

  See also NICE's interventional procedures guidance on cytoreductive surgery with HIPEC for peritoneal carcinomatosis.

For a short explanation of why the committee made this recommendation and how it might affect practice, see the rationale and impact section on metastatic colorectal cancer in the peritoneum.

Full details of the evidence and the committee's discussion are in evidence review D4: local and systemic treatments for metastatic colorectal cancer isolated in the peritoneum.

1.6 Ongoing care and support

Follow-up for detection of local recurrence and distant metastases

1.6.1 For people who have had potentially curative surgical treatment for non-metastatic colorectal cancer, offer follow-up for detection of local recurrence and distant metastases for the first 3 years. Follow-up should include serum carcinoembryonic antigen (CEA) and CT scan of the chest, abdomen and pelvis.

For a short explanation of why the committee made this recommendation and how it might affect practice, see the rationale and impact section on follow-up for detection of local recurrence and distant metastases.

Full details of the evidence and the committee's discussion are in evidence review E1: follow-up to detect recurrence after treatment for non-metastatic colorectal cancer.

Management of low anterior resection syndrome

1.6.2 Give information on low anterior resection syndrome (LARS) to people who will potentially have sphincter-preserving surgery. Advise them to seek help from primary care if they think they have symptoms of LARS, such as:

- increased frequency of stool
- urgency with or without incontinence of stool
- feeling of incomplete emptying of the bowels
- fragmentation of stool (passing small amounts little and often)
- difficulty in differentiating between gas and stool.

1.6.3 Assess people with symptoms of LARS using a validated patient-administered questionnaire (for example, the Low Anterior Resection Syndrome score (LARS score), at the European Society of Coloproctology).

1.6.4 Offer treatment (such as dietary management, laxatives, anti-bulking agents, anti-diarrhoeal agents, or anti-spasmodic agents) in primary care to people with bowel dysfunction symptoms associated with LARS. Seek advice from secondary care if the treatment is not successful.

For a short explanation of why the committee made these recommendations and how they might affect practice, see the rationale and impact section on management of low anterior resection syndrome.

Full details of the evidence and the committee's discussion are in evidence review E2: optimal management of low anterior resection syndrome.

Terms used in this guideline

This section defines terms that have been used in a specific way for this guideline. For general definitions, please see the NICE glossary.

Beyond-TME surgery

Beyond total mesorectal excision (TME) surgery is when the tumour extends beyond what is achievable to resect by TME and needs more extensive surgery to achieve clear margins.

Major resection for rectal cancer

Major resection for rectal cancer means a surgical operation when part or all of the rectum is removed, including anterior resection and abdominoperineal resection.

Recovery protocols

Recovery protocols, such as 'enhanced recovery after surgery' (ERAS), are perioperative care pathways designed to promote early recovery for patients undergoing major surgery by optimising the person's health before surgery and maintaining health and functioning after surgery.

Social identity

Social identity is about changes to people's concept of themselves as a result of either their cancer, or the long-term side effects from treatment. For example, it could cover changes from being a previously fit person to someone who has physical or mental health problems, from being someone with the expectation of years to live to someone with a

limited life expectancy, or the change from being a carer to becoming cared for.

TNM classification

This guideline uses the tumour, node, metastasis (TNM) classification developed by the Union for Interventional Cancer Control (UICC) to describe the stage of the cancer. Please refer to The TNM Classification of Malignant Tumours, 8th Edition for further information. In this guideline early rectal cancer is defined as cT1-2, cN0, M0. cTNM refers to clinical classification based on evidence acquired before treatment, for example imaging, physical examination and endoscopy. pTNM refers to pathological classification based on histopathology.

Recommendations for research

The guideline committee has made the following recommendations for research.

1 Treatment for metastatic colorectal cancer in the lung

What is the cost effectiveness and safety of non-surgical ablation and stereotactic body radiotherapy compared to resection for people with metastatic colorectal cancer in the lung amenable to local treatment?

For a short explanation of why the committee made the recommendation for research, see the rationale on people with metastatic colorectal cancer in the lung.

Full details of the evidence and the committee's discussion are in evidence review D3: treatment for metastatic colorectal cancer in the lung amenable to local treatment.

2 Management of low anterior resection syndrome

What is the effectiveness and safety of sacral nerve stimulation and transanal irrigation compared to symptomatic treatment for people with major low anterior resection syndrome?

For a short explanation of why the committee made the recommendation for research, see the rationale on management of low anterior resection syndrome.

Full details of the evidence and the committee's discussion are in evidence review E2: optimal management of low anterior resection syndrome.

Rationale and impact

These sections briefly explain why the committee made the recommendations and how they might affect practice. They link to details of the evidence and a full description of the committee's discussion.

Prevention of colorectal cancer in people with Lynch syndrome

Recommendation 1.1.1

Why the committee made the recommendation

Evidence from a multi-country randomised controlled trial showed that taking 600 mg of aspirin daily for more than 2 years reduces the risk of colorectal cancer in people with Lynch syndrome, although this was only evident when restricting the analysis to those who actually took aspirin as planned, increasing the uncertainty around the evidence. An observational study among people with Lynch syndrome also showed a reduced risk of colorectal cancer in people who had taken aspirin (varying self-reported doses) in the long term compared to those who had not.

Long-term use of aspirin may slightly increase the risk of bleeding. However, no increased risk of peptic ulcer, gastrointestinal bleeding or cerebral haemorrhage was observed in the randomised controlled trial, although this might be because of the relatively short follow-up time. Given that the potential benefits are likely to outweigh the potential harms for most people with Lynch syndrome, the committee agreed taking aspirin long term will be appropriate in most, but not all, cases (for example in people with history of peptic ulcers).

The optimal dose of aspirin that balances the benefits of aspirin in preventing colorectal cancer and the potential increased bleeding risk (especially with higher doses) remains unclear. Because of this the committee was not able to recommend a dose, though an ongoing trial is currently studying this. Commonly used doses in current practice are 150 mg or 300 mg.

In July 2020, NICE carried out a surveillance review on a follow-up study to the

randomised controlled trial that was used to inform development of the recommendation. The decision was that no change to the recommended advice was needed at this time.

How the recommendation might affect practice

Aspirin is already widely used for this indication and so the recommendation is not expected to have a significant impact on practice.

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Information for people with colorectal cancer

Recommendations 1.2.1 to 1.2.7

Why the committee made the recommendations

There was evidence that people having treatment for colorectal cancer need different information at different stages of their care, and this was supported by the committee's own clinical experience as well as NICE's guideline on patient experience in adult NHS services.

The committee based their recommendations on qualitative evidence and their clinical experience, which enabled the committee to identify areas where people lacked understanding and issues that people would value information on. This included explaining colorectal cancer and its treatments in depth, including non-surgical treatment options and palliative care, as well as explaining how people can alter their diet to reduce bowel problems and manage their weight.

The committee also agreed it was important to prepare people for the fact that changes to the agreed plan are sometimes needed during treatment, and to explain what these could be so that people feel ready for this possibility.

How the recommendations might affect practice

Current practice varies between hospitals, so these recommendations aim to reduce variation and encourage best practice. There may be a cost to providing training to professionals but this is expected to be small.

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Acute left-sided large bowel obstruction

Recommendations 1.3.1 and 1.3.2

Why the committee made the recommendations

In patients presenting with acute left-sided large bowel obstruction, evidence showed that stoma rates were reduced in the stenting group compared to the emergency surgery group. There was no evidence of a difference in overall or disease-free survival. Stenting also allows time to fully assess the patient and stabilise any comorbidities before proceeding with potentially curative surgery. The committee considered the yet to be published results of the CREST trial shared with the committee in confidence which were consistent with the published evidence.

The committee noted the evidence that stenting sometimes causes perforation and is not always technically successful and so may not be appropriate in all cases for the curative intent treatment group. For this reason they also recommended emergency surgery as an option.

How the recommendations might affect practice

Stenting is established practice for patients presenting with acute left-sided large bowel obstruction who are to be treated with palliative intent. Stenting is not established practice in those to be treated with curative intent. Therefore, the recommendation could lead to an increase in the provision of stenting and associated costs. However, stenting allows patients to be assessed and become stable before surgery, in turn reducing operative morbidity, the need for stoma and preventing expensive surgery in those people when it would not be appropriate, thus reducing downstream costs. Some patients might need to be transferred to another unit in order to receive a stent.

Return to recommendations

Treatment for people with early rectal cancer

Recommendation 1.3.3

Why the committee made the recommendation

The committee agreed that it was not possible to recommend one treatment over another because of the low quality of the evidence and the limited amount of evidence available. The available evidence showed no clinically important differences between treatments and, in addition, for many of the outcomes specified in the protocol and a number of the comparisons no evidence was identified at all. However, based on their knowledge and experience, the committee noted that there are risks and benefits associated with each treatment option. They highlighted that while total mesorectal excision (TME) is a radical intervention and has more risks than the others, it is the only way to accurately stage lymph nodes and, by doing so, allow better treatment planning. Therefore, the committee recommended discussing the implications of each intervention with the person before making a choice.

How the recommendation might affect practice

Currently, endoscopic submucosal dissection (ESD) is not widely available in the UK. In centres where ESD is not already available, resources and time would be needed to provide this service, including purchasing equipment and training staff (although this would be a short-term cost). After this initial investment there will be minimal cost difference between ESD and alternatives. Transanal excision (TAE; including transanal minimally invasive surgery and transanal endoscopic microsurgery) and TME are current practice in the UK, so the recommendations will have a minimal effect for these interventions. However, the recommendations will allow for an informed discussion with patients so they are fully aware of the risks and benefits of each procedure.

Return to recommendation

Preoperative treatment for people with rectal cancer

Recommendations 1.3.4 and 1.3.5

Why the committee made the recommendations

There was no evidence for the effectiveness of preoperative radiotherapy for people with early rectal cancer, and based on their experience the committee would not recommend

preoperative radiotherapy. However, the ongoing STAR-TREC trial, which is a multicentre randomised controlled trial, compares radiotherapy to TME for early rectal cancer. Because of this, the committee recommended that preoperative radiotherapy for early rectal cancer could be offered, but only in the context of a clinical trial.

For rectal cancer cT1-T2, cN1-N2, M0, or cT3-T4, any cN, M0, the evidence from several randomised controlled trials (RCTs) shows that people who have preoperative radiotherapy or chemoradiotherapy have less local recurrence and have better overall and disease-free survival compared to people who did not have preoperative therapy. Although preoperative therapy can potentially have adverse effects, from the evidence the committee did not find a difference in quality of life or treatment-related mortality between those who did or did not receive preoperative therapy.

The committee was not able to make a recommendation on the duration and type of radiotherapy or chemoradiotherapy because the available evidence did not show a difference between short-course and long-course radiotherapy, chemoradiotherapy with or without induction chemotherapy, or internal radiotherapy with or without external radiotherapy and external radiotherapy alone.

How the recommendations might affect practice

There is some variation in current practice among different multidisciplinary teams as to who is offered preoperative therapy. The aim of the recommendation is to standardise treatment across the country, so this might have a resource impact in areas where preoperative therapy is not currently offered and where more clinical oncologists and radiotherapy equipment and staff will be needed. The committee was aware that in some areas, therapeutic radiographers are taking on roles at advanced and consultant level to support specialist oncologists. There may be savings downstream through reduced recurrence and increased disease-free survival avoiding or delaying expensive further treatment.

The recommendation might increase the number of people offered preoperative radiotherapy or chemoradiotherapy for lower-risk tumours (mainly cancers in the upper and mid rectum). In current practice, people with cancer in the upper and mid rectum might not have preoperative therapy because there is a lower risk of recurrence in cancers in these locations compared to cancer in the low rectum.

Return to recommendations

Surgery for people with rectal cancer

Recommendations 1.3.6 and 1.3.7

Why the committee made the recommendations

Surgery is the gold standard treatment for people with rectal cancer (cT1-T2, cN1-N2, M0, or cT3-T4, any cN, M0) if the tumour is resectable. The committee acknowledged that some people whose rectal cancer shows a complete clinical response to neoadjuvant therapy choose to defer surgery and opt for an organ preserving 'watch-and-wait' strategy instead. However, no evidence was identified on which prognostic factors could predict recurrence and survival to better select people for deferral of surgery. The committee were uncertain about how different definitions of complete clinical response and different watch-and-wait surveillance protocols would impact risk of recurrence. Because of the lack of evidence, they agreed that people wishing to defer surgery after a complete clinical and radiological response to neoadjuvant treatment should be made aware of the uncertainty about their outcome. Around one third of these people will experience local regrowth of their tumour and need salvage surgery.

The committee noted that there is no agreed definition of complete clinical and radiological response and no evidence on factors that predict recurrence, therefore, those who choose to defer surgery should be encouraged to enter a clinical trial or entered into a national registry. These could gather evidence to help define groups for whom deferral of surgery may be safe and appropriate.

How the recommendations might affect practice

The watch-and-wait approach requires repeated surveillance examinations and endoscopies to monitor for tumour regrowth. In some cases, people choosing to defer surgery will need to be referred to another centre that can provide the necessary watch-and-wait surveillance programme. The recommendations are not expected to have a significant impact on practice.

Return to recommendations

Surgical technique for people with rectal cancer

Recommendations 1.3.8 to 1.3.11

Why the committee made the recommendations

The clinical evidence on the different surgical techniques for rectal cancer showed that the short- and long-term outcomes of laparoscopic technique were similar or better than of the open technique and that there seemed to be no difference in effectiveness between laparoscopic and robotic techniques. The committee agreed that in addition to the clinical effectiveness it was important to consider the costs of these different techniques in order to assess which technique is the most cost-effective approach in rectal cancer surgery, therefore, a health economic analysis was done.

The evidence showed that laparoscopic surgery is cost effective compared to open surgery or robotic surgery. However, in some cases open surgery might be clinically more appropriate and laparoscopic surgery might be less feasible, for example because of scarring from previous operations or technically demanding resection of adjacent organs or structures in locally advanced tumours.

Robotic surgery was not found to be cost effective; however, this technique could be considered in centres that have already invested in a robot and have an established programme. These programmes should collect outcome data in order to benchmark the effectiveness and safety of this technique in clinical practice against other centres and techniques. The techniques and equipment of robotic surgery develop rapidly and more evidence on its cost effectiveness will be available in the future.

There is evidence that transanal TME is effective, but evidence about its safety is inconsistent. However, transanal TME could be considered as part of a formal research study. Outcome data should be submitted to a national registry in order to assess the safety and effectiveness of this technique in clinical practice. This is in line with NICE interventional procedures guidance on transanal total mesorectal excision for rectal cancer.

How the recommendations might affect practice

There will be more laparoscopic surgery, while recognising that there is a role for open surgery in appropriately selected cases. Current robotic techniques were found not to be

cost effective, so there may be less investment in robotic techniques for this indication. However, the recommendation will not affect the use of robotic surgery within established programmes. The recommendations are not expected to have an impact on the use of transanal TME as these are largely done within structured and supervised programmes in current practice.

Return to recommendations

People with locally advanced or recurrent rectal cancer

Recommendation 1.3.12

Why the committee made the recommendation

Based on their clinical experience, the committee acknowledged that many patients are not currently referred to specialist centres and are only offered palliative care instead of potentially curative surgery. The committee also noted that pelvic exenteration is a complex and invasive procedure.

However, there was some very low-quality evidence that showed people who had pelvic exenteration had similar quality of life scores to those who did not, and that the procedure improved survival over 12 months. The committee agreed that evidence from long-term follow-up of quality of life would help to inform the recommendation, but there was no quality-of-life data available beyond 12 months. Therefore, the committee could not recommend referring everyone with locally advanced or recurrent rectal cancer to have pelvic exenteration, but agreed that people should have the opportunity to discuss pelvic exenteration as an option in a specialist centre. Despite the lack of long-term quality of life evidence, a research recommendation was not made because the low number of eligible participants meant a prospective comparative study would not be feasible. Additionally, an international collaborative study of outcomes after pelvic exenteration (PelvEx) is already underway.

How the recommendation might affect practice

The recommendation could increase the number of referrals to specialist centres in hospitals where this is not current practice. This would, in turn, increase demand for

specialist time and mean that more people may go on to have surgery. However, this may improve quality of life and survival.

Return to recommendation

Surgical volumes for rectal cancer operations

Recommendations 1.3.13 and 1.3.14

Why the committee made the recommendations

Currently, there is uncertainty in the clinical community about optimal hospital and surgeon volumes for rectal cancer outcomes, with some clinicians advocating for the centralisation of services. There was evidence that when the threshold is set between 10 and 20 rectal cancer surgery patients per year, higher volume hospitals have better outcomes than lower volume hospitals in terms of overall survival, local recurrence, permanent stoma rates and perioperative mortality. Similarly, there was evidence of benefit with a surgeon case volume threshold of between 5 and 10 cases per year in terms of resection margins, local recurrence and permanent stoma rates.

The committee were cautious in their interpretation of the evidence: individual studies had used different case volume thresholds and had not treated case volume as a continuous outcome, and there were additional complexities with surgeon-level data (that is, consultants may do more complex operations, but fewer of them, and a consultant might be involved with other operations but not be the named surgeon) as well as with hospital-level data (that is, some studies were old and from outside the UK, with inconsistent staging across studies).

Given the uncertainties in the data, the committee agreed that the evidence was not strong enough to recommend a minimum cut-off of 20 cases and instead decided to recommend a more conservative cut-off of 10 cases a year.

How the recommendations might affect services

An audit of operations for rectal cancer in the UK has indicated that most hospitals in the UK perform at least 20 cases of rectal cancer surgery per year. Therefore, the recommendation for a minimum threshold of 10 cases per year at hospital level will not

have a large impact on current practice. Based on their clinical knowledge, the committee were aware that some surgeons in the UK currently perform fewer than 5 operations per year, so the recommendation could have an impact on these surgeons. Fewer surgeons performing more cases could have an impact on staffing, although as the overall number of operations will be the same the overall cost impact should be neutral. There may be an increase in the distance patients need to travel for surgery and this will have a cost impact on the NHS where this is reimbursed. This cost will be offset by better surgical outcomes reducing care-related costs later on and increasing quality of life.

Return to recommendations

Preoperative treatment for people with colon cancer

Recommendation 1.3.16

Why the committee made the recommendation

The committee made the recommendation to consider chemotherapy preoperatively for people with cT4 colonic cancer based on evidence that it improved survival and rates of clear resection margins in these patients. The committee was only able to recommend preoperative chemotherapy as an option to consider because the evidence was of low quality, despite the large sample size. There was no evidence on the effectiveness of preoperative chemotherapy for people with colonic cancers at other stages.

The committee also considered non-peer-reviewed results from FOxTROT: a large international trial comparing preoperative plus postoperative chemotherapy (with or without panitumumab) to standard postoperative chemotherapy in people with cT3 or cT4a resectable tumours. The results showed that complete clinical response and tumour downstaging are more likely in those who receive preoperative chemotherapy, however at the time of publication of this guideline there was insufficient duration of follow-up to assess long-term outcomes.

How the recommendation might affect practice

The current standard of care is surgical resection with postoperative chemotherapy, dependent on the organs or structures involved and the degree of involvement. The

committee was aware that some centres already give preoperative chemotherapy, but noted that this recommendation will affect practice and have a resource impact in hospitals where this is not standard practice.

Return to recommendation

Duration of adjuvant chemotherapy for people with colorectal cancer

Recommendations 1.3.15 and 1.3.18

Why the committee made the recommendation

The benefits and risks of adjuvant chemotherapy can depend on several factors, including the stage and characteristics of the cancer, and the person's performance status, comorbidities and age.

Peripheral neuropathy is recognised as a major long-term side effect of oxaliplatin chemotherapy, and the risk of developing persistent neuropathy increases by cumulative dose of treatment. The standard duration of chemotherapy has been 6 months, but a shorter 3-month course has been investigated.

There was good evidence that showed 3 months of CAPOX chemotherapy was at least as beneficial for people with colon cancer as a 6-month course but caused considerably less severe neuropathy and was cost saving. However, with FOLFOX chemotherapy, disease-free survival was worse after a 3-month course compared with the standard 6-month course, although the rate of severe neuropathy was again considerably lower in the 3-month group.

A high-quality health economic study found a 3-month course of FOLFOX to be cost effective compared to a 6-month course, despite lower disease-free survival, as a result of a decrease in costs. Although this economic evidence was directly applicable to the clinical question, and the study was included in the consideration of the clinical evidence, the committee was concerned that basing recommendations solely in line with the economic evaluation (that is, CAPOX for 3 months or FOLFOX for 3 months) might lead to people who would otherwise have received 6-month FOLFOX to opt for 3-month CAPOX instead.

In the SCOT trial CAPOX was associated with a higher rate of severe diarrhoea than FOLFOX. This was not looked at by the economic evaluation and the 'switching' group would likely to be at higher risk of toxicity-related complications with worse outcomes, increased treatment-related mortality and increased costs from the treatment of severe adverse events than the trial population for 3-month CAPOX. This would decrease the certainty of the conclusions of the economic evaluation.

Based on the balance of benefits and lower risk of long-term adverse effects, the committee agreed CAPOX for 3 months should be the first choice of adjuvant treatment. If CAPOX is not suitable, for example because of the person's higher risk of and lower tolerance for severe diarrhoea, FOLFOX should be offered. Having considered the economic evaluation given the clinical concerns, it was decided that there should be an individualised consideration of the duration of FOLFOX for people if 3-month CAPOX chemotherapy is not suitable for them, taking into account the benefits and short- and long-term harms of both options, the person's comorbidities, performance status and preference.

Single-agent capecitabine chemotherapy is also an effective adjuvant treatment and can be more suitable for people who are older (for example over 70) or less fit, as it is associated with fewer side effects than chemotherapy treatments that contain oxaliplatin.

The available evidence is mainly for people with colon cancer. However, people with rectal cancer who had received either short-course preoperative radiotherapy or no preoperative therapy were also included in a large randomised trial and their outcomes were similar to people with colon cancer, and therefore the committee agreed the recommendation could also apply to this population.

No recommendations were made for people with rectal cancer who have been treated with long-course chemotherapy or chemoradiotherapy because no evidence was identified in the available trials.

How the recommendation might affect practice

Halving the standard care from 6 months to 3 months (for people who can have CAPOX) will reduce treatment time and costs, meaning people have chemotherapy side effects for a shorter time, and will lower the incidence of long-term toxicity (neuropathy) and its consequences.

Return to recommendation

Molecular biomarkers to guide systemic anticancer therapy

Recommendation 1.4.1

Why the committee made the recommendation

The evidence showed that RAS and BRAF V600E mutations were predictive of response to anti-epidermal growth factor receptor (EGFR) targeted therapy in people with metastatic colorectal cancer. People with RAS or BRAF V600E mutant metastatic colorectal cancer also had poorer progression-free and overall survival than those without such mutations. While RAS testing is already used to select those people with metastatic colorectal cancer most likely to benefit from anti-EGFR targeted therapy, BRAF V600E testing has the potential to further refine this group.

The committee noted evidence that testing for deficient DNA mismatch repair may inform systemic therapy choices for those with non-metastatic colorectal cancer, but the NICE diagnostics guidance on molecular testing strategies for Lynch syndrome in people with colorectal cancer already recommends such testing for all people with colorectal cancer when first diagnosed. For this reason no further recommendations were made about testing for deficient DNA mismatch repair.

How the recommendation might affect practice

RAS testing (KRAS and NRAS) is current practice. BRAF V600E testing is not done routinely in current practice. BRAF V600E test can be done from the extended colorectal cancer molecular test panel which is part of the recommendations in the NICE diagnostics guidance on molecular testing strategies for Lynch syndrome in people with colorectal cancer, so the recommendation should not have a large impact on practice or costs.

Return to recommendation

People with asymptomatic primary tumour

Recommendation 1.5.13

Why the committee made the recommendation

For people with incurable metastatic colorectal cancer whose primary tumour is asymptomatic, there was some low-quality evidence of better overall survival in those who had resection of their primary tumour and chemotherapy compared with chemotherapy alone.

Around a quarter of this group had postoperative complications and a small proportion (around 5%) had severe postoperative complications which needed intervention or were life-threatening. However, resecting the tumour at this stage can prevent symptoms from developing later: almost a fifth of people who did not have the asymptomatic primary tumour resected went on to develop primary tumour-related symptoms that needed surgical treatment which could often mean an emergency operation that can have higher risks of complications and stoma. Because of this, the committee agreed the implications should be discussed with the person so they can make an informed decision.

How the recommendation might affect practice

There could be an increase in resections of asymptomatic primary tumours, however, the population with metastatic colorectal cancer and asymptomatic primary tumour is small so no major cost impact is expected.

Return to recommendation

People with metastatic colorectal cancer in the liver

Recommendations 1.5.14 to 1.5.17

Why the committee made the recommendations

There was not enough evidence to show if simultaneous or sequential resection is better. There was some poor-quality evidence from retrospective cohort studies showing that people who underwent sequential resection had better liver progression-free survival. However, these results might be influenced by baseline differences between the groups, and there was no difference in recurrence in other parts of the body or in overall survival in several studies. There was no difference in short-term adverse events and no evidence on

quality of life was available. Based on these findings and their experience, the committee agreed that a multidisciplinary team with expertise in both colorectal and liver disease should consider if a simultaneous or a sequential resection is appropriate, taking into account the person's preference.

Evidence from randomised trials suggested that chemotherapy in addition to liver resection improves disease-free survival and may improve overall survival. The potential benefit on survival should be balanced with a higher rate of treatment-related adverse events because of added chemotherapy. No quality of life evidence was available.

The evidence on chemotherapy combined with radiofrequency ablation showed better overall survival and progression-free survival compared to chemotherapy alone. No difference was observed in treatment-related mortality and morbidity. The evidence on quality of life was too limited for the committee to draw any conclusions. The evidence on survival came from a single small study and the committee had doubts about its relevance to current practice. Because of the uncertainties in the evidence, the committee recommended considering chemotherapy with local ablative techniques as an option for people whose liver metastases are determined by the multidisciplinary team to be unresectable but potentially curable. The evidence was on radiofrequency ablation, which is still used but in many centres has been largely replaced by newer local ablative techniques such as microwave ablation (see the NICE interventional procedures guidance on microwave ablation for treating liver metastases). Therefore, the committee agreed that it is more appropriate that local ablative techniques, not only radiofrequency ablation, are considered.

Evidence from several RCTs did not show any benefit on overall survival from selective internal radiation therapy (SIRT) as a first-line treatment for people with colorectal liver metastases. NICE interventional procedures guidance on selective internal radiation therapy for non-resectable colorectal metastases in the liver gives further guidance in which circumstances SIRT could be used. Only limited evidence from one small RCT was available on the effectiveness of SIRT for people refractory or intolerant to standard chemotherapy. The committee were aware of an NHS England commissioning policy on SIRT as third-line treatment, which used observational data in addition to the small RCT as their evidence base. However, because of limited RCT evidence the committee was not able to make a recommendation.

How the recommendations might affect practice

The recommendations largely reflect current practice and no substantial change in practice is expected.

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_People_with_metastatic_6People with metastatic colorectal cancer in the lung

Recommendations 1.5.18 and 1.5.19

Why the committee made the recommendations

As there was limited evidence, the committee made recommendations based on their clinical knowledge. There was not enough evidence to recommend one treatment over another even though the current first choice is to perform surgery over stereotactic body radiation therapy or ablation. Referring people to multidisciplinary teams that specialise in primary lung disease may not be appropriate as they do not specialise in the management of lung metastases from colorectal cancer. Therefore, the committee agreed that the multidisciplinary team should include a thoracic surgeon and a specialist in non-surgical ablation to ensure that the appropriate specialist knowledge is available.

Based on their clinical knowledge, the committee recommended that biopsies should be considered for patients with a single lung lesion to rule out primary lung cancer and guide treatment options even if surgical excision is not planned.

Because of the lack of clinical evidence, a randomised trial comparing surgical to non-surgical treatment is needed to provide more high quality, comparative data, so the committee made a recommendation for research on treatment for metastatic colorectal cancer in the lung.

How the recommendations might affect practice

The recommendations are expected to increase the involvement of thoracic surgeons in the management of metastatic colorectal cancer, however this additional expertise would result in expensive treatments being more appropriately targeted. While assessing fitness

for surgery is common practice, the advice to also discuss factors including disease-free interval, carcinoembryonic antigen (CEA) level, number, size and site of metastases and other sites of disease should improve best practice across the NHS.

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People with metastatic colorectal cancer in the peritoneum

Recommendation 1.5.20

Why the committee made the recommendation

The committee made the recommendation based on both the evidence and their clinical knowledge. The advice to offer systemic anticancer therapy and to discuss referral to a specialist cytoreductive surgery centre is in the same recommendation because these interventions should happen at the same time. That is, making a referral should not wait until chemotherapy has been given, and chemotherapy could be started before the person is reviewed in the specialist centre.

It is standard practice to start all patients on a course of systemic anticancer therapy and the evidence supported this, showing greater overall survival compared to supportive care. The evidence on the effectiveness of cytoreductive surgery and hyperthermic intraperitoneal chemotherapy (HIPEC) was mixed but, based on their clinical knowledge, the committee decided they should be considered.

The committee agreed it was important to recommend referral to a nationally commissioned specialist centre after discussion within a multidisciplinary team for consideration of cytoreductive surgery and HIPEC so that more patients can have potentially curative treatment and to avoid centres offering the treatment without having the necessary training and resources. This advice is in line with the NICE interventional procedures guidance on cytoreductive surgery with hyperthermic intraoperative peritoneal chemotherapy for peritoneal carcinomatosis.

How the recommendation might affect practice

Stenting is not established practice in those to be treated with curative intent. Therefore,

the recommendation could lead to an increase in the provision of stenting and associated costs. However, stenting allows patients to be assessed and become stable before surgery, in turn reducing operative morbidity, the need for stoma and preventing expensive surgery in those people when it would not be appropriate, thus reducing downstream costs. Some patients might need to be transferred to another unit in order to receive a stent.

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Follow-up for detection of local recurrence and distant metastases

Recommendation 1.6.1

Why the committee made the recommendation

Evidence showed that recurrent disease was more likely to be resectable when patients received regular follow-up tests than with minimal or no follow-up. Evidence also showed recurrent disease was more likely to be resectable when follow-up tests included CEA and liver imaging. The 2011 NICE guideline on colorectal cancer (updated and replaced by this guideline) recommended CEA and CT testing in the first 3 years after treatment with curative intent, and the committee did not find evidence to change this. Colonoscopic surveillance to detect metachronous colorectal neoplasia was outside the scope of this guideline (the British Society of Gastroenterology and the Association of Coloproctology for Great Britain and Ireland have guidance on this topic).

How the recommendation might affect practice

The recommendation reflects current practice so the committee agreed there should be no change in practice.

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Management of low anterior resection syndrome

Recommendations 1.6.2 to 1.6.4

Why the committee made the recommendations

Based on their experience, the committee agreed low anterior resection syndrome (LARS) can have a significant impact on a person's quality of life and daily functioning, so it is important to identify and treat it quickly. It is important that people who have had sphincter-preserving surgery are aware of its symptoms so they can seek help. Because LARS may only become apparent after discharge from hospital, it is important that it can be identified in primary care. LARS should be assessed using a validated tool, for example the European Society of Coloproctology's LARS score, which is a validated patient-administered questionnaire.

No comparative evidence on different treatments for LARS was available, so the committee agreed based on their experience that people with LARS should be offered symptomatic treatment in primary care. The committee also agreed that if treatments offered in primary care have not helped, advice should be sought from secondary care to discuss further options and consider specialist input. Timing of this should be based on clinical judgement taking into consideration, for example, severity of symptoms and impact on quality of life.

Because of the lack of evidence on the effectiveness of treatments for LARS, a recommendation for research was made to compare sacral nerve stimulation and transanal irrigation in people with LARS for whom conservative treatments have not worked.

How the recommendations might affect practice

Primary care clinicians are not necessarily aware of LARS or how to assess it, and administering the questionnaire might need extra work and time. However, it is patient-administered and easy to score and no training should be needed. Bowel dysfunction treatment for associated symptoms are commonly delivered in primary care, therefore, the recommendation is not expected to have a large impact on current practice in terms of number of patients and interventions, however, raising awareness of LARS will be needed among primary care professionals.

Return to recommendations

Context

Colorectal cancer (cancer of the colon or rectum, or bowel cancer) is the fourth most common cancer in the UK, with over 41,000 new cases diagnosed each year according to Cancer Research UK's bowel cancer statistics. Risk factors include increasing age, genetics and family history (particularly syndromes such as familial adenomatous polyposis and Lynch syndrome), inflammatory bowel disease and other dietary and lifestyle factors. Survival rates have improved over time, with almost 60% of people diagnosed with colorectal cancer surviving for at least 5 years. Survival is linked to disease stage at presentation, with better survival the earlier the disease is detected and treated.

People with Lynch syndrome have an increased risk of colorectal cancer, with lifetime risk estimated to be between around 50% to 80% (see Lynch Syndrome in Gene Reviews). The main strategy to prevent colorectal cancer in people with Lynch syndrome has been regular screening with colonoscopy and polypectomy. Aspirin has been suggested as another potential prevention strategy for colorectal cancer.

Diagnosis and staging of colorectal cancer are well established with histology and appropriate imaging, and are not covered by this guideline.

Management of colorectal cancer has advanced over time with new treatment methods and strategies being trialled and used. Management of local disease differs depending on the site of the cancer. The standard practice for colon cancer is to offer surgery for those who are fit for it. Recent trials have studied the effectiveness of preoperative systemic anticancer therapy for colon cancer to improve survival. Treatment for rectal cancer is more complex. There is variation in current practice in the treatment for early rectal cancer, use of preoperative (chemo)radiotherapy, surgical technique for rectal cancer surgery, and treatment for locally advanced or recurrent rectal cancer. This guideline addresses all these issues. Until now, the standard duration of adjuvant systemic therapy for colorectal cancer has been 6 months, which has been recently challenged by suggestion of a shorter duration in order to lower toxicity caused by the treatment.

Metastatic colorectal cancer commonly affects the liver, lungs or peritoneum. Treatment for metastatic colorectal cancer depends on, for example, the site and number of the metastases and if the metastases are amenable to local treatment. In addition, the role of molecular biomarkers in predicting effectiveness of systemic anticancer therapy has been discussed increasingly in recent years.

People who have been treated for colorectal cancer may have long-term side effects of their treatments. For example, low anterior resection syndrome can have major impact on quality of life and daily living, and it affects around 40% of those who have undergone sphincter-preserving surgery for rectal cancer. It is important that the treatment options, their implications and potential consequences are discussed together with the person with colorectal cancer in order to enable shared decision making.

Finding more information and committee details

To find NICE guidance on related topics, including guidance in development, see the NICE topic page on colorectal cancer.

For full details of the evidence and the guideline committee's discussions, see the evidence reviews. You can also find information about how the guideline was developed, including details of the committee.

NICE has produced tools and resources to help you put this guideline into practice. For general help and advice on putting NICE guidelines into practice, see resources to help you put guidance into practice.

Update information

December 2021: We updated recommendation 1.3.9 to say that transanal total mesorectal excision should be used only in research, in line with NICE's interventional procedures guidance on transanal total mesorectal excision for rectal cancer.

January 2020: This guideline is an update of NICE guideline CG131 (published November 2011) and NICE guideline CSG5 (published June 2004) and has replaced them.

Minor changes since publication

August 2025: We added links to relevant technology appraisal guidance in the sections on management of local disease and management of advanced or metastatic colorectal cancer. We also simplified the guideline by removing recommendations on general principles of care that are covered in other NICE guidelines.

January 2025: We added a link to NICE's interventional procedures guidance on cytoreduction surgery with hyperthermic intraoperative peritoneal chemotherapy for peritoneal carcinomatosis (IPG688) to the section on metastatic colorectal cancer in the peritoneum.

July 2021: We clarified recommendation 1.1.1 to consider daily aspirin to reduce the risk of colorectal cancer in people with Lynch syndrome. We also removed the aspirin doses to clarify that we are not recommending a particular dose.

August 2020: A link to the NICE surveillance review of a follow-up study to the randomised controlled trial which recommendation 1.1.1 was based on was added to the rationale and impact section.

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