EURECCA

Summary on the

Consensus on Colon & Rectal Cancer Care

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Executive Summary especially written for patients of the First Multidisciplinary Consensus Conference on Colon and Rectal Cancer Care

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1. INTRODUCTION – WHAT IS EURECCA?

EURECCA is a quality assurance project and its name is short for the European Registration of Cancer Care or European cancer audit\(^1\,^2\).

Substantial variations in colon and rectal cancer treatments across Europe has resulted in large differences in outcomes of treatment, such as survival\(^1\,^3\). We believe this can be changed with better monitoring and comparison of performance. By monitoring clinical performance through data collected in each country improvements can be made in the delivery and management of cancer care. EURECCA is developing an outcomes database from records collected across Europe. This data is collected in cancer registries hosted by governments.

Data collected by a number of countries has already shown that recording outcome-based quality measurements provides transparency while also benchmarking performance of oncology staff and by providing feedback, this rapidly leads to improvements in cancer care.

**EURECCA consensus conference**

To achieve this ambitious aim we held the first EURECCA consensus conference on colon and rectal cancer in December 2012\(^4\). Consensus meetings are held to standardise good clinical practice in cancer care. This event brought together an expert panel of health care professionals and scientists representing the majority of European scientific organizations involved in colon and rectal cancer care (surgeons, medical oncologists, radiologists, pathologists, radiation oncologists, and nurses) together with patient organisation representatives\(^5\). The panel was invited to comment on 465 evidence-based statements of cancer care\(^6\). This process is described in the article entitled: “Involving patients in a multidisciplinary European consensus process and in the development of a ‘Patient Summary of the Consensus Document for colon and rectal cancer care’.”

1.0 Background to the Consensus Document
The Consensus Document was written with a view to guide the management of colon and rectal cancer in Europe\cite{4}. The treatment and care for patients with colon and rectal cancer is constantly evolving and many of these developments are already an integral part of the daily practice of numerous clinicians across Europe. However, there are areas and also countries where care could be improved\cite{3} and the considerable variations in cancer management and outcomes between European countries reduced.

The Consensus Document was developed from an expert review of all available evidence plus expert opinion relating to the diagnostic and treatment pathways\cite{7,8,9,10}. These recommendations reflect the consensus of the panel and not necessarily the views of individual authors.

The information presented here is a Summary of some (but not all) of the key points within the Consensus Document and it should support you in making decisions about your care with your cancer care team (often simply called the Multidisciplinary Team or MDT for short). Some of the statements in the Consensus Document have been simplified to limit the medical terminology, for a full account of the statements www.ncbi.nlm.nih.gov and enter the names of van de velde, aristei in the search bar, you will find the corresponding articles\cite{4,7,8,9,10}. However the document does contain many medical terms, an explanation of which can be found in the glossary of terms at the end of this document as well as an list of abbreviations(See page 24). Although many issues were covered during the consensus formation some were left out because of still experimental or weak of evidence and avoiding miscommunication in the future. For this reason the committee choose not to recommend chemotherapy schemes by using drug names.

The sections of the Consensus Document presented in this Summary are: diagnostics, pathology, surgery, medical oncology, radiotherapy, and follow-up. Since the staging investigations and treatment options for colon cancer and rectal cancer differ, they are presented separately.

This information should enhance your understanding of the options available to you. We believe it is important that you can make an informed choice. Our recommendations may also enable you to ask for the best available treatment. In making your decision about treatment, you must consult with your family doctor and your Colorectal Cancer Multidisciplinary Team (MDT) as it is important that this evidence is adapted to suit you personally.

**MDT is short for the Multidisciplinary team, this team of specialist physicians will advise on the diagnostics and treatment.**
1.1 Screening
The recent publication of the European Guidelines on Screening recommends the introduction of Formal Population Screening for Colorectal cancer in every country in Europe. Research has shown a reduction in the risk of death from colorectal cancer by using faecal occult blood tests (FOBT) every 2 years for men and women in their sixties. In addition, a ‘bowel scope’ test called a flexible sigmoidoscopy at age 55 years is currently being piloted as an alternative. However, this test is not yet available in all European countries.

**Screening is** looking for signs of cancer, blood in feaces could be related to colorectal cancer.

**Endoscopy**
is the minimally invasive medical examination of the intestine. It uses a flexible tube with a camera to look closely at the inner layer of the bowel wall, it is inserted via the anus.

**Rectoscopy**- usually rigid, looking at the rectum part of the large intestine (last part).

**Sigmoidoscopy** – examining rectum and sigmoid is part of the large intestine (colon part)
There are two types of sigmoidoscopy: flexible sigmoidoscopy, which uses a flexible endoscope and rigid sigmoidoscopy, which uses a rigid device.
A sigmoidoscopy is similar to, but not the same as, a colonoscopy.

**Colonoscopy** is able to look at the whole large intestine (colon and rectum).

**Recommendation** If you are offered the opportunity to have colorectal cancer screening, we recommend that you take advantage of the faecal occult blood tests (FOBT) or colonoscopy.
1.2 Hereditary colorectal cancer

About 3-5% of colorectal cancers (CRC) are of hereditary origin – this means that there is a susceptibility or predisposition to develop a colon or rectal cancer which can be passed from generation to generation. This can often be picked up by looking at the family history or through clinical features. There are two main hereditary conditions to be aware of:

§ Lynch Syndrome/Hereditary non-polyposis colorectal cancer (HNPCC) is the most common hereditary colorectal cancer syndrome and is estimated to account for 3-5% of all colorectal cancer cases. It is caused by mutations in DNA mismatch repair (MMR) genes.

§ Familial adenomatous polyposis (FAP) (accounts for 0.5% of all colorectal cancer cases) which is caused by mutations in the adenomatous polyposis coli (APC) gene causing multiple polyps to develop in the rectum and colon during the second decade of life. Polyps are growths that are abnormal and originate from the inner layer of the intestinal wall. Polyps could progress into colorectal cancer. In FAP patients, by the late teens or early twenties, colorectal cancer preventive surgery is recommended.

**Mutation is a change in genetic content that can change the growth of tissue.**

**Recommendation**

*If the multidisciplinary team (MDT) suspects that you may have a hereditary condition, you should be referred to a specialist in cancer genetics for genetic testing.*
2.1 Diagnosing colon cancer

If colorectal cancer is suspected, several exams are recommended:

1. Family history for colon or rectal cancer, polyps, other cancers
2. Physical examination (including a digital rectal examination)
3. Blood tests including a tumour marker test. This blood test, called CEA, is the abbreviation of Carcinoembryonic antigen, CEA is not sensitive enough to make a diagnosis of colon cancer.
4. In most cases a tissue sample (in medical terms a biopsy) is needed to confirm the diagnosis.

**Recommendation**

*In making the diagnosis ‘colon cancer’, we recommend a complete colonoscopy (endoscopy of the entire colon and rectum) as a first choice examination. If this is not available or advised (on health grounds) then a CT colonography would be a suitable alternative.*

Tissue is removed from the colonic wall, (this is called a biopsy) and sent to the pathology laboratory to be examined – the tissue can be removed during a procedure called colonoscopy, endoscopic examination of the colon and rectum.

Colonoscopy is a minimally invasive medical examination of the intestine. It uses a flexible tube with a camera to have a close look at the inner layer of the bowel wall, it is inserted via the anus.

A complete endoscopic examination of all the colon and rectum before surgical treatment is also recommended, where possible, to see if there are any polyps in the colon or on rare occasion, if a second cancer (called a synchronous tumour) is present.

If a colonoscopy has not been completed before surgery, then it should be undertaken within 3 months of finishing treatment.
2.2 Staging in colon cancer

Cancers are staged according to a TNM classification.

The TNM system describes 3 key pieces of information:

**T** of Tumour, describes how far the main (primary) tumour has grown into the wall of the colon (or rectum) and whether it has grown into nearby areas.

**N** of Nodes, describes the extent of spread to nearby (regional) lymph nodes. Lymph nodes are small bean-shaped collections of immune system cells. The classification N0 means no lymph nodes examined are involved. N1 or N2 means there are involved lymph nodes. NX means no nodes are examined.

**M** of Metastases, indicates whether the cancer has spread (metastasized) to other organs of the body. (Colorectal cancer spreads mostly to the liver and lungs.)

Before treatment you should be given a provisional staging for your cancer, telling you the extent of the primary tumour and whether there may be any metastases. To gather this information, a body scan of the chest and abdomen is required. The scan report will provide you with a provisional TNM stage but please note, this may change slightly after surgery following pathological examination of the removed tissue.

Please, see Figure 1 for the elective imaging flow chart for colon cancer.

For more information see:  
www.cancer.org/cancer/colonandrectumcancer/detailedguide/colorectal-cancer-staged

**Recommendation**

*We recommend that all colon cancers are staged by a CT scan of the chest (-lungs) and abdomen, a chest X-ray could be an alternative for the Chest CT.*

A CT scan (Computer tomography) uses X-rays and contrasts to form images of the organs such as the chest (-lungs) and abdomen.
2.3 Pathology in colon cancer

Pathology confirms staging after surgery. When you have surgery to remove the cancer, the section of colon removed (the surgical specimen) is looked at under the microscope to determine its T stage (see Section 2.2). In addition, the tumour is classified by a grading; this feature describes cell growth and the extent to which it differs from normal cells in the bowel. It is better in terms of prognosis to have a well differentiated tumour in contrast to one with a poor differentiation. The edges (margins) of the specimen are also examined for microscopic traces of cancer. The pathologist will report the number of positive lymph nodes, N-stage, – those involved by tumour (also removed at time of surgery) to give an accurate N stage. All this information including your final staging, is detailed in a histopathology report.

Suggested questions to ask the surgeon:

- How many lymph nodes were removed at time of surgery?
- If any of the lymph nodes contained cancer cells, and if so, how many positive nodes?
- What is the grade of the cancer?
- Have any tumor cells spread into the tiny blood vessels around the cancer?
- Was the cancer completely resected, or not? Were margins clear?
- Please explain if the tumour was confined to the colon wall or had it spread further.
- Were findings after surgery different from findings before the operation?

**Recommendation**

*During your surgery, ideally at least 12 lymph nodes should be removed and examined under the microscope.*
2.4 Surgery – colon cancer

Laparoscopic surgery (often known as ‘key-hole’ surgery) for colon cancer has been shown to be as safe as open surgery and there can be an improved recovery with less pain and a shorter hospital stay.

Not all patients with colon cancer can undergo laparoscopic resection, include overweight (obesity), previous abdominal surgery and having advanced stage disease.

**Recommendation**

*Ask if you can have laparoscopic surgery.*
2.5 Fast track surgery

Some hospitals are offering a fast track recovery programme which involves early eating and walking as well as other approaches aiming to reduce the physical stress your body experiences after surgery.

**Recommendation**

*Ask if you can participate in a fast track surgery programme.*
2.6 Obstruction and/or Emergency surgery

If you are diagnosed with a colon cancer that is blocking (or will block) the bowel (called an obstruction) then your doctor should consider three options:

1) Emergency surgery - to remove a section of the bowel and often formation of a stoma is necessary to protect the new anastomosis (where two parts of colon are sewn together).
2) Emergency surgery - to form a stoma to relieve the obstruction.
3) Inserting a colonic stent - this is a mesh tube that can be inserted using an endoscope and then positioned at the narrowed site in the bowel. This procedure does not involve an operation and can be performed in an endoscopy department.

This decision will depend upon your health at this time and the condition of your bowel based on X-ray findings – ideally a CT scan.

<table>
<thead>
<tr>
<th>A stoma is a deviation of the bowel to the abdominal wall, it is a way to ensure that the faeces are leaving and are not blocked by the tumour. A stoma can protect from leakage of intestines sewed together.</th>
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<tr>
<td>Colonic stent - a flexible, hollow tube to keep a segment of the colon (large bowel) open when it has become blocked</td>
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</table>

**Recommendation**

*In an emergency situation, ask if a stoma or a colonic stent is a possibility, to settle the bowel prior to a planned bowel operation.*
2.7 Treatment of colon cancer per stage

Treatment will depend on the stage and features of the cancer as well as your health, fitness and preference.

Tis is the stage before it is cancer, it is precancerous and known not to spread to lymphatic or distant sites. Polyps with malignant features can be called Tis.

T1 stage is colon cancer limited to the inner layer of the colonic wall, lymphatic spread is very rare.

**Recommendation for T1 No Mo colon cancer**

If you have an early colon cancer (Tis-T1), advanced techniques using endoscopy can be considered as alternatives to having surgical (laparoscopic) resection.

Advanced endoscopic techniques include:

- **Endoscopic mucosal resection (EMR)** - is a technique used to remove cancerous or other abnormal lesions by means of endoscopy
- **Endoscopic submucosal dissection (ESD)** – is used for removal of large (usually more than 2 cm) flat GI tract lesions
- **Endoscopic mucosal ablation (EMA)** is an endoscopic procedure, using heat or radiofrequency to eliminate/destroy the mucosal lesions. Since this technique will not lead to tissue for pathological examination, it will not be possible to examine the nearby lymph nodes for signs of cancer spread.

These techniques are still being researched and their similarity to conventional or laparoscopic colon resection has yet to be proven. If after endoscopic treatment the pathology report is unfavorable, major surgical resection may still be necessary.

T2 N0 M0 colon cancer is limited to the colonic wall and without lymphatic spread or distant spread.

**Recommendation for T2 No Mo colon cancer**

A colon cancer staged as a T2 should be treated with surgical resection and removal of the nearby lymph nodes.

T3- T4, N0 colon cancer is called stage II, the colon cancer is growing into the fatty tissue around the colon wall (T3) or into another tissue such as small intestine or else (T4). No lymph nodes are involved in stage II colon cancer.
Further treatment is more likely to be recommended if you have at least one of the following factors:

- less than 12 lymph nodes were removed;
- poorly differentiated tumour;
- vessel (vascular), nerve (perineural) or lymphatic involvement;
- pT4;
- perforation* (a hole) of the tumour.

*A perforation can be caused by three ways, 1. The tumour grows through the wall of the colon, the endoscope has perforated the bowel or the surgeon perforates the bowel during surgery.

Please, see Figure 2 for the elective treatment flow chart for colon cancer.

**Recommendation for T3- T4, No colon cancer**

*Stage II colon cancer, complete surgical removal of the tumour along with its lymph nodes is the correct treatment. Chemotherapy may be considered, if there are features of the cancer which make it a high risk stage II colon cancer and you are fit enough to undergo chemotherapy. The MDT, multidisciplinary team, will discuss whether this is an option for you.*

**Recommendation for any pT, pN1-2, Mo colon cancer**

*Colon cancer with lymph node involvement.*

*Preferred treatments are 1. Surgery and followed by 2. a course of adjuvant chemotherapy if you are in good health.*

**Node positive** colon cancer is described as any T, pN1-2, M0 colon cancer. This is called a stage III colon cancer, which means that there has been spread of colon tumour cells to the lymph nodes and not to distant sites.
2.8 Follow up of colon cancer

There are several reasons for offering care after treatment for colon cancer:

- To improve your chances of survival – this is achieved by checking for any return of your cancer
- To manage any treatment complications
- For support and reassurance
- To detect new polyps, advanced adenomas or metachronous colorectal cancer in an early stage.

The timing and nature of how you are followed-up will vary. The period of follow-up is usually over five years, generally with closer inspection during the first 3 years since this is when 80% of recurrences are detected.

Follow-up can be performed by visits, measuring a marker for tumour cells called Carcinoembryonic antigen (CEA) in your blood samples, colonoscopy, imaging of the liver and lungs. Other imaging is only necessary if symptoms are expected to be related to the colon cancer.

**Recommendation**

*Discuss with your doctor when your cancer treatment has ended which follow-up schedule (frequency and type of exams/tests) will be best for your particular cancer.*

*We recommend that you have a colonoscopy at 3 years and then, if normal, once every 5/6 years thereafter.*

*If a colonoscopy has not been completed before surgery, then it should be undertaken within 3 months of finishing treatment.*
3.1 Diagnosing in rectal cancer

If your doctor suspects that you might have a cancer, you should be given a physical examination, be questioned about your family history for colon or rectal cancer, polyps, and other cancers and have blood tests including a tumour marker (CEA) test. Blood tests assist in monitoring after treatment but are not good enough for diagnosing.

In most cases a tissue sample is needed to confirm the diagnosis. Tissue is removed as a biopsy - usually a procedure performed during an endoscopic examination of the colon and rectum.

To help make the diagnosis of rectal cancer, several investigations are offered. You should be offered a rectal examination to find out the location and the size of the tumour.

Please, see Figure 3 for the elective imaging flow chart for rectal cancer.

**Recommendation**

A colonoscopy to examine the whole colon and rectum to make sure that the whole colon and rectum are without polyps or other lesions.

Colonoscopy, sigmoidoscopy or rectoscopy (endoscope of the colon) in combination with a tissue sample are important for confirming the diagnosis and assessing the location of the rectal cancer.
3.2 Staging rectal cancer

Accurate staging of rectal cancer is essential for deciding on the best treatment for you. In rectal cancer, getting an accurate provisional T stage is particularly important in determining treatment. The staging will determine how deep the cancer is growing through the layers of the rectal wall.

The rectum is surrounded by fatty tissue (the mesorectum) in which the accompanying lymph nodes can be found, and around this is a fine layer of tissue called the mesorectal fascia.

**Recommendation for T1-T2**

*If you have a T1 or T2 rectal cancer, an endorectal ultrasound (EUS) is considered the most accurate means to determine the extent to which the cancer has grown into the rectal wall.*

**Recommendation for T2-T3**

*If you have a T2 or T3 rectal cancer examination a MRI scan is recommended.*

*The MRI will show that either the tumour is confined to the wall of the rectum or is growing through the surrounding fatty tissue called the mesorectum. Once the rectal cancer grows into the mesorectum it is called a T3 tumour.*

*T4 tumour is when it grows into the mesorectal fascia or into another nearby organ (pelvic muscles, bladder, prostate, uterus, vagina, etc).*

The presence of cancer cells within the tiny blood vessels beyond the thick muscle layer (which may be referred to as extramural venous invasion or EMVI for short) will further help indicate your prognosis. A tumour which is EMVI positive can occur in up to 50% of rectal cancer patients and is best be detected using an MRI scan. A CT scan is not as accurate as it cannot assess the depth of spread as accurately as MRI but it may be used if an MRI scan is not possible.

**Recommendation for T3-T4**

*If you have a T3-T4 tumour, then a MRI scan is recommended.*
3.2.1 Determining the nodal stage (N) in rectal cancer

No imaging is truly accurate in determining if any cancer cells have spread to the nearby lymph nodes but information on the provisional nodal stage should be recorded prior to treatment for staging the cancer. The pathology report after surgery will reveal more accurately whether there is spread to lymph nodes.

Recommendation for Nodal staging

We recommend a MRI scan for nodal staging as the preferred examination.
3.2.2 Determining the metastatic stage (M) of rectal cancer

The M staging of a cancer refers to whether there are any metastases present. Imaging can determine whether the cancer has spread (metastasised) to other organs of the body. (Colorectal cancer spreads mostly to the liver and lungs.).

**Recommendation for distant spread**

*As part of your staging you may be offered*

*a CT scan of your abdomen and a CT or X-Ray of your chest*
3.3 Pathology in rectal cancer

Pathology will confirm staging after surgery. When you have surgery to remove a rectal cancer, the surgical section of rectum removed (specimen) is looked at under the microscope to determine its stage. For a major rectal operation, this will involve examining the removed section of the rectum, its margins and the surrounding lymph nodes (these are taken out as well as one part with the rectum).

In addition to confirming both T and N staging, the histopathology report will tell you how many lymph nodes were removed and the number of involved lymph nodes, finally also if any of the edges (margins) of the specimen contain microscopic traces of cancer.

**Recommendation**

*During your surgery at least 12 lymph nodes should be removed and examined under the microscope (this number may be less if you had radiotherapy before surgery).*

In rectal cancer, the margin called the circumferential resection margin (CRM) is thought to be very important in determining longer-term outcomes or prognosis from the cancer. The status of this margin should be stated in the pathology report i.e. whether this was negative; which the most favourable indicator, or positive; which is less favourable.

A positive CRM might be due to the tumour growing into the deeper layers of the bowel wall indicating you have a more advanced stage, or the resection was not performed well enough.

Another important prognostic feature is perforation (a tear of hole in the tumour), this should be in the surgical report and the pathology report. Implications of a positive CRM or perforation could be that tumour cells contaminate the pelvis and lead to a higher chance of local relapse.

The grade of cancer also has implication for prognosis, good differentiation grade is favourable and poor differentiation is less favourable. All these favourable or unfavourable features are reviewed by your MDT and can be discussed with you to help plan the most appropriate treatment.

**Suggested questions to ask your surgeon:**

- What is the T-stage of my rectal cancer?
- How many lymph nodes were removed at time of surgery (if an abdominal operation)?
- How many of the lymph nodes had cancer cells in them?
- What is the grade of my cancer?
- Did any of the margins contained cancer, including proximal or distal and Circumferential Resection Margin (CRM)?
• Have any cancer cells invaded the tiny blood vessels around the rectal cancer?
• Was the cancer completely removed, or not?
• Was there a difference between the preoperative findings and the postoperative findings by the surgeon or the pathologist?
3.4 Laparoscopy in rectal cancer

Laparoscopic (often known as ‘key-hole’) surgery for rectal cancer has been shown to be as safe as open surgery and there can be an improved recovery with less pain and a shorter hospital stay.

Not all patients with rectal cancer can undergo laparoscopic resection. Reasons why surgery might not be offered include previous abdominal operations, being overweight (obesity) and advanced stage might be reasons to be offered conventional open surgery.

**Recommendation**

*Ask if you can have laparoscopic surgery.*
3.5 Treatment of rectal cancer per stage

Stage determines what treatment should be discussed. TNM classification is important. Please see page 9 for an explanation of this classification.

3.5.1 Treatment for early stage rectal cancer

Early rectal cancers can be treated both with local excision, trans-anal endoscopic surgery (TEM) or removed by conventional or laparoscopic TME surgery.

- **Trans-anal endoscopic surgery (TEM)** is a technique cutting the rectal wall by a minimal invasive technique trans-anally (via the anus only). Only the rectal wall is cut in this technique and lymph nodes are not examined. The rectal wall specimen removed is carefully examined to evaluate its pathological features. This is an alternative to more radical abdominal surgery offering a less invasive solution to remove certain rectal polyps and early stage rectal tumours. No abdominal scarring is foreseen if pathology is favourable. Sometimes TME surgery is still necessary after TEM, due to features unravelled during the pathological examination of the tissue.

- **Total mesorectal excision (TME)** surgery involves resection of the rectum and the fatty tissue with the lymph nodes (mesorectum) through a cut into the abdominal wall. A section of the rectum and fatty tissue around the rectal wall is removed and either a temporary or permanent stoma, is provided.

Please, see Figure 4 for the elective treatment flow chart for rectal cancer.

**Recommendation**

*Ask whether your early rectal cancer could be treated with local excision/TEM. Ask about the benefits and adverse effects of all techniques to decide which technique you would prefer.*
3.5.2 Treatment of T3 rectal cancer

There are several variations in the T3 classification of rectal cancer which indicate the extent of the spread of the tumour into the rectal wall and fatty tissue (mesorectum): a, b, c and d.

Your particular staging will help determine which treatment option is recommended. There are three possible options and these can be discussed further with your doctor.

Postoperative chemotherapy after rectal cancer surgery is not advised routinely in every country, because the evidence to give chemotherapy after rectal cancer is limited and conflicting. The benefits of chemotherapy for an individual patient is not fully understood. In case of high risk features chemotherapy might be considered if no chemotherapy and radiotherapy was given to you before surgery.

**Recommendation**

*If you have a T3 rectal cancer, it can be managed in one of three ways:*

- **Surgery only followed by surveillance.**
- **A short course of radiotherapy treatment (5 days) before the operation followed by immediate surgery.**
- **A combination of chemotherapy and radiotherapy (CRT) followed by delayed (6-12 weeks) surgery.**
3.5.3 Treatment if there is a positive margin after excision of a rectal cancer

In rectal cancer, it is important to know whether the margin around the rectum called the Circumferential Resection Margin, or CRM for short, contains cancer. A positive CRM can increase the risk of the disease returning within the pelvis.

**Circumferential Resection Margin** – *is the margin which runs around the tissue to be taken out.*

*The rectum is surrounded by fatty tissue and a fine fibre layer. This should all be taken out undamaged, without perforation or loss of its lining.*

*CRM should be described in the pathology report.*
3.5.4 Treatment of a node positive rectal cancer

If you have a confirmed positive lymph node staging after surgery, you are more at risk of the cancer returning either locally (in the pelvis) or at a distant site – a metastasis. Internationally there are different opinions on whether a course of chemotherapy after surgery (adjuvant chemotherapy) is beneficial in treating rectal cancer and further research is needed in this aspect of care.

**Recommendation**

*Adjuvant chemotherapy treatment after your surgery might be discussed.*
3.5.5 Treatment of a T4 (and any nodal status) rectal cancer

A T4 rectal cancer is described as locally advanced cancer. A T4 cancer can be difficult to remove (or resect) because it has spread beyond the rectal wall (into the mesorectal fascia) and can be involving the surrounding organs or structures. Other cancer treatments: radiotherapy with or without chemotherapy (chemoradiation) may be advised prior to surgery to improve treatment results.

The final treatment decision will depend on what operation the surgeon is able to perform for you, as well as the decision about the risk versus benefit of the proposed treatments. A combination of treatments may be considered to improve the surgical options and also overall treatment outcomes, but more side-effects can be expected.

**Recommendation**

*If you have a locally advanced cancer, you may need radiotherapy or chemoradiation treatment to shrink or downsize the cancer and offer you the possibility to become a surgical candidate after re-staging.*

*Referral to a tertiary centre has to be considered.*
3.6 Follow up of rectal cancer

There are several reasons for offering follow-up care after treatment for rectal cancer:

- To improve your survival – this is achieved by checking for any return of your rectal cancer and/or a new colon cancer which may develop over time
- To manage any treatment complications
- For support and reassurance
- To detect new polyps, advanced adenomas or metachronous colorectal cancer in an early stage

The timing and nature of how you are followed-up will vary. The period of surveillance is usually over five years, with closer inspection during the first 3 years as this is when 80% of recurrences are detected.

Follow-up can be performed by clinical appointments, measuring the tumour marker CEA in blood samples, colonoscopy, imaging of liver and lungs. Other imaging is only necessary if symptoms are expected to be related to the rectal cancer.

Under specific circumstances it is important to detect a local recurrence of the rectal tumor early. The ideal treatment (in most cases radiotherapy followed by surgery) is only possible if the recurrence is detected early.

**Recommendation**

*Discuss with your doctor after completing the treatment which schedule (frequency and type of examinations/tests) is best for you.*

*We recommend that you have a colonoscopy is at 3 years and then, if normal, once every 5/6 years thereafter.*
3.6.1 Follow-up of early rectal cancers

If your treatment was a local excision, follow-up should include regular endoscopic surveillance of the rectum, especially the scar on the inside of the bowel.

If you had a traditional operation for rectal cancer (an APER or TME) for an early rectal cancer, then your risk of local and distant recurrence is very low.

**Recommendation**

*Discuss with your doctor after completion of the treatment which follow-up schedule (frequency and type of examinations/tests) is best for you.*

*We recommend that you have a colonoscopy is at 3 years and then, if normal, once every 5/6 years thereafter.*
3.6.2 Follow-up of intermediate and locally advanced tumours

There are several reasons for offering care after treatment for rectal cancer:

- To improve your survival – this is achieved by checking for any return of your cancer and/or a new colon cancer which may develop over time
- To manage any treatment complications
- For support and reassurance
- To detect new polyps, advanced adenomas or metachronous colorectal cancer in an early stage

The timing and nature of how you are followed-up will vary. The period of follow-up is usually over at least five years, generally with closer inspection during the first 3 years since this is when 80% of recurrences are detected.

Follow-up can be performed by visits, measuring Carcinoembryonic antigen (CEA) in blood samples, colonoscopy, imaging of liver and lungs. Other imaging is only necessary if symptoms are expected to be related to the rectal cancer.

**Recommendation**

*The timing and nature of how you are followed-up will vary. The period of follow-up is usually over five years, generally with closer inspection during the first 3 years since this is when 80% of recurrences are detected.*

Follow-up can be performed by visits, measuring CEA in blood samples, colonoscopy, imaging of liver and lungs. Other imaging is only necessary if symptoms are expected to be related to the rectal cancer.

**Recommendation**

*Discuss with your doctor after completion of the treatment which schedule (frequency and type of examinations/tests) is best to promptly detect any return of the cancer.*
TREATMENT FOR COLORECTAL METASTASES

4.1 Treatment options for colorectal metastases Stage IV

Clarification of the term Colorectal Metastases: There are several different ways in which a colon or rectal cancer may spread and be found in a distant organ. Spread of the disease is called metastatic disease and one lesion is called a metastasis. A metastasis is termed synchronous if it is seen at the time of diagnosis of the colon or rectal cancer or metachronous, if it appears later, after completion of treatment of the colon or rectal cancer.

Some people find out that their cancer has spread beyond the bowel when they are first diagnosed – called a synchronous metastasis. Approximately 20% of people with colorectal cancers are diagnosed with one or a few metastases in one organ, usually the liver at the time they first present. Some of these metastases can be treated with the intention to cure by removing both the primary and the metastases.

Nowadays we have several treatment options for patients with metastases from a colon or rectal cancer. Some of these treatments can be curative, (i.e. they offer the possibility to cure you of the cancer) and some are palliative.

The options include:
- Surgery is sometimes possible for liver or lung metastasis.
- Chemotherapy or targeted therapies are possible to reduce or stabilize the metastatic growth.
- Local ablation/removal techniques can destroy smaller metastases.
- Radiotherapy may be used to improve symptoms for example for a bone metastasis.

Deciding upon the best treatment plan can be difficult, requiring full review of many different aspects of your overall health, your disease and your treatment preferences.

Your Multi Disciplinary Team (MDT) will need to find out the exact position, size and number of metastases before deciding if they can remove all the cancer. If the aim is for a curative outcome you are likely to need more than one type of treatment. If it appears that the cancer metastases cannot be fully removed, or resected, then surgery becomes less likely than other treatment options and the aim of any treatment offered would be palliation - offering you the best quality of life possible.

Recommendation

Chemotherapy will be offered in most cases if metastasis of colorectal cancer are present. The timing of chemotherapy can start before or after surgery, if surgery is an option, and is recommended at least 6 months of chemotherapy.
4.2 Resectability of liver +/- lung metastases

If you have either colorectal liver or lung metastases then your MDT (specialist cancer team) must consider if it/they appear to be suitable for a surgical resection.

When surgery is possible, surgery gives a better change to cure than local ablation techniques such as radiofrequency ablation (RFA) for liver and lung metastases.

**Recommendation**

*Ask whether your liver or lung metastases are resectable. If they are, then surgery should be offered.*
4.3 Chemotherapy combined with surgical treatment for resectable liver +/- lung metastases

A combination of surgery and chemotherapy is used when liver and or lung metastasis are seen at time of presentation (synchronous metastases) and meet the criteria to be resected (removed by surgery). These criteria strongly depend on the exact location, size and number of the metastasis. It is important to leave enough organ(liver or lung) behind to preserve a good quality of life. The treatment regime varies according to whether there is small single metastasis or multiple metastases. The chemotherapy regime in either case usually involves

**Recommendation**

*If you have a single small (<2cm) liver metastasis, chemotherapy given intermittently for 6 months after surgery, is recommended according to a multidisciplinary team discussion.*

*If you have multiple metastases, consider having 3 months of preoperative chemotherapy, then a surgical resection of the metastases (if resectable by imaging or during surgery) followed by 3 months of postoperative chemotherapy.*

administering two drugs called FU + oxaliplatin, for example called FOLFOX.
4.4 When surgical treatment of the metastases may not at first appear possible

Whilst several treatments are available to treat metastases which may not be resectable/removable, surgery should remain a possibility if there is a good response to chemotherapy treatment. Even if there are several liver metastases or 1 or 2 of a larger size, discuss with your doctor if surgery might become a possibility. Sometimes specialist treatments (selective blockage of the portal vein) to shrink the affected liver part and encourage growth of the disease-free part of the liver is part of the proposed treatment.

**Recommendation**

*We advise that you have three to four months of chemotherapy prior to surgery if any of your metastases appear less easily resectable. After treatment, they can be re-scanned and if surgery is then possible, this should be planned with a thought to further chemotherapy afterwards, for a total duration of 6 months.*

*If any metastases remain unresectable after the first series of chemotherapy, the chemotherapy regime should be changed, the cancer re-scanned for possibility to resect according to a multidisciplinary team discussion.*
4.5 When there are metastases for which surgical treatment is not possible

If you have multiple metastases (i.e. in multiple sites of the body or numerous small ones) then it may be that non-surgical treatments aimed at palliation are the best option. This might also be recommended if your cancer is progressing quickly and/or you have other health problems (co-morbidities) that prevent you having more intensive treatment.

**Recommendation**

*If the aim of your treatment is rather palliative than curative, then a strategy which plans to offer you a very active first line chemotherapy treatment is recommended.*

*Sometimes radiotherapy is necessary for symptoms of the primary rectal cancer.*

*Sometimes a stoma is an option when the tumour is causing an obstruction.*
4.6 Other options if you have metastatic disease

There are several other options available if you have metastatic disease. Metastatic disease meaning that the cancer has spread to other organs beyond the intestine. These will be considered by your multidisciplinary team, and can be further discussed with you. Treatments such as stenting, laser ablation, a diverting stoma may help manage symptoms of bleeding or obstruction and may be advantageous as they are minimally invasive.

**Recommendation**

*If your primary cancer is not causing you any symptoms and you have distant disease which is not resectable then chemotherapy is recommended as first line of treatment.*

*If you have metastatic colon cancer which is causing symptoms, local measures (e.g. insertion of a stent, stoma) or resection could be performed initially; however chemotherapy as a first treatment may help limit any cancer-related local symptoms you are experiencing.*
CONCLUSION

Colon and rectal cancer care has improved significantly in the last twenty years. However variation still exists across Europe. This summary of the general Consensus Document explains the recommended multidisciplinary care for colon and rectal cancer patients being treated across Europe with an aim to improve standards for all. We hope that the recommendations which have been made will support you when facing a diagnosis of colon or rectal cancer and offer information about the very best treatment options available.
Appendix 1

The Expert Panel

The Expert Panel who have developed this document were delegates of the following European organisations and societies:

- European Society of Surgical Oncology (ESSO)
- European Society for Radiation & Oncology (ESTRO)
- European Society of Pathology (ESP)
- European Society for Medical Oncology (ESMO)
- European Society of Radiology (ESR)
- European Society of Coloproctology (ESCP)
- European Cancer Organisation (ECCO)
- European Oncology Nursing Society (EONS)
- European Colorectal Cancer Patient Organisation (EuropaColon)

as well as delegates from national registries or audits.

EURECCA

The aim of EURECCA is:
1. To provide a quality assurance program to monitor and improve outcomes for patients with cancer in Europe.
2. To reduce unproven treatment practices plus also ‘overtreatment’ of patients; poor quality treatments may cause side-effects without improving outcome.
3. To place an emphasis on treatment and outcome of elderly patients.

Vision of EURECCA
To provide an infrastructure to audit patient outcome, monitor standards of cancer care and assure equal access for all cancer patients in Europe

To deliver this within a multidisciplinary structure of patient, tumour and treatment characteristics linked to outcome registration (complications associated with treatment, mortality (death rate), loco-regional control (control of disease in the abdomen) and survival (how many patients survive cancer))

Benchmarking (determining the treatment standards) and feedback (reporting and acting on reports) to improve clinical performance.

Strategy
EURECCA will work with existing infrastructures and systems. Because cancer treatment involves collaboration between a number of clinical partners, we aim to involve the relevant scientific European cancer organizations for the success of this project, along with patients and nurses.
So that we can improve outcomes, we need to record and analyse all patient data including diagnostics, treatment decisions and individual outcomes and feed this back to clinicians\textsuperscript{(1)}. Moreover, we aim to help physicians and patients by offering guidelines that have been agreed in consensus on the required diagnostic tests and main treatments for colon and rectal cancer\textsuperscript{(4)}. This information should be accessible for each patient.

\textbf{Appendix 2}

\textbf{Method for reaching consensus}

Experts commented and voted on the two web-based online voting rounds before the meeting (between 4\textsuperscript{th}-25\textsuperscript{th} of October and between the 20\textsuperscript{th} November and 3\textsuperscript{rd} of December 2012) as well as one online round after the meeting (4\textsuperscript{th}-20\textsuperscript{th} of March 2013) and were invited to lecture on the subjects during the meeting (13\textsuperscript{th}-15\textsuperscript{th} of December 2012). The sentences in the consensus document were available during the meeting and a televoting round during the conference by all participants was performed. All sentences are available through the website \url{www.canceraudit.eu}.

The Consensus Document was divided in sections describing evidence based algorithms of diagnostics, pathology, surgery, medical oncology, radiotherapy, and follow-up where applicable for treatment of colon cancer, rectal cancer and stage IV separately. Consensus was achieved using the Delphi method\textsuperscript{(6)}. The Delphi Method is a well-known systematic and insightful technique to reach consensus including an expert panel\textsuperscript{(6)}. After a round of voting and commenting, sentences are improved and another voting round is issued.

\textbf{Appendix 3: Glossary of terms}

\textbf{Ablation} – is removal of tumour by an endoscopic technique that vaporizes the tumour cells using heat and movement.

\textbf{APER} – Abdomino Perineal resection-Removal of the rectum with the anus and usually most of the anal sphincter muscles and replaced with a permanent stoma

\textbf{CEA} – Carcinoembryonic antigen tumor marker that in 70\% of patients can be detected in a blood sample and supports follow up after colorectal cancer treatment.

\textbf{Chemotherapy} – is the treatment of cancer with one or more drugs that can kill cancer cells

\textbf{Circumferential Resection Margin} – is the margin which runs around the tissue to be taken out. The rectum is covered by a fatty tissue and this tissue is covered by a fine layer, the surgeon will make sure that this layer is intact or that it is resected which depends on the extension of the tumour into this layer. CRM needs to be described in the pathology report.

\textbf{Colonoscopy} - is an endoscopic procedure using a camera introduced via the anus enabling the inspection of the inner surface of the colon and rectum using a magnifying instrument called a colonoscope.

\textbf{Colonic stent} - a flexible, hollow tube to keep a segment of the colon (large bowel) open when it has become blocked

\textbf{CT scan} - is a computerized tomography scan using X-rays to create detailed images of the inside of the body.
Curative - treatment that has the potential to permanently remove a cancer from the body

Endorectal ultrasound (EUS) - involves a probe being inserted into the rectum and high frequency sound waves (ultrasound waves) are generated to generate images on a screen.

Endoscopic mucosal resection (EMR) - is a technique used to remove cancerous or other abnormal lesions by means of endoscopy

Endoscopic submucosal dissection (ESD) – is used for removal of large (usually more than 2 cm) flat GI tract lesions

Endoscopic mucosal ablation (EMA) is an endoscopic procedure, using heat or radiofrequency to eliminate/destroy the mucosal lesions. Since this technique will not lead to tissue for pathological examination, it will not be possible to examine the nearby lymph nodes for signs of cancer spread.

Extramural venous invasion - is when cancer cells have spread into tiny blood vessels beyond the thick muscle layer around the bowel

Fast track surgery - combines various techniques used in the care of patients including epidural or regional anaesthesia, minimally invasive surgical techniques, optimal pain control, and a rehabilitation approach which includes early oral nutrition and walking.

Familial adenomatous polyposis (FAP) - is an inherited condition in which numerous polyps form mainly in the inner layer of the colon. While these polyps start out benign, malignant transformation into colon cancer occurs when left untreated.

Faecal occult blood tests (FOBT) – this test checks for hidden blood in the stool (faeces)

Imaging – is a general term used to include all radiological investigations such as X-Rays, CT scans and MRI scans

FU, Fluorouracil, is one of the most used chemotherapy drugs.

Laparoscopic surgery - also called minimally invasive surgery (MIS), bandaid surgery, or keyhole surgery, is a modern surgical technique in which operations in the abdomen are performed through small incisions (usually 0.5–1.5 cm) as opposed to the larger incisions needed in laparotomy.

Lynch Syndrome/Hereditary non-polyposis colorectal cancer (HNPCC) - is an inherited disorder that increases the risk of many types of cancer, particularly cancers of the colon (large intestine) and rectum

MRI scan – stands for Magnetic Resonance Imaging scan, which is using a magnetic field to obtain images and it is used to diagnose and stage rectal cancers.

Metastases - is spread of the cancer to other organs, which can be lymph nodes, liver or lungs

MultiDisciplinary Team – (MDT) is the combined team working on achieving the best outcomes for a cancer patient. The MDT recognizes that cancer is a cross functional disease requiring input from a number of different specialists. MDT’s should be available to every cancer patient in Europe.

Muscularis propria – is the muscular coat (muscular layer, muscular fibers, muscularis propria, muscularis externa) a region of muscle in many organs in the body. It is responsible for gut movement.

Palliative – is care that focuses on relieving symptoms and optimizing individual quality of life when disease is not curable.

Radiotherapy - also known as radiation treatment, is the controlled use of high energy X-rays to treat many different types of cancer, 4 out of 10 people with cancer have radiotherapy. Cancer cells are killed by X-ray, but healthy cells can get damaged too.

Radiofrequency ablation (RFA) - is a medical procedure where part of the tumour tissue is treated using heat generated from the high frequency alternating current. This technique is suitable for small size liver metastases, not too close to large vessels.

Rectoscopy - an instrument called a proctoscope (also known as a rectoscope) is used to examine the anal canal, and rectum.
**Resection** is the medical term for removal by surgery. **Sigmoidoscopy** - is the minimally invasive medical examination of the large intestine from the rectum through the last part of the colon. There are two types of sigmoidoscopy: flexible sigmoidoscopy, which uses a flexible endoscope, and rigid sigmoidoscopy, which uses a rigid device. A sigmoidoscopy is similar to, but not the same as, a colonoscopy. Colonoscopy is be able to look at the whole colon and rectum. **Stent** – metal tube which can be inserted endoscopically via de anus in the rectum in case of an obstructing tumour to settle the bowel. **Trans-anal endoscopic surgery (TEM)** - is an alternative to more radical abdominal surgery offering a minimally invasive solution for the removal of certain rectal polyps and early stage rectal tumours via the anus. No abdominal scarring is foreseen if pathology is favourable. **TME - total mesorectal excision**, the technique to carefully remove the rectum and the surrounding tissue with preservation of the nerves that take care of bladder and sexual function. Tumours staged T1-T3 are mostly suitable for this technique.

**Abbreviations**: CEA, carcino embryonic antigen; CRM, circumferential resection margin; CT, computed tomography; EMA, Endoscopic mucosal ablation; EMR, Endoscopic mucosal resection; ESD, Endoscopic submucosal dissection; ERAS, enhanced recovery after surgery; EUS, Endorectal ultrasound; FAP, Familial adenomatous polyposis; FOBT, Faecal occult blood tests; FU, Fluorouracil; Gy, gray; HNPCC, Lynch Syndrome/Hereditary non-polyposis colorectal cancer; LN, lymph node; MDT, multidisciplinary team; MRF, mesorectal fascia; MRI, magnetic resonance imaging; PET, positron emission tomography; R0, no residual tumour; RCT, chemoradiation; RFA, Radiofrequency ablation; RT, radiation therapy; TEM, Trans-anal endoscopic surgery; TME, total mesorectal excision. TNM, classification of malignant tumours; T4, Tumour, invasion of other organs; Tis, Tumour, carcinoma in situ.

**References**


2. www.canceraudit.eu. 2007


