# Cancer Association of South Africa (CANSA)

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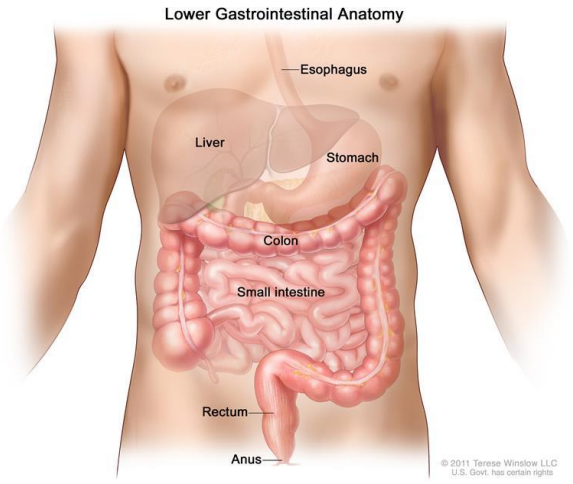
## Fact Sheet on Cancer of the Rectum

**Introduction**

The rectum is a chamber that begins at the end of the large intestine, immediately following the sigmoid colon, and ends at the anus. Ordinarily, the rectum is empty because stool is stored higher in the descending colon. Eventually, the descending colon becomes full, and stool passes into the rectum, causing an urge to move the bowels (defecate). Adults and older children can withstand this urge until they reach a bathroom. Infants and young children lack the muscle control necessary to delay bowel movement.




Picture Credit: Rectum

The anus is the opening at the far end of the digestive tract through which stool leaves the body.

The rectum is the last several inches of the large intestine. It starts at the end of the final segment of your colon and ends when it reaches the short, narrow passage leading to the anus.

**Cancer of the Rectum**

Cancer of the rectum (also referred to as rectal cancer), is a disease in which malignant (cancer) cells form in the tissues of the rectum. Cancer inside the rectum (rectal cancer) and cancer inside the colon (colon cancer) are often referred to together as "colorectal cancer".

While rectal and colon cancers are similar in many ways, their treatments are quite different. This is mainly because the rectum sits in a tight space, barely separated from other organs and structures in the pelvic cavity. As a result, complete surgical removal of rectal cancer is challenging and highly complex. Additional treatment is often needed before or after surgery - or both - to reduce the chance that the cancer will return.

More than 95% of colorectal cancers are adenocarcinomas. Approximately 90% of colorectal adenocarcinomas began as adenomas, which are a type of polyp that may become cancer.

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**Faury, S., Zenad, D., Laguette, Vl., Rullier, E., Denost, Q. & Quintard, B.** 2019.
"The impact of rectal cancer on patient quality of life has been investigated but no research has yet examined the impact of time perspective in the assessment of quality of life of rectal cancer patients. Our goal is to explore the links between quality of life and time perspective and the role of time perspective as a determinant of quality of life. Data were collected from 69 patients who completed a questionnaire comprising a specific measure of quality of life (FACT-C), a measure of time perspective (ZTPI), a measure of emotional distress (HADS) and a collection of socio-demographic and medical data. Regression analyses revealed that present fatalist, past positive and future time perspective predicted quality of life. Present fatalist time perspective seemed to have a deleterious impact on specific measure of rectal cancer quality of life. Present fatalist and future time perspective predicted a better emotional quality of life whereas past positive predicted a worse emotional quality of life. These results suggest the importance of considering time perspective as a determinant of psychological quality of life in order to improve the QoL of patients."

**Incidence of Cancer of the Rectum**

The outdated National Cancer Registry (2016), known for under reporting, does not provide any information on the incidence of rectal cancer. Rectal cancer is included in the statistics of colorectal cancer.

According to the National Cancer Registry, the following cases of colorectal cancer were histologically diagnosed during 2016 (the most recent formal statistics available for South Africa):

| Group - Males 2016 | Actual No of Cases | Estimated Lifetime Risk | Percentage of All Cancers |
|---|---|---|---|
| All males | 2 065 | 1:76 | 5,29% |
| Asian males | 135 | 1:49 | 13,83% |
| Black males | 605 | 1:172 | 4,53% |
| Coloured males | 301 | 1:54 | 6,50% |
| White males | 1 024 | 1:33 | 5,01% |

| Group - Females 2016 | Actual No of Cases | Estimated Lifetime Risk | Percentage of All Cancers |
|---|---|---|---|
| All females | 1 819 | 1:127 | 4,30% |
| Asian females | 105 | 1:75 | 8,12% |
| Black females | 609 | 1:262 | 3,00% |
| Coloured females | 277 | 1:83 | 5,88% |
| White females | 828 | 1:51 | 4,99% |

The frequency of histologically diagnosed cases of colorectal cancer in South Africa for 2016 was as follows (National Cancer Registry, 2016:

| Group - Males 2016 | 0 – 19 Years | 20 – 29 Years | 30 – 39 Years | 40 – 49 Years | 50 – 59 Years | 60 – 69 Years | 70 – 79 Years | 80+ Years |
|---|---|---|---|---|---|---|---|---|
| All males | 4 | 35 | 90 | 213 | 446 | 653 | 452 | 172 |
| Asian males | 1 | 1 | 4 | 15 | 41 | 43 | 22 | 8 |
| Black males | 3 | 24 | 53 | 99 | 158 | 161 | 87 | 20 |
| Coloured males | 0 | 5 | 12 | 26 | 47 | 106 | 59 | 26 |
| White males | 0 | 5 | 21 | 73 | 180 | 343 | 284 | 118 |

| Group - Females 2016 | 0 – 19 Years | 20 – 29 Years | 30 – 39 Years | 40 – 49 Years | 50 – 59 Years | 60 – 69 Years | 70 – 79 Years | 80+ Years |
|---|---|---|---|---|---|---|---|---|
| All females | 3 | 26 | 102 | 201 | 402 | 479 | 399 | 207 |
| Asian females | 0 | 1 | 4 | 17 | 20 | 37 | 20 | 6 |
| Black females | 2 | 16 | 54 | 100 | 169 | 138 | 97 | 33 |
| Coloured females | 1 | 4 | 14 | 34 | 72 | 67 | 65 | 20 |
| White females | 0 | 5 | 30 | 50 | 141 | 237 | 217 | 148 |

N.B. In the event that the totals in any of the above tables do not tally, this may be the result of uncertainties as to the age, race or sex of the individual. The totals for 'all males' and 'all females', however, always reflect the correct totals.

According to **Bruni, *et al*.,** (2019), the burden of Rectal cancer for South Africa for 2018 is estimated as (based on Globocan estimates):

- Annual number of Rectal cancer cases 2 364
- Annual number of Rectal cancer deaths 1 048

**Signs and Symptoms of Rectal Cancer**

Most cancers in the colon or rectum develop from polyps, so screening to find and remove them when they first form helps prevent them from growing into cancers. If early-stage colorectal cancer does cause symptoms, they most often may include:

- A change in your bowel habits, such as diarrhoea, constipation or more-frequent bowel movements
- Dark or red blood in stool
- Mucus in stool
- Narrow stool
- Abdominal pain
- Painful bowel movements
- Iron deficiency anaemia
- A feeling that your bowel doesn't empty completely
- Tenesmus, which is the feeling that one wants to empty one's bowel but nothing passes
- Unexplained weight loss
- Weakness or fatigue

**Risk Factors for Cancer of the Rectum**

No one knows the exact causes of rectal cancer. Rectal cancer is more likely to occur as people get older, and more than 90% of people with this disease are diagnosed after age 50. Other risk factors include a family history of colorectal cancer (especially in close relatives), and a personal history of inflammatory bowel disease such as ulcerative colitis, colorectal polyps or cancers of other organs.

Rectal cancer risk can be reduced. Nearly all rectal cancer develops from rectal polyps, which are benign growths on the rectal wall. Detection and removal of these polyps by colonoscopy reduces the risk of getting rectal cancer. A doctor can provide exact recommendations for rectal cancer screening based on medical and family history. Screening typically starts at age 45* in patients with average risk, or at younger ages in patients at higher risk for rectal cancer.

Though not definitely proven, there is some evidence that diet may play a significant role in reducing the risk for colorectal cancer. As far as is known, a diet high in fibre (whole grains, fruits, vegetables, nuts) and low in

fat (especially animal fat) is the only dietary measure that might help reduce the risk of colorectal and rectal cancer.

The actual cause of rectal cancer is unclear. However, the following are additional risk factors for developing rectal cancer:

- Increasing age
- Smoking
- Family history of colon or rectal cancer
- High-fat diet and/or a diet mostly from animal sources
- Personal or family history of polyps or colorectal cancer
- Inflammatory bowel disease
- Race or ethnic background: African Americans and Jews of Eastern European descent (Ashkenazi Jews) are at higher risk.
- Obesity
- Lack of exercise
- Eating processed meats or meats cooked at very high heat
- Diabetes Type 2
- Alcohol consumption

**Diagnosis of Cancer of the Rectum**

The following may be done in order to make a diagnosis of rectal cancer:

- Physical examination and medical history
- Digital rectal exam (DRE)
- Proctoscopy: An office-based examination of the rectum using a proctoscope, inserted into the rectum.
- Colonoscopy: A procedure to look inside the rectum and colon for polyps (small pieces of bulging tissue), abnormal areas, or cancer.
- Biopsy: The removal of cells or tissues so they can be viewed under a microscope to check for signs of cancer.

**Okugawa, Y., Toiyama, Y., Fujikawa, H., Ide, S., Yamamoto, A., Omura, Y., Yin, C., Kusunoki, K., Kusunoki, Y., Yasuda, H., Yokoe, T., Hiro, J., Ohi, M. & Kusunoki. M.** 2020.

**PURPOSE:** The systemic inflammatory response is attracting increasing attention as a predictive biomarker for oncological outcome in patients with colorectal cancer. This study is aimed at verifying if the lymphocyte-C-reactive protein (CRP) ratio (LCR) could be used as a predictor of oncological outcome in patients with rectal cancer (RC) receiving preoperative chemoradiotherapy (CRT).

**METHODS:** We analyzed data for 86 patients with RC who received preoperative CRT followed by total mesorectal excision at our institution. A ratio of 6000 was used as the cut-off value for LCR for further analysis.

**RESULTS:** The post-CRT LCR was significantly lower than the pre-CRT LCR in patients with RC. Although post-CRT LCR status was not significantly correlated with overall survival (OS), low pre-CRT LCR was significantly associated with shorter recurrence-free survival (RFS: $p = 0.02$) and OS ($p = 0.017$) in this population and was an independent prognostic factor for both RFS and OS (hazard ratio (HR) 3.19, 95% confidence interval (CI) 1.33-7.66, $p = 0.009$; HR 2.83, 95%CI 1.14-7.01, $p = 0.025$, respectively). Furthermore, low pre-CRT LCR was a stronger indicator of early recurrence ($p = 0.001$) and poor prognosis ($p = 0.025$) in RC patients without pathological lymph node metastasis compared with patients with pathological lymph node metastasis, and prognostic potential of pre-CRT LCR was clearly revealed especially RC patients receiving long-course CRT.

**CONCLUSIONS:** Assessment of pretreatment LCR status might aid decision-making regarding postoperative treatment strategies in patients with RC receiving CRT followed by potentially curative resection.

**Zhang, B.D., Li, Y.R., Ding, L.D., Wang, Y.Y., Liu, H.Y. & Jia, B.Q.** 2019.
"Colorectal cancer (CRC) is one of the most common types of malignant tumor. Although many environmental and genetic factors have been proved to show high association with the occurrence and development of CRC, many mutations are detected in CRC. PTPN4/PTP-MEG1 is a widely expressed non-receptor protein tyrosine phosphatase. PTPN4 has been well studied to participate in many biological processes in the past three decades. In this study, we identified a nonsense mutation of PTPN4 with a mutation ratio of 90.90% from one case of rectal cancer, leading to loss-of-function in PTPN4 gene. Several somatic mutations occurred in 5/137 rectal cancer samples from TCGA READ database. Interestingly, we found that PTPN4 negative cytoplasm staining were more prone to lymphatic metastasis (N=50, P=0.0153) and low expression of PTPN4 in rectal cancer was highly associated with poor prognosis. Overexpression of PTPN4 suppressed the cell growth, whereas, the loss of PTPN4 accelerated cell growth and boosted clonogenicity of colorectal cancer cells. Furthermore, we revealed that the deletion of PTPN4 promoted the tumor formation of NCM460 cells in vivo. In terms of the molecular mechanism, we demonstrated that PTPN4 dephosphorylates pSTAT3 at the Tyr705 residue with a direct interaction and suppresses the transcriptional activity of STAT3. In summary, our study revealed a novel mechanism that the tumorigenesis of colorectal cancer might be caused by the loss of PTPN4 through activating the STAT3, which will broaden the therapy strategy for anti-rectal cancer in the future. This article is protected by copyright."

**Chan, B.P., Patel, R., Mbuagbaw, L., Trhabane, L. & Yaghoobi, M.** 2019. EUS versus magnetic resonance imaging in staging rectal adenocarcinoma: a diagnostic test accuracy meta-analysis. *Gastrointest Endosc*. 2019 Apr 17. pii: S0016-5107(19)31600-1. doi: 10.1016/j.gie.2019.04.217. [Epub ahead of print].
**BACKGROUNDS AND AIMS:** EUS and magnetic resonance imaging (MRI) are both used for locoregional staging of rectal cancer, which determines treatment options. There is a lack of consensus on the best modality for locoregional staging, with studies supporting both EUS and MRI. In this study, we performed the first diagnostic test accuracy meta-analysis to compare the diagnostic accuracy, sensitivity, and specificity of EUS and MRI in the staging of rectal cancer.
**METHODS:** A comprehensive electronic literature search up to June 2018 was performed to identify prospective cohort studies directly comparing the accuracy of EUS to MRI in staging nonmetastatic rectal cancer with surgical pathology as the reference standard. Quality of the included studies was measured by using the QUADAS-2 tool. A bivariate hierarchical model was used to perform the meta-analysis of diagnostic test accuracy according to the Cochrane approved methodology. Summary receiver operating characteristics were developed and the area under the curve was calculated for overall and individual T and N staging, for EUS, MRI, and head-to-head comparison.
**RESULTS:** Six out of 2475 studies including 234 patients were eligible. Pooled sensitivity and specificity in T staging were 0.79 (95% CI, 0.72 - 0.85) and 0.89 (95% CI, 0.84 - 0.93) for EUS and 0.79 (95% CI, 0.72 - 0.85) and 0.85 (95% CI, 0.79 - 0.90) for MRI, respectively. Pooled sensitivity and specificity in N staging were 0.81 (95% CI, 0.71 - 0.89) and 0.88 (95% CI, 0.80 - 0.94) for EUS and 0.83 (95% CI, 0.73 - 0.90), and 0.90 (95% CI, 0.82 - 0.95) for MRI, respectively. In area under the curve head to head analysis, EUS was superior to MRI in overall T staging ($p < 0.05$). EUS outperformed MRI in overall T, overall N, T1, and T3 staging ($p < 0.01$), after excluding studies using an endorectal coil for MRI. MRI was superior to EUS in T2 staging ($p = 0.01$) in both analyses.
**CONCLUSIONS:** EUS and MRI both provide reasonable diagnostic accuracy in the staging of non-metastatic rectal cancer. EUS was superior to MRI in overall T staging, and overall T and N staging after adjusting for MRI technology. Practitioners should be aware of advantages and disadvantages of both modalities and choose appropriate methods while considering diagnostic accuracy of each test, and institutional practices and limitations.

**Treatment for Cancer of the Rectum**

The treatment for rectal cancer will depend upon the stage of the disease as well as other factors such as the particular location of the tumour(s) and the individual's general health. Treatment may include:

Surgery - In the early stages of rectal cancer, surgery may be the only treatment needed. There are several surgical methods that are used to remove cancerous rectal tissue.

The type of surgery that's chosen depends on the patient's general health, the stage of the rectal cancer, and the location of the tumour(s). For those who are not good candidates for surgery, radiation therapy may be an option, but it is usually not as effective.

**Kowalewski, K.F., Seifert, L., Ali, S., Schmidt, M.W., Seide, S., Haney, C., Tapking, C., Shamiyeh, A., Kulu, Y., Hackert, T., Müller-Stich, B.P. & Nickel, F.** 2020.

"Surgical resection is crucial for curative treatment of rectal cancer. Through multidisciplinary treatment, including radiochemotherapy and total mesorectal excision, survival has improved substantially. Consequently, more patients have to deal with side effects of treatment. The most recently introduced surgical technique is robotic-assisted surgery (RAS) which seems equally effective in terms of oncological control compared to laparoscopy. However, RAS enables further advantages which maximize the precision of surgery, thus providing better functional outcomes such as sexual function or contience without compromising oncological results. This review was done according to the PRISMA and AMSTAR-II guidelines and registered with PROSPERO (CRD42018104519). The search was planned with PICO criteria and conducted on Medline, Web of Science and CENTRAL. All screening steps were performed by two independent reviewers. Inclusion criteria were original, comparative studies for laparoscopy vs. RAS for rectal cancer and reporting of functional outcomes. Quality was assessed with the Newcastle-Ottawa scale. The search retrieved 9703 hits, of which 51 studies with 24,319 patients were included. There was a lower rate of urinary retention (non-RCTs: Odds ratio (OR) [95% Confidence Interval (CI)] 0.65 [0.46, 0.92]; RCTs: OR[CI] 1.29[0.08, 21.47]), ileus (non-RCTs: OR[CI] 0.86[0.75, 0.98]; RCTs: OR[CI] 0.80[0.33, 1.93]), less urinary symptoms (non-RCTs mean difference (MD) [CI] - 0.60 [- 1.17, - 0.03]; RCTs: - 1.37 [- 4.18, 1.44]), and higher quality of life for RAS (only non-RCTs: MD[CI]: 2.99 [2.02, 3.95]). No significant differences were found for sexual function (non-RCTs: standardized MD[CI]: 0.46[- 0.13, 1.04]; RCTs: SMD[CI]: 0.09[- 0.14, 0.31]). The current meta-analysis suggests potential benefits for RAS over laparoscopy in terms of functional outcomes after rectal cancer resection. The current evidence is limited due to non-randomized controlled trials and reporting of functional outcomes as secondary endpoints."

**Halverson, A.L., Morris, A.M., Cleary, R.K. & Chang, G.J.** 2019.

**BACKGROUND:** The most appropriate treatment for early-stage rectal cancers is controversial. The advantages of local excision regarding morbidity and function must be weighed against poorer oncologic efficacy. This study aimed to clarify further the role for local excision in the treatment of rectal cancer.

**METHODS:** A systematic review of Medline, SCOPUS, and Cochrane databases was conducted. Relevant studies were selected using Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines. Data addressing five key questions about outcomes of local versus radical resection of rectal cancer were analyzed.

**RESULTS:** The 16 studies identified by this study were mostly retrospective, and none were randomized. Local excision was associated with fewer complications and better functional outcome than radical resection. Of 12 studies evaluating local recurrence, 6 showed a higher local recurrence rate among patients who underwent local excision. Two additional studies showed no increase in local recurrence rate among patients who underwent local excision of T1 lesions but a significantly higher local recurrence rate among those who underwent local excision of T2 lesions. High histologic grade, angiolymphatic invasion, perineural invasion, and depth within submucosa were features associated with a higher risk of local recurrence. In 7 of 15 studies, long-term survival was reduced compared with that of patients who underwent radical resection.

**CONCLUSIONS:** Although local excision for early-stage rectal cancer is associated with increased local recurrence and decreased overall survival compared with radical resection, local excision may be appropriate for select individuals who have T1 tumors with no adverse pathologic features.

Chemotherapy - This is also a common treatment for rectal cancer. The organs in the body are made up of cells that divide and multiply as the body needs them. When these cells continue to multiply unnecessarily, the result is a mass or growth, which is also called a tumour.
Chemotherapy drugs work by eliminating these rapidly multiplying renegade cells. Chemotherapy for rectal cancer may be prescribed either before or after surgery and may also be given in conjunction with radiation therapy.

**Cheng, Y., Ma, Y., Zheng, J., Deng, H., Wang, X., Li, Y., Pang, X., Chen, H., He, F., Wang, L., Wang, J. & Wan, X.** 2019.
**Purpose:** To determine whether there are differences in bone marrow tolerance to chemoradiotherapy (CRT) between two chemotherapy regimens according to FOWARC protocol and how chemotherapy regimens affect radiation dose parameters and normal tissue complication probability (NTCP) modelings that correlate with acute hematologic toxicity (HT) in rectal cancer patients treated with intensity modulated radiation therapy (IMRT) and concurrent chemotherapy.
**Materials and Methods:** One hundred and twenty-eight rectal cancer patients who received IMRT from a single institution were recruited from Chinese FOWARC multicenter, open-label, randomized phase III trial. We assessed HT in these patients who were separated into two groups: Oxaliplatin (L-OHP) + 5- fluorouracil (5FU) (FOLFOX, 70 of 128) and 5FU (58 of 128). The pelvic bone marrow (PBM) was divided into three subsites: lumbosacral spine (LSS), ilium (I), and lower pelvic (LP). The endpoint for HT was grade ≥3 (HT3+) and grade ≥2 (HT2+) leukopenia, neutropenia, anemia and thrombocytopenia. Logistic regression was used to analyze the association between HT2+/HT3+ and dosimetric parameters. Lyman-Kutcher-Burman (LKB) model was used to calculate NTCP.
**Results:** Sixty-eight patients experienced HT2+: 22 of 58 (37.9%) 5FU and 46 of 70 (65.7%) FOLFOX ($p = 0.008$), while twenty-six patients experienced HT3+: 4 of 58 (6.9%) 5FU and 22 of 70 (31.4%) FOLFOX ($p = 0.016$). PBM and LP dosimetric parameters were correlated with HT2+ in the 5FU group but not in the FOLFOX group. No PBM dosimetric parameters were correlated with HT3+ in both groups. For PBM, NTCP at HT3+ was 0.32 in FOLFOX group relative to 0.10 in 5FU subset ($p < 0.05$).
**Conclusion:** Patients receiving FOLFOX have lower BM tolerance to CRT than those receiving 5FU. Low-dose radiation to the PBM is predictive for HT2+ in patients who received 5FU. NTCP modeling in FOLFOX group predicts much higher risk of HT3+ than 5FU group.

Radiation Therapy - Another treatment option for rectal cancer, this type of therapy uses certain types of high-energy radiation beams to shrink tumours and eliminate cancer cells. Radiation therapy works by damaging a cancer cell's DNA, leading to cellular death.
In cases of rectal cancer, radiation therapy may be given prior to surgery to help shrink large tumours. It may also be given in conjunction with chemotherapy.

**Erlandsson, J., Lörinc, E., Ahlberg, M., Pettersson, D., Holm, T., GTlimelius, G. & Martling, A.** 2019.
**BACKGROUND AND PURPOSE:** Neoadjuvant radiotherapy (RT) in rectal cancer induces tumour regression with a possible complete response (pCR). The optimal fractionation and timing to surgery is not established. The Stockholm III trial randomly assigned 840 patients to 5 × 5 Gy surgery within one week (SRT), 5 × 5 Gy with surgery after 4-8 weeks, and 2 Gy × 25 with surgery after 4-8 weeks (LRT-delay). The aim of this substudy was to assess tumour regression and correlation to survival.

**MATERIAL AND METHODS:** All available microscopy slides were assessed by one pathologist, blinded to treatment, regarding tumour regression, graded according to the Dworak system (TRG), TNM-stage and other standard histopathology characteristics. Patients' data were collected from the Swedish ColoRectal Cancer Registry. Outcomes were TRG, pCR-rates, overall survival (OS) and time to recurrence (TTR).
**RESULTS:** 318, 285 and 94 patients were included in the SRT, SRT-delay and LRT-delay groups. Median follow up was 5.7 years. There were significantly lower tumour stages after SRT-delay. pCR was seen in 1 (0.3%), 29 (10.4%) and 2 (2.2%) patients in SRT, SRT-delay and LRT-delay, respectively. The pCR and Dworak grade 4 were associated with superior survival. pCR vs no-pCR Hazard Ratio (95% Confidence Interval) OS: 0.51 (0.26-0.99) p = 0.046, TTR: 0.27 (0.09-0.86) p = 0.027.
**CONCLUSION:** SRT-delay induces pCR in about 10% of the patients and is in this aspect superior to 25 × 2 Gy. A complete tumour response, TRG 4 using the Dworak system, or a pCR, is associated with superior OS and TTR.

Proton Therapy – Proton therapy delivers high radiation doses directly into the tumour, sparing nearby healthy tissue and vital organs. It is said that for many patients, this results in better cancer control with fewer side effects.

**Strode, M., Shah, R., Boland, P.M., Francescutti, A., Mangieri, C.W. Attwood, K. & Nurkin, J.** 2019. Nonoperative management after neoadjuvant therapy for rectal cancer: A single institution experience over 5 years. *Surgical Oncology*. Volume 28, March 2019, Pages 116-120.
**Background:** Non-operative or "watch and wait" strategies have emerged as a potential option for patients with rectal cancer that obtain a complete clinic response (cCR) after neoadjuvant therapy. We sought to evaluate our patients that experienced a cCR and their outcomes after non-operative management.
**Methods:** We performed a retrospective review of patients at our center with rectal cancer from 2012 to 2016. We then identified patients that had a documented "complete clinical response" of their tumors after different neoadjuvant treatments and underwent non-operative management. Patients were followed on a surveillance schedule that included physical exam, endoscopy and imaging.
**Results:** A total of 29 patients elected to undergo non-operative management with a mean patient age of 67 years old. All patients were treated with neoadjuvant long course chemoradiotherapy. Seven patients were treated with initial induction chemotherapy followed by chemoradiation and 11 received consolidation chemotherapy. During a median follow-up of 27.6 months, there were 6 (21%) recurrences (1 = local, 1 = local and distant, 4 distant). Of the 6 total recurrences, 5 patients were candidates for salvage surgical resection.
**Conclusion:** Neoadjuvant treatment strategies may facilitate durable rates of cCR. Continued responses after these treatments could possibly enable more patients to undergo non-operative management. We believe non-operative management can be offered to patients seeking rectal preservation, but more research is required to select the appropriate patients. For those patients experiencing recurrence, the majority of patients can be salvaged surgically.

**Mégevand, J.L., Lillo, E., Amboldi, M., Lenisa, L., Ambrosi, A. & Rusconi, A.** 2019. TME for rectal cancer: consecutive 70 patients treated with laparoscopic and robotic technique - cumulative experience in a single centre. *Pdates Surg*. 2019 Apr 26. doi: 10.1007/s13304-019-00655-y. [Epub ahead of print]
"From January 2011 to December 2015, 70 consecutive patients underwent either laparoscopic surgery (LS) or robotic surgery (RS) total mesorectal excision (TME) for malignancy. Data were prospectically recorded in a dedicated local database including ASA score, age, operative time, conversion rate, re-operation rate, early complications, length of stay, and pathological results. We enrolled 70 consecutive patients, 35 treated with LS (18 M, 17 F), 35 treated with RS (23 M, 12 F). Median total operative time was 225 min in LS group (IQR 194-255) and 252.5 min for RS group (IQR 214-300). Median first flatus time was 2 days for LS group (IQR 1-3)

and 1 day for RS group (IQR 1-2). Stool discharge time (median) was 4 days for LS group (IQR 2-5) and 2 days for RS group (IQR 1-3). Length of stay (median) was 8 days in LS group (IQR 7-10) and 7 days in RS group (IQR 5-8). It was not found any statistically significant difference between the two groups when we analyzed the number nodes harvested the postoperative complications. The 30 day mortality was 0% in both two groups. The conversion rate for LS group was 23% (8/35 pts) and that for RS group was 0% (0/35). The RS may overcome technical limitations of LS. In our experience, it is a feasible and safe technique, it achieves better clinical outcomes due to the lower conversion rate compared to LS, although with higher costs."

**About Clinical Trials**

Clinical trials are research studies that involve people. They are conducted under controlled conditions. Only about 10% of all drugs started in human clinical trials become an approved drug.

Clinical trials include:

- Trials to test effectiveness of new treatments
- Trials to test new ways of using current treatments
- Tests new interventions that may lower the risk of developing certain types of cancers
- Tests to find new ways of screening for cancer

The South African National Clinical Trials Register provides the public with updated information on clinical trials on human participants being conducted in South Africa. The Register provides information on the purpose of the clinical trial; who can participate, where the trial is located, and contact details.

For additional information, please visit: www.sanctr.gov.za/

**Medical Disclaimer**

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