



2010 Annual Colorectal Cancer Report

Medcenter One Cancer Committee



Medcenter One
medcenterone.com

This annual report is based
on 2009 registry data.



Medcenter One is proud to be recognized as an accredited cancer program, approved by the American College of Surgeons Commission on Cancer with Commendation. This award means that, in addition to meeting all 36 standards of care, Medcenter One was commended for exceeding the standards in multiple areas. The dedicated team of doctors, nurses and staff at Medcenter One is not resting on its laurels and has set a series of goals to designed to continue to improve this high level of cancer care.

Medcenter One 2010 cancer committee

Physician members:

Dr. Douglas Berglund, chair, general surgeon
Dr. Tarek Dufan, radiation oncologist
Dr. Edward Fogarty III, diagnostic radiologist
Dr. Christie Iverson, obstetrician/gynecologist
Dr. John Reynolds, oncologist
Dr. Mark Rodacker, pathologist
Dr. Thomas Thorson, family medicine
Dr. John Watkins, radiation oncologist
Dr. Ed Wos, oncologist
Dr. Anthony Tello, medical director

Non-physician members:

Kari Edwards, R.N., quality resource improvement
Tamara Fischer, R.N., O.C.N.
Rev. Gary Heaton, pastoral care
Dr. Jan Kamphuis, V.P. of patient care
Sheri Kost, R.N., oncology
Barb Nies, R.N., director of oncology
Beth Thune, physical rehab
Nicole Willet, licensed social worker, social services
Tracy Wildeman, tumor registry
Deanna Zook, nutritional services

Colorectal surgical practice

Colon and rectal cancer is one of the large areas of my practice as a colorectal surgeon. I see multiple colon and rectal cancer patients throughout the year. These patients typically are older than 50, though we do have several patients in their 30s and 40s and occasionally a patient in their 20s. The most common presenting symptoms are bleeding and change in bowel habits, though many patients have no symptoms and are picked up by screening studies. The patients are sometimes self-referred, but the majority of patients are referred from Gastroenterology and primary care physicians including internists and family practitioners.

The equipment used to diagnose colon and rectal cancer are mainly colonoscopy and radiological equipment, usually with contrast. These diagnostics are important, especially in the staging of the cancer. If improper staging is done prior to the procedure, especially with rectal cancer, the benefits of neoadjuvant therapy could not be attained. There is fair evidence now that preoperative chemotherapy and radiation therapy for stage three rectal cancer improves the patient's risk against local recurrence.

The three modes of treatment used in colon and rectal cancer are surgery, chemotherapy and radiation therapy. There is benefit in long-term survival in giving radiation and chemotherapy to the appropriate patients, namely patients who are stage three or stage four. Also some of the low rectal cancers can be downstaged with neoadjuvant therapy, allowing for more sphincter-sparing procedures. Roadblocks that affect treating patients with this cancer include mainly late stage disease and metastasis. The chances of cure are markedly decreased with distant metastasis.

Recent advances in the treatment in our facility include a new CT scanner which is state-of-the-art imaging equipment. We also have state-of-the-art colonoscopy equipment and laparoscopic equipment. Most of the colon cancer operations I now do are done laparoscopically. Our oncology group is associated with the North Central Tumor



Group, and we have participated in some of the studies with this group with chemotherapy.

In the next five or 10 years, I expect that more and more procedures will be done laparoscopically. There has not been a definitive study done on rectal cancer using laparoscopic techniques, but these have been started and the results should be starting to come out in the next few years. I anticipate also that we will start doing endoanal ultrasounds in our group, to better stage rectal cancers. At present, we have been sending our patients to the Center for Pelvic Disorders in Minneapolis for rectal cancer staging, if indicated, with an endoanal ultrasound. My hope is that new chemotherapeutic agents will be developed to aid in our treatment of colorectal cancer.



*Dr. Douglas Berglund, surgeon
Medcenter One cancer
committee chair
Medcenter One Q&R Clinic*

Pathology and the diagnosis of colon carcinoma



Pathologic examination of biopsies and surgical specimens is the mainstay for confirming or ruling out malignancy. The majority of this is done by microscopic exam with basic H & E (Hematoxylin and Eosin) stains, as it has been for many decades. However, beyond a simple diagnosis of adenocarcinoma or lymphoma, etc., the plot thickens. Sub-typing of the tumors as well as prognostic and staging information must be included in the pathology report for the clinician to be able to respond with appropriate treatment that meets the standard of care.

These features include the grade of the tumor, it's depth of invasion, the regional lymph node status,

presence or absence of features such as angiolymphatic involvement or perineural involvement. Special histologic features such as those suggesting microsatellite instability must be mentioned when present. The utilization of adjuvant therapy such as preoperative chemotherapy and radiation therapy must also be evaluated in the resected specimens.

In addition, the future of targeted therapy and individual medicine has arrived in colorectal carcinoma. KRAS mutation testing is becoming standard and it is under the privy of pathology as well. As further research yields more information about targeted therapies, this area is expected to expand, further complicating the pathologists input, hopefully for the ultimate benefit of the patient.

Pathologists are not directly involved in the treatment of patients with colon carcinoma but do play a role with monitoring and continued care through lab work and follow-up biopsies, etc. Our community continues to grow and our population is aged by demographic standards and so the incidence of colon carcinoma is high. We must therefore be diligent in screening for disease and remain committed to the best care possible of our patients with colon cancer. Pathologists are an integral part of the multi-specialty team approach to patient care that best serves our patients.



*Dr. Mark Rodacker, pathologist
and director
Medcenter One laboratory*

Medical oncology perspective on colorectal cancer

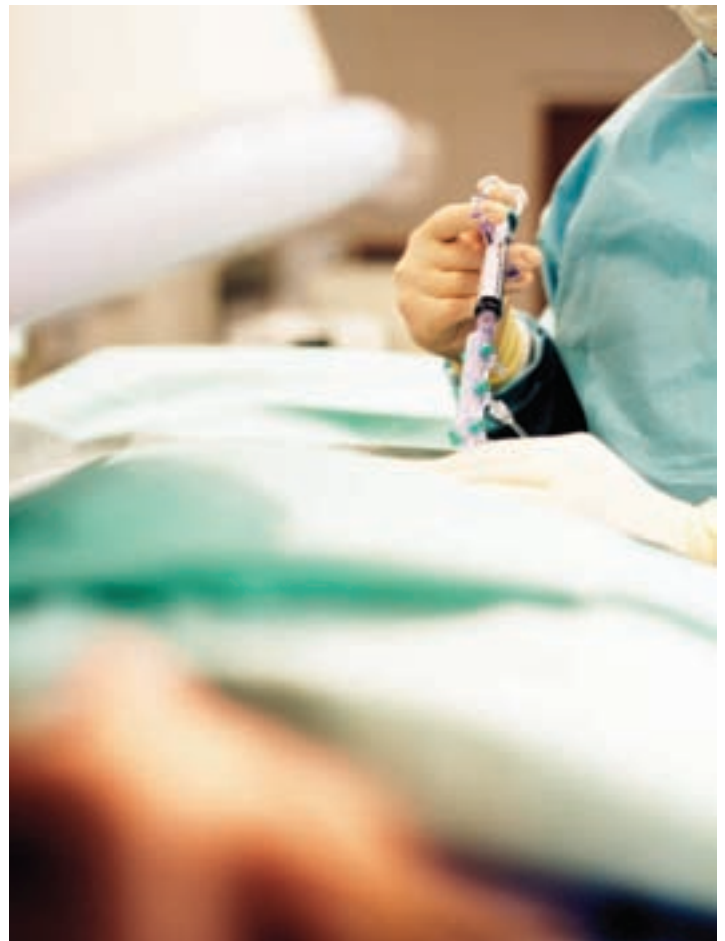
Patients who are referred to the medical oncology section of Medcenter One receive the latest in medical oncology care. We embrace a multidisciplinary approach and consult with surgery, radiation oncology, pathology, oncology nursing, oncology research, radiology, internal medicine and family practice departments, as appropriate. Our patients receive the latest medical oncology care according to the National Comprehensive Cancer Network guidelines unless there are special circumstances.

Adjuvant treatment for stage II patients is still controversial and high-risk patients are given adjuvant chemotherapy on an individual basis. We follow the NCCN guidelines, so selective patients with high-risk features such as grade three or four colon cancer with lymphovascular invasion, bowel obstruction or less than 12 positive margins are often offered adjuvant chemotherapy on an individual basis. We have clinical trials available for stage II patients who have a loss of 18q portion of their chromosomes and have normal microsatellite instability as discussed in the research section.

Cancers that are stage III usually receive FOLFOX combination chemotherapy, which has been shown in randomized clinical trials to further improve survival of this patient group. As pointed out in the research section, clinical trials are vital to our advancement for the treatment of patients with cancer, particularly in the adjuvant setting. Other options for adjuvant treatment depending on the special circumstance include XELOX, or for some of our older patients, capecitabine or 5-FU leucovorin. There were no clinical trials open this year for stage III disease. Last year, however, we completed N0147 as discussed in the research section. This has been completed and actually shows no survival benefit for patients given FOLFOX plus cetuximab, a new immunotherapeutic biologic agent against the epidermal growth factor receptor, which is a signal for cancer cells to divide. This is a very disappointing trial end result and comes on the heels of clinical trials recently completed showing the new biological immunologic agent bevacizumab also does not improve survival in patients with stage III colorectal cancer.

We are, however, continuing to try to decrease the toxicity in patients with our adjuvant chemotherapy treatment in all cancers, and this is true in colorectal cancer as well. We are currently offering a trial that randomizes patients between three versus six months of therapy to try to decrease the toxicities of therapy and still maintain a substantial improvement in survival for these patients.

Patients are often referred to oncology with advanced metastatic disease. These patients are offered neoadjuvant treatment with chemotherapy plus biologic therapy with either bevacizumab or cetuximab in an attempt to make the tumor resectable. Some of these patients can have long term survival and possibly be cured. After the neoadjuvant chemotherapy and surgery, these patients are often offered further adjuvant chemotherapy treatment and biological therapy following their resection. Several patients are followed in the clinic who have had liver or lung



resections and are still free from the disease after five or more years from their initial diagnosis. Our hope is that these patients may be cured and that we can refer more of these patients for resection and possibly for cure as we improve treatment through clinical trials. If resection is not possible in these patients, they can be referred to radiofrequency ablation, particularly in the liver, in an attempt to improve survival. This was shown to potentially improve the survival in this patient group in the latest ASCO meeting. We will have radiation therapy advances soon, which will allow Radiation Oncology to give Stereotactic Body Radiation Therapy (SBRT) treatment as discussed in the radiation oncology section to try to improve the survival of patients with this disease with targeted directed radiation therapy to the residual metastatic disease. Patients who are not resectable are given palliative chemotherapy according to standard guidelines. This often includes FOLFOX or FOLFIRI chemotherapy along with biologic therapy. We have a clinical trial available, as discussed in the research section, randomizing patients between one or the other biologic therapy to determine which is the best initial treatment to deliver. The goal is to try to maintain our patient's quality of life as much as possible during this treatment. Patients are often given an "Optimox" regimen, popular at the Mayo Clinic, which is a low dose of chemotherapy between more robust chemotherapy. This can hold the disease back in order to offer these patients improved survival and maintain their quality of life.

We continue to offer patients standard adjuvant treatment for rectal cancer. Unfortunately, there are no clinical trials available for this disease and advancements are slow. Patients are referred for ultrasound staging. If they are high risk, they begin with combination radiation therapy and chemotherapy working with the Radiation Oncology Department. 5-FU is still considered the standard for this disease along with radiation therapy. More aggressive treatment regimens have proven to be more toxic, but not more effective. After surgical resection of the rectal cancer to preserve the rectal function by colorectal surgery, patients are offered standard adjuvant chemotherapy often in the form of FOLFOX for the younger patients. Although this

has not yet been proven to be effective in a randomized clinical trial, this is the standard of care to try to prevent recurrence. This makes sense from a scientific standpoint because the two cancers, colon and rectal, are so similar.

High-risk patients are followed according to North Central Cancer Treatment Group clinical guidelines with CAT scans every three to six months for the first two years and every six months for five years because these patients may relapse and may have a single lesion in the liver and the lung, which is resectable and they can still be cured.

In summary, the medical oncology treatment of colorectal cancer has improved over the last 20 years. We continue to cure a significant portion of the patients that have stage II and III disease with adjuvant treatment, which has been proven in clinical trials to be effective. However, we have had no breakthrough treatment advances, particularly with the biologic agents, the last four years. We are seeing patients referred with more and more early stage disease now than we ever did previously, because of improved surveillance by the general medical physicians and also because of the increased awareness of colorectal cancer in the community. We look forward to serving and working with a multidisciplinary team to offer the most up to date treatment for colorectal cancer that is available.



*Dr. John Reynolds, oncologist
Medcenter One
Cancer Care Center*

Radiation oncology in colorectal cancer treatment

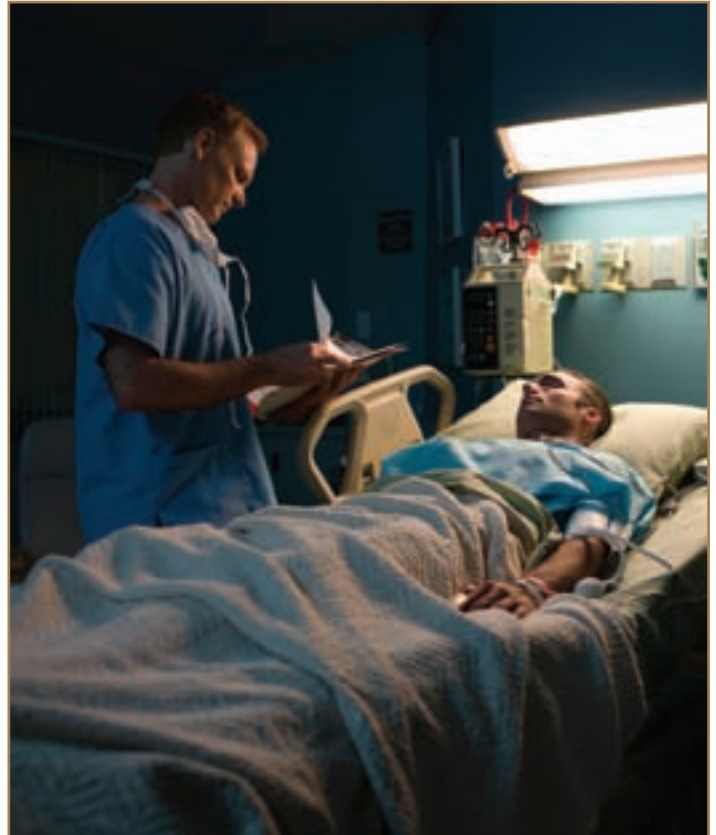
Colorectal cancer is the second leading cause of cancer related death in men and women with more than 1 million cases estimated worldwide in 2009. A coordinated multidisciplinary approach has resulted in considerable progress in the management of the patient with colorectal cancers. Usually diagnosis of colon cancer starts with a clinical symptom, such as rectal bleeding and change in the bowel movement of the patient. This will be followed by a colonoscopy with a biopsy and diagnostic imaging at Medcenter One.

The patient may be presented at the tumor board conference in the presence of medical oncology, radiation oncology, surgical oncology, diagnostic radiology and pathology. As a radiation oncologist, we appreciate the benefit of having a multidisciplinary approach at Medcenter One hospital, which gives the patient a greater benefit.

In terms of treatment of colon cancer, surgical resection is usually the main treatment with colectomy or hemicolectomy, followed by adjuvant chemotherapy in specific situations. The patient will need to have extra treatment with adjuvant radiotherapy mainly if it is T4 disease, which is invading into the colon and into the surrounding structures, if the patient has close or positive surgical margins or if the patient has a palliative situation.

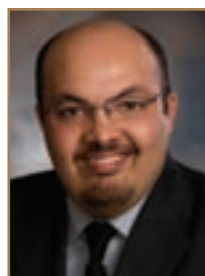
Because of the issue of treating abdominal structures, we at the Bismarck Cancer Center have the facility, with IMRT technique, to treat the patient with more targeted treatment and lower side effects.

In the near future, the patients at Bismarck Cancer Center will enjoy and get the benefit of having stereotactic body radiation (SBRT) treatment for palliative situations of colon cancer. This has put colon cancer in the unique situation that in some



cases where the patient has a limited number of metastases, he will benefit and have a better outcome if it is treated with high dose localized radiation, using stereotactic body radiotherapy, which will be available at Bismarck Cancer Center beginning Nov. 1, 2010.

Also, in the future, we will continue to enhance our multidisciplinary approach to better treat the patient.



Dr. Tarek Dufan, radiation oncologist with research in colorectal cancer Bismarck Cancer Center

Research in colorectal cancer



Research in the colon cancer area has continued to change our treatment of this disease. Medcenter One is actively involved in research activities in regards to colon cancer. Trials coordinated by the North Central Cancer Treatment Group, CALGB and ECOG are available at our organization. Our research staff reviews all cases of colon cancer that are referred to the medical oncologist for eligibility in research trials. Physicians are made aware of the trials that are open and if the patient may be eligible for any trials.

Throughout the year, we have placed patients on research trials for adjuvant and metastatic disease. A trial for stage II high-risk patients that requires a central review to look at 18q loss of heterozygosity

(LOH) and microsatellite instability status has been actively recruiting patients. The standard treatment for stage II disease is surgery followed by close surveillance. In this trial, the patient tumor is reviewed for LOH and microsatellite instability status. If the tumor shows high risk for recurrence, the patient is randomized to standard FOLFOX therapy versus FOLFOX with Bevacizumab.

An adjuvant trial for stage III disease was completed in 2009. In this trial, patient tumors were reviewed centrally for KRAS mutation. Patients with KRAS wild type tumors were enrolled on the trial. Patients were randomized to receive standard FOLFOX therapy with or without Cetuximab.

Several trials for the treatment of metastatic disease have been available for patients. These trials have required the tumor to have been tested for KRAS mutation. One trial allowed only KRAS wild patients who were being treated for the first recurrence of disease. Two trials were available for patients who had received prior therapy for metastatic disease. In these patients the KRAS status was used as a stratification tool, but did not affect the eligibility of the patient.

Patients who are unable or unwilling to enroll in research trials are able to benefit from the information that is learned through these trials. When trial results become available, patients benefit from receiving evidence based therapy.



*Tamara Fischer, research nurse/
study coordinator
Medcenter One
Cancer Care Center*

Statistical analysis of diagnosis, treatment and survival of colorectal cancer

Colorectal cancer occurs in the colon (large intestine) or in the rectum (the end of the colon). Although these are sometimes referred to separately as colon or rectal cancer, the difference in the terminology is a reference to the location of the tumor, rather than a differentiation of the histology or type of cancer. At Medcenter One in 2009, colorectal cancer was the third most frequently diagnosed tumor, following prostate and breast cancers. As the table below shows, colorectal cancer

has been approximately 13 percent of the cancer cases handled by Medcenter One doctors during the past decade.

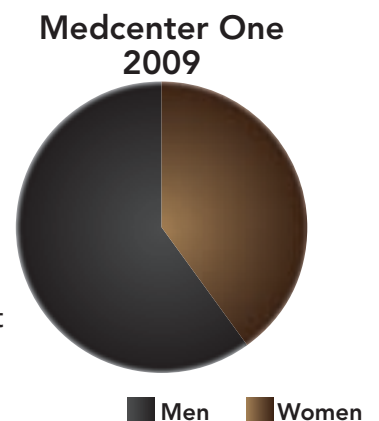
According to the National Cancer Database, 9.7 percent of diagnosed cancer in the United States in 2006 (the most recent year that NCDB data is available) were colorectal tumors.¹ This makes it the fourth most commonly occurring tumor, following breast, prostate and lung cancer.

| Most frequently diagnosed cancers at Medcenter One | 2009 | Percent of cancer diagnosed or treated at Medcenter One in 2009 | 2008–2009 | Percent of cancer diagnosed or treated at Medcenter One from 2000 to 2009 |
|--|------|---|-----------|---|
| Prostate | 97 | 16% | 1058 | 20% |
| Breast | 80 | 14% | 839 | 16% |
| Colorectal | 76 | 13% | 699 | 13% |
| Lung and bronchus | 65 | 11% | 629 | 12% |
| Skin | 36 | 6% | 240 | 4% |
| Hematopoietic | 32 | 5% | 408 | 8% |
| Bladder | 29 | 5% | 300 | 6% |
| Lymph nodes | 26 | 4% | 170 | 3% |
| Kidney | 18 | 3% | 134 | 3% |
| All others | 157 | 27% | 869 | 16% |

Colorectal cancer, often diagnosed in later stages, is the second leading cause of cancer related death in the United States. In a study conducted by the National Cancer Institute, the Centers for Disease Control and Prevention, the American Cancer Society and the North American Association of Central Cancer Registries published in the December 2009 journal "Cancer," projections of colorectal cancer rates find that, with accelerated cancer control efforts to get more Americans to adopt more favorable health behaviors (such as quitting smoking) and higher use of screening (such as colonoscopy), as well as optimal treatment outcomes for colorectal cancer (such as more effective chemotherapy), there

could be an overall colorectal cancer mortality reduction of 50 percent by 2020.²

Six out of 10 colorectal tumors diagnosed or treated at Medcenter One are in men, which is consistent with the national rate. Nationally, rates are declining, but incidence is increasing in both men and women under 50 years of age.³



National Cancer Database

Cancer program practice profile reports

Medcenter One, along with accredited cancer programs across the country, participates in submitting data to the National Cancer Database through the Central North Dakota Cancer Registry. Among its uses is for the Cancer Program Practice Profile Reports (CP3R). This National Cancer Database program provides a statistical measure of the use of recognized protocols in the treatment of cancer. Two series of data are available for comparison in the treatment of colorectal cancer:

(1) Whether chemotherapy is considered or administered within four months for stage III

(lymph node positive) colorectal cancer in patients under the age of 80;

(2) The removal and pathologic examination of at least 12 lymph nodes in surgically treated colon cancer; and

(3) Whether radiation therapy is considered or administered for stage III patients receiving surgical resection.

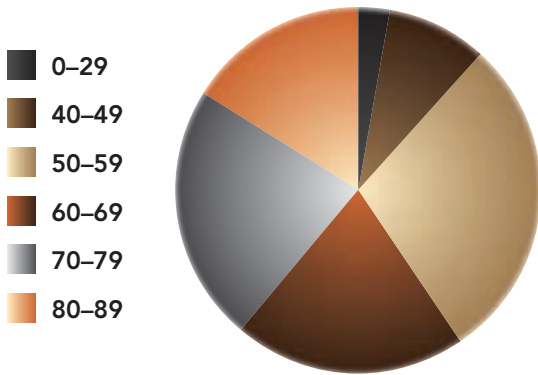
Medcenter One surpasses all comparisons in these quality control measures.⁴

| CP ³ R quality measures | Medcenter One | North Dakota | Midwest region | U.S. |
|---|---------------|--------------|----------------|-------|
| Adjuvant Chemotherapy is considered or administered within four months of diagnosis for patients under the age of 80 with AJCC stage III (lymph node positive) colon cancer. | 100% | 96.4% | 88% | 81.2% |
| At least 12 regional lymph nodes are removed and pathologically examined for resected colon cancer. | 81.5% | 68.2% | 81.1% | 79.6% |
| Radiation therapy is considered or administered within 6 months (180 days) of diagnosis for patients under the age of 80 with clinical or pathologic AJCC T4N0M0 or stage III receiving surgical resection for rectal cancer. | 100% | 98% | 91.1% | 86.1% |



Age at diagnosis

Medcenter One 2009

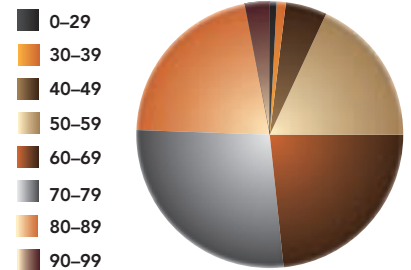


Age

Colorectal cancer is typically discovered at Medcenter One when the patient is older than 50. The graph on the left shows the age distribution of patients in 2009. Four out of 10 patients diagnosed or treated for colorectal cancer at Medcenter One are 59 years old or younger. Over the past decade, it is more evenly distributed among the ages of 50 to 89. The recent trend to earlier diagnosis may be attributed to increased screening and awareness both in the medical community and among the population in the Medcenter One service area. This is a significant statistic, as is noted in the sections on staging and survival.

Age at diagnosis

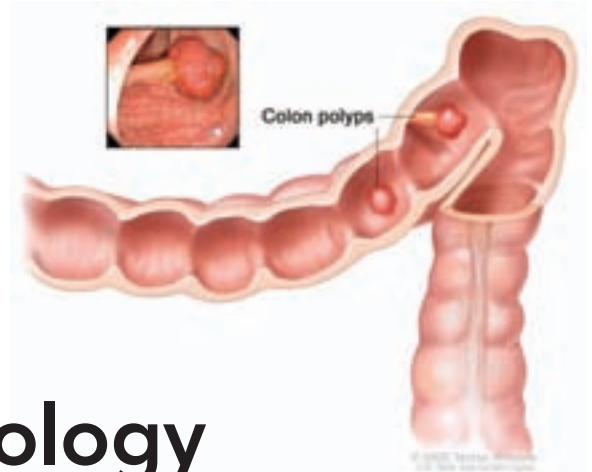
2000-2009



A report published by the National Cancer Institute (NCI) in December 2009, found that overall rates are declining, but also notes an increase in people under 50.5

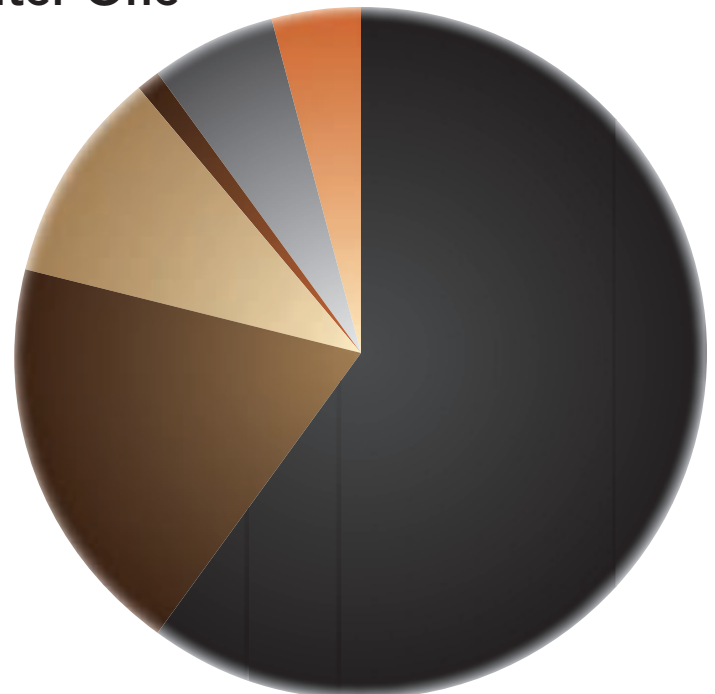
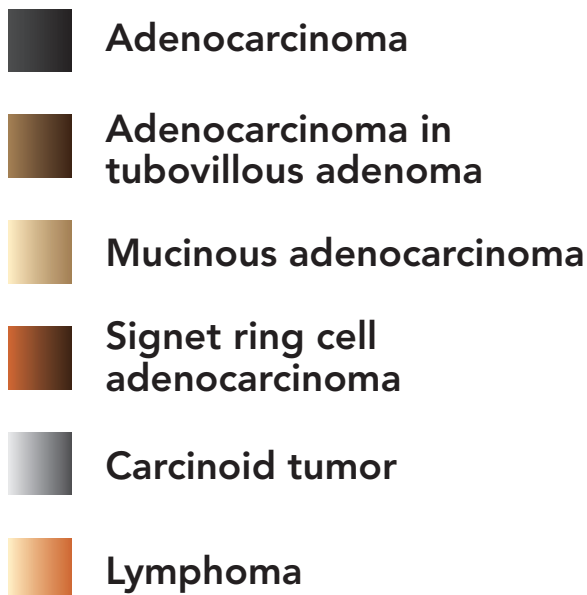
Histology

More than 90 percent of colorectal cancer is adenocarcinoma. An adenocarcinoma is a tumor that arises from glandular tissue, such as the tissue in the lining of the gastrointestinal tract. These tumors begin as a mushroom-shaped polyp and generally grow for several years before becoming cancerous.



Colorectal histology

at Medcenter One



Staging

Staging describes the extent of cancer in the body. Based on how far the tumor has grown into the intestinal wall, whether it has invaded other nearby organs, the number of lymph nodes involved and whether the cancer has spread to distant parts of the body, it is one of the most important factors in determining both treatment options and prognosis.

Clinical staging is based on physical examinations, biopsies and imaging that the physician has done. Pathologic staging is a further evaluation of the disease by examining tissue that has been removed during surgery. Since most colorectal cancer patients have surgery, pathologic stage is the most common stage discussed between patients and their doctors.

Broadly, colorectal, like most cancer, is subdivided into stage groups from 0 to IV. Generally, the lower the number, the better the prognosis. A full discussion of staging should be part of the treatment plan with the physician, however an overview of the stages of colorectal cancer are:

Stage 0: Cancer has not grown beyond the innermost layer of the colon. This is the earliest stage.

Stage I: Cancer has grown beyond the innermost layer of the colon, but not to the outer wall of the colon or beyond.

Stage II: Cancer has grown through the colon wall but cancer is not found in the lymph nodes.

Stage III: Cancer has spread outside the colon and involves at least one lymph node.

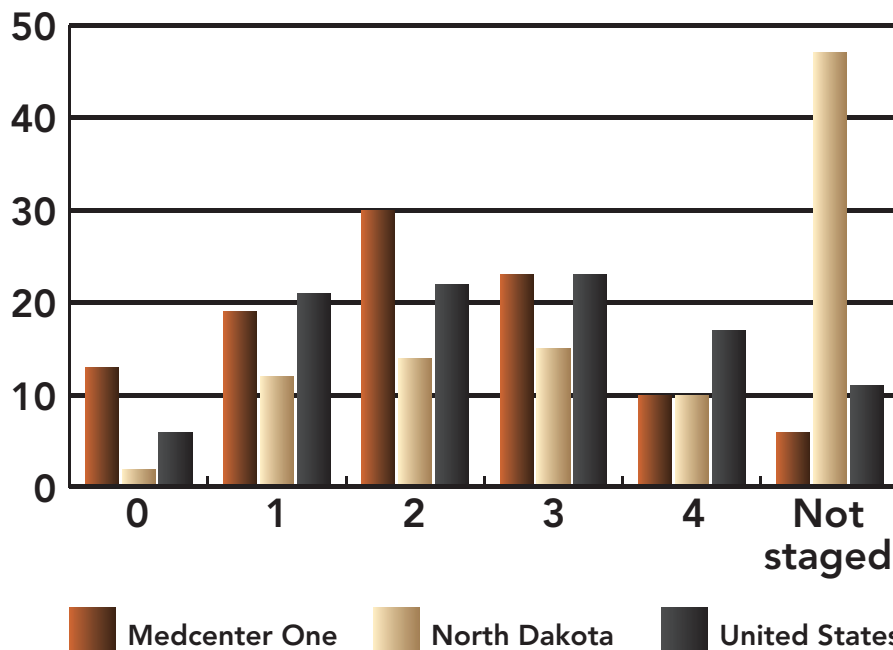
Stage IV: Cancer has spread beyond the colon to other parts of the body, such as the liver or lungs, regardless of whether lymph nodes are involved.

As you can see in the table, Medcenter One, which has implemented a colorectal screening outreach program, has dramatically improved early stage detection. The result of this program has been noteworthy: two-thirds of the colorectal diagnoses in the Medcenter One area in 2009 are of tumors before they spread outside the colon wall (stage 0, I or II), while less than half of the tumors detected nationally are in these early stages.

Continuing this trend will have a significant impact on the prognosis of those in the Medcenter One service area. This screening program may also be a contributing factor to the increased detection of colorectal cancer in younger people, as is noted in the section age at diagnosis.

| Stage at diagnosis | 2008 | 2009 |
|--------------------|------|------|
| Stage 0 | 4 | 10 |
| Stage I | 14 | 15 |
| Stage II | 18 | 23 |
| Stage III | 24 | 16 |
| Stage IV | 14 | 8 |
| Unknown | 4 | 5 |

Stage at diagnosis



First course treatment

Surgery is the most common treatment for all stages of colon cancer.

A doctor may remove the cancer using one of the following types of surgery:

Local excision: If the cancer is found at a very early stage, the doctor may remove it without cutting through the abdominal wall. Instead, the doctor may put a tube through the rectum into the colon and cut the cancer out. This is called a local excision.

Resection: If the cancer is larger, the surgeon will perform a resection which involves removing the cancer and a small amount of healthy tissue around it. The doctor may then sew the healthy parts of the colon together. The doctor will also usually remove lymph nodes near the colon and examine them under a microscope to see whether they contain cancer.

Additional surgery options: Other types of surgery may also be performed, such as a

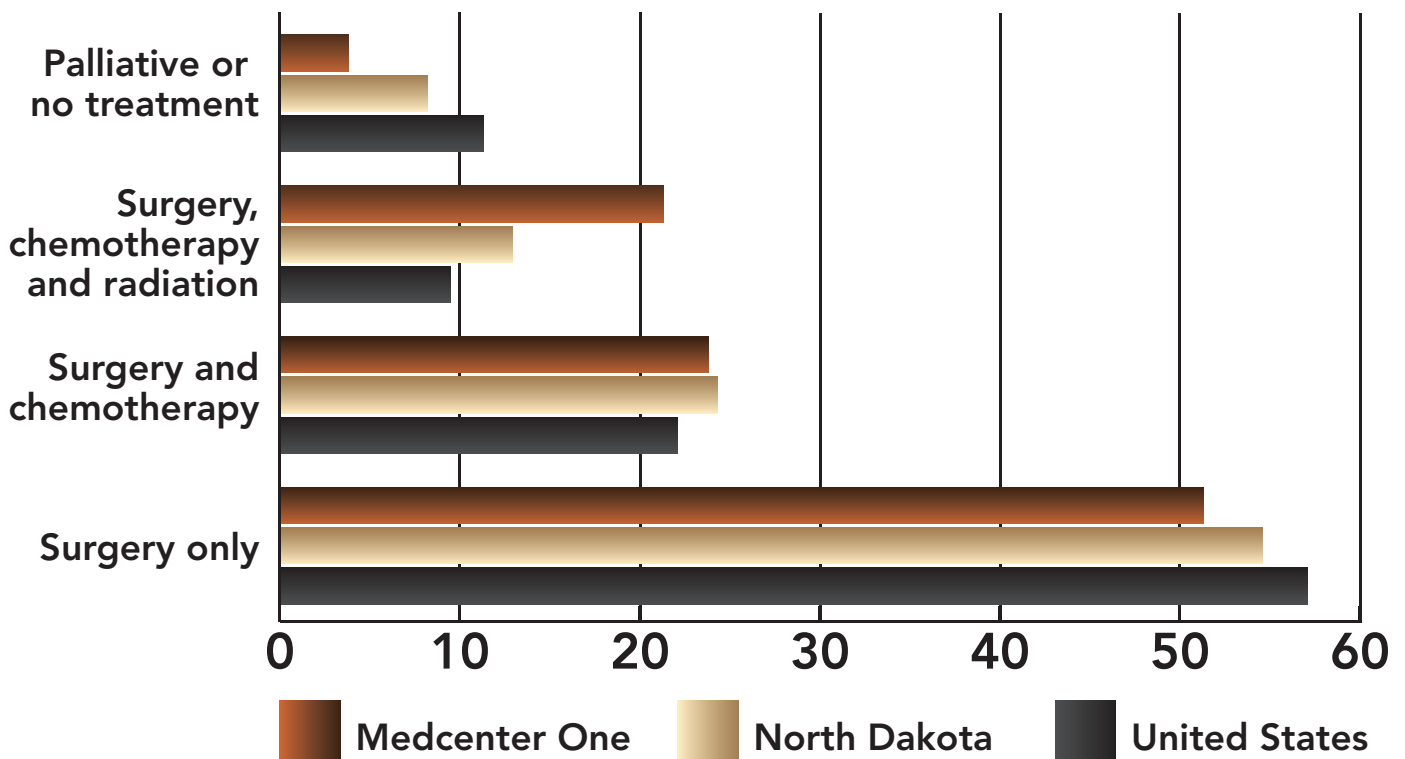
resection and colostomy if the doctor is not able to sew the two ends of the colon back together, radiofrequency ablation or cryosurgery.

Even if the doctor removes all the cancer that can be seen at the time of the operation, some patients may be given chemotherapy or radiation therapy after surgery to kill any cancer cells that are left.⁶

Surgery is the first course of treatment in more than 90 percent of colorectal cancer at Medcenter One and chemotherapy is administered in more than 40 percent of the cases. Radiation therapy is sometimes part of first course treatment, usually in combination with chemotherapy, to kill cancer cells left behind after surgery or to prevent the recurrence of cancer at its origin.

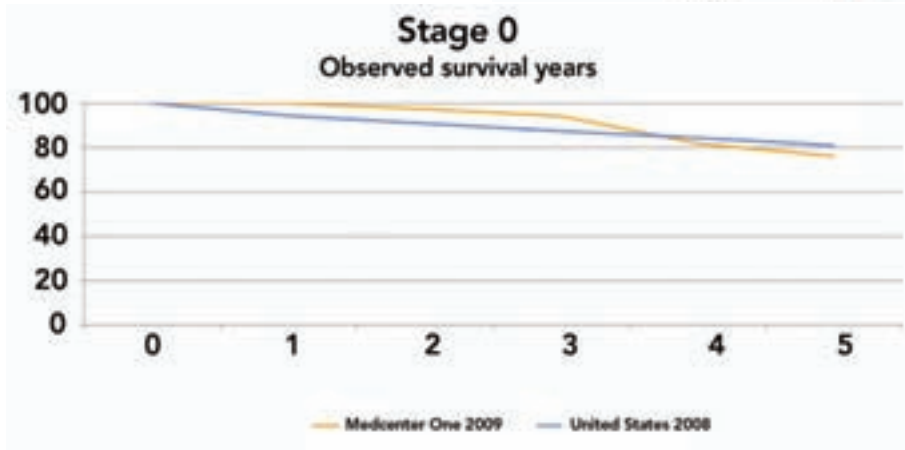
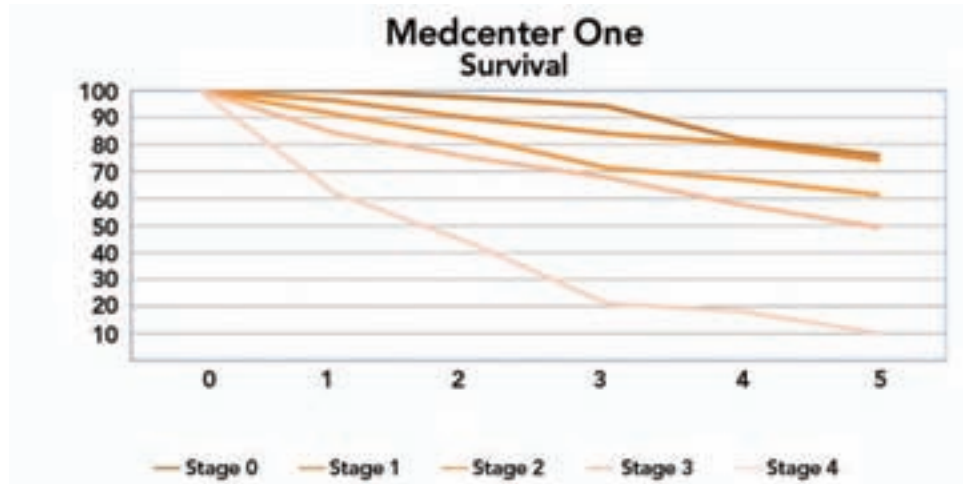
Radiation treatment or chemotherapy may also be administered before surgery to reduce the size of the tumor before it is removed to reduce the risk of injury to nearby organs.

First course treatment



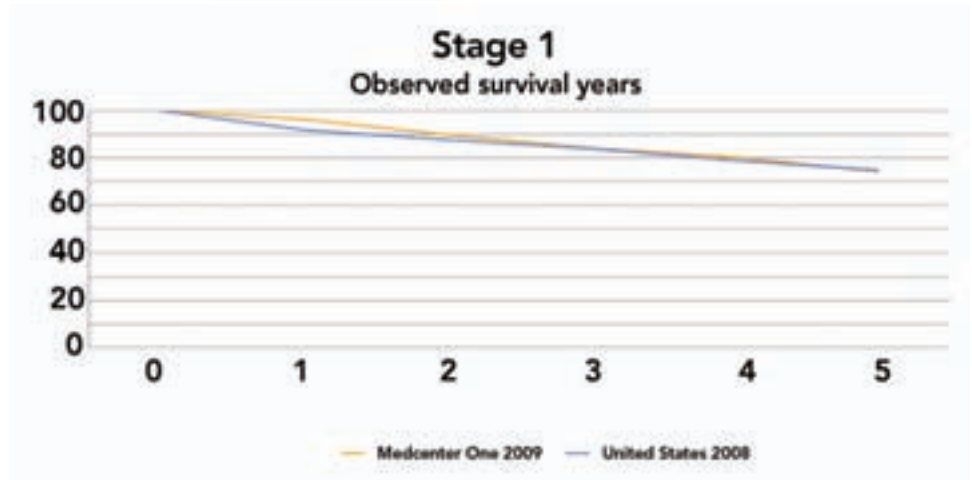
Survival

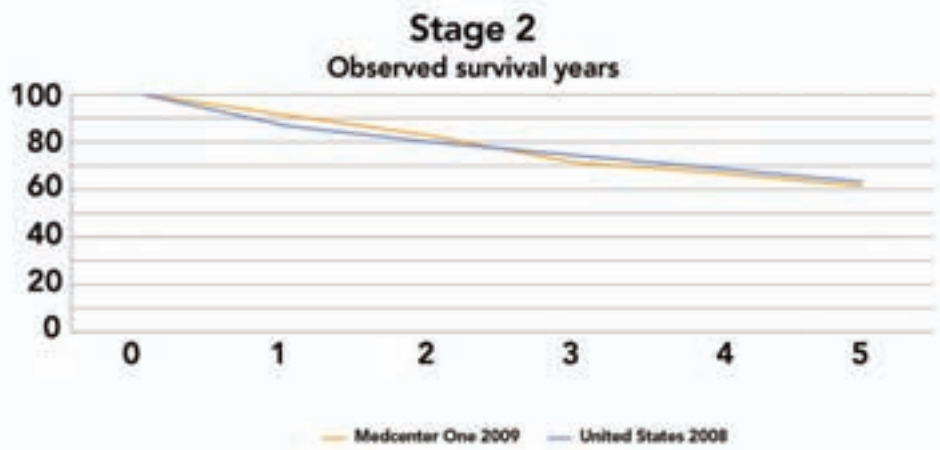
The graphs on the following pages reflect the percentage of people who have been diagnosed or treated for colorectal cancer and have survived for one through five years after they were diagnosed with the disease. These graphs show the importance of being diagnosed before the disease has spread to lymph nodes or other organs, such as the liver or lungs.



Here is where the impact of Medcenter One's advancements in screening and early detection will show itself in the years to come. The chart at the left shows that about four out of five patients diagnosed with stage 0 colorectal cancer have passed their fifth year of survivorship.

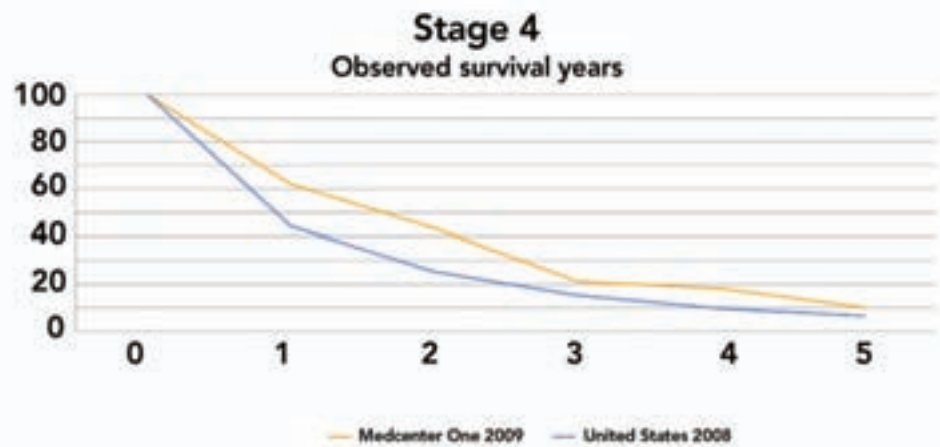
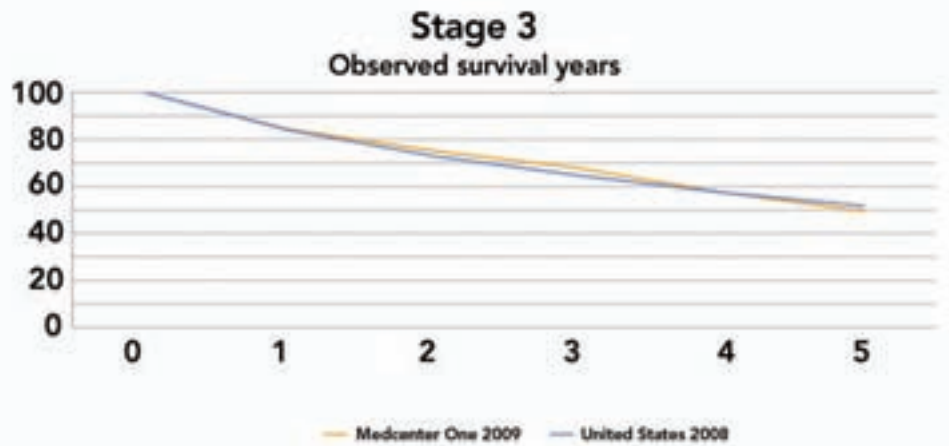
Three out of four stage 1 patients have celebrated five years of survival.





Two out of three stage II patients celebrate their five-year anniversary.

One-half of the stage III patients live at least five years after colorectal cancer diagnoses.



Less than one out of 10 stage IV patients reach five years.

As the graphs show, the survival rates for the nation and Medcenter One mirror each other by stage and year. Please note that the preceding graphs represent deaths from all causes, not only colorectal cancer, measured against people who have not been diagnosed with colorectal tumors.

Both local and national statistics emphasize the benefit of early detection. Medcenter One's colorectal screening program reaches colorectal cancer patients before their disease becomes advanced. The significance of this outreach will be seen in years to come and has not been implemented long enough to reflect in this survival study yet.

Many factors influencing the favorable statistics for colorectal cancer patients at Medcenter One have been noted and the end result is also positive for the patients of Medcenter One. From early detection to cutting edge medical oncology and radiation oncology treatments to the multidisciplinary approach of treating the disease, Medcenter One is ahead of the country in the success of colorectal cancer care. The average overall survival of colorectal cancer patients at Medcenter One is about 5 percent higher than across the country, and Medcenter One's outstanding programs are working to increase that advantage.

¹ American College of Surgeons Commission on Cancer: facs.org/cancer/ncdb/site_stage_2006.htm

² National Cancer Institute: cancer.gov/newscenter/pressreleases/ReportNation2009Release

³ National Cancer Institute: cancer.gov/newscenter/pressreleases/ReportNation2009Release

⁴ National Cancer Database Cancer program Practice Profile Reports, 2008 data

⁵ National Cancer Institute: cancer.gov/newscenter/pressreleases/ReportNation2009Release

⁶ National Cancer Institute: cancer.gov/cancertopics/pdq/treatment/colon/Patient/page4

North Dakota and US statistics are from the Center for Disease Control or the National Cancer Database



Medcenter One
medcenterone.com