LAKE CUMBERLAND REGIONAL HOSPITAL

COMMUNITY CANCER PROGRAM
CANCER REGISTRY REPORT

Cancer Registry is an essential component of the Lake Cumberland Regional Hospital Cancer Program. The Cancer Registry staff works closely with the Cancer Committee to maintain accreditation as a Community Cancer Program by the Commission on Cancer of the American College of Surgeons. The Hospital’s Cancer Program is accredited with commendation through 2012.

The registry has responsibilities, including the accurate and timely collection of information on cancer diagnosed and/or treated at Lake Cumberland Regional Hospital, as well as the management and analysis of this data. The information collected, such as demographics, anatomic site, tests, treatment and extent of disease, has multiple uses, which include outcome reporting, patient care reviews, physician education, clinical research and hospital planning.

The data collected by the Cancer Registry is electronically submitted to the Kentucky Central Registry (KCR) and the National Cancer this allows comparative analysis with other hospitals or databases. Data analysis for specific sites can be done to compare elements, such as site, demographics, histology, stage of disease, treatment modalities and survival to other published state, regional or national data. This information provides the cancer program benchmarking opportunities to patterns of patient care and survival.

A major priority of the registry is collecting, handling and disseminating patient information while maintaining strict patient confidentiality. Another important function of the registry is to provide annual lifetime follow-up of every patient diagnosed and/or treated for cancer at Lake Cumberland Regional Hospital. The information ensures continuous medical surveillance and also provides end results and survival statistics and is used in the assessment of treatment effectiveness. The registry has worked diligently to achieve follow-up rates that meet or exceed COC standards.

The registry staff participates in ongoing cancer-related education at the local, state, regional and national levels to maintain abstracting skills and to maintain credentials in their field. The registry also coordinates the Cancer Conferences and Cancer Care Committee meetings. The registry staff participates in community outreach programs and monitors the standards required for accreditation by the COC accreditation program.

Physicians and other healthcare professionals are encouraged to utilize data collected. The Cancer Registry staff can be reached at (606) 678-3397.
Cancer Data Analysis (2009 Statistics)

COLORECTAL CANCER AT LAKE CUMBERLAND REGIONAL HOSPITAL
Excluding skin cancers, colorectal cancer is the third most common cancer diagnosed in both men and women in the United States. The American Cancer Society's most recent estimates for the number of colorectal cancer cases in the United States are for 2010:

- 102,900 new cases of colon cancer (49,470 in men and 53,430 in women)
- 39,670 new cases of rectal cancer (22,620 in men and 17,050 in women)
- Overall, the lifetime risk in men for developing colorectal cancer is about 1 in 19 (5.2%). This risk is slightly lower in women (1 in 20).

Colorectal cancer is the third leading cause of cancer-related deaths in the United States when men and women are considered separately, and the second leading cause when both sexes are combined. It is expected to cause about 51,370 deaths (26,580 in men and 24,790 in women) during 2010.

The death rate (the number of deaths per 100,000 people per year) from colorectal cancer has been dropping in both men and women for more than 20 years. There are a number of likely reasons for this. One is that polyps are being found by screening and removed before they can develop into cancers. Screening is also allowing more colorectal cancers to be found earlier when the disease is easier to cure. In addition, treatment for colorectal cancer has improved over the last several years. As a result, there are now more than 1 million survivors of colorectal cancer in the United States.

As seen in Figure 1, there has been a slow decline of colorectal cancer cases diagnosed at Lake Cumberland.

Figure 1
Age at Diagnosis in Colorectal cancers: Figure 1 & 2

The median age for colon cancer was 62 -72 for both genders. Colon cancer was diagnosed at a slightly older age in females than males. Rectal cancer shows a median age range for both genders was 60-69. Women’s median age was older than males for rectal cancers. Women’s median age was older than males for colorectal cancers. Males showed as many diagnosed in 64-73 range as in 70-79 range, with a median age slightly above 59.

Figure 1

Females showed a much higher number occurred in 70-79 range with a median in the high 60-69 range. Colorectal cancer for both males and females showed that 87.9% were diagnosed after the age of 50. Overall, Lake Cumberland median age is higher than the general population where the average age at diagnosis is 65.

Figure 2
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**Early Detection:**

- **American Cancer Society recommendations for colorectal cancer early detection**

  **People at average risk**

  The American Cancer Society believes that preventing colorectal cancer (and not just finding it early) should be a major reason for getting tested. Finding and removing polyps keeps some people from getting colorectal cancer. Tests that have the best chance of finding both polyps and cancer are preferred if these tests are available to you and you are willing to have them.

  Beginning at age 50, both men and women at *average risk* for developing colorectal cancer should use one of the screening tests below:

  - **Tests that find polyps and cancer**
    - Flexible sigmoidoscopy every 5 years*
    - Colonoscopy every 10 years
    - Double-contrast barium enema every 5 years*
    - CT colonography (virtual colonoscopy) every 5 years*
  
  - **Tests that mainly find cancer**
    - Fecal occult blood test (FOBT) every year*,**,
    - Fecal immunochemical test (FIT) every year*,**,
    - Stool DNA test (sDNA), interval uncertain*
Risk Factors:

**People at increased or high risk**

- If you are at an increased risk or high risk of colorectal cancer, you should begin colorectal cancer screening before age 50 and/or be screened more often. The following conditions place you at higher than average risk:
  - A personal history of colorectal cancer or adenomatous polyps
  - A personal history of inflammatory bowel disease (ulcerative colitis or Crohn's disease)
  - A strong family history of colorectal cancer or polyps
  - A known family history of a hereditary colorectal cancer syndrome such as familial adenomatous polyposis (FAP) or hereditary non-polyposis colon cancer (HNPCC)

Staging (Extent of Disease) and Prognostic Factors:
The main types of treatment that can be used for colon and rectal cancer are:

- Surgery
- Radiation therapy
- Chemotherapy
- Targeted therapies
- Depending on the stage of the cancer, 2 or more of these types of treatment may be combined at the same time or used after one another.

Lake Cumberland there is a 8% less surgery only as first course treatment colon cancer than other community hospitals is the utilization of other specified treatments, which included radiation treatment along with surgery/chemo.
Surgery

Colon surgery

• Surgery is often the main treatment for earlier stage colon cancers.

• **Open colectomy**: A colectomy (sometimes called a hemicolecctomy, partial colectomy, or segmental resection) removes part of the colon, as well as nearby lymph nodes. The operation is referred to as an *open colectomy* if it is done through a single incision in the abdomen.

• During the operation, the part of the colon with the cancer and a small segment of normal colon on either side of the cancer is removed. Usually, about one-fourth to one-third of the colon is removed, but more or less may be removed depending on the exact size and location of the cancer. The remaining sections of the colon are then reattached. Nearby lymph nodes are removed at this time as well. Most experts feel that taking out as many nearby lymph nodes as possible is important, but at least 12 should be removed.

• **Laparoscopic-assisted colectomy**: This newer approach to removing part of the colon and nearby lymph nodes may be an option for some earlier stage cancers. Instead of making one long incision in the abdomen, the surgeon makes several smaller incisions. Special long instruments are inserted through these incisions to remove part of the colon and lymph nodes. One of the instruments has a small video camera on the end, which allows the surgeon to see inside the abdomen. Once the diseased part of the colon has been freed, one of the incisions is made larger to allow for its removal.

• **Polypectomy and local excision**: Some early colon cancers (stage 0 and some early stage I tumors) or polyps can be removed by surgery through a colonoscope. When this is done, the surgeon does not have to cut into the abdomen. For a polypectomy, the cancer is removed as part of the polyp, which is cut at its stalk (the area that resembles the stem of a mushroom). Local excision removes superficial cancers and a small amount of nearby tissue.

Rectal surgery

• Surgery is usually the main treatment for rectal cancer, although radiation and chemotherapy will often be given before or after surgery. Several surgical methods can be used for removing or destroying rectal cancers.

• **Polypectomy and local excision**: These procedures, described in the colon surgery section, can be used to remove superficial cancers or polyps. They are done with instruments inserted through the anus, without making a surgical opening in the skin of the abdomen.

• **Local transanal resection (full thickness resection)**: As with polypectomy and local excision, local transanal resection (also known as transanal excision) is done with instruments inserted through the anus, without making an opening in the skin of the abdomen. This operation involves cutting through all layers of the rectum to remove cancer as well as some surrounding normal rectal tissue, and then closing
the hole in the rectal wall. This procedure can be used to remove some T1 N0 M0 stage I rectal cancers that are relatively small and not too far from the anus. It is usually done with local anesthesia.

• **Transanal endoscopic microsurgery (TEM):** This operation can sometimes be used for early T1 N0 M0 stage I cancers that are higher in the rectum than could be reached using the standard transanal resection (see above). A specially designed magnifying scope is inserted through the anus and into the rectum, allowing the surgeon to do a transanal resection with great precision and accuracy. This operation is only done at certain centers, as it requires special equipment and surgeons with special training and experience.

• **Low anterior resection:** Some stage I rectal cancers and most stage II or III cancers in the upper third of the rectum (close to where it connects with the colon) can be removed by low anterior resection. In this operation, the part of the rectum containing the tumor is removed without affecting the anus. The colon is then attached to the remaining part of the rectum.

• **Proctectomy with colo-anal anastomosis:** Some stage I and most stage II and III rectal cancers in the middle and lower third of the rectum require removing the entire rectum (proctectomy). The colon is then connected to the anus (colo-anal anastomosis). The rectum has to be removed to do a total mesorectal excision (TME), which is required to remove all of the lymph nodes near the rectum.

• Sometimes when a colo-anal anastomosis is done, a small pouch is made by doubling back a short segment of colon (colonic J-pouch) or by enlarging a segment (coloplasty). This small reservoir of colon then functions as a storage space for fecal matter like the rectum did before surgery.

• **Abdominoperineal (AP) resection:** This operation is more involved than a low anterior resection. It can be used to treat some stage I cancers and many stage II or III rectal cancers in the lower third of the rectum (the part nearest to the anus), especially if the cancer is growing into the sphincter muscle (the muscle that keeps the anus closed and prevents stool leakage).

• Because the anus is removed, a permanent colostomy is created as part of this operation.

• **Pelvic exenteration:** If the rectal cancer is growing into nearby organs, a pelvic exenteration may be recommended. This is an extensive operation. Not only will the surgeon remove the rectum, but also nearby organs such as the bladder, prostate (in men), or uterus (in women) if the cancer has spread to these organs.

### Radiation Therapy

• Radiation therapy uses high-energy rays (such as x-rays) or particles to destroy cancer cells. It may be part of treatment for either colon or rectal cancer. Chemotherapy can make radiation therapy more effective against some colon and rectal cancers, and these 2 treatments are often used together.

• In people with colon cancer, radiation therapy is mainly used when the cancer is found to have attached to an internal organ or the lining of the abdomen. When this occurs, the surgeon cannot be certain that all the cancer has been removed, and radiation therapy may be used to try to kill any cancer cells that
may remain after surgery. Radiation therapy is seldom used to treat metastatic colon cancer because of side effects, which limit the dose that can be used.

- For rectal cancer, radiation therapy is usually given either before or after surgery to help prevent the cancer from coming back in the area where the tumor started. It is often given along with chemotherapy. Many doctors now favor giving radiation therapy before surgery, as it may make it easier to remove the cancer, especially if the cancer's size and/or position may make surgery difficult. Giving radiation before surgery may lower the risk that the tumor will come back (recur) in the pelvis. It may also result in fewer complications such as scar formation that can cause problems with bowel movements. Radiation therapy can also be given to help control rectal cancers in people who are not healthy enough for surgery or to ease (palliate) symptoms in people with advanced cancer causing intestinal blockage, bleeding, or pain.

**Types of radiation therapy**

- Different types of radiation therapy can be used to treat colon and rectal cancers.
- **External-beam radiation therapy:** This is the type of radiation therapy most often used for people with colorectal cancer. The radiation is focused on the cancer from a machine outside the body called a linear accelerator.
  
  Before treatments start, the radiation team takes careful measurements to determine the correct angles for aiming the radiation beams and the proper dose of radiation. External radiation therapy is much like getting an x-ray, but the radiation is more intense. The procedure itself is painless. Each treatment lasts only a few minutes, but the setup time -- getting you into place for treatment -- usually takes longer. Most often, radiation treatments are given 5 days a week for several weeks, but the length of time may be shorter if it is given before surgery.

- **Endocavitary radiation therapy:** This type of treatment is used for some rectal cancers. A small device is placed through the anus and into the rectum to deliver high-intensity radiation over a few minutes. This is repeated about 3 more times at about 2-week intervals for the full dose. The advantage of this approach is that the radiation reaches the rectum without passing through the skin and other tissues of the abdomen, which means it is less likely to cause side effects. This can allow some patients, particularly elderly persons, to avoid major surgery and a colostomy. It is used only for small tumors. Sometimes external-beam radiation therapy is also given.

- **Brachytherapy (internal radiation therapy):** Brachytherapy uses small pellets of radioactive material placed next to or directly into the cancer. The radiation travels only a short distance, limiting the effects on surrounding healthy tissues. It is sometimes used to treat people with rectal cancer, particularly people who are not healthy enough to tolerate curative surgery. This is generally a one-time only procedure and doesn't require daily visits for several weeks.

- **Yttrium-90 microsphere radioembolization:** Some patients who have extensive liver metastasis but little or no spread to other distant parts of the body may benefit from yttrium-90 microsphere infusion via the hepatic artery. For this treatment, a radiologist places a long, thin tube into an artery in the groin area and guides it into the hepatic artery, which supplies blood to the liver. The doctor then injects tiny glass beads that are coated with a radioactive atom (yttrium-90). These microspheres block some of the
small blood vessels that feed the tumors and their radioactivity helps kill the cancer cells. Recent studies have found that this treatment can slow the growth of liver metastases, relieve some of the symptoms they cause, and help some patients live longer. This is an option to consider for some patients, but it is not recommended for others, such as people who had previous liver radiation or who have certain kinds of liver diseases.

**Chemotherapy**

- **Chemotherapy** (chemo) is treatment with anti-cancer drugs. It can be given in different ways and is used at different times during the treatment of colon or rectal cancers.

- **Systemic chemotherapy**: Systemic chemotherapy uses drugs that are injected into a vein or given by mouth. These drugs enter the bloodstream and reach all areas of the body. This treatment is useful for cancers that have metastasized (spread) beyond the organ they started in.

- **Regional chemotherapy**: In regional chemotherapy, drugs are injected directly into an artery leading to a part of the body containing a tumor. This approach concentrates the dose of chemotherapy reaching the cancer cells. It reduces side effects by limiting the amount reaching the rest of the body.

- **Hepatic artery infusion**, where chemotherapy is given directly into the hepatic artery, is an example of regional chemotherapy sometimes used for colon cancer that has spread to the liver.

- **Adjuvant chemotherapy**: Chemotherapy used after surgery, known as adjuvant chemotherapy, can increase the survival rate for some patients with stage II and stage III colon cancer and rectal cancer. It is given when there is no evidence of cancer remaining but there is a chance that it might come back. The theory behind adjuvant therapy is that a small number of cancer cells may not have been removed by surgery or may have escaped from the primary tumor and settled in other parts of the body. The hope is that the chemotherapy can kill these cells, wherever they may be.

- **Neoadjuvant chemotherapy**: For some rectal cancers, chemotherapy is given (along with radiation) before surgery to try to shrink the cancer and make surgery easier. This is known as neoadjuvant treatment.

- **Chemotherapy for advanced cancers**: Chemotherapy can also be used to help shrink tumors and relieve symptoms for more advanced cancers. While it is very unlikely to cure the cancer in such situations, it may greatly extend survival time in some people.
Figure 1: (National Cancer Database: Observed Survival Diagnosed 2003-2005)

Figure 2 shows five-year observed survival rates by AJCC stage for Lake Cumberland patients with colorectal cancer as compared to the most recent survival statistics reported by the National Cancer Data Base in Figure 1. According to the American Cancer Society, colorectal cancer is the second leading cause of cancer-related deaths when men and women are combined and the third leading cause when men and women are considered separately. The death rate from colorectal cancer has been declining in both sexes over the last 20 years due to earlier detection through screening and improved treatment.

Figure 2: (5 Year Survival Rates by AJCC Stage – Colorectal Cancer) Cases Dx 2004-05
References


National Cancer Data Base, 2010, American College of Surgeons, Chicago, IL 60611-3211.