Surgical Procedures: Surgery and Staging for Colon Cancer

Cancerous cells in the colon are called colon cancer. The colon, or large bowel, measures about 5 feet in length. It is part of the body’s digestive system, which is responsible for processing nutrients and getting rid of waste.

Colon cancer often starts in adenomatous polyps of the colon. These polyps are a precancerous condition that can develop into cancer and invade the intestinal wall. The most common type of colon cancer is adenocarcinoma. Other types include:

- Carcinoid tumors.
- Gastrointestinal stromal tumors (GISTs).
- Lymphomas.
- Sarcomas.

What is staging and how is it performed?

Staging is a way to find out if and where cancer has spread in your body. Your provider will have you get a few tests to figure out the stage of your cancer. These tests may include:

**Physical Exam:** This is a general exam to look at your body and to talk about your past health issues.

**Fecal Occult Blood Testing:** Your stool will be checked for blood. A guaiac-based fecal occult blood test (gFOBT) and fecal immunochemical test (FIT) are used.

**Stool DNA testing:** This test checks for abnormal DNA in the stool.

**Laboratory Tests:** Blood is drawn to check the function of the kidneys and liver, as well as a complete blood count (CBC). A carcinoembryonic antigen (CEA) level may also be checked.

**Imaging:** Radiology tests can look inside your body at the cancer and see if it has spread. These tests can include:

- Chest X-ray.
- CAT scan (CT scan).
- Magnetic resonance imaging (MRI).
- Positron emission tomography scan (PET scan).
- Virtual colonoscopy.

Procedures: Each case of colon cancer is different. Talk with your care team about which procedures may be part of your treatment plan. These options may include:

- **Colonoscopy**: A colonoscope (lighted, flexible tube) is inserted into the rectum, looking at the whole colon for any abnormalities. Biopsies may be done during a colonoscopy.

- **Sigmoidoscopy**: A sigmoidoscope (lighted, flexible tube) is inserted into the rectum and the lower portion of the colon (sigmoid colon) to look for any abnormalities. Biopsies can be done during a sigmoidoscopy.

- **Double-contrast barium enema**: Also known as a lower GI series, this test uses the liquid enema contrast barium and X-rays to see changes in the lower gastrointestinal tract, including the colon and the rectum.

- **Biopsy**: The removal of a piece of tissue to be looked at with a microscope to look for cancer cells.

Colon cancer spreads to other parts of the body through the tissue, lymph, and blood systems. Cancer stage determines how extensive the cancer is, how far it has spread and what treatment course will be recommended. Colon cancer is described as stages 0 through stage IV disease, with higher stage being more advanced.

**Surgical Procedures for Colon Cancer**

There are many types of surgery used to treat colon cancer. The type of surgery you have will depend on your health and if the cancer has spread. Some surgeries include:

- **Polypectomy/Local Excision**: A colonoscope (as in the colonoscopy) is used to remove a polyp or abnormal area of cancer. During a polypectomy, only the polyp is removed, whereas during a local excision (also known as an endoscopic mucosal resection), some of the tissue on the colon wall is also removed.

- **Colon resection**: The larger cancer is removed by doing a colectomy. There are two types of colectomy:
  - **Partial colectomy**: Also called a hemicolectomy or segmental resection, this procedure removes the cancer and some surrounding healthy tissue. This procedure will require either an anastomosis or colostomy. When the surgeon sews the two ends of the colon back together, this is referred to as an anastomosis. In some cases a permanent or temporary colostomy or ileostomy is required. This will allow for waste (stool) to be passed through an external opening (stoma) into a colostomy collection bag. Lymph nodes may also be removed during this procedure.
  - **Total Colectomy**: The entire colon is removed. Lymph nodes may also be removed during this procedure. This may require a permanent colostomy to remove waste (stool) from the body.

- **Laparoscopy**: Several small incisions are made to allow for the passage of special surgical tools (lighted cameras, cutting tools) which will remove the abnormal areas.

- **Palliative surgery**: The goal of surgery is not to remove the cancer, but to relieve symptoms like pain caused by the effects of cancer, such as blockages. For example, a diverting colostomy (ostomy placed above the colon tumor) may be performed to relieve the symptoms of a blockage.

- **Surgery for metastatic disease**: At times, colon cancer may spread to other parts of the body, such as the lungs or liver, and it may be recommended that these areas be removed.

- **Radiofrequency ablation**: Electrodes kill cancer through a probe inserted through the skin or an abdominal incision.

- **Cryosurgery**: Abnormal cells are frozen and killed.

**What are the risks associated with colon cancer surgery?**

As with any surgery, there are risks and possible side effects. These can be:

- Reaction to anestheisia (Anesthesia is the medication you are given to help you sleep through the surgery, not remember it and manage pain. Reactions can include wheezing, rash, swelling and low blood pressure.)

- Bleeding.
- Blood clots.
- Infection.
- Pneumonia.
- Fistula formation (abnormal hole).
- Damage to surrounding organs like the intestines, bladder, blood vessels, and ureter.
- Development of adhesions/scar tissue.
- Bowel obstruction.
- Incisional hernia.
- Anastomotic leak (leakage from the joined colon or anastomosis site).

**What is recovery like?**

Recovery from colon cancer surgery will depend on the extent of the procedure performed. Most often, a 3-4 day hospital stay is needed.

You will be told how to care for your incisions before you go home.

Your medical team will discuss with you the medications you will be taking, such as those for pain, blood clot, infection, constipation prevention and/or other conditions.

Your healthcare provider will discuss your particular activity restrictions depending on the surgery you have had.

Often, after a colectomy, you will be instructed:

- No heavy lifting (anything over 10 pounds) for 4 to 6 weeks following surgery.
- Avoid straining to have a bowel movement.
- Take all medications as directed.
- Resume your normal activities such as work (dependent on type of work), light physical activity, driving, walking up stairs and sexual activity when advised, typically in 1-3 weeks.
- Do not drive while taking narcotic medications.
- Shower instead of a bath. Avoid tub bathing until your provider tells you that you can.
- Advance your diet as instructed. You may be asked to eat a low-residue diet for 4 weeks following surgery.
- Drink 8 to 10 glasses of water per day unless otherwise instructed.

Contact your healthcare team if you have:

- Worsening pain or pain which is unrelieved by your pain medications.
- Fever.
- Persistent vomiting, worsening abdominal pain, or swelling.
- Signs of infection such as incisional redness, swelling, bleeding, or drainage.
- Lack of bowel movement for 2 to 3 days.
- Any other concerns or questions you may have.

**What will I need at home?**

- Thermometer to check for fever which can be a sign of infection.
- Loose clothes and underwear.
- Incision and/or ostomy care items, often times supplied by the hospital/physician office.

**How can I care for myself?**

You may need a family member or friend to help you with your daily tasks until you are feeling better. It may take some time before your team tells you that it is ok to go back to your normal activity.
Be sure to take your prescribed medications as directed to prevent pain, infection and/or constipation. Call your team with any new or worsening symptoms.

There are ways to manage constipation after your surgery. You can change your diet, drink more fluids, and take over-the-counter medications. Talk with your care team before taking any medications for constipation.

Taking deep breaths and resting can help manage pain, keep your lungs healthy after anesthesia, and promote good drainage of lymphatic fluid. Try to do deep breathing and relaxation exercises a few times a day in the first week, or when you notice you are extra tense.

- Example of a relaxation exercise: While sitting, close your eyes and take 5-10 slow deep breaths. Relax your muscles. Slowly roll your head and shoulders.

This article contains general information. Please be sure to talk to your care team about your specific plan and recovery.

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