**Anal Cancer**

**What is anal cancer?**

Cancer describes a set of diseases in which normal cells in the body lose the ability to control their growth and to respect their neighbors. These cells will grow with little restraint and invade the surrounding tissues. Many cancers develop into tumor masses as they grow. Cells may also break off from the primary tumor and spread through the blood vessels or lymphatic channels to distant sites where they may implant and grow. These are called metastases.

Cancers can develop from virtually any cell type in the body. Anal cancer arises from the cells lining the anus. This area, from the anal verge, or opening, to the junction with the rectum (lower portion of the large intestine) is lined by several types of cells, any one of which can become malignant. The anal canal is only 1–2 inches long and, at rest, is closed. When the surrounding sphincter muscles relax, it opens to allow the stool to exit. The lower half of the anal canal is lined by skin and the upper half is lined by mucosa. Mucosa lines the entire intestinal tract from the mouth to the anus. The point in the mid anal canal where these two tissues meet is called the dentate line.

Most anal cancers arise from the skin cells lining the anus. These are called squamous cell carcinomas. Some arise from the special mucosal cells lining the upper anal canal and are called cloacogenic carcinomas. These are the most common anal cancers. They behave similarly and are treated in the same fashion. Cells that are becoming malignant but have not invaded below the surface are "precancerous" (carcinoma-in-situ). This condition is called Bowen’s disease or anal intraepithelial neoplasia (AIN).

**How common is anal cancer?**

Anal cancer is fairly uncommon, accounting for about 1–2% of gastrointestinal cancers. About 3,400 new cases of cancer are diagnosed each year in the USA, and about 500 people will die of the disease each year.

**Who is at risk?**

We do not know the exact cause of most anal cancers. But we do know that certain risk factors seem to increase a person’s chance of getting the disease.

**Age:** Over 50 years old

**Anal warts/Condyloma:** Human papilloma virus (HPV)

**Anal sex:** Men and women who practice anal sex are at an increased risk. This seems to be the most rapidly increasing risk group.

**Smoking:** Increases the risk of many cancers including anal cancer

**Immunosuppression:** People with weakened immune systems, such as transplant patients who must take drugs to suppress their immune systems and patients with HIV (human immunodeficiency virus).

**Chronic local inflammation:** Long-standing anal fistulas or open wounds are at a slightly higher risk.

**Pelvic radiation:** Pelvic radiation therapy for rectal, prostate, bladder or cervical cancer are at an increased risk.
Can anal cancer be prevented?

Few cancers can be prevented but your risk may be decreased by reducing your risk factors and by getting regular checkups. Avoid anal sex and infection with HPV and HIV. Use condoms whenever having any kind of intercourse. Although condoms do not eliminate the risk of infection, they do reduce it. Stop smoking – this is the best thing you can do to protect your health overall.

What are the symptoms?

Many cases of anal cancer can be found early. Anal cancers form in a part of the digestive tract that the doctor can see and reach easily. Anal cancers often cause symptoms such as:

- Bleeding from the rectum or anus
- The feeling of a lump or mass at the anus
- Pain in the anal area
- Persistent or recurrent itching
- A change in bowel habits—constipation or diarrhea
- Narrowing of the stools
- Discharge (mucous or pus) from the anus
- Swollen lymph nodes (glands) in anal or groin areas

These symptoms can also be caused by less serious conditions such as hemorrhoids, fissures and skin tags, but never assume this. If you have any of these symptoms, see your doctor.

How is anal cancer diagnosed?

Finding cancers early is the key to cure. Regular checkups with a digital (finger) exam of the rectum and anus will find many problems early. Routine screening for colorectal and anal cancer in people without any symptoms includes a digital rectal exam and test for blood in the stool yearly and a colonoscopy every 5–10 years starting at 50 years of age. If anal cancer is suspected based on your doctor's exam, a biopsy will be performed to confirm the diagnosis. If the diagnosis of cancer is confirmed, additional tests to determine the extent of the cancer may be recommended.

How does it spread?

Anal cancer spreads by direct growth and extension into the surrounding tissues including the anal muscles (direct invasion). Cells may also break off and float away in the lymphatic channels or blood vessels. These cells may lodge in lymph nodes along the lymphatic channels or in distant locations such as the liver, or lungs (metastases).

What is staging?

The prognosis (chance of cure) and choice of treatment depend on the exact location (anal canal or anal margin), stage of the cancer (whether it is just in the anus or has spread to other parts of the body), and the person’s general health.

**Stage 0:** Carcinoma in situ, AIN 3 or Bowen’s disease. Pre-cancerous changes. The abnormal cells are limited to the surface skin and have not invaded deeper.

**Stage I:** The cancer has spread into the tissues below the skin and is smaller than 2 centimeters in diameter (1 inch).

**Stage II:** The cancer is more than 2 centimeters in size but has not spread to other sites.

**Stage III:** The cancer has spread to the lymph nodes.

**Stage IV:** Cancer has spread to distant sites in the body such as the liver, lungs or bone.

**Persistence:** The cancer did not respond completely to treatment and a portion remains.

**Recurrence:** The cancer has come back (recurred) after it seemed to respond completely to initial treatment. It may come back in the anal region (local recurrence) or in another part of the body (distant recurrence).
How are anal cancers treated?

Treatment for most cases of anal cancer is very effective. There are 3 basic types of treatment used for anal cancer:

- **Surgery**: Operation to remove the cancer
- **Radiation therapy**: High-dose X-rays
- **Chemotherapy**: Drugs to kill cancer cells

Anal cancers that arise within the anal canal tend to be more aggressive than those that start in the skin outside of the anus (anal margin).

**Anal canal cancers** - Combination therapy including radiation therapy and chemotherapy is now considered the standard treatment for most anal canal cancers. Occasionally a very small or early tumor may be removed surgically (local excision), with minimal damage to the anal sphincter muscles.

**Anal margin cancers** – Many of these tumors may be treated by surgical removal alone.

Will I need a colostomy?

The majority of patients treated for anal cancer will not need a colostomy. If the tumor does not respond completely to combination therapy, if it recurs after treatment, or if it is an unusual type, an abdomino-perineal resection (APR—removal of the rectum and anus and creation of a colostomy) may be necessary.

Will the cancer come back?

Each person’s body is unique and each tumor is unique. No one can predict accurately how your cancer will respond to treatment. Statistics can paint an overall picture, but each person's body responds a little differently. Overall, 80–90% of anal cancers will respond to combination therapy with complete resolution. 5–10% of patients will experience a recurrence.

What happens after treatment?

Follow-up care to assess the results of treatment and to check for recurrence is very important. Many tumors that recur can be successfully treated if they are caught early. A careful examination by an experienced physician at regular intervals is the most important method of follow-up. Our routine is to perform a clinical examination 6 weeks and 3 months after completion of treatment. Exams are then performed every 3 months until 2 years have passed. Between 2 and 5 years after treatment, exams are performed every 6 months. Additional follow-up exams may include an anal ultrasound, chest x-rays or CT scans. Make a special effort to keep all appointments and follow instructions carefully. Report any new symptoms or problems to your doctor right away.

Anal cancers are unusual tumors arising from the skin or mucosa of the anal canal. Early detection is associated with excellent survival. Recurrences may also often be treated successfully. Follow the recommended screening examinations for anal and colorectal cancer and consult your doctor early when any anorectal symptoms occur.