

Radiation Medicine Department

Pancreatic Cancer: Treatment

Treatment

The treatment options and prognosis (chance of recovery) depend on the stage of the cancer (the size of the tumor and whether the cancer has spread outside the pancreas to nearby tissues or lymph nodes or to other places in the body) and the patient's general health. Lymph nodes are small, bean-shaped structures found throughout the body. They filter substances in a fluid called lymph and help fight infection and disease.

Pancreatic cancer can be controlled only if it is found before it has spread, when it can be removed by surgery. If the cancer has spread, palliative treatment can improve the quality of life by controlling the symptoms and complications of this disease.

Depending on the type and stage, pancreatic cancer may be treated with

- **Surgery**
- **Chemotherapy**
- **Radiation therapy**
- **Combination Therapy**

Surgery

The surgeon may remove all or part of the pancreas. The extent of surgery depends on the location and size of the tumor, the stage of the disease, and your general health.

- **Whipple procedure:** If the tumor is in the head (the widest part) of the pancreas, the surgeon removes the head of the pancreas and part of the small intestine, bile duct, and stomach. The surgeon may also remove other nearby tissues.
- **Distal pancreatectomy:** The surgeon removes the body and tail of the pancreas if the tumor is in either of these parts. The surgeon also removes the spleen.
- **Total pancreatectomy:** The surgeon removes the entire pancreas, part of the small intestine, a portion of the stomach, the common bile duct, the gallbladder, the spleen, and nearby lymph nodes.

If the cancer has spread and cannot be removed, the following types of palliative surgery may be done to relieve symptoms:

- **Surgical biliary bypass:** If cancer is blocking the small intestine and bile is building up in the gallbladder, a biliary bypass may be done. During this operation, the doctor will cut the gallbladder or bile duct and sew it to the small intestine to create a new pathway around the blocked

area.

- **Endoscopic stent placement:** If the tumor is blocking the bile duct, surgery may be done to put in a stent (a thin tube) to drain bile that has built up in the area. The doctor may place the stent through a catheter that drains to the outside of the body or the stent may go around the blocked area and drain the bile into the small intestine.
- **Gastric bypass:** If the tumor is blocking the flow of food from the stomach, the stomach may be sewn directly to the small intestine so the patient can continue to eat normally.

Surgery may be used alone or in combination with radiation therapy and chemotherapy.

Chemotherapy

Chemotherapy is a cancer treatment that uses drugs to stop the growth of cancer cells, either by killing the cells or by stopping the cells from dividing. When chemotherapy is taken by mouth or injected into a vein or muscle, the drugs enter the bloodstream and can reach cancer cells throughout the body (systemic chemotherapy).

When chemotherapy is placed directly into the spinal column, an organ, or a body cavity such as the abdomen, the drugs mainly affect cancer cells in those areas (regional chemotherapy). The way the chemotherapy is given depends on the type and stage of the cancer being treated.

Radiation Therapy

There are two types of radiation therapy.

External Radiation Therapy

External radiation therapy uses a machine called a linear accelerator to deliver a uniform dose of high-energy x-ray to the region of the tumor. These x-rays can destroy the cancer cells, while sparing the surrounding normal tissue.

The linear accelerator uses microwave technology (similar to that used for radar) to accelerate electrons in a part of the accelerator called the wave guide and then allows these electrons to collide with a heavy metal target. As a result of these collisions, high energy x-rays are scattered from the target.

A portion of these x-rays is collected and then shaped to form a beam that matches the tumor. The beam comes out of a part of the accelerator called a gantry, which rotates around the patient. The patient lies on a movable treatment couch and lasers are used to make sure you are in the proper position.

Radiation can be delivered to the tumor from any angle by rotating the

gantry and moving the treatment couch.

External beam therapy is painless. You do not see or feel the actual treatment. Most patients are treated on an outpatient basis, coming from and returning home after each treatment. Most people can even continue with their normal daily activities.

Internal Radiation Therapy (Brachytherapy)

Brachytherapy involves placing radiation sources as close as possible to the tumor site. Sometimes, they may be inserted directly into the tumor. The radioactive sources or isotopes are in the form of wires, seed, (or molds), or rods.

In some instances, brachytherapy may be used in conjunction with external beam therapy. When both forms are employed, the external beam radiation is intended to destroy cancerous cells in a large area surrounding the tumor, while the brachytherapy delivers a boost, or higher dose of radiation, to help destroy the main concentrated mass of tumor cells.

Side Effects of Radiation Therapy

Because treatment may damage healthy cells and tissues, unwanted side effects are common. These side effects depend on many factors, including the location of the tumor and the type and extent of the treatment.

Side effects may not be the same for each person, and they may even change from one treatment session to the next.

Before your treatment starts, your health care team will explain possible side effects and suggest ways to help you manage them.

Common side effects include:

- Fatigue
- Dry mouth
- Changes in taste and/or smell
- Nausea
- Abdominal pain – such as cramping or bloating
- Local swelling
- Changes in skin texture (over area being treated)
- Diarrhea

Pain Control

Pain is a common problem for people with pancreatic cancer. The tumor can cause pain by pressing against nerves and other organs.

Your doctor or a specialist in pain control can relieve or reduce pain in several ways:

