

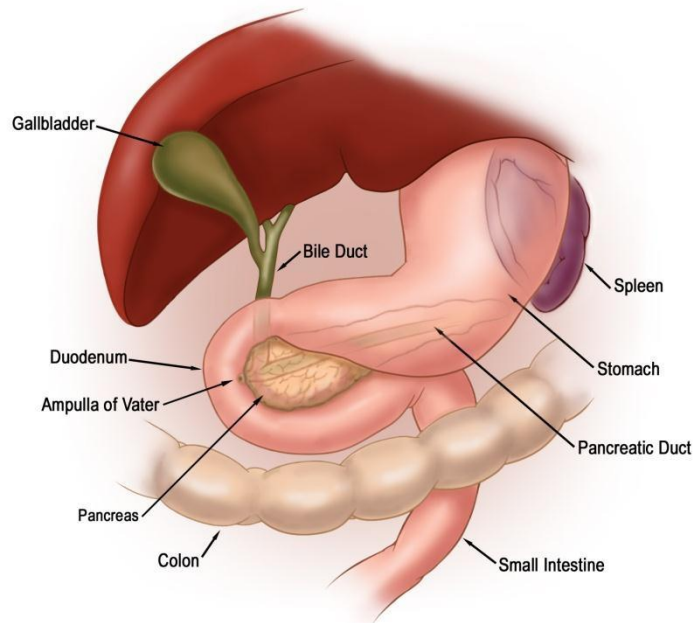
## Gallbladder Cancer

### What is the gallbladder?

The gallbladder is a pear-shaped organ that lies just under the liver in the upper abdomen. The gallbladder stores bile, a fluid made by the liver. Bile is secreted into the intestines from the bile duct to help the body digest fats.

### What is gallbladder cancer?

Gallbladder cancer is a rare disease in which cancer cells are found in the tissues of the gallbladder. Approximately 6,000 new cases are diagnosed each year in the United States. Unfortunately, most gallbladder cancers are diagnosed at an advanced stage due to late signs and symptoms of the disease. Only about 1 out of 5 gallbladder cancers is found in the early stages where the cancer has not spread beyond the gallbladder.



The gallbladder and surrounding organs

### Are there different types of gallbladder cancer?

- More than 80 percent of gallbladder cancers are called adenocarcinoma, which is the most common type of gallbladder cancer. These cancer cells arise in glands around the gallbladder.
- The remaining 20 percent of gallbladder cancers are called squamous cell or mixed carcinoma. Squamous cell cancers arise from the skin cells around the gallbladder.

### What are the risk factors for gallbladder cancer?

- **Gender** – In the United States, gallbladder cancer affects two times more women than men.
- **Ethnicity** – In the United States, Native Americans and Mexican Americans are at the highest risk of developing gallbladder cancer. Worldwide, gallbladder cancer is more common in Asia, Eastern Europe and South American countries than in the United States.
- **Age** – Older individuals are more frequently diagnosed with gallbladder cancer. The average

age at which patients are diagnosed with gallbladder cancer is 73.

- **Disease history** – Gallstones are the most common risk factor. Other risk factors include a history of bile duct cysts, abnormal bile ducts, gallbladder polyps, calcified gallbladders and typhoid carriers (a person who shows no symptoms of typhoid but carries the infectious agents and is capable of transmitting typhoid to others).
- **Behavioral factors** – Obese persons and smokers

## What are the symptoms of gallbladder cancer?

In early stages, gallbladder cancer usually does not show any symptoms.

Late stage symptoms:

- Right upper abdominal pain
- Nausea and vomiting
- Fatty food intolerance – having pain or nausea/vomiting after eating fatty foods
- Weight loss and/or loss of appetite
- Jaundice - skin or the white part of the eyes turn yellow
- Fever
- Ascites - fluid collection in the abdomen

## What is staging and what tests are used to determine staging?

After gallbladder cancer is diagnosed, other tests and exams are done to determine the extent of the cancer. This process is called staging. Staging the tumor determines the size of the tumor and if the tumor has metastasized (spread to other parts of the body).

Tests used to determine staging may include:

- **Ultrasound (Ultrasonography)** – A procedure in which high-energy sound waves (ultrasound) are bounced off internal tissue or organs and make echoes. The echo patterns are shown on the screen of an ultrasound machine, forming a picture of body tissue called a sonogram. Ultrasound can show a thickened gallbladder wall and may show that the tumor has grown into the liver.
- **Computerized Tomography (CT) Scan** – Takes highly-detailed pictures of internal organs which are analyzed by a computer. A CT scan is more helpful than ultrasound in assessing the surrounding lymph nodes and spread of disease into the liver or adjacent structures.
- **Magnetic resonance imaging (MRI)** – A test that uses magnetic fields and radio (sound) waves to create computerized images of the brain, spine, bones and soft tissue such as organs, muscle, cartilage, ligaments and tendons. An MRI can evaluate cancer that has spread into the liver.
- **Endoscopic retrograde cholangiopancreatography (ERCP) or transhepatic cholangiography (THC)** – ERCP combines the use of X-rays and an endoscope, which is a long, flexible, lighted tube. An ERCP helps diagnose and often treat a variety of diseases and symptoms. This test can detect jaundice and determine the location of an obstruction in the bile duct and if the cancer has spread into the liver.

## TNM Staging for Gallbladder Cancer

This staging system describes the extent of cancer in the body. T describes the size of the tumor and whether it has spread to nearby tissue. N describes any lymph nodes that are involved, and M describes the metastasis. This happens when the cancer has spread from one body part to another.

	T1	T2	T3	T4
N0	*IA	II	IIIA	IVA
N1	IIIB	IIIB	IIIB	IVA
N2	IVB	IVB	IVB	IVB
M1	IVB	IVB	IVB	IVB

TNM staging chart

**Early stage gallbladder cancer (Stage IA)** - Cancer is limited inside the gallbladder wall and does not involve lymph nodes.

**Stage II** - The cancer has grown through the connective tissue of the gallbladder wall but not extended beyond the outer layer of the gallbladder wall or into the liver.

**Stage III** –

- IIIA – The cancer has grown outside of the gallbladder wall and/or directly invades the liver and/or one other adjacent organ or structure such as the stomach, duodenum, colon, pancreas, omentum or bile ducts.
- IIIB – The cancer has spread to nearby lymph nodes (N1), but it has not invaded the main blood vessels leading into the liver or reached more than one nearby organ other than the liver. It has not spread to tissues or organs far away from the gallbladder.

**Late stage gallbladder cancer (Stage IV)** –

- IVA – The cancer invades the main blood vessels leading into the liver and/or has reached more than one nearby organ other than the liver (T4). It may have spread to nearby lymph nodes. It has not spread to organs far away from the gallbladder.
- IVB – The cancer has spread to other parts of the body or the cancer has spread to distant lymph nodes.

## How is gallbladder cancer treated?

Treatment may involve surgery, chemotherapy, radiation therapy or a combination of these. Your treatment depends on many factors, which your doctor will discuss with you. Sometimes surgery is performed first and then if indicated, radiation therapy follows. There are other situations in which surgery is the only treatment required. These treatment options are described below.

### Surgery

Surgery is the primary and most successful form of treatment for stage I and stage II tumors. Patients with early stage gallbladder cancer have a greater potential of being cured than patients with later stage cancer.

If your doctor believes surgery is the best option to treat your cancer, you will meet with a surgeon who will explain the type of surgery he or she recommends. The type of surgery performed depends upon:

- The tumor size

- Location of the tumor
- Whether the tumor has spread to the liver or other structures

## **Radiation Treatment**

Radiation treatment uses high-energy X-rays or other types of radiation to kill cancer cells. Your doctor may recommend radiation treatment after surgery – this is called adjuvant therapy. The role of adjuvant radiation therapy is to control tiny cancer cells that may remain in the body after surgery.

Patients with later stage gallbladder cancer may receive radiation and chemotherapy at the same time to help relieve symptoms.

## **Chemotherapy**

Chemotherapy uses drugs to stop the growth of cancer cells, either by killing the cells or by stopping the cells from growing.

## **Clinical Trials**

Some treatment for gallbladder cancer is standard (the currently used treatment), and other treatments are being tested in clinical trials. Before starting treatment, you may want to think about taking part in a clinical trial. A treatment clinical trial is a research study meant to help improve current treatments or obtain information on new treatments for patients with cancer. When clinical trials show that a new treatment is better than the standard treatment, the new treatment may become the standard treatment. For more information on clinical trials, ask your doctor.

Choosing the most appropriate cancer treatment is a decision that ideally involves the patient, family and health care team.

## **Life with Cancer**

Members of your health care team include doctors, physician assistants (PAs), nurses, dietitians, pharmacists, clerical staff and social workers. They all provide an important part of your care and work together to meet your specific needs.

Your health care team is available to answer any questions you may have about your health care during and after treatment. Ask them about follow-up care to help guide you in managing your condition.

A cancer diagnosis is often emotionally, financially and socially challenging to patients and their loved ones. To help you cope, Baptist MD Anderson Cancer Center offers many resources to assist you.

## Resources

The following organizations provide accurate, up-to-date information to patients and their families.

### **American Cancer Society**

800-227-2345

<http://www.cancer.org>

The American Cancer Society (ACS) is a voluntary national health organization with local offices around the country. The ACS supports research, provides information about cancer, and offers many programs and services to patients and their families.

### **Cancer Information Service**

800-422-6237

<http://cis.nci.nih.gov/>

The Cancer Information Service (CIS) is a program of the National Cancer Institute (NCI). People who call the CIS speak with highly trained and caring information specialists who can answer questions about cancer screening tests, risks, symptoms, how cancer is diagnosed, the latest treatments and support organizations.