CONDITION

Tumor

A tumor is an abnormal mass of tissue that may be noncancerous or cancerous.

WHAT IT IS
Abnormal tissue mass that may be benign or cancerous

BODY SYSTEM
Any body system

MAIN SYMPTOMS
New lump, swelling, pain, organ-specific changes

WHAT CAUSES IT
Gene changes from inherited, environmental, or unknown factors

HOW IT IS DIAGNOSED
Imaging and often biopsy with laboratory examination

MAIN TREATMENT
Monitoring, surgery, medicines, radiation, or other local treatment

CAN IT BE CURED?
Sometimes - complete removal or treatment is possible

IS IT AN EMERGENCY?
Sometimes - breathing trouble, severe bleeding, or new neurologic symptoms

LONG-TERM OUTLOOK
Based on type, location, growth, spread, and treatment

Overview

A tumor is an abnormal mass of tissue. It forms when cells grow, divide, or survive in a way that is not normally controlled. The medical term for this new growth is a neoplasm .

A tumor may be benign , meaning noncancerous, or malignant , meaning cancerous. Some tumors are described as borderline or as having uncertain behavior because their future growth is not yet clear.

Benign tumors do not spread to distant parts of the body. Many grow slowly and cause few problems. However, a benign tumor can still matter if it presses on the brain, nerves, airways, blood vessels, or other organs. Some benign tumors also produce hormones.

Malignant tumors can invade nearby tissue. Their cells may also travel through the blood or lymph system and form tumors elsewhere. This process is called metastasis .

Not every lump or abnormal area is a tumor. Infections, inflammation, cysts, scar tissue, and enlarged organs can also cause a mass. Likewise, not every cancer forms a solid tumor. Blood cancers such as leukemia usually do not.

The word "tumor" alone does not describe how serious a finding is. The tumor's cell type, location, size, growth rate, and ability to spread are more informative.

Symptoms

Tumor symptoms differ widely because tumors can develop almost anywhere. Some are found before they cause symptoms, often during imaging or an examination for another reason.

A tumor near the skin may appear as a new lump or an area that is changing. Tumors deeper inside the body may cause pressure, pain, swelling, or problems with the affected organ.

Possible symptoms include:

These symptoms often have causes other than a tumor. A lump may be a cyst, for example, while fatigue can occur with many common conditions. Symptoms that persist, worsen, or cannot be explained should be assessed rather than used to diagnose yourself.

- A new lump, thickening, or swelling
- Pain or pressure that persists or gradually worsens
- Changes in bowel or bladder habits
- Unexplained bleeding
- Difficulty swallowing, speaking, breathing, or moving
- Headaches, seizures, weakness, or changes in vision
- Unexplained weight loss, reduced appetite, or ongoing fatigue
- Symptoms caused by excess hormones, such as sweating or a fast heartbeat

Causes and risk factors

Tumors develop because of changes in genes that control cell growth, repair, and death. These changes allow abnormal cells to keep growing or to avoid being removed by the body.

Gene changes may be acquired during life. They can happen by chance as cells divide or after exposure to substances that damage cells. Some are inherited from a parent. An inherited gene change increases the chance of certain tumors but does not mean that a tumor will

definitely develop.

Risk factors differ by tumor type. They may include:

A person can develop a tumor without any known risk factor. Having one or more risk factors also does not confirm that a tumor is present.

Benign tumors are not all caused in the same way. Some are linked to hormones, inherited conditions, previous injury, or abnormal development. For many, no specific cause is found.

- Increasing age
- Tobacco or heavy alcohol exposure
- Ultraviolet light or ionizing radiation
- Certain infections, such as human papillomavirus or hepatitis viruses
- Long-term inflammation
- Some workplace or environmental exposures
- A personal or family history of particular tumors
- An inherited tumor syndrome

Diagnosis

Assessment usually starts with your symptoms, medical history, family history, and a physical examination. The next steps depend on where the suspected tumor is and what it looks like.

Imaging may show the tumor's size, location, and relationship to nearby structures. Tests can include ultrasound, X-ray, computed tomography (CT), magnetic resonance imaging (MRI), or positron emission tomography (PET). An imaging report may use words such as "mass," "nodule," or "lesion." These terms describe an abnormal area; they do not by themselves mean cancer.

Blood or urine tests may look for organ changes or substances produced by certain tumors. These substances are sometimes called tumor markers . A marker result usually cannot confirm or exclude a tumor by itself.

For many tumors, a biopsy is needed. During a biopsy, a small tissue sample is removed with a needle, an endoscope, or an operation. A pathologist examines the cells under a microscope. Laboratory tests may also look for proteins or gene changes that help identify the tumor and guide treatment.

Sometimes the entire mass is removed and examined instead of taking a small sample. In other situations, a biopsy may be unsafe or unnecessary, and the diagnosis is based on

characteristic imaging and clinical findings.

If a tumor is cancerous, the results may include:

These terms answer different questions. A high-grade tumor is not automatically the same as an advanced-stage tumor.

- Type: the cells or tissue where it began
- Grade: how abnormal the cells look and how quickly they may grow
- Stage: the tumor's size and whether it has spread
- Molecular features: cell changes that may affect treatment choices

Treatment and management

Treatment is based on whether the tumor is benign or malignant, where it is located, whether it is causing symptoms, and how it is behaving. Your general health and preferences also matter.

A small benign tumor that is not changing may only need monitoring. This is sometimes called observation or active surveillance. Follow-up may involve examinations, scans, or blood tests at planned intervals.

Surgery can remove all or part of a tumor. It may provide a cure when the whole tumor can be removed safely and is unlikely to return. Surgery may also relieve pressure, bleeding, obstruction, or pain.

Radiation therapy uses high-energy radiation to damage tumor cells in a carefully targeted area. It may be used alone or with surgery or medicines.

Medicines that act throughout the body are called systemic treatments. Depending on the tumor, these can include chemotherapy, hormone therapy, targeted therapy, or immunotherapy. Targeted therapy acts on specific features of tumor cells. Immunotherapy helps the immune system recognize or attack certain cancers.

Other local treatments include freezing, heating, blocking a tumor's blood supply, or using focused energy to destroy tissue. These approaches are appropriate only for selected tumors.

Treatment can cause side effects because nearby tissue or healthy cells may also be affected. The likely effects depend on the treatment and the part of the body involved. Symptom control, rehabilitation, nutrition support, and emotional support can be part of care at any stage.

Complications

A tumor can cause problems through its location, size, biological behavior, or treatment.

Even a benign tumor may compress nerves, block an airway or intestine, weaken bone, or interfere with an organ. A tumor inside the skull can be serious because the skull leaves little room for expansion.

Some tumors bleed, become infected, or release hormones. Others may reduce blood cell production, interfere with nutrition, or cause fluid to collect around organs.

Malignant tumors may invade nearby tissue or spread to distant organs. Treatment can also have short-term or lasting effects, including fatigue, pain, nerve problems, changes in fertility, or reduced organ function. Not everyone develops these complications.

After treatment, some tumors can return in the same place or elsewhere. This is called recurrence. Follow-up is used to watch for recurrence and manage ongoing effects of treatment.

Prevention

Not all tumors can be prevented. This is especially true when a tumor results from inherited gene changes, chance errors during cell division, or causes that are not known.

Some cancerous tumors are less likely when avoidable risks are reduced. This may include not using tobacco, limiting alcohol, protecting skin from ultraviolet light, and receiving recommended vaccines against infections linked to cancer.

Healthy weight, physical activity, and reducing harmful workplace exposures may lower the risk of certain cancers. They cannot guarantee that a tumor will not develop.

Screening is not the same as prevention. Screening aims to find certain cancers or precancerous changes before symptoms begin. In some cases, removing precancerous tissue can prevent cancer. Screening is only established for particular body sites and age or risk groups.

People with a strong family history or a known inherited tumor syndrome may be offered genetic counseling and tailored surveillance. An inherited risk cannot be removed, but earlier or more frequent monitoring may be useful.

Living with it and what to expect

The course of a tumor over months or years is shaped by its type and location. Some benign

tumors remain unchanged for a long time and never need treatment. Others slowly enlarge or begin to cause symptoms, leading to a change from monitoring to treatment.

After complete removal, some tumors do not return. Others can regrow, even when they are benign. Planned follow-up helps detect meaningful changes without assuming that every symptom is a recurrence.

Cancerous tumors also have many possible courses. Some are cured with local treatment. Some require several types of treatment over months. Others are managed as long-term illnesses, with treatment changed when the tumor responds, remains stable, or begins growing again.

Follow-up may include appointments, examinations, imaging, or laboratory tests. The schedule is based on the specific tumor rather than the word "tumor" alone.

Treatment and uncertainty can affect sleep, work, relationships, body image, sexuality, or plans for the future. Rehabilitation may help with strength, movement, speech, or daily tasks. Palliative care can help control symptoms and treatment effects at any stage; it is not limited to the end of life.

When to get medical help

Arrange a routine medical appointment for a new lump, swelling, or unexplained symptom that persists, grows, or changes. You should also seek assessment for unexplained bleeding, ongoing pain, repeated vomiting, altered bowel habits, unexpected weight loss, or symptoms that interfere with normal activities.

If you are already being monitored for a tumor, contact your care team between planned visits if symptoms change or treatment side effects become difficult to manage. Routine follow-up remains important even when you feel well.

Seek urgent medical help for:

Call emergency services for severe trouble breathing, collapse, unresponsiveness, uncontrolled bleeding, or signs of a stroke. These symptoms have several possible causes, but they need immediate assessment.

- New weakness, numbness, confusion, or difficulty speaking
- A first seizure or a seizure lasting longer than expected
- Repeated vomiting with a severe or worsening headache
- Sudden loss of vision or major change in balance

- Significant bleeding or rapidly increasing swelling
- Severe pain that is new or not controlled

Common questions

Is every tumor cancer?

No. Benign tumors are not cancer and do not spread to distant organs. Malignant tumors are cancerous and can invade or spread. Some tumors have uncertain behavior and need monitoring or further testing before they can be classified.

Can a benign tumor still be dangerous?

Yes, in some circumstances. A benign tumor can press on the brain, spinal cord, airway, blood vessels, or another vital structure. It can also produce hormones or cause bleeding. Many benign tumors, however, remain small and cause little or no harm.

Does finding a mass on a scan mean I have cancer?

No. "Mass," "nodule," and "lesion" are descriptive imaging terms. The finding could be a benign tumor, cyst, inflammation, scar, infection, or cancer. Its appearance, past scans, further imaging, and sometimes a biopsy help clarify what it is.

Can a tumor shrink without treatment?

Some tumors can shrink, particularly when they are affected by hormone changes or inflammation. This is not common for every tumor type and should not be assumed. A change in size is usually assessed with examinations or comparable scans.

Can a biopsy make cancer spread?

Biopsies are standard diagnostic procedures, and spread along a biopsy path is very rare. The safest method and needle route are chosen for the suspected tumor. The benefit of obtaining an accurate diagnosis usually outweighs this small risk.

How fast does a tumor grow?

Growth can range from barely changing over years to increasing over weeks or months. Size alone does not show whether a tumor is benign or malignant. Comparing scans taken at different times and examining tissue provide more useful information.

Sources

- National Cancer Institute. Definition of tumor, NCI Dictionary of Cancer Terms
- National Cancer Institute. What Is Cancer?
- National Cancer Institute. Tests and Procedures Used to Diagnose Cancer
- National Cancer Institute. Cancer Staging
- National Cancer Institute. Types of Cancer Treatment
- Radiological Society of North America and American College of Radiology. Biopsy Overview