

Comprehensive Skull Base Program • 214-645-3400 • utswmedicine.org/skullbase

SINUS AND NASAL CAVITY CANCER

Overview:

The sinuses are small hollow spaces inside the nose and behind the eyes. The maxillary sinuses are air-filled bony cavities that are located above the teeth, and below the eyes. The ethmoid sinuses are located in the space between the eye sockets and above the nose. The nasal cavity is the passageway just behind the nose through which air passes on the way to the throat during breathing. Tumors of the nose and sinuses are rare. These tumors are divided into benign and malignant (cancerous) tumors. Most common nasal and sinus cancers are squamous cell carcinoma and adenocarcinoma. Tumors of the sinuses are important given their location close to the eyes and the brain.

What are the common signs and symptoms of sinus and nasal cavity cancer?

Early symptoms are often non-specific and may be confused with allergies or sinus infection. As tumors grow, they may cause nasal blockage or bleeding. Larger tumors can cause severe headaches or blurry vision. Common signs and symptoms may include:

- Blocked nasal passageway(s) that does not clear
- Frequent headaches or pain affecting the sinus region
- Pus draining from the nose
- Decreased or loss of sense of smell
- Numbness in cheek or other parts of the face
- Loosening, pain or numbness of the teeth
- Blurry or double vision or swelling of the eyes
- Problems with dentures
- Growth on the face, nose, or palate

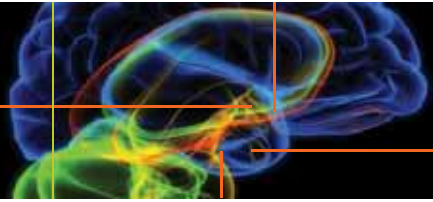
How is paranasal sinus and nasal cavity cancer diagnosed?

Several important steps are required to diagnose these cancers.

- Nasal endoscopy: the ENT specialist can use a small flexible or rigid scope with a camera at the end to examine the nose and sinus area. This can help establish diagnosis and can also be used to perform a biopsy to help determine the type of cancer.
- CT or CAT scan (also called computed tomography): scan involves taking series of detailed x-ray images inside the nose and sinuses. This helps define the extent of the tumor inside the nose and sinuses.
- MRI (also called magnetic resonance imaging): procedure in which radio waves and a powerful magnet linked to a computer are used to create detailed soft tissue images of the nose, sinuses, brain, and eyes.

What are the stages of paranasal sinus and nasal cavity cancer?

Sinus cancers are categorized into Stages I, II, III, and IV. In general, as the tumor grows larger and involves more areas of the sinuses, the stage is considered more advanced.



continued

Comprehensive Skull Base Program • 214-645-3400 • utswmedicine.org/skullbase

The following are the stages for maxillary sinus cancer, which is the most common kind of sinus cancer:

Stage 0: Cancer is found in the superficial lining of the maxillary sinus only. Stage 0 cancer is also called carcinoma in situ.

Stage I: Cancer is found in the mucous membranes of the maxillary sinus.

Stage II: Cancer has spread to bone around the maxillary sinus, including the roof of the mouth and the nose.

Stage III: In stage III, cancer is found in any of the following places:

- Bones around the maxillary sinus
- Tissues under the skin
- Eye socket
- Base of the skull
- Ethmoid sinuses
- Lymph nodes

Stage IV: This stage involves the spread of cancer to areas including:

- Skin of the cheek
- Behind the jaw
- Bone between the eyes
- Sphenoid or frontal sinuses
- Lymph nodes
- Brain
- Other parts of the body

The following stages are used for nasal cavity and ethmoid sinus cancer:

Stage 0: Cancer is found in the innermost lining of the nasal cavity or ethmoid sinus only. Stage 0 cancer is also called carcinoma in situ.

Stage I: Cancer is found in only one area of either the nasal cavity or the ethmoid sinuses.

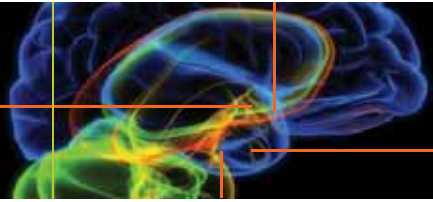
Stage II: Cancer may have spread to nearby sinuses and possibly into bone.

Stage III: In stage III, cancer is found in any of the following places:

- Eye socket
- Maxillary sinus
- Roof of the mouth.

Stage IV: During this stage, cancer can be found in:

- Eye socket
- Skin of the nose or cheek
- Base of the skull
- Sphenoid or frontal sinuses
- Brain
- Other parts of the body



Comprehensive Skull Base Program • 214-645-3400 • utswmedicine.org/skullbase

How is cancer of the paranasal sinus and nasal cavity treated?

The following treatments are used for cancer of the paranasal sinuses and nasal cavity:

- **Surgery:** Traditionally, tumors of the sinuses have been removed by open craniofacial resection. This involves making incisions on the face and a craniotomy (removal of forehead bone flap) by a neurosurgeon to achieve tumor resection. With the advances in sinus endoscopy, many of these tumors can now be removed directly through the nose. Minimally invasive endoscopic resection can avoid the need for facial incisions or a craniotomy. The complications are decreased and the recovery is faster. Tumors with extensive brain involvement may still require a craniotomy. All cases are presented at the Multidisciplinary Skull Base Conference to devise the best treatment plan for each patient.
- **Radiation therapy:** The use of high-dose x-rays or other high-energy rays to kill cancer cells. Typically, radiation is used after surgery to minimize the risk of cancer recurrence.
- **Chemotherapy:** The use of drugs to kill cancer cells. Chemotherapy is used in selected cases of aggressive sinus cancers before or after surgery. In selected cases, it may also be used to treat recurrent cancer.

Can cancer of the paranasal sinus and nasal cavity be prevented?

Many people with cancer of the nasal cavity and paranasal sinuses have no known risk factors, so there is no way to prevent these cancers. People who smoke can potentially reduce their risk by no longer using tobacco products. People who work with potentially harmful substances, especially industrial chemicals, should find out if they are being protected from harmful exposure to these substances.

What is the prognosis (chance of recovery) for someone with paranasal sinus and nasal cavity cancer?

The prognosis depends on the location and type of the cancer, the stage of the cancer, and the patient's general state of health. Five-year survival rates for people with nasal cavity and sinus cancer range from 80-90% for small cancers that have not spread to 10 to 20% for people with advanced cancers.

Making an Appointment

Primary care physicians typically refer new patients to UT Southwestern Medical Center. If an individual does not need a referral, they may make an appointment through the following options:

- Complete an online Request an Appointment Form.
- Call 214-645-6455 or 866-645-6455 (toll free).

Physicians referring a patient may use the above options or the following:

- Complete an online Physician Referral Form.
- Call 866-645-5455 (toll free).
- Call the Comprehensive Skull Base Program Physician Referral Line 214-645-3400

After-Hours Care

Current UT Southwestern patients who need urgent care outside of normal business hours may call 214-648-3111 to leave a page for our on-call physician.

Emergency Care

If an individual is experiencing a life-threatening problem, they should call 911 immediately or go to the nearest emergency room. UT Southwestern's emergency room is located at University Hospital-St Paul, 5909 Harry Hines Blvd. (corner of Harry Hines Boulevard and Inwood Road).