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# **Risk factors, Diagnosis & Treatment of Oral Cancer**

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**Date of submission:** 18-4-2018.

**Abstract:**

Oral cancer, also known as mouth cancer, may occur in any part of your mouth. It is one of the types of **head and neck cancer**. It can occur in any region of the oral cavity such as the lip, the floor of the mouth, palate, gingival (gums), or in the tongue<sup>[1]</sup>. Cancers of the oral cavity may arise from different tissues such as salivary gland, muscle, and blood vessels, or even may be present as metastases from different sites.

**Introduction:**

Oral cavity is the most frequent anatomical subsite of upper aero-digestive tract malignancies. Squamous cell carcinoma is the most common histological type and totalizes more than 95% of oral cancer. Main risk factors are tobacco and alcohol exposure and also potentially malignant lesions. These precancerous lesions are a chronic disease of oral mucosa and are responsible for about 20% of oral cancer. The treatment of oral cancer depends on clinical, radiological and endoscopic staging and according to the multidisciplinary tumor board decision. Indeed, tumor staging gives information about loco-regional and metastatic spread. Treatment can include surgery, radiation therapy and chemotherapy. However, the prognostic mainly depends on tumor resectability and patient comorbidities. Tumor removal is often associated with reconstruction procedures in order to restore phonation, swallowing and breathing functions with acceptable aesthetic outcomes. The usual delayed diagnosis explains the poor prognostic of oral cancer in spite of prevention attempt and therapeutic improvement. Indeed [2], the profile of tobacco and alcoholic patients outside of medical system, the high rate of recurrence and the frequency of second primary malignancies explain the stable incidence for years.

**Discussion:****What are the risk factors?**

Certain behaviors increase your risk of **oral cancer** like smoking, use of smokeless tobacco or chewing tobacco (popularly available as gutka in India), excessive consumption of alcohol are on top of the causes list. The risk doubles if you have a habit of both smoking and drinking. These are the preventable risk factors, and you can adopt some measures to minimize them. Usually, men are at high risk, but a study reported that urban females and rural males are at more risk when compared to urban males and rural females, [4] these are non-modifiable risk factors, as you cannot take any measures to modify or change them.

Additional risk factors include:

1. Exposure to UV radiation.
2. **Human papillomavirus (HPV)**, a group of 150 related viruses infecting humans.
3. Nutritional deficiencies.
4. Oral lichen planus (an inflammatory condition affecting mucous membrane inside your mouth).
5. Immuno-suppression.
6. Chronic irritation.
7. Chronic candidiasis (fungal infection).
8. A family history of oral or other types of cancer.

### **How is the diagnosis of oral cancer made?**

Diagnosis of oral cancer in its early stage provides you with the best chance for long-term survival and affordable **healthcare**, by improving treatment outcomes. So, routine screening is recommended. When you arrive for a screening of oral cancer, your doctor will perform an oral examination initially. The checkup involves examination of the complete head, neck, face, and oral cavity for the presence of lumps, sores, or any discolored tissue. If there is any abnormal growth or tumor, your doctor recommends a biopsy. A biopsy involves examination of a sample of tissue (obtained from the tumor) for the presence of cancerous cells. Endoscopy is performed to examine upper digestive system and lungs. Imaging studies such as **X-ray, computed tomography (CT) scan**, and magnetic resonance imaging (MRI) scan are performed to determine the spread of the disease in other parts of your body. Positron emission tomography (PET) scan is performed to detect the presence and severity of tumor extent in the whole body. It also helps to locate the site, determine the size, differentiate benign from malignant tumors, and select the appropriate treatment [3].

### **Staging of cancer:**

Stage 0: Early stage of cancer. Cancer cells are found only in the cells in the lining of the mouth.

Stage 1: The tumor is less than 2 cm in size.

Stage 2: The tumor is 2-4 cm in size.

Stage 3: The tumor is larger than 4 cm or the cancer cells have spread to nearby lymph nodes (with lymph node tumor smaller than 3 cm).

Stage 4: Cancer has spread to the lymph node (with lymph node tumor larger than 3 cm) and the other parts of the mouth or body.

### **How is oral cancer treated?**

Surgery, radiation therapy, and chemotherapy are the treatment options. Some people receive a combination of treatments too. Other therapies such as supportive care, symptomatic treatment, or palliative treatment are also available, these treatments are to relieve from side effects of the therapy and help overcome emotional problems [1], depending on the stage of cancer, your doctor provides the necessary treatment. Your doctor also takes into account expected side effects and your ability to talk and swallow, before choosing the treatment.

- In the early stages of cancer, stage 0, as there is no deeper invasion of cancer cells, your doctor may recommend thin resection, also known as surgical stripping. It involves r
- removing the top layers of the infected tissue [1].
- Surgery or radiation therapy will be a better option, if your cancer is at later stages. For lesions on the front of the tongue, floor of the mouth, gums, hard palate, and inside of the cheek, surgery would be the best option. Surgery involves complete removal of the tumor.

- Radiation therapy will be the best option, if you have lesions on the back of the tongue, tonsils, and soft palate. Radiation therapy is performed using high energy beams and x-rays to kill cancer cells.
- Chemotherapy involves killing the cancer cells with the help of drugs. It increases the effectiveness of radiation therapy, so mostly used along with radiation. Cancer tissue, if left, after the radiation therapy or surgery, is also treated by chemotherapy[3].
- Targeted drugs are a new form of treatment in which these drugs interfere with the growth of cancer cells by binding to them. This treatment is effective at early and advanced stages. Monoclonal antibodies are one of the approved targeted drugs to treat head and neck cancers [3].
- You may experience some complications due to cancer therapy. Some of the significant side-effects include: sore throat, tooth decay, dry mouth, painful gums and mouth, nausea and vomiting, hair loss, anemia.

#### **How to overcome the treatment and be fit again?**

Proper nutrition is very essential to cope with the treatment and side effects. Therefore, you should discuss with your dietitian to make a well-balanced diet plan. It is also important to maintain a healthy weight during the treatment. You can try mild to moderate exercises, massage therapy, and relaxation techniques. Do not smoke, use tobacco, or consume alcohol.

You may also experience difficulty with swallowing and speaking. In such instances, your doctor may recommend reconstructive surgery to reconstruct the bones and tissues of the face.

The overall 5-year survival rates are low. Survival steadily drops with advanced stages of the disease. This is because oral cancer is usually diagnosed when the disease has already reached an advanced stage. Therefore, the early detection of all pre-malignant lesions is essential for long-term survival. Oral cancer has well-defined risk factors which may be modified giving real hope for primary prevention [ 6].

#### **Conclusion:**

For conclusion oral cancer is the growth of abnormal cells in any part of the mouth or lips. Most oral cancers start in the lining of the lips or mouth where you have thin, flat cells called squamous cells, this type of cancer may also be called oral cavity cancer or oropharyngeal cancer. Risk factors (things that increase your risk) for oral cancer include smoking (or using smokeless tobacco) and heavy alcohol use. Other risk factors are being male, using marijuana, or having human papillomavirus (HPV). For cancers of the lip, exposure over a long period of time to ultraviolet (UV) light from the sun or from tanning beds increases risk. Symptoms for oral cancer include sores or lumps on the lips or in your mouth oral cancer is usually treated with surgery and radiation therapy. [5] your treatment will depend on the stage of your cancer and your other health factors. If the cancer is advanced, other treatments may be used. you may get chemotherapy or chemotherapy and targeted therapy may be used together.

## References:

1. Brockstein BE, et al. (2016). Overview of treatment for head and neck cancer. [uptodate.com/contents/overview-of-treatment-for-head-and-neck-cancer](https://uptodate.com/contents/overview-of-treatment-for-head-and-neck-cancer).
2. Cancer stat facts: Oral cavity and pharynx cancer. (n.d.). [seer.cancer.gov/statfacts/html/oralcav.html](https://seer.cancer.gov/statfacts/html/oralcav.html).
3. Chemotherapy and your mouth. (2013). [nidcr.nih.gov/sites/default/files/2017-09/chemotherapy-and-your-mouth.pdf](https://nidcr.nih.gov/sites/default/files/2017-09/chemotherapy-and-your-mouth.pdf).
4. Head and neck cancer. (2013). [my.clevelandclinic.org/health/diseases/14458-head-and-neck-cancer](https://my.clevelandclinic.org/health/diseases/14458-head-and-neck-cancer).
5. Oral cancer. (n.d.). [mouthhealthy.org/en/az-topics/o/oral-cancer](https://mouthhealthy.org/en/az-topics/o/oral-cancer).
6. Oral cancer 5-year survival rates by race, gender, and stage of diagnosis. (2018). [nidcr.nih.gov/research/data-statistics/oral-cancer/survival%20rates](https://nidcr.nih.gov/research/data-statistics/oral-cancer/survival%20rates).