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## HUMAN PAPILOMAVIRUS (HPV)

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HPV, or human papillomavirus, is a sexually transmitted virus. It is not transmitted through casual contact. Many different subtypes of the virus exist, and it usually affects the throat or the reproductive tract. HPV can cause cancer, but not all HPV infections lead to cancer. Most people contract HPV but then clear the virus from their body.

In some people, however, HPV remains in the body, causing genetic changes in tissue that can lead to cancer years later. The most commonly affected area by HPV-related cancer is the oropharynx, an area in the throat made up of the tonsils and the base of tongue. Oropharyngeal cancer can also occur unrelated to HPV, usually from smoking and drinking alcohol. HPV-related oropharyngeal cancer carries a better prognosis.

### **WHAT ARE THE SYMPTOMS OF HPV-RELATED CANCER?**

Signs and symptoms of HPV-related oropharyngeal cancer include:

- Lump or swelling in the neck
- Difficulty speaking
- Difficulty or pain when swallowing
- Noticeable sore in the back of the throat
- Earache
- Coughing or spitting up blood
- Weight loss

These symptoms are particularly concerning if they do not go away after a week or two. Early detection significantly improves the chances of a cure.

### **WHAT CAUSES HPV-RELATED CANCER?**

In a small percentage of people, HPV is contracted through oral-genital contact and develops into oropharyngeal cancer. Infection usually occurs many

years before symptoms appear. The risk of HPV-related oropharyngeal cancer can be significantly decreased with currently available vaccines. HPV and/or smoking and tobacco use can increase the risk of oropharyngeal cancer. Smoking or tobacco use with HPV-related oropharyngeal cancer decreases the chance of survival.

### **WHAT ARE THE TREATMENT OPTIONS?**

HPV-related oropharyngeal cancer can be treated with different types of therapy. Treatment options generally depend on how far the disease has progressed, the specific location and extent of disease, the patient's health, availability of clinical expertise and equipment, and patient or physician preference.

The two main treatments are surgery and radiation therapy. Surgery can be done in different ways. The majority of these tumors can be removed successfully using surgical instruments through the mouth, including robotic and laser systems. Open surgery, known as a neck dissection, is also typically used to reach the lymph nodes in the neck because cancer cells often spread to these neck lymph nodes. Both sides of the neck often need to be treated.

Radiation therapy can be used as an alternative initial treatment, or as an additional treatment following surgery. Radiation therapy typically involves several weeks of treatment. If given as a primary treatment, it's possible you may also need surgery later.

There are functional considerations as well as short- and long-term complications associated with both surgery and radiation. Chemotherapy can be used to make tumor cells more sensitive to radiation therapy, called a radiosensitizer, for advanced stages of the disease. This is generally only done when surgery or radiation therapy cannot be given or in a palliative setting, and is not considered to be curative therapy when given by itself.

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### WHAT QUESTIONS SHOULD I ASK MY DOCTOR?

1. What can I do to decrease my risk of developing an HPV-related cancer?
2. How and when did I contract HPV?
3. Is there anything I can do to improve my chance of cure/survival?
4. What are the benefits/drawbacks of surgery compared to radiation therapy?
5. Is transoral robotic/laser surgery available at this institution? Is there any advantage to these techniques for my tumor?
6. If I decide to have surgery, what's the likelihood I can avoid chemotherapy with radiation?
7. What are the risks of surgery?
8. What are the risks of radiation therapy?
9. Does smoking affect my chance of survival?
10. Should I change my sexual practices based on this diagnosis?