Oral Cancer

Causes and Symptoms & The Oral Cancer Exam

What is oral cancer?

The term oral cancer includes cancers of the mouth and the pharynx (the back of the throat).

What puts someone at risk for developing oral cancer?

Tobacco and alcohol use. Most cases of oral cancer are linked to cigarette smoking, heavy alcohol use, or the use of both tobacco and alcohol together. Using tobacco plus alcohol poses a much greater risk than using either substance alone.

HPV. Infection with the sexually transmitted human papillomavirus (specifically the HPV 16 type) has been linked to a subset of oral cancers.

Age. Risk increases with age. Oral cancer most often occurs in people over the age of 40.

Sun exposure. Cancer of the lip can be caused by sun exposure.

Diet. A diet low in fruits and vegetables may play a role in oral cancer development.

What are the possible signs and symptoms of oral cancer?

- A sore, irritation, lump or thick patch in the mouth, lip, or throat
- A white or red patch in the mouth
- A feeling that something is caught in the throat
- Difficulty chewing or swallowing
- Difficulty moving the jaw or tongue
- Numbness in the tongue or other areas of the mouth
- Swelling of the jaw that causes dentures to fit poorly or become uncomfortable
- Pain in one ear without hearing loss

A person who has any of these symptoms for more than 2 weeks should see a dentist or doctor for an oral cancer exam. Most often, symptoms like those listed above do not mean cancer. An infection or another problem can cause the same symptoms. But it's important to have the symptoms checked out—because if it is cancer, it can be treated more successfully if it's caught early.

What is the oral cancer exam?

An oral cancer examination can detect early signs of cancer. The exam is painless and takes only a few minutes.

During the exam, a dentist or doctor checks the face, neck, lips, tongue, mouth, and the back of the throat for possible signs of cancer.

Additional Reading

Review articles on oral cancer

Huber MA, Tantiwongkosi B. Oral and oropharyngeal cancer. *Med Clin North Am.* 98(6):1299–1321, 2014.

Kalavrezos N, Scully C. Mouth Cancer for Clinicians. Part 1: Cancer. *Dent Update.* 42(3):250–252, 255–256, 259–260, 2015.

Montero PH, Patel SG. Cancer of the Oral Cavity. Surg Oncol Clin N Am. 24(3):491–508, 2015.

Tobacco and alcohol use & oral cancer

de Menezes RF, Bergmann A, Thuler LC. Alcohol consumption and risk of cancer: A systematic literature review. *Asian Pac J Cancer Prev.* 14(9):4965–4972, 2013.

International Agency for Research on Cancer Working Group on the Evaluation of Carcinogenic Risks to Humans. IARC Monographs on the Evaluation of Carcinogenic Risks to Humans. Volume 100. A Review of Human Carcinogens. E. Personal Habits and Indoor Combustions. Lyons, 2012.

Reidy J, McHugh E, Stassen LF. A review of the relationship between alcohol and oral cancer. *Surgeon.* 9(5):278–283, 2011.

Wyss A, Hashibe M, Chuang SC, Lee YC, Zhang ZF, Yu GP, Winn DM, Wei Q, Talamini R, Szeszenia-Dabrowska N, Sturgis EM, Smith E, Shangina O, Schwartz SM, Schantz S, Rudnai P, Purdue MP, Eluf-Neto J, Muscat J, Morgenstern H, Michaluart P Jr, Menezes A, Matos E, Mates IN, Lissowska J, Levi F, Lazarus P, La Vecchia C, Koifman S, Herrero R, Hayes RB, Franceschi S, Wünsch-Filho V, Fernandez L, Fabianova E, Daudt AW, Dal Maso L, Curado MP, Chen C, Castellsague X, de Carvalho MB, Cadoni G, Boccia S, Brennan P, Boffetta P, Olshan AF. Cigarette, cigar, and pipe smoking and the risk of head and neck cancers: pooled analysis in the International Head and Neck Cancer Epidemiology consortium. *Am J Epidemiol.* 178(5): 679–690, 2013.

Zygogianni AG, Kyrgias G, Karakitsos P, Psyrri A, Kouvaris J, Kelekis N, Kouloulias V. Oral squamous cell cancer: early detection and the role of alcohol and smoking. *Head Neck Oncol.* 3:2, 2011.

HPV and oral cancer

Blitzer GC, Smith MA, Harris SL, Kimple RJ. Review of the clinical and biologic aspects of human papillomavirus-positive squamous cell carcinomas of the head and neck. *Int J Radiat Oncol Biol Phys.* 88(4):761–770, 2014.

Curado MP, Boyle P. Epidemiology of head and neck squamous cell carcinoma not related to tobacco or alcohol. *Curr Opin Oncol.* 25(3):229–234, 2013.

El-Mofty SK. Histopathologic risk factors in oral and oropharyngeal squamous cell carcinoma variants: an update with special reference to HPV-related carcinomas. *Med Oral Patol Oral Cir Bucal*. 19(4):e377–385, 2014.

International Agency for Research on Cancer Working Group on the Evaluation of Carcinogenic Risks to Humans. IARC Monographs on the Evaluation of Carcinogenic Risks to Humans. Volume 100. A Review of Human Carcinogens. B. Biological Agents. Lyons, 2012.

Joseph AW, D'Souza G. Epidemiology of human papillomavirus-related head and neck cancer. *Otolaryngol Clin North Am.* 45(4):739–764, 2012.

Martín-Hernán F, Sánchez-Hernández JG, Cano J, Campo J, del Romero J. Oral cancer, HPV infection and evidence of sexual transmission. *Med Oral Patol Oral Cir Bucal.* 18(3):e439–444, 2013.

Pringle GA. The role of human papillomavirus in oral disease. *Dent Clin North Am.* 58(2):385–399, 2014.

Wu X, Watson M, Wilson R, Saraiya M, Cleveland J, Markowitz L. Human Papillomavirus–Associated Cancers–United States, 2004–2008. *MMWR*. 61(15):258–261, 2012.

Age and oral cancer

Howlader N, Noone AM, Krapcho M, Garshell J, Miller D, Altekruse SF, Kosary CL, Yu M, Ruhl J, Tatalovich Z, Mariotto A, Lewis DR, Chen HS, Feuer EJ, Cronin KA (eds). *SEER Cancer Statistics Review, 1975-2012,* National Cancer Institute. Bethesda, MD, http://seer.cancer.gov/csr/1975_2012/, based on November 2014 SEER data submission, posted to the SEER web site, April 2015.

Sun exposure and cancer of the lip

Kraft S, Granter SR. Molecular pathology of skin neoplasms of the head and neck. *Arch Pathol Lab Med.* 138(6):759–787, 2014.

Vieira RA, Minicucci EM, Marques ME, Marques SA. Actinic cheilitis and squamous cell carcinoma of the lip: clinical, histopathological and immunogenetic aspects. *An Bras Dermatol.* 87(1):105–114, 2012.

Diet and nutrition & oral cancer

Bradshaw PT, Siega-Riz AM, Campbell M, Weissler MC, Funkhouser WK, Olshan AF. Associations between dietary patterns and head and neck cancer: the Carolina head and neck cancer epidemiology study. *Am J Epidemiol.* 175(12):1225–1233, 2012.

Chainani-Wu N, Epstein J, Touger-Decker R. Diet and prevention of oral cancer: strategies for clinical practice. *J Am Dent Assoc.* 142(2):166–169, 2011.

Chuang SC, Jenab M, Heck JE, Bosetti C, Talamini R, Matsuo K, Castellsague X, Franceschi S, Herrero R, Winn DM, La Vecchia C, Morgenstern H, Zhang ZF, Levi F, Dal Maso L, Kelsey K, McClean MD, Vaughan T, Lazarus P, Muscat J, Ramroth H, Chen C, Schwartz SM, Eluf-Neto J, Hayes RB, Purdue M, Boccia S, Cadoni G, Zaridze D, Koifman S, Curado MP, Ahrens W, Benhamou S, Matos E, Lagiou P, Szeszenia-Dabrowska N, Olshan AF, Fernandez L, Menezes A, Agudo A, Daudt AW, Merletti F, Macfarlane GJ, Kjaerheim K, Mates D, Holcatova I, Schantz S, Yu GP, Simonato L, Brenner H, Mueller H, Conway DI, Thomson P, Fabianova E, Znaor A, Rudnai P, Healy CM, Ferro G, Brennan P, Boffetta P, Hashibe M. Diet and the risk of head and neck cancer: a pooled analysis in the INHANCE consortium. *Cancer Causes Control.* 23(1):69–88, 2012.

Edefonti V, Hashibe M, Ambrogi F, Parpinel M, Bravi F, Talamini R, Levi F, Yu G, Morgenstern H, Kelsey K, McClean M, Schantz S, Zhang Z, Chuang S, Boffetta P, La Vecchia C, Decarli A. Nutrient-based dietary patterns and the risk of head and neck cancer: a pooled analysis in the International Head and Neck Cancer Epidemiology consortium. *Ann Oncol.* 23(7):1869–1880, 2012.

Edefonti V, Hashibe M, Parpinel M, Ferraroni M, Turati F, Serraino D, Matsuo K, Olshan AF, Zevallos JP, Winn DM, Moysich K, Zhang ZF, Morgenstern H, Levi F, Kelsey K, McClean M, Bosetti C, Schantz S, Yu GP, Boffetta P, Chuang SC, A Lee YC, La Vecchia C, Decarli A. Vitamin E intake from natural sources and head and neck cancer risk: a pooled analysis in the International Head and Neck Cancer Epidemiology consortium. *Br J Cancer.* 113(1):182–192, 2015.

Edefonti V, Hashibe M, Parpinel M, Turati F, Serraino D, Matsuo K, Olshan AF, Zevallos JP, Winn DM, Moysich K, Zhang ZF, Morgenstern H, Levi F, Kelsey K, McClean M, Bosetti C, Galeone C, Schantz S, Yu GP, Boffetta P, Amy Lee YC, Chuang SC, La Vecchia C, Decarli A. Natural vitamin C intake and the risk of head and neck cancer: A pooled analysis in the International Head and Neck Cancer Epidemiology consortium. *Int J Cancer*. 137(2):448–462, 2015.

Galeone C, Edefonti V, Parpinel M, Leoncini E, Matsuo K, Talamini R, Olshan AF, Zevallos JP, Winn DM, Jayaprakash V, Moysich K, Zhang ZF, Morgenstern H, Levi F, Bosetti C, Kelsey K, McClean M, Schantz S, Yu GP, Boffetta P, Lee YC, Hashibe M, La Vecchia C, Boccia S. Folate intake and the risk of oral cavity and pharyngeal cancer: A pooled analysis within the International Head and Neck Cancer Epidemiology consortium. *Int J Cancer.* 136(4):904–914, 2015.

Galeone C, Turati F, Zhang ZF, Guercio V, Tavani A, Serraino D, Brennan P, Fabianova E, Lissowska J, Mates D, Rudnai P, Shangina O, Szeszenia-Dabrowska N, Vaughan TL, Kelsey K, McClean M, Levi F, Hayes RB, Purdue MP, Bosetti C, Brenner H, Pelucchi C, Lee YA, Hashibe M, Boffetta P, La Vecchia C. Relation of allium vegetables intake with head and neck cancers: Evidence from the INHANCE consortium. *Mol Nutr Food Res.* 59:1641–1650, 2015.

Li Q, Chuang SC, Eluf-Neto J, Menezes A, Matos E, Koifman S, Wünsch-Filho V, Fernandez L, Daudt AW, Curado MP, Winn DM, Franceschi S, Herrero R, Castellsague X, Morgenstern H, Zhang ZF, Lazarus P, Muscat J, McClean M, Kelsey KT, Hayes RB, Purdue MP, Schwartz SM, Chen C, Benhamou S, Olshan AF, Yu G, Schantz S, Ferro G, Brennan P, Boffetta P, Hashibe M. Vitamin or mineral supplement intake and the risk of head and neck cancer: pooled analysis in the INHANCE consortium. *Int J Cancer.* 131(7):1686–1699, 2012.

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