

# Feasible, safe to limit radiation to major salivary glands in head and neck cancer patients

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Avoiding the contralateral submandibular gland during radiation therapy is feasible and safe with advanced stage, node positive head and neck cancers and base of tongue lesions, according to research presented today at the 2014 Multidisciplinary Head and Neck Cancer Symposium.

Researchers conducted a retrospective analysis of 71 patients from two facilities—the University of Colorado Cancer Center and the Memorial Sloan-Kettering Cancer Center. The median patient age was 55, and about 50 percent of the patients were current or former smokers. Forty patients had primary tonsil cancers, and 31 patients had tumors involving the base of the tongue. About 80 percent of patients had N2b or greater disease (meaning extensive lymph node involvement), and 90 percent of patients had overall stage IV disease (indicating advanced [cancer](#)). The analysis only included patients who were receiving treatment to the bilateral neck.

All of the patients had been treated with radiation techniques that spared the contralateral submandibular gland (cSMG), which indicates it was on the opposite side of the neck as the cancer. Submandibular glands are major salivary glands located beneath the floor of the mouth and are responsible for the majority of unstimulated salivary flow. The mean dose to the cSMG was 33.04 Gy, and at a median follow-up of 27.3 months, no patients had experienced recurrences in the contralateral level Ib [lymph nodes](#) (the area of the spared submandibular gland).

"Sparing the submandibular gland from radiation can decrease the side effect of dry mouth, which has a substantial impact on patients' quality of life," said Tyler Robin, PhD, lead author of the study and an MD candidate in his final year at the University of Colorado School of Medicine. "Historically, however, there has been hesitation to spare the submandibular gland from radiation because there are lymph nodes near the gland that also end up not getting treated. While this seems worrisome because [head and neck cancer](#) spreads through the lymph nodes, it is well established that the risk of cancer involvement in the lymph nodes near the [submandibular gland](#) is exceedingly low, yet the benefit of sparing the gland for a patient's quality of life is high. It is important to consider treatment side effects alongside treatment benefit, and overall, our goal is to decrease side effects associated with radiation treatment without undertreating a patient's cancer. With modern advances in [radiation therapy](#), it is possible to eloquently treat cancers while avoiding surrounding normal tissues. Our study is a prime example of how we can safely spare normal tissue in appropriate [patients](#) in order to decrease treatment [side effects](#)."

**More information:** The abstract, "A Multicenter Experience in Contralateral Submandibular Gland Sparing in Head and Neck Radiotherapy: An Assessment of Feasibility and Safety," will be presented in detail during a scientific session at the 2014 Multidisciplinary Head and Neck Cancer Symposium at 10:30 a.m. Mountain time on Friday, February 21, 2014.

Provided by American Society for Radiation Oncology

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