

Pain, dry mouth may play role in sleep quality of head and neck cancer patients

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Sleep disturbances are a common complaint in head and neck cancer patients. Credit: © University of Michigan Health System

Head and neck cancer patients who reported poor sleep quality one year after diagnosis had more symptoms of chronic pain and complaints of dry mouth related to radiation treatments, according to a recent study from the University of Michigan Comprehensive Cancer Center.

Because these side effects can be controlled or modified, the study suggests that reducing these factors in head and neck cancer patients may be warranted to improve [sleep hygiene](#) and enhance quality of life. Previous U-M studies have shown that head and neck cancer patients who reported lower physical quality of life were more likely to die from their disease.

"Sleep disturbances are a common complaint in head and neck cancer patients and have been shown to decrease quality of life, decrease mental health and serve as a predictor of other complications in the treatment of the cancer. They can also negatively affect the immune system and the ability to deal with stresses of the diagnosis," says senior study author Jeffrey Terrell, M.D., professor of otolaryngology at the U-M Medical School.

The study found that a tracheotomy, depression and younger age also adversely affected sleep in patients.

"While cancer patients in general have been known to have decreased sleep quality, head and neck cancer patients may have unique issues such as facial disfigurements and side effects from treatments that can affect the mouth and throat. These problems may thereby contribute to breathing problems which can impede sleep," says study author Sonia A. Duffy, Ph.D., R.N., associate professor of nursing at the U-M School of Nursing and otolaryngology at the U-M Medical School and research scientist at the VA Ann Arbor [Healthcare System](#).

The researchers surveyed 457 people at three otolaryngology clinics who had been recently diagnosed with head and neck cancer. Participants responded to questions about their physical and emotional quality of life, including pain, [sleep health](#), eating and [respiratory problems](#). The subjects were then surveyed again one year after diagnosis.

Among those surveyed, it was found that sleep quality did not change dramatically from the time of diagnosis to one year after treatment. But quality of sleep at both time points was worse than typical sleep scores for the average person. The researchers suggest that the relatively minor change in sleep quality one year after diagnosis may be due to symptoms and side effects from treatments such as surgery, radiation therapy and chemotherapy.

Results of the study currently appear in the online version of the journal *The Laryngoscope*.

"Head and neck cancer patients have a high prevalence of pain compared to other cancer sites and pain is associated with insomnia. Pain is often correlated with depression among cancer patients, and the majority of depressed patients report some

[sleep disturbances](#)," says Terrell. "Additionally, radiation therapy to treat head and neck cancer can contribute to dry mouth, which requires excessive drinking and urination throughout the night."

Based on their findings, the study authors recommend intensity-modulated radiation therapy techniques that treat head and neck cancer but avoid destroying saliva-producing glands, a practice that U-M specializes in. This method significantly reduces the severity of permanently dry mouth, which can be a significant complication of radiation to treat head and neck cancer.

The researchers also note the importance of recognizing depression during or after head and neck cancer treatment. Given the high incidence of dry mouth as a side effect of certain drugs that treat depression, doctors should carefully consider which medications may be better tolerated when treating these ailments among [head and neck cancer](#) patients.

"It's imperative for patients to work with physicians to determine a cause of the sleep disorder. This is especially important given that the targeted treatment of sleep disorders is likely to improve [sleep](#) quality and therefore improve quality of life," Duffy says.

Provided by University of Michigan Health System

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