

Taste, odor intervention improves cancer therapy

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Cancer and its therapies, including chemotherapy and radiotherapy, may directly alter and damage taste and odor perception, possibly leading to patient malnutrition, and in severe cases, significant morbidity, according to a Virginia Tech - Wake Forest University Comprehensive Cancer Center compilation of various existing studies. Their review appears in the March/April 2009 *Journal of Supportive Oncology*.

One of the purposes of the study, said Andrea Dietrich, professor of civil and environmental engineering (CEE) at Virginia Tech, is to provide researchers and physicians with a better understanding of the types and causes of taste and odor dysfunctions so that they can develop treatments for these conditions and improve the quality of life of their patients. According to Susan Duncan, professor of food science and technology at Virginia Tech, a bad taste in the mouth can lead to poor nutrition because patients avoid eating.

Approximately two thirds of [cancer patients](#) who receive chemotherapy report altered sensory perception, such as decreased or lost taste acuity or metallic taste. Altered sensory perception causes psychological anxiety and [malnutrition](#), and thus negatively impacts the chances of survival for cancer patients, as reported in an earlier study conducted by Duke University.

Dietrich, an expert on water quality and treatment, as well as the taste and odor assessment of water, has expanded upon her knowledge of this field to include such assessments in cancer patients. She worked with Jae

Hee Hong, Susan E. Duncan, and Brian T. Stanek of Virginia Tech's Food Science and Technology Department, Pinar Omur-Ozbek, also of CEE, Yong Woo Lee of Virginia Tech's School of Biomedical Engineering and Glenn Lesser, a physician of hematology and oncology at Wake Forest.

Their joint paper, "Taste and Odor Abnormalities in Cancer Patients", reports the "alteration of taste and smell in (cancer) patients has been understudied compared with other aspects of cancer research."

They based their work on numerous previous studies that reported on changes in taste acuity, taste quality, odor perception, food aversion, and xerostomia (dry mouth) causing taste alteration. Findings from these studies showed changes in taste acuity are dependent on the site of the tumor with head and neck patients reporting more complaints than do patients with other types of cancer such as breast or lung. The most prevalent taste alteration reported is the perception of a metallic or bitter taste, with red meat often cited as a cause. Another earlier study showed aversion to food is now occurring in as much as 55 percent of the patients receiving chemotherapy or radiotherapy.

From their review of the literature, the research team put together a listing of management strategies to improve taste and odor abnormalities for cancer patients. These include: avoiding the use of metallic silverware and reducing the consumption of foods that have a metallic or bitter taste such as red meat, coffee or tea. On the positive side, patients should increase their consumption of high-protein foods, add seasonings and spices to enhance flavors in some cases, practice good oral hygiene, and use agents such as sugar free gums and sour tasting drops to stimulate salivary secretion.

Dietrich explained their study of the literature, and synopsis of it, is meant to increase the recognition by oncologists and physicians of the

disturbances cancer patients experience in their ability to taste and smell. "Oncologists who understand the types and causes of taste and olfactory abnormalities may be better prepared to discuss and empathize with these negative side effects," she and her colleagues concluded. And physicians could improve their relationships with their patients, sharing "possible mediation strategies," and directly affecting the recovery of patients.

Source: Virginia Tech ([news](#) : [web](#))

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