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# Lymphedema in Patients With Head and Neck Cancer

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**A**n estimated 49,260 Americans developed head and neck cancer (HNC) and 11,480 died from oral cavity, pharynx, and larynx cancer in 2010 (American Cancer Society [ACS], 2010). The overall incidence of HNC in the United States has decreased slightly since the 1990s; however, the incidence of tongue and tonsillar cancer has increased because of a rise in the incidence of human papilloma virus (HPV)-associated cancers (Mouth Cancer Foundation, 2008; National Cancer Institute [NCI], 2008). This trend is critical to note because patients with HPV-associated tumors tend to be younger, nonsmokers, and nondrinkers (ACS, 2008; Argiris, Karamouzis, Raben, & Ferris, 2008).

Early detection and multimodality therapy have led to improvement in overall survival rates, leaving many patients with HNC at risk for experiencing secondary complications from their cancer treatment (Bentzen et al., 2003; Oncology Nursing Society, 2007). More than half a million HNC survivors are living in the United States (Jemal et al., 2007; NCI, 2008; Oishi, 2007). Because of the increase in the number of HNC survivors, healthcare providers are spending more time and effort identifying and managing the late effects of cancer therapy.

One of the common but overlooked late effects of HNC therapy is secondary lymphedema. Lymphedema results from an inability of the lymphatic system to transport the lymph fluid volume delivered to tissues (NCI, 2007). Cancer, surgery, radiation, or chemotherapy may disrupt lymphatic structures; therefore, HNC survivors are at risk for developing this potentially debilitating late effect (Dennert & Horneber, 2007; Lymphoedema Framework, 2006; Murphy, Gilbert, & Ridner, 2007; Ridner, 2008). Lymphedema may involve external (Hammond, 2007; Zimmermann et al., 2005) and internal (Bruns et al., 2004; Micke et al., 2003) structures. Involvement of external sites may lead to decreased range of motion in the neck and shoulders. In addition, the face, neck, and shoulders are highly visible structures that are integral to a person's sense of self. External lymphedema, when severe, may lead to issues with body image (Micke et al., 2003), isolation, and social avoidance. Internal structures,

**Purpose/Objectives:** To describe the current state of the science on secondary lymphedema in patients with head and neck cancer.

**Data Sources:** Published journal articles and books and data from the National Cancer Institute, the American Cancer Society, and other healthcare-related professional association Web sites.

**Data Synthesis:** Survivors of head and neck cancer may develop secondary lymphedema as a result of the cancer or its treatment. Secondary lymphedema may involve external (e.g., submental area) and internal (e.g., laryngeal, pharyngeal, oral cavity) structures. Although lymphedema affects highly visible anatomic sites (e.g., face, neck), and profoundly influences critical physical functions (e.g., speech, breathing, swallowing, cervical range of motion), research regarding this issue is lacking. Studies are needed to address a variety of vital questions, including incidence and prevalence, optimal measurement techniques, associated symptom burden, functional loss, and psychosocial impact.

**Conclusions:** Secondary lymphedema in patients with head and neck cancer is a significant but understudied issue.

**Implications for Nursing:** A need exists to systematically examine secondary lymphedema related to treatment for head and neck cancer and address gaps in the current literature, such as symptom burden, effects on body functions, and influences on quality of life. Oncology nurses and other healthcare professionals should have empirical evidence to help them manage lymphedema after head and neck cancer treatment.

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such as the tongue, larynx, and pharynx, play a critical role in speech, swallowing, and breathing. When internal sites are affected, the symptom burden and functional impact of lymphedema may be profound.