

# Head and Neck Carcinomas

## Disease Information

### HEAD AND NECK CARCINOMAS

Head and neck carcinomas include a wide array of anatomical tumors of epithelial origin. Due to the delicate anatomy and lymphatic flow of this entire region, usually a combination therapy approach is undertaken for head and neck cancers. This combination therapy includes surgery, radiation therapy, and chemotherapy most often.

### Canine Head and Neck Carcinomas

Canine head and neck carcinomas are also broken down to specific anatomic regions, which generally dictate treatment and overall prognosis. Cancer is seen within the canine oral cavity, salivary glands, nasal planum, nasal cavity, and larynx and trachea. Squamous cell carcinoma (SCC) is a common tumor seen predominantly in the oral cavity, on the nasal planum, and in the larynx and trachea. Adenocarcinoma is another common tumor type seen in the salivary glands, within the nasal cavity, and in the larynx and trachea.

**Oral SCC.** Metastasis is very site-specific, with cranial lesions having a low metastatic rate and caudal tongue and tonsils having a high metastatic rate. Surgery, radiation therapy, and cryosurgery are the main modes of treatment. Median survival is 18 months, and there is a 70% 1-year survival rate.

**Salivary gland SCC.** Adenocarcinomas are locally invasive, and metastasis to regional lymph nodes is seen in 17% of canines. Distant metastasis is seen, as well, in 8% of canines. Surgery and radiation therapy are used in this disease with long-term survival (median survival 18.3 months).

**Nasal planum SCC.** This disease is rare in canines. Superficial tumors are treated with surgery, cryosurgery, lasers, phototherapy, intralesional chemotherapy, hyperthermia, and radiation therapy. Invasive tumors are generally treated with radiation therapy.

**Nasal cavity.** Carcinomas comprise two-thirds of intranasal cancer in canines. They are rarely curable with surgery, and therefore, megavoltage radiation is the standard of care with intranasal tumors. Median survival rates range from approximately 8 to 19 months. Chemotherapy (platinum compounds) has been incorporated into some protocols.

**Larynx and tracheal neoplasia.** SCC and adenocarcinomas are both seen in this location and are considered rare disease processes. Treatment generally involves surgery with or without radiation therapy, and there is very limited information regarding prognosis of carcinomas. **Comparative**

#### Oncology

Most neoplasms seen in the head and neck region are locally invasive tumors, which can metastasize to local lymph nodes. They can metastasize to other areas later in the disease course. Because conventional treatment in humans and canines can only go so far with surgery, radiation therapy, and adjunct chemotherapy, other investigational methods involving biologic therapy (anti-angiogenic therapy, cell cycle inhibitors, and genetic vector therapy) must be sought and incorporated against this disease process.