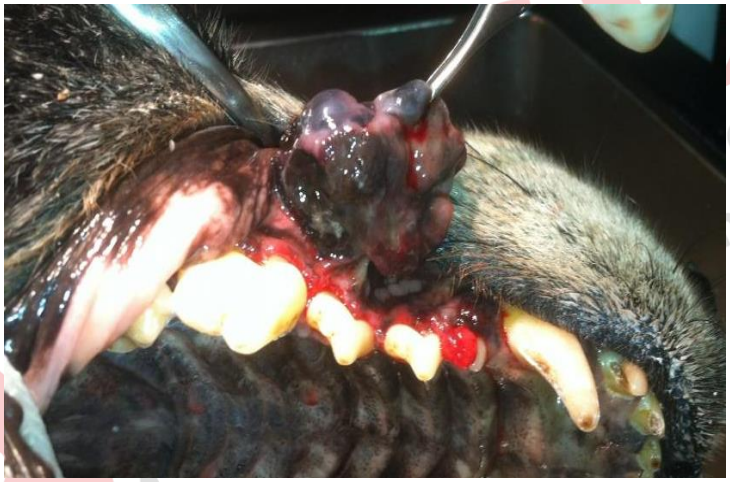
Oral Tumors, Mandibulectomy, Maxillectomy	Oral tumors are abnormal growths in the oral cavity. The oral cavity includes the teeth, gingiva (gums), lips, hard palate, maxillectomy (upper jaw), mandibulectomy (lower jaw), cheeks, tongue, and floor of the mouth. Oral tumors may be benign or malignant. Benign oral tumors are localized to the area of growth and the tumor does not invade the bone or metastasize (spread to another part of the body). Malignant tumors grow aggressively at the site of origin and can metastasize. Oral tumors can occur in any dog or cat. Predisposed breeds to oral tumors include: Boxer, Chow Chow, German Shepherd, Golden Retriever, Dachshunds, Scottish Terrier, and Poodles. The most common oral tumors in the dog are oral melanoma, squamous cell carcinoma, fibrosarcoma, osteosarcoma, and acanthomatous ameloblastoma. The most common oral tumor in the cat is squamous cell carcinoma.  Image of a dog with oral melanoma of the right lip margin. Notice the dark pigmentation of the tumor which is common of melanomas.

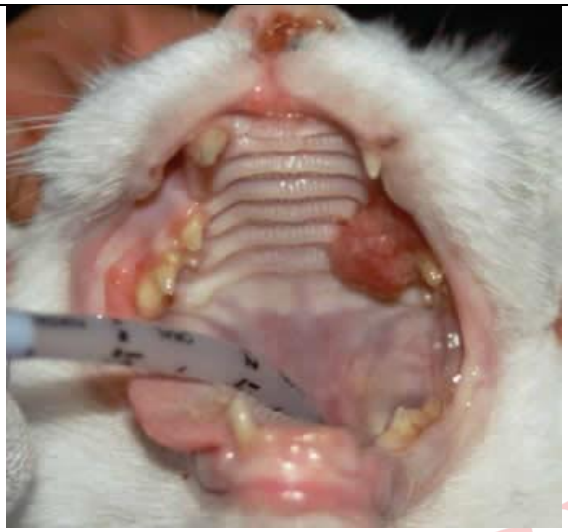


Image of a cat with a left maxillary-hard palate oral tumor.

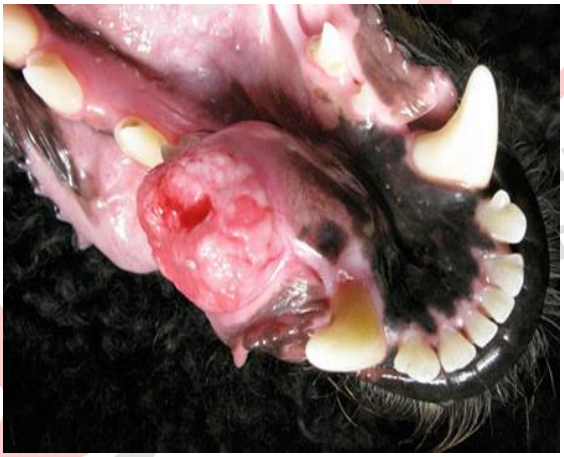


Image of a dog with a right mandibular oral mass.

Signs and Symptoms: Clinical signs of an oral tumor will depend on the tumor type, location, and presence of metastasis. Often a noticeable mass will be seen protruding from the pet's mouth or seen when the pet is panting. Signs of an oral tumor may include:

- Halitosis (bad breath)
- Drooling
- Bleeding from the mouth
- Oral pain
- Shifting teeth, loose teeth, or lose of teeth
- Anorexia

	• Dysphagia (difficulty eating) • Reluctance to be touched on the head • Facial swelling or deformity • Weight loss • Enlarged lymph nodes in the neck Diagnosis: The diagnosis of an oral tumor requires an oral examination. The pet may need to be sedated to perform the oral examination. Other diagnostic tests that may be performed include: • Bloodwork and urinalysis to determine the pet's overall health. • Fine needle aspirate cytology of the oral tumor and the regional lymph node if enlarged. • Radiographs (X-rays) of the head. • Radiographs of the thorax to evaluate for metastatic disease. • CT scan of the head and thorax to evaluate invasiveness and extent of disease. • Magnetic Resonance Imaging of the head to evaluate invasiveness and extent of disease. • Incisional or excisional biopsy of the oral tumor. Treatment: The most common recommendation for treatment of oral tumors is surgical removal. CT scans of the head are commonly performed before surgery to determine the extent of disease and for surgical planning. If the regional lymph nodes are affected, then they may be removed at the time of oral tumor removal. If the oral tumor is invasive in the region or bone, then a segment of the maxilla (upper jaw) or mandible (lower jaw) may be needed to remove the tumor. In addition to surgical removal, immunotherapy (treatment with melanoma vaccine) is recommended for oral melanoma treatment. If the oral tumor has not been completely removed, then a second surgery may be recommended if surgical re-resection is possible or radiation therapy may be recommended.

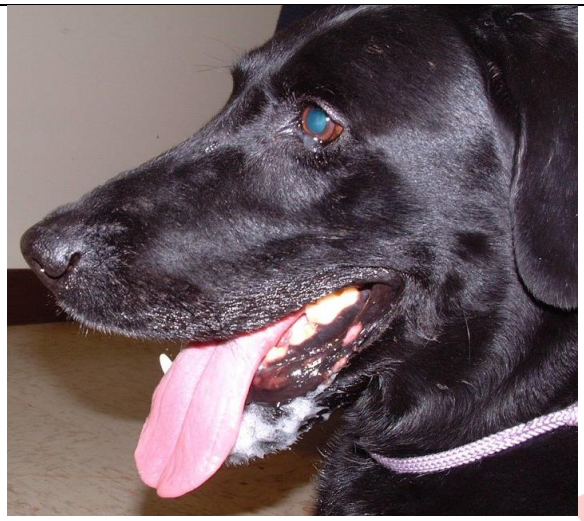


Image of a dog that had a segmental left rostral mandibulectomy which removed part of the mandible (jaw) including the left mandibular canine tooth.

Postoperative care: Pets having surgery for oral tumor removal will be discharge with an antibiotic and pain medication. Soft dog food should be fed for approximately 3 weeks after surgery. An Elizabethan collar is worn for approximately 2 weeks to prevent the pet from rubbing or scratching at the mouth and jaw. Chew toys should be avoided for approximately 4 weeks. Complications after surgery may include: oral bleeding, oronasal fistula, epistaxis (nasal bleeding), mandibular drift for lateralized mandibulectomy, nasal congestion after maxillectomy, dehiscence (surgical wound opens), and damage to nearby teeth which could require extraction at a later date.

Prognosis: The prognosis for functional recovery after surgery is good. The pet's long-term prognosis will vary depending on the type of oral tumor that is diagnosed. The prognosis for dogs surgically treated for mandibular osteosarcoma is 14-18 months, whereas maxillary osteosarcoma surgically treated is 5-10 months. The prognosis for surgical treatment of oral fibrosarcoma in dogs is 10-12 months. An aggressive variant of fibrosarcoma is called histologically low-grade but biologically high-grade fibrosarcoma and has a benign appearance histologically yet behaves extremely aggressive locally. The prognosis for dogs surgically treated with mandibulectomy for oral squamous cell carcinoma is 19-43 months. The prognosis for dogs treated with maxillectomy for oral squamous cell carcinoma is 10-39 months. The prognosis for cats treated with surgery for oral squamous cell carcinoma is 1-4 months depending on the tumor location, size, and presence of metastasis at the time of diagnosis.

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