Oral tumors are common in dogs and cats. They may be of dental (odontogenic) or non-dental origin. The most common malignant oral tumors in dogs are malignant melanoma, squamous cell carcinoma and fibrosarcoma, while the most common oral tumors in the cats are squamous cell carcinoma and fibrosarcoma. Less common malignant tumors occur in the oral cavity of dogs include osteosarcoma, multilobular tumor of bone, tonsillar lymphoma and squamous cell carcinoma, epitheliotropic T-cell lymphoma (mycosis fungoides), histiocytic sarcoma and plasmacytomas. Odontogenic tumors originate from the tooth forming structures and include peripheral odontogenic tumors, acanthomatous ameloblastoma, odontoma, dentigerous cyst and feline inductive odontogenic tumors. Although generally considered benign they can be locally aggressive.

Oral osteosarcoma is the fourth most common oral tumor in dogs and affects the mandible and less often the maxilla. Regional and distant metastasis are less common than for appendicular osteosarcoma.

Multilobular osteochondrosarcoma (multilobular tumor of bone) is a variant of osteosarcoma affecting the cranium, orbit, zygomatic arch, palate, maxilla and mandible. It may be palpable as a firm, fixed mass. Patients may exhibit pain upon opening of the mouth if the mandible or zygomatic arch are involved. Radiographs show a popcorn appearance with stippled and heavily calcified regions. Computed tomography is indicated to detect the extent of tumor involvement in the surrounding bone and soft tissues. Prognostic factors for local recurrence and metastatic rate are dependent upon surgical margins and histologic grade.

Epitheliotropic T-cell lymphoma (mycosis fungoides) occurs in older dogs with a possible over representation of cockers and poodles. Lesions in the oral mucosa may show primarily a mucocutaneous junction distribution or may be solitary. Depigmentation of the affected area is common. This variant still has the potential to spread systemically, although it may be many months before other lymphoma is clinically apparent.

Tonsillar squamous cell carcinoma is considerably more aggressive than either gingival or lingual squamous cell carcinoma. It occurs in dogs with a median age of 9-11 years. It has a high rate of metastasis early in the disease process. Treatment is surgical excision in combination with radiation and chemotherapy.

Extramedullary plasma cell tumors appear as smooth, pink to red, raised, well circumscribed nodules. Plasmacytomas of the oral mucosa are rarely associated with systemic disease. Surgical excision is most often curative.

Odontogenic tumors originate from the tooth forming structures (epithelial or mesenchymal dental structures). Peripheral odontogenic fibromas were previously described as fibromatous and ossifying epulides. They are benign, slow growing, non invasive, firm, smooth, pink masses that originate at the gingival sulcus from periodontal ligament stroma. Radiographs show no changes in the underlying alveolar bone structure. The ossifying type of peripheral odontogenic fibroma contains varying amounts of calcified tissue within the tumor. Treatment for these tumors is local excision or excision of the mass in combination with extraction of the associated tooth.
The canine acanthomatous ameloblastoma, previously known as the acanthomatous epulis, is a locally invasive tumor causing bone lysis and cystic changes. It occurs most commonly around the mandibular canine teeth and incisors in medium to large breed dogs. It does not metastasize and is considered benign. Clinically the mass often has an ulcerated, irregular surface and can be similar in appearance to a squamous cell carcinoma. Treatment is wide local excision requiring a partial mandibulectomy or maxillectomy.

An odontoma is an odontogenic tumor containing epithelial and mesenchymal cells which results in formation of all dental tissue types. The tumor is benign and slow growing but they can be expansive and can create a mass like effect in the oral tissues. Clinically an odontoma will appear as an unerupted tooth or a partially erupted tooth with an associated swelling. A compound odontoma contains tooth like structures. An odontoma in which the conglomerate of dental tissues bears no resemblance to a tooth is called a complex odontoma. Treatment for an odontoma is removal of the mass and associated tooth like particles and curettage of the defect.

A dentigerous cyst is a benign, non neoplastic, well circumscribed, cystic lesion associated with an impacted tooth. The fluid filled cyst forms around the tooth crown and is attached to the neck of the unerupted tooth. The resulting lesion is an expansive lesion and can cause a significant bone loss and destruction. Dental radiographs show a unilocular radioluent area associated with the crown of the unerupted tooth. Enamel is formed prior to tooth eruption and is deposited on the tooth by the enamel forming organ which consists of ameloblasts. If a tooth erupts normally the enamel forming organ is worn away. When tooth does not erupt normally, the ameloblasts persist and form a sac lined with epithelium which may lead to formation of a dentigerous cyst. Treatment for a dentigerous cyst is surgical removal of the tooth and associated cyst lining.

Feline inductive odontogenic tumors (fibroameloblastomas) occur in the rostral maxilla in cats less than 18 months of age and contains odontogenic epithelium and ectomesenchyme. The tumor may be locally invasive and metastasis has not been reported. Intraoral radiographs show lysis of the underlying bone and areas of mineralization within the tumor may be seen. Partial maxillectomy is the treatment for this tumor.

Calcifying epithelial odontogenic tumors are characterized by their production of amyloid. They occur most commonly in older cats. Clinically the tumor appears similar to a squamous cell carcinoma. Intraoral radiographs may show marked osteolysis. Treatment is aggressive surgical excision including removal of underlying bone.

It is important to keep in mind the less common malignant oral tumors and odontogenic tumors in the differential diagnosis list for oral masses as they are often clinically indistinguishable from common malignant oral tumors.