

DENTISTRY:
When The Bite's Not Right!

Class I malocclusion can affect deciduous or permanent teeth and may be categorized as: anterior cross-bite, posterior cross-bite, facial cuspids (base-wide canine teeth), lingual cuspids (base-narrow canine teeth), crowded or rotated teeth, and certain partial level bites.

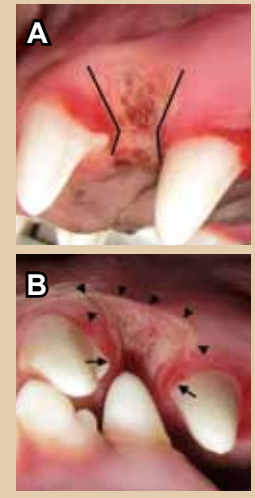


Fig. 2 The resulting gingivoplasty should be hour-glass shaped (black lines) in appearance, and wider dorsally to serve as a "sliding board" to receive the linguoverged canine tooth (A). A diamond bur should be used to bevel the edges of the gingivoplasty (arrowheads) and every effort should be made to maintain the gingival margin and attached gingiva at the maxillary first incisor and canine teeth (arrows) [B].

be hour-glass shaped in appearance, and wider dorsally to serve as a "sliding board" to receive the linguoverged canine tooth (Fig. 2). A diamond bur should be used to bevel the edges of the gingivoplasty and every effort should be made to maintain the gingival margin and attached gingiva at the maxillary first incisor and canine teeth (Fig. 3). *When the canine tooth bite is not quite right, consider letting us consult with the owner and pet to determine if a procedure can provide a comfortable occlusion.*



Fig. 3 Following gingivectomy/gingivoplasty (A), the post-extubation image shows improved occlusion (B). The 2-week postoperative examination showed correction of the linguoverged canine tooth (C).

The mandibular canine teeth normally interdigitate in the interproximal space (diastema) between the maxillary canine and third incisor teeth. *Heritable dentofacial deformity is considered the underlying cause of mandibular canine tooth linguoversion known as base-narrow canine teeth.* Although tooth extraction is a viable option for this problem, the most common dental procedures for treatment of base narrow canine teeth are crown reduction and vital pulp therapy, or application of an acrylic inclined plane. In mild cases of mandibular canine tooth linguoversion where the tip of the canine crown is interfering with the diastema of the gingival margin causing gingival irritation and indentation from impaling the soft tissue, *gingivectomy and gingivoplasty may be performed to eliminate the soft tissue impediment* (Fig. 1). Similar procedures can be performed for linguoversion of deciduous mandibular canine teeth.

Gingivectomy/gingivoplasty may be performed with radiosurgery and/or a water-cooled diamond bur in a high-speed handpiece. *Thermal injury to underlying bone should be avoided by limiting the procedure to soft tissue, and efficient "light" use of the radiosurgery tip.* Prolonged pressure with the heat-generating instrument in a focal area predisposes to bony injury. Likewise, the diamond bur should be used with water-cooling to avoid thermal injury to tissues. Maintenance of the periosteum will enhance epithelialization of the soft tissue defect. The resulting gingivectomy/gingivoplasty should

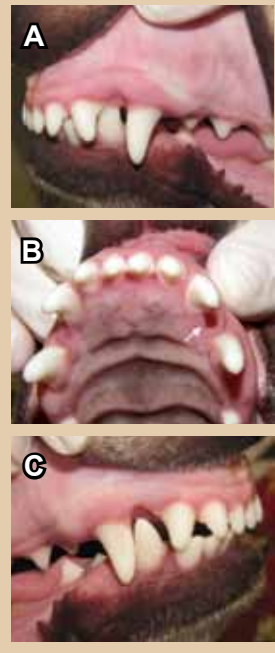


Fig. 1 Photographs in a 6-month-old, male Mountain Cur dog with a linguoverged left mandibular canine tooth from class I malocclusion (A) resulting in interference with the hard palate and soft tissue indentation (arrow) [B]. The right mandibular canine tooth was less severely affected and not treated (C).

CALL TODAY FOR REFERRAL INFORMATION
301-990-9460



CENTER FOR VETERINARY DENTISTRY AND ORAL SURGERY

9041 GAITHER ROAD, GAITHERSBURG, MD 20877

PHONE: (301) 990-9460 FAX: (301) 990-9462

www.centerforveterinarydentistry.com

FALL NEWSLETTER

Chronic Nasal Discharge?

Don't Forget To Rule-Out The Teeth!

SPECIALIZATION BEYOND EXPECTATION™

CENTER FOR VETERINARY DENTISTRY AND ORAL SURGERY
DENTISTRY ♦ ORAL & MAXILLOFACIAL SURGERY ♦ HEAD & NECK SURGERY

The Center for Veterinary Dentistry and Oral Surgery offers cutting edge knowledge and state-of-the-art equipment to help you manage your patients with dental and maxillofacial disease.

- Root canal therapy
- Restorations for caries and enamel defects
- Metal crowns to strengthen fractured teeth
- Surgery for neoplasms of the maxilla, mandible & facial area
- Repair of maxillofacial fractures
- Correction of congenital palate defects
- Surgical extraction of diseased multi-rooted teeth and impacted teeth
- Therapy for oral inflammation
- Surgical management of diseases of the head and neck



Dr. Mark M. Smith and Dr. Kendall Taney are partners in the Center for Veterinary Dentistry and Oral Surgery established in 2006. Dr. Smith is a Diplomate of the American College of Veterinary Surgeons and the American Veterinary Dental College. He was Professor of Surgery and Dentistry at the VA-MD Regional College of Veterinary Medicine at Virginia Tech for 16-years before entering private practice in 2004. Dr. Smith is Editor of the Journal of Veterinary Dentistry and co-author of Atlas of Approaches for General Surgery of the Dog and Cat.



Dr. Taney is a Diplomate of the American Veterinary Dental College and a Fellow of the Academy of Veterinary Dentistry. She has practiced dentistry and oral surgery at the Center since 2006. She is a 2002 graduate of the VA-MD Regional College of Veterinary Medicine. She completed her residency at the Center and has also performed internships in both general medicine and surgery, and specialized surgery.



Dr. Emily Edstrom is a 2010 graduate of the Colorado State University School of Veterinary Medicine. She completed a rotating internship in small animal medicine and surgery at VCA Veterinary Referral Associates in Gaithersburg, MD. She is a member of the American Veterinary Dental Society.



9041 GAITHER ROAD, GAITHERSBURG, MD 20877 ♦ PHONE: (301) 990-9460 FAX: (301) 990-9462 ♦ www.centerforveterinarydentistry.com

DENTISTRY:
Complicated Gingivitis!

Lymphoma is one of the most common malignant tumors to affect dogs in veterinary medicine. Multicentric lymphoma is by far the most common form of lymphoma seen in veterinary patients, but other types of lymphoma include mediastinal, gastrointestinal, and cutaneous. *The cutaneous form has a predilection for epithelial tissue and often causes signs of chronic skin allergies, bacterial infection, or autoimmune disease.* The main clinical signs in the early stages of disease include depigmentation, pruritis, scaling, and hair loss (Fig. 1). These skin lesions can progress to ulcerative plaques or tumors that do not respond to systemic therapy.



Fig. 2 Lateral (A and B) and rostral (C) pre-operative photographs showing diffuse gingival hyperemia and hypertrophy with a spongiform texture in this same dog. The owner reported that the oral inflammation had developed spontaneously over the last 2-3 months.

Unfortunately, cutaneous epitheliotropic lymphoma is usually of T- cell origin and, therefore, carries a more guarded prognosis. The clinical course of epitheliotropic lymphoma can be quite variable since clinical presentation can vary from a solitary nodule to diffuse, multicentric lesions present on the skin and mucous membranes. Few studies have reported the long-term outcome in dogs that have been treated for extranodal lymphoma; therefore, the prognosis is somewhat limited. Most reports give a guarded survival time ranging from several months to a year with chemotherapy. Cases of gingivitis or gingival hypertrophy may not be so straight-forward. *A thorough work-up and biopsy (Fig. 4) are the keys for a proper diagnosis avoiding non-responsive symptomatic treatment that is frustrating for the patient, owner, and veterinarian!*

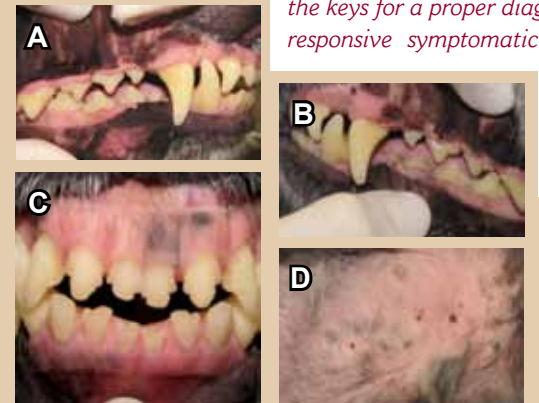


Fig. 4 Lateral (A and B) and rostral (C and D) 2-week postoperative photographs showing an excellent response to chemotherapy (initiated 1-week following surgery). The owner reported that the cutaneous plaques and scaling had also resolved (D).

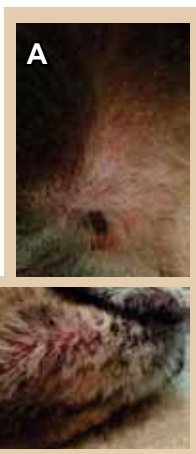


Fig. 1 Diffuse areas of cutaneous plaques, erythema, and scaling of the trunk (A) and chin (B) were noted in this dog with epitheliotropic lymphoma.



Fig. 3 Lateral (A and B) and rostral (C) postoperative photographs following gingivectomies and biopsy were performed. The gingiva was submitted for histopathology, which revealed a low-grade epitheliotropic lymphoma.

SMALL MOUTHS, BIG HOLES:
Closing Major Oral Defects.

Unfortunately, often the diagnosis of oral neoplasia is made when the lesion is quite large in relation to the size of the mouth. In fact, the lesion can seem so large that all hope is lost and the owner is conveyed a grave prognosis based on the size of the lesion, regardless of the tumor type.

Oral reconstructive surgery techniques allow closure of oral defects that might seem intimidating or impossible to close based on the size of the defect following resection. The first step is to make the diagnosis by incisional or excisional biopsy. The next step is to make every attempt to remove the entire lesion including tumor-free margins of the lesion. Oncologic surgery guidelines recommend 1-2 cm of gross tumor-free tissue be included as part of the resected specimen. This parameter is more difficult to follow in the oral cavity of dogs because of the consistent small size of the mouth. A 2-cm margin might include half of the skull!

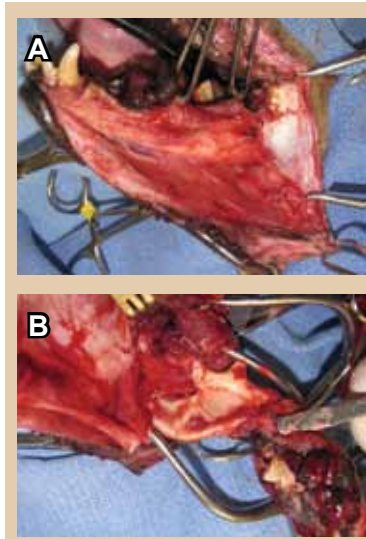


Fig. 2 CO2 laser soft tissue incisions are associated with decreased hemorrhage and pain (A). The extent of the lesion required total mandibulectomy with disarticulation of the TMJ (B).

The labial (buccal) mucosa provides lateral tissue that can be elevated and repositioned towards midline to aid wound closure following resection of mandibular or maxillary tumors. In this case, the large oral melanoma required total mandibulectomy based on the bone lysis noted on dental radiographs. Skin juxtaposed with the tumor also required resection minimizing mucosa available for wound closure. The procedure shown here maximized a successful result with tumor-free margins. The melanoma vaccine is recommended postoperatively for all patients with oral malignant melanoma regardless of tumor margin status.

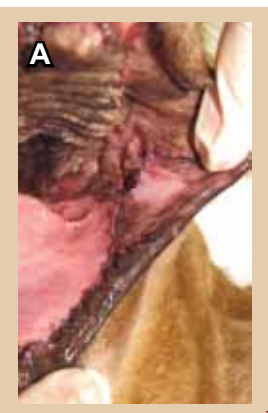


Fig. 4 Views of the oral (A) and cutaneous (B) wound closures following left total mandibulectomy. Note the wound closure for the commissurotomy that enabled exposure for the TMJ disarticulation.

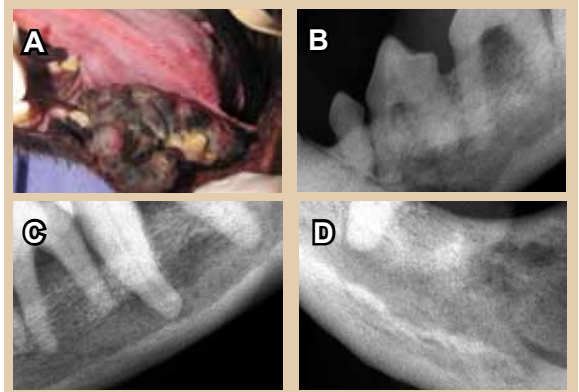


Fig. 1 Malignant melanoma of the left mandible in a 13-year-old Dachshund dog (A). Note the caudal extent of the gross lesion. Intraoral dental radiographs showed bone lysis from the canine tooth to the masseteric fossa (B-D).

Therefore, pragmatic considerations dictate goals that still prioritize removing the entire tumor and maximize margins of normal appearing tissue around the tumor. Maintaining function and providing acceptable cosmesis are also major factors when determining the surgical plan.

The labial (buccal) mucosa provides lateral tissue that can be elevated and repositioned towards midline to aid wound closure following resection of mandibular or maxillary tumors. In this case, the large oral melanoma required total mandibulectomy based on the bone lysis noted on dental radiographs. Skin juxtaposed with the tumor also required resection minimizing mucosa available for wound closure. The procedure shown here maximized a successful result with tumor-free margins. The melanoma vaccine is recommended postoperatively for all patients with oral malignant melanoma regardless of tumor margin status.

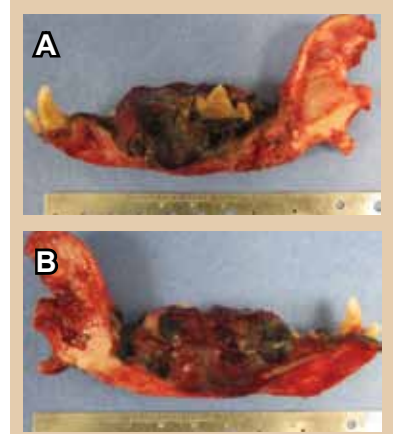


Fig. 3 Views of the buccal (A) and lingual (B) aspects of the resected mandible with malignant melanoma.

HEAD & NECK:
A Case Of The Sniffles!

One of the more frustrating symptoms pets, owners, and veterinarians experience is chronic nasal discharge. Such a non-specific symptom can have many causes, and often many different medical therapies are attempted for treatment and/or to rule-out a disease process. *Antibiotics may clear up the discharge, or antihistamines may reduce the amount, but generally symptoms return once medication is discontinued.* Certain characteristics of the nasal discharge may help narrow down an etiology; for example unilateral mucopurulent nasal discharge may indicate a nasal foreign body, tooth root abscess, or nasopharyngeal polyp (Fig. 1). Unilateral epistaxis could be a symptom of a nasal tumor or fungal disease. Dental radiographs can be a useful tool in any case of nasal discharge, at the very least to rule out a dental cause. Any teeth in the maxilla that show radiographic and/or visual signs of pathology should be extracted (Fig. 2). If a tooth was truly the cause, the nasal discharge should resolve over the next few weeks. *Detailed views of the nasal sinuses can also be taken with dental sensors and can identify destructive processes such as a tumor or fungal disease (Fig. 3).* With the patient under general anesthesia, a sinusotomy can be performed through the oral cavity to retrieve samples from the nasal cavity for histopathology and culture. *The biopsy result is the most important information when determining a cause.* We are all a little disappointed when we get a diagnosis of allergic or lymphoplasmocytic rhinitis, but at least the medical management can be further tailored to the suspected disease process.



Fig. 1 Radioopaque nasal foreign body in a cat (A). This cat had nasal discharge from the time the owner adopted it as an adult 10 years previously. The foreign body was buckshot that was removed from the nasal cavity (B). The discharge resolved a few weeks after the foreign body was removed.



Fig. 2 Abscessed maxillary 4th premolar tooth with periapical lucency. Dental radiographs should be taken to rule-out a dental cause since routine skull radiographs are unlikely to be sensitive enough for diagnosis.

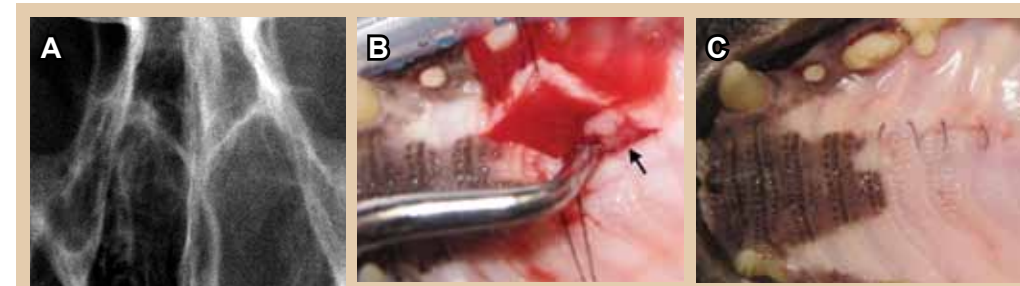


Fig. 3 Sinus radiograph taken with a dental sensor in a cat with chronic nasal discharge. There is an appreciable difference in opacity between the right and left sinus cavities (A). A sinusotomy was performed (arrow) using an oral cavity approach to obtain a nasal cavity biopsy (B and C).