

the COVE connection



Center Of Veterinary Expertise

24/7 ER + Specialty Care

CaseCORNER

Jackie
7 YO, MN Australian Shepherd Mix
Referred by Dr. Armstrong,
Heathsville Animal Hospital



Mandibular Osteosarcoma

History: Jackie was referred to evaluate a mandibular mass that had been biopsied by Dr. Armstrong and diagnosed as osteosarcoma. A left mandibular mass was noted by the rDVM and the biopsy was obtained. Prior to the biopsy, the owners had noticed that Jackie was eating differently and seemed to feel pain when attempting to eat. The rDVM had initiated Clindamycin and Deramaxx to minimize secondary infection and to aid in pain control.

The workup performed prior to referral included thoracic radiographs to rule out metastasis and a complete blood panel, which were unremarkable.

Presentation: On initial exam, Jackie resisted manipulation of the left mandible. A firm, ulcerated 2cm mass was present at the level of the left mandibular carnassial tooth. Left temporalis muscle atrophy was also present. Atrophy can be from disuse secondary to pain or be related to progressing neoplasia. The remainder of the physical examination, including the mandibular lymph nodes, was unremarkable. Referral for CT of the mandible was discussed to define surgical margins. However, Jackie's family elected to forgo this diagnostic step.

Surgery: Intra-oral radiographs were obtained under general anesthesia to further define the margins of the mass. Disruption of the mandibular bone extended to the level of the mandibular canal, making the more conservative rim segmental mandibulectomy not a viable option. Adequate grossly and radiographically normal bone was present rostral and caudal to the mass, so a segmental (versus complete) mandibulectomy was elected.

After flushing the oral cavity with CLR solution, the gingiva was incised perpendicular to the mandible at the level of the furcation of 308 and distal to 311, allowing for 15mm margins past visible tumor. The periosteum was reflected buccally and lingually and the muscle attachments were elevated from the mandible. Osteotomy was performed to the level of the mandibular canal with a 701L crosscut bur on a high speed handpiece. The inferior alveolar artery was identified and ligated prior to performing osteotomy of the ventral third of the mandible.

The mesial root of 308 was extracted after en bloc removal. Osteoplasty to smooth the rough edges of the osteotomy and to taper the edges of the remaining mandible was performed with a diamond bur on a high speed handpiece. Closure with 4-0 Monocryl was performed in two tension-free layers in a simple interrupted pattern.

Postoperative Care: Jackie was maintained on a Fentanyl / Dexdomitor / Lidocaine CRI post-op and monitored closely by the ICU staff for bleeding or breakthrough pain. Unasyn was administered TID until Jackie could be transitioned to oral antibiotics. He was readily eating soft food within 24 hours of surgery and was discharged 48 hours post-op on PO Tramadol, Deramaxx, and Clindamycin.

HP Results: Confirmed osteosarcoma with clean surgical margins.

Follow-up Care: At the two-week recheck, Jackie's family reported that he was eating well, playing normally, and comfortable, even off all pain medication. He had gained a pound since presentation. The surgical site was well healed and pain free on manipulation. Jackie's family elected to pursue adjunct chemotherapy at VRCC and he is currently tolerating Carboplatin with no evidence of recurrence or metastasis.

Discussion: As opposed to appendicular osteosarcoma, mandibular osteosarcomas are much less likely to metastasize, meaning that surgical removal can result in a cure. Studies show that dogs treated with surgery alone have a one-year survival rate of 71%. Client acceptance of the concept of facial surgery and their fear of disfigurement can be a challenge. Most dogs adjust to eating normally quite quickly, aside from a moderate increase in drooling. Feeding tubes may be indicated with bilateral mandibulectomy, but are rarely needed if the surgery is unilateral. The more rostral the surgery is, the greater the disruption in appearance will be.



Dentistry DEPARTMENT



The COVE Offers a Full Range of Advanced Veterinary Dental Services.

As you know, much like human health care, one of the best ways to take care of your patient's health is through great dental care. Encouraging routine home care and regular professional examinations and cleanings by you will help achieve this. However, there may come a time when your patient needs advanced dental care.

At The COVE, Colleen Fox, DVM, utilizes state-of-the-art technology to diagnose and treat a wide range of dental needs such as:

- Endodontic – Root canal therapy, treatment of fractured teeth, crown reductions, and tooth infections
- Oral Diseases – Oral manifestations of systemic disease, stomatitis, and oral autoimmune disorders
- Oral Surgery – Dental extractions, jaw fractures, palatal defects, oronasal fistulas, oral tumors, and dislocated teeth
- Orthodontics – Bite evaluations, genetic counseling, and orthodontic treatments
- Periodontal – Treatment of periodontal disease, tooth scaling and polishing, root planning, gingival surgery, and guided tissue/bone regeneration
- Radiographs – To help diagnose periodontal and endodontic disease, missing or extra teeth/roots, oral tumors, fractures, and TMJ disease
- Restorative – Cast metal crowns, fillings, and enamel bonding

Appointments are available by referral Tuesdays through Fridays, 9:00 am – 5:00 pm. To schedule an appointment for your client or to discuss a case for referral consideration, please call 757.935.9111.

Spotlight ON

Colleen Fox, DVM Providing Advanced Dental Services



After earning her Bachelor of Science and Doctor of Veterinary Medicine degrees at Cornell University, Dr. Fox has been calling Virginia home since 1998. She developed a deep passion for veterinary dentistry when she discovered how dramatically a pet's quality of life and longevity could be improved through proactive oral health protocols and advanced corrective and restorative procedures to treat infection and oral pain. She is highly proficient in employing leading-edge technologies, techniques, and materials used in veterinary dentistry.



Dr. Fox has traveled thousands of miles and devoted countless hours to steadily increase her dental knowledge and skills through continuing education and practice. Additionally, she is a member of the American Veterinary Dental Society and has limited her practice to dentistry as a DVM pending acceptance into an accredited residency program with the intent of becoming board certified.

In recognition of her innovative veterinary practice as well as her service to the community, Dr. Fox was honored in 2012 as one of Inside Business magazine's "Top 40 Under 40 in Hampton Roads."

She looks forward to providing comprehensive dental services to pets in need, and educating pet owners and veterinarians about the importance of dental health.

Comprehensive Oral Health Assessment and Treatment

The COHAT approach focuses on complete oral health and assessment by using diagnosis and specific treatment(s) to control and sometimes reverse specific periodontal diseases.

1. Complete a thorough patient history, signalment, assessment of home care, and chewing habits
2. Complete a thorough general physical examination and conscious oral examination
3. Provide a pre-anesthetic diagnostic workup to determine if the patient is a candidate for anesthesia
4. Determine the pre-anesthetic and analgesic plan for each patient
5. Give appropriate pre-anesthetic agent and induce anesthesia along with placing an endotracheal tube maintaining with anesthetic gas
6. Consistently monitor the patient using the electrocardiography, blood pressure, end-tidal carbon dioxide, blood oxygen saturation, and temperature
7. Continuously externally warm patient by using Bair Hugger and fluid warmer
8. Complete intra-oral assessment, full-mouth radiograph (which is the most important step), and periodontal probing and charting
9. Complete teeth cleaning by scaling and polishing above and below gum line
10. Formulate treatment plan and review with client
11. If surgery is required, then nerve block(s) will be administered to allow patient to stay “light” under anesthesia and remain pain free up to 6 -10 hours post-operatively
12. Recovery now takes place and the client is called post-operatively
13. Discuss discharge instructions and post-operative medication(s) prior to releasing the patient. Home care, recheck information, and/or follow-up appointments are reviewed at this time as well

Radiology CORNER

The most common question I get about dental radiology is “What equipment should I buy?” First, congratulate yourself on realizing how vital dental radiographs are in successfully identifying and treating oral pathology! It’s easy to get overwhelmed with the all choices available. Essentially, you have three options:

1. Film/dip tank

Analog film provides excellent image quality. The initial setup is inexpensive, but there are ongoing costs associated with chemicals and film. This modality, however, is the most time and labor intensive. Because of the delay in processing, the learning curve for proper positioning can be quite frustrating compared to digital systems that offer nearly immediate feedback on image quality. This system is the most sensitive to user error.

2. DR (direct digital)

DR systems provide the fastest time from exposure to image viewing. Because the sensor can stay in the mouth between exposures, adjustments can easily be made in positioning to achieve good image quality. Each sensor size is purchased separately and not inexpensively, so it is common to be limited to a single size 2 sensor. This can increase the number of exposures required to obtain a full mouth series in a large dog. Care must be taken with the sensor to prevent damage, as replacement is expensive.

3. CR (indirect digital)

This system requires the sensor to be removed from the mouth for processing, but the digital processor is significantly faster than analog film. The sensors are relatively inexpensive compared to DR, making it feasible to have multiple sizes (0-4) available. The larger sensor is useful for obtaining sinus and digit radiographs, as well as reducing the number of exposures required for full-mouth radiographs in dogs.

As with any major purchase, your individual situation and unique needs must be taken into account. Customer service, warranty, and software compatibility all need to be considered as well.

Colleen Fox, DVM

Did You Know?

Tooth Resorption is Not Just a Feline Problem!

Since more than half of our feline patients have at least one resorptive lesion (previously called neck lesions or FORLs) by the age of three years,



we have become all too familiar with this disease in cats (although pathogenesis and prevention remain a mystery). The more often routine radiographs are being performed, the more we are discovering that dogs, as well as other species such as ferrets, are also susceptible, although at a lower incidence. As with cats, these lesions are progressive and painful when at or above the gum line and require extraction of the affected tooth.



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IN THIS ISSUE

p. 1	Case Corner: Jackie – 7 YO, MN Australian Shepherd Mix
p. 2	Dentistry Services Department Spotlight On: Colleen Fox, DVM
p. 3	Tech Tip: COHAT – The Proper Approach to Dental Health Radiology Corner Did You Know?
p. 4	In Their Words...

In Their Words... In Their Words... Thank You!
Thank You! Thank You! In Their Words...
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In Their Words...

Thank you!



I came to The COVE as a last resort for help with our sick cat, Sandy, via referral. She had gum disease that was extremely painful and was not responding to medical treatments. I had decided to put Sandy down when I thought that the pain and weight loss were getting to be too much for her.

The COVE took the time to explain the process in depth to me when I called to set up the consult with Dr. Fox. I was most impressed not only by Dr. Fox's genuine caring, but also that of the entire staff. The entire experience was very difficult for me and my pet, but the people at The COVE did everything possible to make it as easy and pain free as possible.

Sandy is doing great now and is putting on weight. She is once again a happy and loving pet, and I am thankful to Dr. Fox and the staff. I would highly recommend The COVE.

Sharon L. Withers – Owner of Sandy

24-Hour
Emergency
Services



thecovevets.com | P 757.935.9111 + F 757.935.9110

Advanced Care by Referral | Surgery + Cardiology + Dentistry