



Yes, it has been a while since the last CUSP. I have just been too danged busy to sit down and make it happen but it looks like I might have a short reprieve, so here you are.

This is going to be a short issue, focusing on one subject – Pro-Active Dental Care. I have touched on various aspects of this before and would remind you of the following previous papers:

[www.toothvet.ca/PDFfiles/PerioAgain.pdf](http://www.toothvet.ca/PDFfiles/PerioAgain.pdf)

[www.toothvet.ca/PDFfiles/PerioCommon.pdf](http://www.toothvet.ca/PDFfiles/PerioCommon.pdf)

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In this paper, we are going to look at two Cavalier King Charles Spaniels, litter mates separated at 8 weeks and reunited at a year of age. What happened (or did not happen) to them in their first year had a dramatic impact their oral health when I saw them at 4.5 years of age.

## A TALE OF TWO BROTHERS

In June of 2013 I was presented with a male, neutered Cavalier King Charles Spaniel born in November of 2008. The presenting complaint was “periodontal disease”. The dog (let’s call him “Dog 1”), had received no prior home or professional dental care and had been living with the owners since he was about 8 weeks of age.

As you may know, CKCSs are notorious for a number of serious maladies including mitral valve disease and syringomyelia. As well, being a brachycephalic breed, they tend to have terrible oral health (advanced and widespread periodontal disease).

So Dog 1, being a CKCS who had had his adult teeth for four years and no preventative care, did have a LOT of periodontal disease. So much disease that when I saw him in June of 2013 he required extraction of 15 teeth due to advanced periodontal issues, 2 more due to pulp necrosis and 4 more to allow wound closure and alleviate some other crowding issues (a total of 21 extractions).

As we were discharging Dog 1 at the end of the procedure, his owners mentioned that they had his full brother (“Dog 2”) at home and wondered if he might be in trouble as well. They had adopted him from the breeder at a year of age after his first owner had returned him, so they did not know his history prior to that. Since adopting Dog 2, he also had had no preventative dental care and so it seemed prudent to get him in for an assessment.

I saw Dog 2 in September of 2013. On conscious examination, I noted that he was already missing many teeth and it struck me that it was precisely the teeth that I am inclined to remove if I get that chance to do pro-active work in small and brachycephalic dogs at about 6 to 7 months of age. While the current owners did not have the name of the former owner, a search of our database made it clear that I had actually seen Dog 2 in June of 2009 (seven months of age) and at that time I had extracted 14 teeth proactively. Six of the extracted teeth were the upper incisors because Dog 2 has a class III malocclusion (upper jaw too short) and those upper incisors were in traumatic contact with the

floor of his mouth and interfering with the eruption of his lower canine teeth. The other eight extractions were strategic, selective extraction of less important teeth to alleviate crowding issues and provide better periodontal anatomy for the more important teeth left in place.

So how many extractions did Dog 2 require in September of 2013? None. Not a single one. There was some periodontal disease palatal to the upper fourth premolar teeth and between the remaining lower left molars, but still within the manageable range.

So here we have two dogs with the same parents, living all of their adult lives together in the same environment. One had no proactive dental care and by 4.5 years of age required 21 extractions of chronically diseased teeth. The other had proactive care at 7 months of age and required no further extractions. Sure, both of them had extractions but one had extractions before disease and enjoyed good oral health since whereas the other suffered in silence with hidden periodontal and endodontic disease for some years before getting the extractions. Which dog would you rather be?

Follow-Up:

I saw Dog 1 and Dog 2 again October of 2014 for periodontal reassessment and maintenance therapy. They were both on a dry diet but still getting no home plaque control. Dog 1 required a few more extractions (three in fact) because of progression of disease in the right mandible. Dog 2 just needed maintenance periodontal therapy (still no further extractions).

And now some images:



This is a clinical pre-operative photo of Dog 1 in June of 2013, showing lots of plaque, calculus

and some evidence of gingival recession. The dental crowding is also obvious.



This pre-operative photograph of the palatal aspect of the right maxillary teeth shows crowding between the 3<sup>rd</sup> and 4<sup>th</sup> premolars and (less obviously) the lack of gingiva between the 1<sup>st</sup> and 2<sup>nd</sup> molars.



And this radiograph confirms what you might have suspected – dramatic bone loss around the upper premolars and (less obviously), no bone between the crowded molars. All teeth behind the canine tooth were extracted.



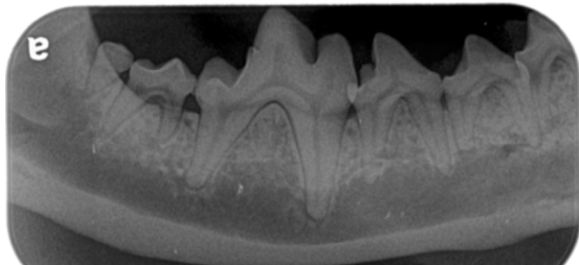
The left maxilla did not look as bad clinically but there is still reason to expect that there will be trouble below the gum line.



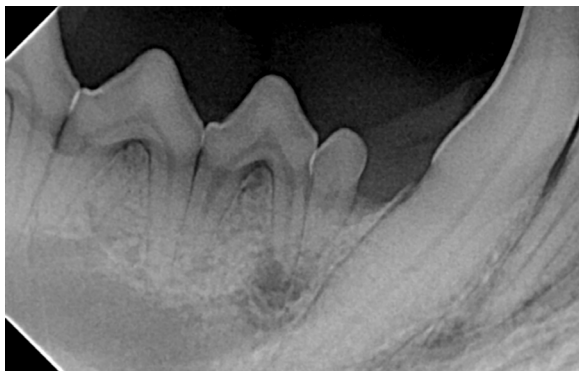
And here it is. I removed the first three premolars and the 2<sup>nd</sup> molar.



The right mandible looked pretty good clinically.



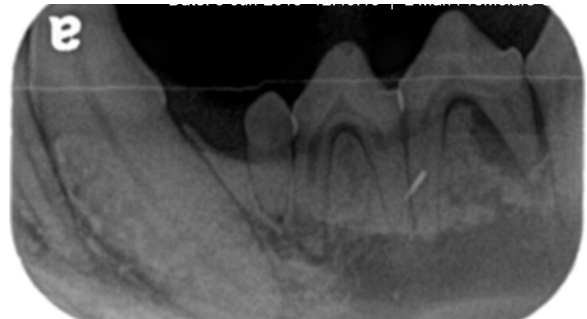
I felt that the molars were okay to stay, though with both of the right upper molars gone, I likely should have removed the lower 2<sup>nd</sup> and 3<sup>rd</sup> molars (they had to come out at follow-up 16 months later).



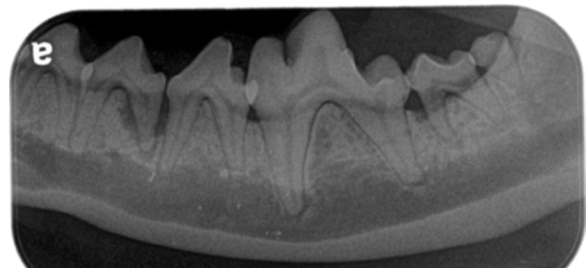
The large pulp chamber in the 2<sup>nd</sup> premolar, the resorption of the tip of the mesial root and the lucency in that area all indicate that the pulp in this tooth has been dead for a while. I do not know why the pulp died, but the 1<sup>st</sup> and 2<sup>nd</sup> premolars required extraction.



The clinical image of the left mandible does not suggest much to worry about, however...



The large pulp chamber in the 2<sup>nd</sup> premolar indicates its pulp has been dead a long time. Then there is the deep periodontal defect between the 3<sup>rd</sup> and 4<sup>th</sup> premolars and...



A deep pocket around the mesial root of the 2<sup>nd</sup> molar. I removed all left mandibular teeth behind the canine with the exception of the 1<sup>st</sup> molar.

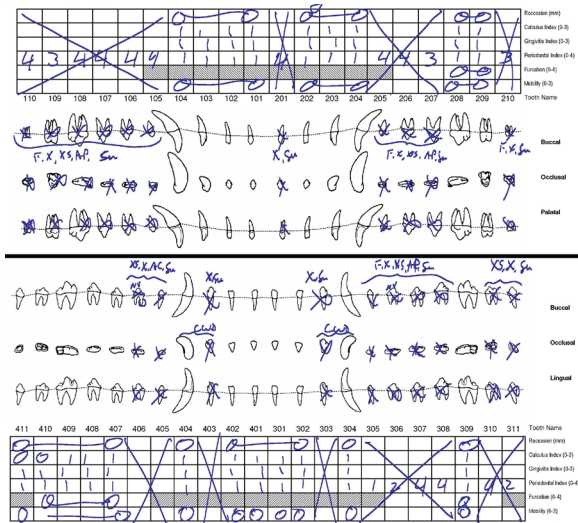
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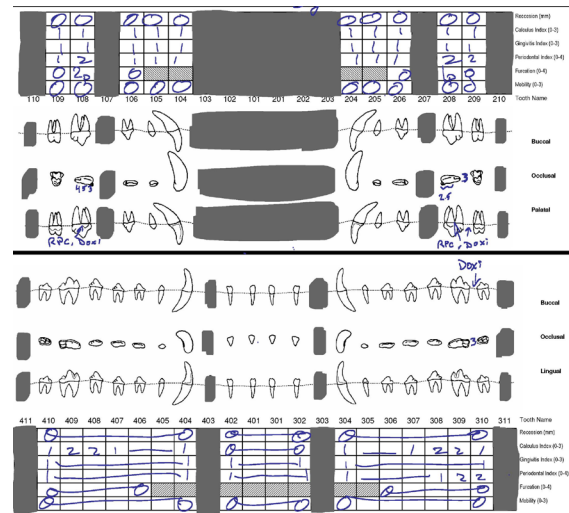
There was a deep pocket around the left upper 1<sup>st</sup> incisor, so I removed it.



I was concerned about crowding between lower canines and incisors putting them all at risk, so I removed the lower 3<sup>rd</sup> incisors. Below is Dog 1's dental chart from that visit.

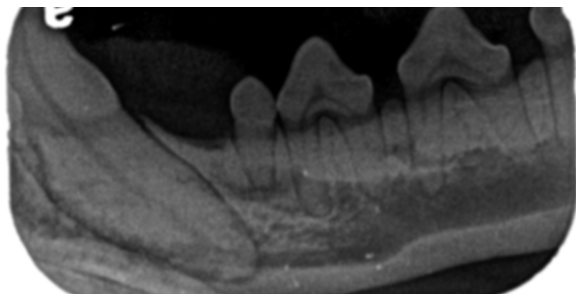
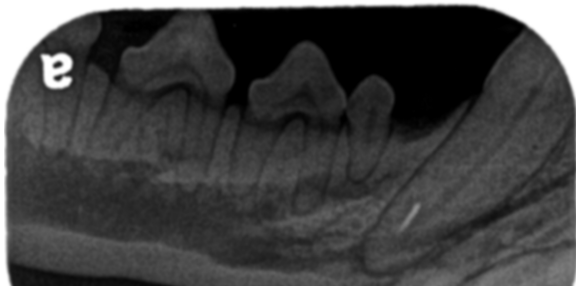
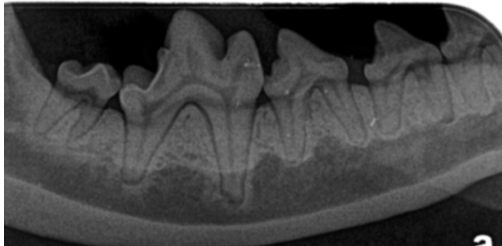


Now Dog 2. Below is his chart from September of 2013



As you can see, aside from the upper incisors (removed to alleviate traumatic tooth-to-tooth and tooth-to-soft tissue contacts in a class III malocclusion), the missing teeth are smaller, less important teeth removed to alleviate crowding and reduce the anatomic risk for the development of periodontal disease of the remaining, more important teeth. And this strategy appears to have worked well.





Of course two dogs do not make a study and though they are litter mates, they do have different genetics, so the difference in their periodontal status in 2013 cannot necessarily all be explained by the difference in their treatment histories. But it is still a compelling illustration. Without pro-active care at a young age, all very small dogs and all brachycephalic dogs can look forward to developing a lot of dental disease. With pro-active care, this risk can be dramatically reduced.

The veterinarian's oath swears us to use our training to prevent animal suffering...

Being admitted to the profession of veterinary medicine, I solemnly swear to use my scientific knowledge and skills for the benefit of society through the protection of animal health and welfare, **the prevention and relief of animal suffering**, the conservation of animal resources, the promotion of public health, and the advancement of medical knowledge.

I will practice my profession conscientiously, with dignity, and in keeping with the principles of veterinary medical ethics. I accept as a lifelong obligation the continual improvement of my professional knowledge and competence.

...therefore, it is your sworn obligation and duty to inform owners of small and brachycephalic breeds in particular that a detailed examination and pro-active dental care at six to seven MONTHS of age is a necessary component of their pet's oral health care plan. Failure to do this makes it a virtual certainty that their pet will suffer years of dental disease and then lose a lot more teeth in the end.

**Let's get proactive to prevent problems rather than waiting for them to become obvious and then being reactive.**