Otitis externa (OE) is a common disease in dogs, with an estimated rate of occurrence between 10-20%. Certain breeds have been found to be at an increased risk for the development of OE. These include the German Shepherd dog, Shar Pei, and Cocker Spaniel. OE is an inflammatory condition of the external ear canal that can be classified as acute or chronic. The pathogenesis of chronic otitis externa is both complex and multifactorial. The current classification system defines otitis externa as having both primary and secondary causes that are modified by perpetuating the predisposing factors. More than 90% of all referral cases presented for otitis externa are diagnosed with an underlying predisposing or perpetuating disease process such as atopic dermatitis or food allergy that results in the external manifestation of otitis externa.

The most common initial treatment method of OE is medical treatment. Therapeutic aims of treatment are directed towards the resolution of clinical signs. Unfortunately, medical treatment in some cases offers only temporary resolution of the clinical signs associated with OE, leaving the potential for the development of a chronic condition. The most common initial treatment method of OE is medical treatment. Therapeutic aims of treatment are directed towards the resolution of clinical signs. Unfortunately, medical treatment in some cases offers only temporary resolution of the clinical signs associated with OE, leaving the potential for the development of a chronic condition.

Early concepts of the pathophysiology of chronic OE have traditionally suggested a common mechanism for the progression of chronic proliferative changes, regardless of the primary cause. This theory would indicate that tissue responses to inflammatory stimuli across breeds would be expected to be the same. Additionally, similar clinical responses to medical management for OE would be expected across all dog breeds. It is now known that chronic OE is caused by underlying conditions such as allergic disease, autoimmune disorders, endocrine disease and glandular disease. It is also now understood that certain breeds, such as the Cocker Spaniel, exhibit a different and more severe tissue response than others. Additionally, histologic breed variations exist, with long-haired breeds such as the Cocker Spaniel having more glandular tissue in their ear canals than short-haired breeds like the Boxer. Previously suspected risk factors such as pinna conformation, hair, temperature and humidity have not been correlated with an increased risk for the development of OE. Such risk may be more related to the breed. Cocker Spaniels have a different and more severe tissue response to inflammation that may lead to a less favorable long-term outcome with medical management than for other breeds. Our goal was to report the clinical findings and outcome for medically and surgically treated Cocker Spaniels.
with chronic OE compared to a control population of other breeds. Our study also serves to report the resolution of clinical signs associated with chronic OE in both treatment groups. To the authors’ knowledge, this is the first clinical report evaluating the long-term outcomes of chronic OE with both medical and surgical treatment in Cocker Spaniels. Previous studies of OE in all breeds of dogs have reported Cocker Spaniels to represent the majority of affected animals, at 43-60%. Similar percentages are reported for all dogs requiring TECALBO, with the Cocker Spaniel being again over-represented. Given this breed-specific difference and the observation that TECALBO surgery seems more commonly performed in the Cocker Spaniel than other breeds, we sought to determine if (1) medical or surgical management of OE is more effective in this breed and (2) if medical management in this breed is equally successful to medical management in other breeds. To evaluate this, we evaluated the outcomes of Cocker Spaniels treated either medically or surgically for chronic OE. Our study then compared the response to medical therapy in Cocker Spaniels to the response from a control population of other dog breeds. Our null hypotheses were that there would (1) be no difference in outcomes associated with medical or surgical therapy and that (2) there would be no difference in the response to medical management between Cocker Spaniels and other breeds of dogs.

Medical records of Cocker Spaniels presenting for OE between 2000-2012 were evaluated for medical (M) or surgical (S; total ear canal ablation and lateral bulla osteotomy; TECALBO) treatment, for individual dermatologic diagnoses, and for the degree of medical treatment pursued. Follow-up information was obtained via medical record or telephone interview and resolution of ear disease was ordinally scored (0-4). Of those evaluated, 37/57 had TECALBO and 20/57 were treated medically. Response to therapy was then compared to a control population of other dog breeds. This population included dogs treated by the Dermatology or Primary Care services that were randomly selected from the overall OE population using a random number generator (Microsoft Excel) to provide a representative sample across the same time period as the Cocker Spaniel groups.

Our findings indicate that the degree of prior treatment was not associated with resolution of clinical signs in the Cocker Spaniel, with only 1/20 dogs showing resolution with medical management. These findings coincide with previously published data by Angus et al. on breed variations in histopathologic features of chronic severe OE in dogs. This study speculated that Cocker Spaniels are at an increased risk for requiring TECALBO due to a more profound proliferative tissue reaction in comparison to other breeds, potentially warranting earlier and more aggressive pursuit of the primary cause of OE. Normal canine aural skin includes two types of secretory glands; sebaceous and ceruminous glands. Distribution of glands can be variable, but sebaceous glands are numerous near the tympanic membrane. Studies by both Huang and Angus have sought to determine the differences between normal ears and otitic ears, with Huang et al. finding that in otitic canine ears, the distribution of sebaceous and ceruminous glands was similar to normal ears but that the glands became larger and hyperplastic. This paper also acknowledges that histologic features of the integument exhibited marked variation between individuals, including an increased mass of ceruminous glands in long haired breeds possibly predisposing them to otitis externa. Angus et al. retrospectively evaluated 80 affected dogs (48 of which were Cocker Spaniels) and categorized the tissue response in relation to breed, suspecting that there would be a difference in the Cocker Spaniel. This paper identified four tissue response patterns; ceruminous, sebaceous, fibrotic and other (mixed). Cocker Spaniels exhibited a
ceruminous tissue response of 73% while other breed exhibited this response 28% of the time. The majority of other breeds exhibited a fibrotic response with less glandular activity. This study supported earlier work done by Stout-Graham et al. describing ceruminous gland hyperplasia in a smaller group of dogs with the Cocker Spaniel again being over represented. In addition, Angus et al. found histopathologic differences among breeds in ectasia, the presence of pigment-laden macrophages, and osseous metaplasia. The role of these differences in the development of proliferative end stage ear disease is not known, but may relate to the decreased response to standard medical therapy for chronic otitis externa that exists in the Cocker Spaniel.

Our findings complement this data and suggest that due to the success rate of medical management in Cocker Spaniels, that surgery may be considered earlier in the course of the disease.

Our findings indicate a success rate of medical management to be 5% in affected Cocker Spaniel dogs, with 1 medically treated dog reaching complete resolution. In our study population, the surgical treatment of TECALBO provided a curative solution for chronic end stage ear disease in affected dogs and provided 100% of surgically treated dogs with complete resolution of clinical signs. This finding suggests that TECALBO should be an earlier consideration in the treatment of Cocker Spaniels with chronic and difficult to manage otitis externa. Owner satisfaction was excellent overall for surgically managed Cocker Spaniels, with owners reporting an increased quality of life postoperatively, including increased activity level and resolution of chronic discomfort. Additionally, most owners stated that they would now do this procedure earlier if given the opportunity. This outcome coincides with other studies that report an 89.6-93% overall satisfaction rate postoperatively. Doyle et al. suggested that improved results were expected with early surgical intervention for correctly selected cases, appropriate diagnosis and treatment of the primary cause of the otitis externa, and commitment by owners to ongoing postoperative medical management for the underlying dermatologic condition.

Our study showed that dogs undergoing surgery tended to be older than medically treated dogs, but the clinical course of medically treated dogs did not reveal a better outcome. Additional studies evaluating the effect of aggressive, early medical management would be needed to determine if it is more successful in providing resolution than interventions described in this study.

An underlying dermatopathy, such as atopic dermatitis or food allergy has been found in up to 90% of dogs with chronic otitis externa. This would suggest that early aggressive dermatologic therapy after the establishment of a diagnosis is indicated in dogs with otitic ears. Our results indicate that medically managed dogs may enjoy partial resolution, with the persistence of moderate disease being common. A majority (70%) of dogs in our study had a definitive dermatologic diagnosis of cutaneous adverse food reaction, atopic dermatitis or a combination of both. Cutaneous adverse food reaction, but not other diagnoses, was associated with decreased resolution. This finding may possibly be attributed to the complexity of this condition and a lack of owner compliance when instructed to comply with restrictive long-term diets and/or food trials.

Our post-operative complication rate was 37.8% (14/37) dogs, with the most common complication being transient facial nerve neurapraxia 24% of dogs (9/37). One dog had permanent facial nerve paralysis, although this dog presented with preexisting facial nerve deficits. A known complication of TECALBO surgery is exacerbation of preexisting neurologic
deficits. Previously published data states that permanent facial nerve damage occurs in 10-15% of cases, with a more recent study listing paralysis in 19.8% of dogs. Transient facial nerve neurapraxia is also a common complication noted in TECALBO patients. In a recent report of 133 TECALBO surgeries performed in both dogs and cats, the reported postoperative occurrence of transient facial nerve neurapraxia was reported to be 27.3%. Additional complications noted in our study included abscessation with the development of a draining tract in 8% of dogs (3/37). This finding is consistent with other reported findings that state that even with the performance of a lateral bulla osteotomy and proper curettage of the tympanic bulla, the rate of recurrent infection is between 5%-10%.

Limitations of this study include the retrospective nature of the data collection and incomplete medical history prior to presentation. The recorded detail of physical examination findings differed between evaluators, leading to a lack of consistency when using this information for scoring of severity and in response to treatment. Consistency of noted observations which were used to score dogs is also by nature inconsistent. Additionally, 9/20 medically treated dogs were lost to follow up and could not be scored for resolution. Evaluation of the control population represented an increased difficulty when standardizing treatment as most dogs in the control group were only transiently affected. However, this difficulty supports the difference between the two groups.

In conclusion, most Cocker Spaniels do not obtain resolution of otitis externa by medical treatment. Otitis externa in all dog breeds, but specifically in the Cocker Spaniel, should be considered multifactorial in origin with an underlying primary etiology such as atopic dermatitis, cutaneous adverse food reaction or both. Previous studies show that Cocker Spaniels have a different and more severe inflammatory tissue response and may warrant earlier consideration of surgical therapy. Our study does not necessarily support earlier medical therapy, but rather indicates that earlier surgical intervention with TECALBO, if failure to respond to medical therapy, may result in a better long term outcome for affected Cocker Spaniels with chronic otitis externa.
References