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## TREATMENT AND FOLLOW UP OF UROLITHIASIS IN DOGS AND CATS

Struvite and calcium-oxalate are the most common uroliths in dogs and cats. Struvite stones can be dissolved with conservative treatment, whereas calcium-oxalate always requires surgery (or urohydropropulsion). Struvite crystals easily form in urine samples. They are often falsely interpreted. Common causes of struvite formation are storage time of urine, and urine storage in bottles/containers that were cleaned with soap. In dogs, struvite is almost always associated with a urinary tract infection, so a urinary culture is highly recommended in those cases. In cats, struvite can both be infection-related or sterile. In case of UTI related struvite, a long term preventative diet is not strictly necessary. Struvite dissolution or prevention diets aim at a low urinary pH. For this reason some veterinarians and pet owners suggest cranberry supplements. The acidifying effects of cranberries is very limited. Cranberries contain large amounts of vitamin C, which is a precursor of oxalate. The author therefore does not recommend cranberry supplements for struvite prevention/dissolution. There is some evidence that cranberry supplements prevent attachment of *E.Coli* to the bladder wall in dogs, so for that indication cranberry supplements can be prescribed <sup>(1)</sup>. For calcium-oxalate there is no diet available that is able to dissolve stones. Furthermore, despite good dietary treatment, recurrence is common. The aim of a calcium-oxalate diet is to slow down the recurrence rate by increasing urinary pH, and reducing urinary specific gravity. These parameters should be checked on a regular basis when dogs and cats are put on a calcium-oxalate preventive diet. If the urinary pH remains acidic, potassium citrate (50-75mg/kg BID) can be prescribed. If the specific gravity remains high, wet food can be prescribed and water intake should be stimulated. Failure of proper follow up might lead to more frequent recurrence rates.

### References

1. Chou HI, Chen KS, Wang HC, Lee WM. Effects of cranberry extract on prevention of urinary tract infection in dogs and on adhesion of *Escherichia coli* to Madin-Darby canine kidney cells. *Am J Vet Res.* 2016 Apr;77(4):421-7.