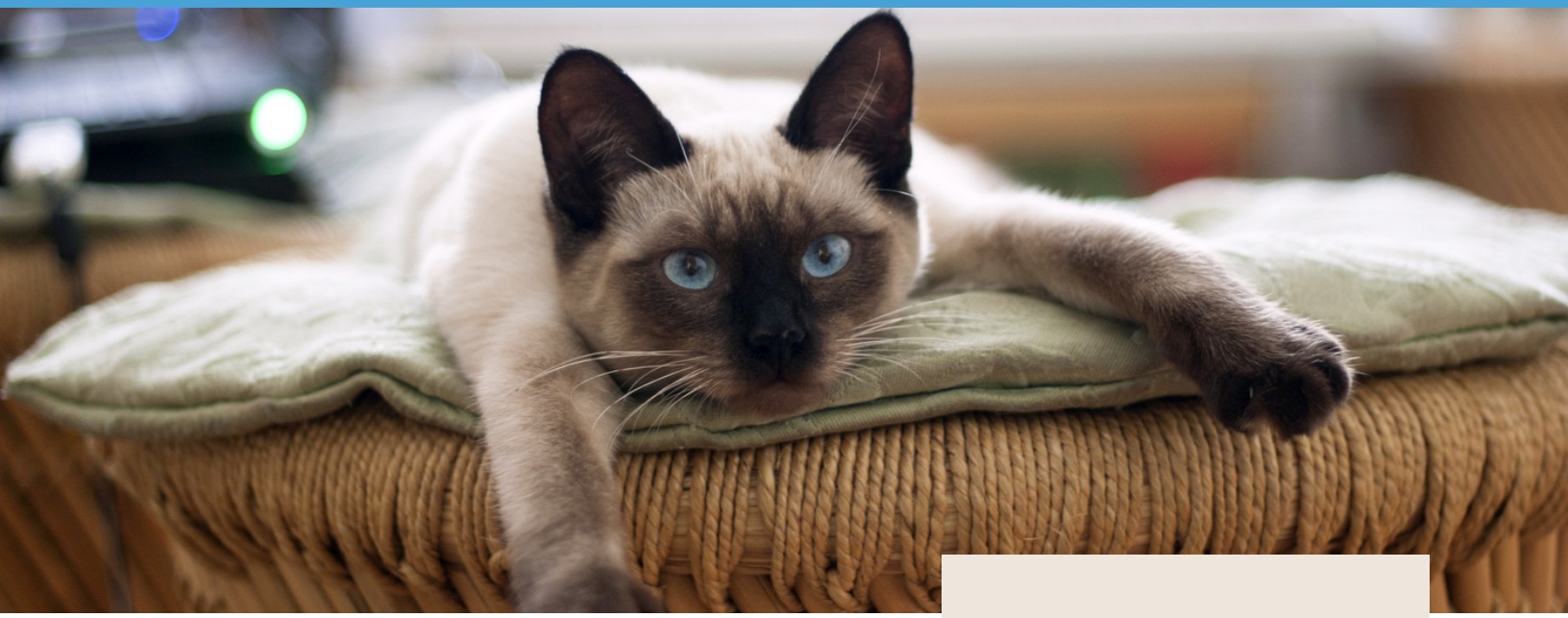
Endocrinology

# A long time question answered !!

TRUE NORTH
VETERINARY DIAGNOSTICS



## Dr. Mark Peterson
## ACVIM Forum 2022 Update

The study involved 615 hyperthyroid cats that were cured by radioactive (RAI) therapy and were followed up on average 6 months later. The cats were classified as non-azotemic and had a creatinine below approximately 177 mmol/L prior to treatment.

The main objective was to determine the percentage of non-azotemic cats with a USG below 1.035 before treatment.

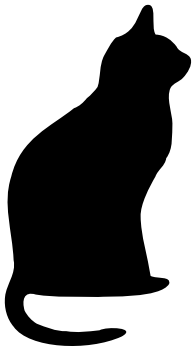
Secondly, they wanted to see if a low urine specific gravity was restored once euthyroidism was achieved.

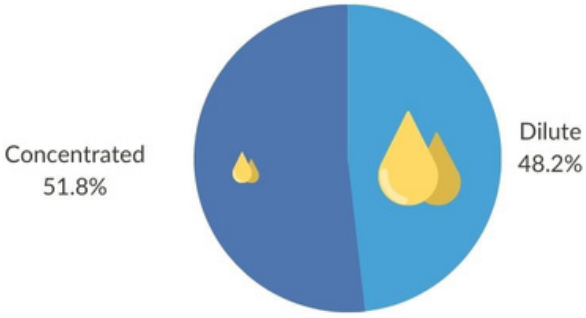
Finally they looked to see if a USG below 1.035 could predict the development of azotemia.

### Hyperthyroidism & PUPD ??

I cannot seem to stop grabbing snap shots of hyperthyroid cats with very concentrated urine. I have always been curious as to the actual percentage of hyperthyroid cats that have concentrated urine given it is a differential for PUPD. Furthermore, if hyperthyroidism can cause PUPD by itself shouldn't cats with dilute urine have improved concentrating ability after treatment? Endocrine gurus Dr. Mark Peterson and colleagues have just answered mine and possibly your own curiosity.

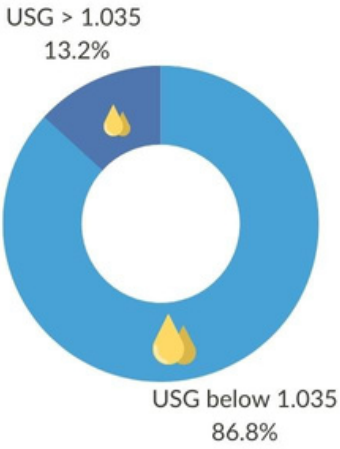
Approximately 1/2 the cats had concentrated urine.



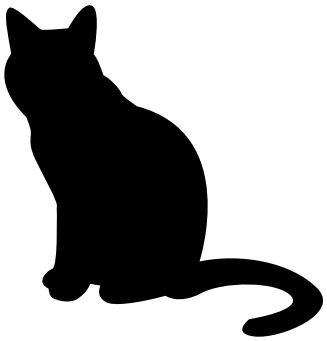


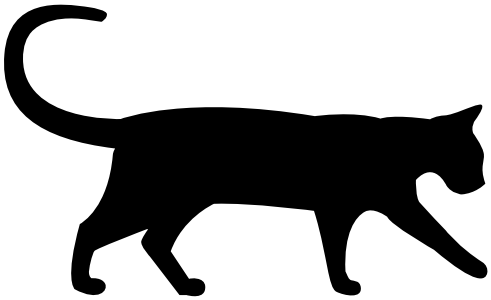

Urine specific gravity was not related to the severity of hyperthyroidism.

Only 13.2 % of cats had a higher USG post treatment.




The majority of cats with dilute urine before treatment maintained dilute urine after treatment.





- The majority of cats will not change their USG after RAI therapy suggesting hyperthyroidism itself is not responsible for dilute urine in most cats.
- About half of cats with a USG below 1.035 had masked azotemia that became apparent after successful treatment.
- In those cats with concentrated urine prior to treatment, there was a low probability of masked kidney disease as only 6% became azotemic.
- Worse azotemia is noted in those patients that develop subclinical or overt hypothyroidism.

Abstract E15: Relationship Between Urine Concentration and Development of Azotemia After Treatment of Hyperthyroid Cats with Radioiodine
Mark E. Peterson1; Dennis Chew2, DVM, DACVIM (SAIM); Mark Rishniw3, DVM, DACVIM (SAIM). Proceedings ACVIM Forum 2022.