

Rounds

Animal Health
Department

Medical Rounds

"medicine for all"



Caring for Stranded Marine Animals

NATIONAL
MARINE
L I F E
CENTER

Notes

Veterinary Research
Department

Under the microscope

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Rounds Notes is a report on the health of animals at the National Marine Life Center from Sea Rogers Williams VMD for the staff, volunteers, and community of the center including professionals involved the captive care of similar species, the views expressed are not necessarily that of NMLC. Information in Rounds Notes should be considered confidential and used solely to benefit the health of aquatic animals everywhere.

November 24, 2009

Rounds Notes

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Headlines News: Eight is enough ?

Late season and questionable clutch of Diamondbacks hatch and find a home

Eight very small Diamondback terrapins arrived at the center for head-start husbandry due to late in the season hatching. The eggs were originally collected from a questionable clutch but resulted in over 20 little hatchlings. Under the care of Don Lewis and veterinarian Michael Ryer the little ones are finding homes and we felt 8 was enough. We are feeding thawed brine shrimp and fine "cut-mix" and will offer food everyday until we are sure all are eating and gaining weight. The littlest one (8) gained a little but has not been observed to eat, and we're keeping a close eye on #1 too as this one (ha) has not gained weight. The others are eating and are producing poop, a good sign. Our goal is to keep it a nice 80+°F for the terrapin hatchlings.



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Clinical Update: Red likes Green

Cooters eating up a storm and basking in the light.

The red-bellied cooters are eating well and being their typical messy selves, but the new filter is doing a good job on water quality and the coliform counts have been in the acceptable range. They seem to like the mercury-vapor bulbs and can be found basking in the light.



Terrapins, Cooters, and Turtles, oh my . . .:

I'll Huff and I'll Puff, but mainly I'll Puff

While Patty's weight and appetite remain stable and the shell is unchanged, possible fluid accumulation in her body cavity and an edematous feel to her limbs has me concerned.

Additional attempts at blood collection last week were not successful and again I obtained only hemolymph. Analysis found the hemolymph uric acid had increased to 1.1 mg/dl, not as high as we had seen it in the past but double her last value. I discontinued the amikacin which can cause renal disease. We will continue to treat the carapace with betadyne soaks and topical muricin.

Taps of the cranial and caudal plastron did collect fluid from the coelom, which could be urine (from the caudal) and hemolymph (cranial) but an ultrasound may shed further light on the fluid location. The fluid was analyzed in house with our i-Stat and send to an outside laboratory for culture.

Renal function assessment remains problematic at best.

Uric acid levels fluctuate with diet, species, and life style, with values less than 15 mg/dl being hard to assess. Uric acid lacks sensitivity and specificity for renal function. As we saw in Caveman, a turtle in renal failure can have a normal uric acid. BUN and creatine are not significant in reptile serum and are often not even measured. Calcium and phosphorous are good measures of more chronic renal function and an increase in the solubility index ($\text{Ca} \times$



Phos) leading to tissue mineralization, which can included renal tissue further pushing an animal towards metabolic crisis, is one such tool. In Patty's case this calculated value is high but has not trended towards further increases. The Ca/P ratio is also helpful, and similarly has been high but stable with Patty. We like to see this value greater than 2 but upper limits have not been established. Urine is an excellent medium for the evaluation of kidney function and the one I reach for first

with my mammal patients, but in an aquatic animals it can be hard to collect. Patty has a history of a large urinary bladder that can be drained with a centesis procedure. Urine from the bladder in reptiles may not be sterile, but I have found cultures to be rewarding and often significant. But since reptiles can not produce concentrated urine the use of reptile urine as a indicator of kidney function is limited. So this leaves us with an invasive test, the renal biopsy, and we are considering this for Patty and will make a decision based on culture results, coelomic ultrasound, radiographs, and results from the recent culture.



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