**LACTIC ACIDOSIS INDUCED BY MANUAL RESTRAINT FOR HEALTH EVALUATION AND COMPARISON OF TWO POINT-OF-CARE ANALYZERS IN HEALTHY LOGGERHEAD SEA TURTLES (CARETTA CARETTA)**

Which venous blood gas pattern would you expect to see with manual restraint of a healthy juvenile loggerhead sea turtle?

1. pH and pCO2 increased, HCO3- and lactate decreased
2. pCO2 and lactate increased, pH and HCO3- decreased
3. pH and lactate increased, pCO2 and HCO3- decreased
4. pH and HCO3- increased, pCO2 and lactate decreased
5. HCO3- and lactate increased, pH and pCO2 decreased

Answer: B; metabolic acidosis and hyperlactatemia = lactic acidosis

**COCCIDIOSIS IN GREEN TURTLES (CHELONIA MYDAS) IN AUSTRALIA: PATHOGENESIS, SPATIAL AND TEMPORAL DISTRIBUTION, AND CLIMATE-RELATED DETERMINANTS OF DISEASE OUTBREAKS**

Which tissue are you most likely to find coccidiosis associated gross inflammation and necrosis in green turtles in Queensland, Australia?

1. Thyroid
2. Intestine
3. Kidney
4. Spinal cord
5. Stomach

Answer: B - intestine (n=14/22 with gross lesions) and brain (n=9/22 with gross lesions) predominated

**Practice Question:** What is the primary food item of inshore juvenile green sea turtles?

Answer: Turtle grass (*Thalassia testudinum*)

**Practice Question:** Which of the following is true regarding immune function and habitat degradation in green sea turtles?

1. Turtles in a degraded environment have a relative heterophilia
2. Turtles in a pristine environment have a relative monocytosis
3. Phagocytosis was higher in heterophils in a pristine environment
4. Phagocytosis was higher in heterophils in a degraded environment
5. There were no differences between degraded and pristine environments
6. Which of the following is true in regards to amputation of *Caretta caretta* limbs?
	1. Adults and subadults were more commonly presented with entanglement injuries that needed amputation compared to juveniles
	2. Absence of deep pain and withdrawal reflex of the entire limb that was entangled is a sufficient cause to pursue amputation
	3. Even with conservative therapy, neovascularization was not observed in some turtles and the outcome was amputation
	4. Despite plant IPWD dressing in conservative therapy, all wounds showed secondary infections causing osteomyelitis
	5. If flippers showed multi fragmented complete fractures amputation was not necessary and conservative treatment was successful

Answer: E

1. Which of the following is true for the use of lidocaine as a caudal neuroaxis anesthesia in *Chelonia mydas*?
	1. There were mild signs of anesthetic toxicity in some animals
	2. Some animals showed abnormal motor response in forelimbs
	3. Recovery time was prolonged due to deep anesthesia obtained
	4. The anesthetic blockade was effective by the peridural application
	5. All turtles regained sensory blockade first followed by motor

Answer: D

Comparison of Oxytetracycline Pharmacokinetics After Multiple Subcutaneous Injections in Three Sea Turtle Species.

Innis, C., Kennedy, A., Wocial, J., Burgess, E., & Papich, M. G.

*Journal of Herpetological Medicine and Surgery*, 2020;30(3):142-147.

List three benefits of oxytetracycline when used in loggerhead sea turtles for treatment of susceptible bacterial infections.

1. Rapid absorption SQ and IM
2. High bioavailability IM
3. Long dosing interval SQ (q6d)
4. Well tolerated

- 1 older report of skin lesions that resolved when oxytet was discontinued

1. Can be used as a biological marker for aging and other skeletochronology studies
2. Activity against gram negative bacteria ( Vibrio spp., Pseudomonas spp., and Aeromonas spp.) often associated with sea turtle morbidity and mortality

PHARMACOKINETIC BEHAVIOR OF MELOXICAM IN LOGGERHEAD (*CARETTA CARETTA*), KEMP’S RIDLEY (*LEPIDOCHELYS KEMPII*), AND GREEN (*CHELONIA MYDAS*) SEA TURTLES AFTER SUBCUTANEOUS ADMINISTRATION

Norton TM, Clauss T, Sommer R, Stowell S, Kaylor M, Thistle C, Cox S.

Journal of Zoo and Wildlife Medicine 2021;52(1):295–299

Which nonsteroidal anti-inflammatory medication has the longest duration of theoretically therapeutic plasma concentrations in sea turtles without reported clinical adverse effects?

1. Meloxicam in green sea turtles
2. Meloxicam in Kemp’s Ridley sea turtles
3. Meloxicam in loggerhead sea turtles
4. Ketoprofen in loggerhead sea turtles
5. Flunixin meglumine in loggerhead sea turtles

Answer: A

Meloxicam in greens - q5d / kemps q12 / CC q4hr

Ketoprofen in loggerheads is q24hr in Thompson 2017 and Harms 2021

Flunixin meglumine was implicated in a single report of fatal gastroenteritis and is clinically used q3d - referenced in Harms 2021

Which of the following biochemical parameters is most likely to be severely elevated in cold-stunned loggerhead sea turtle (*Caretta caretta*) that did not survive to release?

1. Potassium
2. Glucose
3. Sodium
4. Calcium
5. LDH

Answer: a

Which of the following management strategies is recommended in cold stunned Kemp's ridley sea turtles (*Lepidochelys kempii*) with osteomyelitis?

1. Surgical debridement is recommended once radiographic evidence of osteomyelitis has been identified
2. Euthanasia is recommended as most cases do not survive
3. Empirical antibiotic therapy is typically sufficient for most lesions
4. Blood cultures are recommended as most turtles with osteomyelitis are septicemic
5. Osteomyelitis is often observed within 2 weeks of initial presentation

Answer: d