**Practice Question:**

Which of the following common feeder insects has higher amounts of available calcium and diverse nutrient profiles?

1. House crickets (*Acheta domesticus*)
2. Black soldier fly larvae (*Hermetia illucens*)
3. Mealworms (*Tenebrio molitor*)
4. Superworms (*Zophobas morio*)
5. Silkworms (*Bombyx mori*)

Answer: B

Which of the following components of a complete neurological exam in a bearded dragon would be delayed or absent in a healthy individual?

1. Olfactory response
2. Vestibulo-ocular reflex
3. Righting reflex
4. Direct/indirect PLRs
5. Withdrawal reflex

Answer: D

Which of the following anesthetic drugs has decreased efficacy when administered subcutaneously in central bearded dragons (*Pogona vitticeps*)?

1. Dexmedetomidine
2. Ketamine
3. Midazolam
4. Alfaxalone
5. Tiletamine–zolazepam

Answer: E

Evaluation of subcutaneously administered electrolyte solutions in experimentally dehydrated inland bearded dragons (*Pogona vitticeps*)

Parkinson LA, Mans C.

American journal of veterinary research. 2020;81(5):437-441.

Which fluid type is matched correctly to a bloodwork change it may induce in bearded dragons?

A. Plasma-lyte A : low plasma osmolarity

B. LRS : hyperlactatemia

C. Reptile ringers solution : hyperglycemia

D. LRS : hypernatremia

E. Reptile ringers solution : hyperphosphatemia

Answer: C

Evaluation of glucose absorption rates following intracoelomic or subcutaneous administration in experimentally dehydrated inland bearded dragons (*Pogona vitticeps*).

Minor RL, Doss GA, Mans C.

American Journal of Veterinary Research. 2021;82(11):920-923.

Which fluid and administration route combination is likely to have the most rapid increase in blood glucose?

A. Plasma-lyte A : intravascular

B. Plasma-lyte A : intracoelomic

C. Lactated ringers solution : subcutaneous

D. Reptile ringers solution : subcutaneous

E. Reptile ringers solution : intracoelomic

Answer: E

A group of juvenile Meller’s chameleons (*Trioceros melleri*) are experiencing mortalities following mortalities following anorexia, ocular discharge, and oral petechiae. Necropsy reveals necrosis of the spleen, liver, kidneys, and adrenals as well as necrotizing inflammation within the nasal cavity, oral mucosa, and skin. Histology of the liver is depicted below. What is your top differential and how will you test for it?



Ranavirus (FV3)

Viral isolation (+/- whole genome sequencing)

In a recent study evaluating causes of morbidity in gila monsters (heloderma suspectum) and beaded lizards (heloderma horridum), which of the following was true?

1. Uroliths were common in Gila monsters, but not in beaded lizards
2. Gout most often occurred with other primary renal diseases
3. Inflammatory disease was the most common cause of morbidity
4. Renal adenocarcinoma was common in beaded lizards, but not in Gila monsters
5. Parasitic enteritis was uncommon in both species

Answer: C

Which of the following organs or organ systems is best visualized radiographically in the lateral vertical beam vs horizontal beam projection in green iguanas (*Iguana iguana*)?

1. Intestines
2. Lungs
3. Liver
4. Spleen
5. Kidneys

Which of the following matches the recommended approach with the organ to be assessed in bearded dragon (*Pogona vitteceps*) celioscopy?

1. Ventral approach - left kidney
2. Ventral approach – gonad
3. Left lateral approach – spleen
4. Left lateral approach – gallbladder
5. Left lateral approach - pancreas

Ratliff, Cameron, Lily AB Parkinson, and Christoph Mans. "Effects of the fraction of inspired oxygen on alfaxalone-sedated inland bearded dragons (Pogona vitticeps)." *American journal of veterinary research* 80.2 (2019): 129-134.

ABSTRACT: OBJECTIVE To evaluate the effects of providing 100% O2, compared with provision of room air, in sedated spontaneously breathing inland bearded dragons (Pogona vitticeps). ANIMALS 8 adult bearded dragons. PROCEDURES **Animals were sedated with alfaxalone (20 mg/kg, SC) and received 21% O2 (equivalent to room air) or 100% O2 via face mask (flow rate, 1 L/min)** in a randomized, blinded, complete crossover study (2-week interval between treatments). Sedation variables, cardiopulmonary variables, venous blood gas values, and postsedation food intake were evaluated. RESULTS **Respiratory rate, heart rate, oxygen saturation, and sedation quality were comparable between treatments. Venous blood gas analysis revealed a higher total Pco2 and HCO3 – concentration for the 21% O2 treatment. Post-sedation food intake was not affected by the inspired oxygen fraction provided during sedation.** CONCLUSIONS AND CLINICAL RELEVANCE The fraction of inspired **oxygen did not appear to have clinically relevant effects on physiologic variables** of bearded dragons during and after sedation. Therefore, provision of 100% O2 can be considered for use in sedated bearded dragons without the risk of inducing hypoventilation. **Similarly, failure to provide 100% O2 would be unlikely to result in clinically relevant consequences in healthy sedated bearded dragons**. (Am J Vet Res 2019;80:129–134)

Which of the following is true regarding the effects of alfaxalone in bearded dragons (Pogona vitticeps)?

1. Supplementation with 100% O2 during sedation has a negative effect on respiratory rate.
2. Muscle tremors have been observed during recovery.
3. Alfaxalone has been associated with significant bradycardia.
4. For a surgical plane of anesthesia, propofol is recommended over alfaxalone.
5. Hyperlactatemia has been observed following intramuscular administration.

Answer: B

Additional source (answer B; distractors C, D):

Perrin, K. L., & Bertelsen, M. F. (2017). Intravenous alfaxalone and propofol anesthesia in the bearded dragon (Pogona vitticeps). *Journal of Herpetological Medicine and Surgery*, *27*(3-4), 123-126.

* Surgical plane of anesthesia achieved in alfaxalone group, not propofol group.
* Rough recoveries (muscle tremors, inability to right self) with alfaxalone.
* HR not affected by either agent.

Parkinson, Lily A., and Christoph Mans. "Investigation of the effects of cricket ingestion on plasma uric acid concentration in inland bearded dragons (Pogona vitticeps)." *Journal of the American Veterinary Medical Association* 257.9 (2020): 933-936.

OBJECTIVE To determine whether plasma uric acid concentration in inland bearded dragons (*Pogona vitticeps*) was affected by recent ingestion of a meal of crickets.

ANIMALS: 12 healthy adult inland bearded dragons.

PROCEDURES Food was withheld for 48 hours prior to experiments. Animals (6/group) were randomly assigned to **receive a meal of crickets** (equivalent to 1% of the animal’s body weight; 10 g/kg [4.5 g/lb]; treatment group) or **have food withheld for an additional 48 hours** (control group). Blood samples were collected for plasma uric acid measurement just before (**time 0) and 4, 24, and 48 hours after feeding**. Effects of feeding and time on the targeted measurement were assessed by repeated-measures ANOVA.

RESULTS **Mean plasma uric acid concentration for the treatment group was significantly increased from the time 0 value (2.5 ± 1.5 mg/dL) 24 hours following meal ingestion (6.5 ± 1.2 mg/dL), but not at the 4-hour time point, and returned to the time 0 value by the 48-hour time point.** No significant changes in plasma uric acid concentration were detected for the control group.

CONCLUSIONS AND CLINICAL RELEVANCE Results suggested **food should be withheld for ≥ 48 hours prior to blood collection if inland bearded dragons are used to establish reference intervals for plasma uric acid concentration** or if feasible when obtaining samples from these animals for clinical evaluation. Veterinarians should consider the time from last meal consumption when interpreting plasma uric acid concentration for this species and potentially other terrestrial insectivorous and omnivorous lizards.

Which of the following is true regarding reptilian renal anatomy and physiology?

* 1. Reptile kidneys have a renal pelvis and loop of Henle
	2. Snakes and crocodilians have a urinary bladder
	3. Aquatic chelonians primarily excrete uric acid
	4. Plasma uric acid increases post-prandially in some lizards
	5. Reptiles lack a renal portal system

Answer: D

Distractor explanations (From Mader 2019, Fowler 8, Terio Path Book) – Reptiles lack a renal pelvis and LOH, snakes and crocodilians do not have a urinary bladder, aquatic chelonians primarily excrete ammonia or urea, reptiles have a renal portal system.