Long, Rachel B., et al. "Host factors and testing modality agreement associated with Ophidiomyces infection in a free-ranging snake population in southeast Ohio, USA." *Journal of Zoo and Wildlife Medicine* 50.2 (2019): 405-413.

Abstract: Snake fungal disease (SFD) is an emerging mycotic disease caused by Ophidiomyces ophiodiicola, and has been demonstrated to impact snake populations of conservation concern in the United States negatively. Although Ophidiomyces has been shown to affect diverse taxa and to have a broad distribution, host factors associated with infected individuals and optimal testing protocols are not yet well characterized. The purpose of this study was to evaluate host factors and agreement across testing modalities associated with Ophidiomyces infection in a free-ranging snake population in southeast Ohio. Wild-caught snakes were swabbed and biopsied to test for Ophidiomyces via quantitative polymerase chain reaction (qPCR), culture, and histopathology. The host parameters assessed were species, sex, snout–vent length, body weight, month captured, and presence of grossskin lesions. A total of 8/30 individuals across three species—Black Racers (Coluber constrictor), Grey Ratsnakes (Pantherophis spiloides), and Eastern Gartersnakes (Thamnophis sirtalis sirtalis)—tested positive via at least one testing modality for Ophidiomyces infection. There were no associations between sex, snout–vent length, or weight and Ophidiomyces infection status. A higher proportion of individuals with gross lesions tested positive for Ophidiomyces than those without gross lesions, and most individuals that tested positive were caught in April or May. A low level of agreement was observed across testing modalities. Swab qPCR identified the most Ophidiomyces-positive individuals, and fungal culture identified the fewest at 0 individuals. Although there are limitations associated with a sample size of 30, these findings support the potential of this pathogen to infect individuals broadly across species and size, highlighting the relevance of this disease for snake conservation efforts. They also suggest that although little agreement was observed across test modalities, the concurrent use of multiple modalities is a more sensitive method for characterizing prevalence and distribution of Ophidiomyces.

Question: Which of the following was observed while testing for *Ophidiomyces ophidiicola* in a population of snakes in southeast Ohio?

1. More positive test results were seen in April and September
2. All snakes tested negative on fungal culture
3. qPCR of skin swabs had a strong correlation with histology
4. Biopsy for qPCR was the most sensitive diagnostic test
5. Infection was only observed in black racers (*Coluber constrictor*)

Answer: B

Dibadj, Bryce, et al. "Investigating Agreement between Snake Sheds and Skin Swabs in Detection of Ophidiomyces ophidiicola." *Journal of Herpetological Medicine and Surgery* 31.2 (2021): 119-123.

Abstract: Ophidiomycosis, an infectious disease of snakes caused by the fungus Ophidiomyces ophidiicola, is known to cause skin lesions and, in some cases, deeper infections, and even death. It has been documented in captive snakes worldwide and in free-ranging snakes in the United States and Europe. Diagnostic limitations have impeded characterization of the epidemiology of this disease and subsequent efforts to improve clinical care and conservation outcomes. The purpose of this research was to evaluate the efficacy of qPCR of snake sheds as a noninvasive diagnostic tool for the detection of O. ophidiicola, compared to swabs prior to and following the shed. We tested shed pieces from grossly observed skin lesions or mid body sections if disease was not obvious, and matched skin swabs from 68 animals using a qPCR assay specific for O. ophidiicola. There was nearly complete agreement between the qPCR results of sheds and swabs (Cohen’s kappa 1⁄4 0.97) and sheds were 100% sensitive and 97% specific for apparent ophidiomycosis, with a 97% negative predictive value and a 100% positive predictive value. Our results indicate that qPCR of snake sheds is a reliable detection method for the presence of O. ophidiicola, as this technique has high agreement with peri-ecdysis skin swabbing. Although this technique can be used for noninvasive pathogen detection in captive individuals with known histories, results from snake sheds from free-ranging animals with no knowledge of associated clinical signs should be interpreted with caution and additional surveillance is necessary in these cases.

Question:

What is the definition of positive predictive value?

Answer:

The probability that individuals with a positive screening test truly have the disease.

**Preliminary evaluation of a novel insect-based sausage diet for juvenile corn snakes (Pantherophis guttatus)**

Kimberly L. Boykin ; Karina Butler-Perez ; Cameron Q. Buck ; Jordan W. Peters ; Mark A. Mitchell.

JHMS 2020;30(3):129-136

Replacing a whole prey diet of juvenile corn snakes with an insect-based product may result in poor digestion of which nutrient?

1. Calcium
2. Phosphorus
3. Copper
4. Iron
5. Protein

Answer: Iron, also sodium

**Comparison of Two Sampling Methods for Bacterial Culture of Salmonella enterica ssp. arizonae from Burmese Pythons (Python bivittatus).**

Buscaglia NA, Weinkle TK, McDonough PL, Kollias GV.

Journal of Herpetological Medicine and Surgery. 2019;29(1-2):40-48.

Which of the following is the recommended protocol to identify *Salmonella* spp. shedding in pythons on bacterial culture?

A. A single fecal sample

B. A single cloacal swab

C. 2 fecal samples 1 month apart

D. 2 cloacal swabs 1 month apart

E. 3 cloacal swabs 2 weeks apart

Answer: D

Which of the following is true regarding the effects of dexmedetomidine combined with midazolam when compared to alfaxalone combined with midazolam in ball pythons (*Python regius*):

1. Shorter time to recovery after reversal
2. No apneic periods
3. Shorter time to first effects
4. Longer loss of righting reflex
5. No reduction in heart rate

Which of the following is true regarding the effects of intracoelomic alfaxalone in common garter snakes (*Thamnophis sirtalis*)?

1. No sedation achieved when injected into the caudal coelom
2. No effect on heart rate, even at higher doses
3. Faster loss of righting response at higher doses
4. Movement elicited with tactile pressure at all tested doses and times
5. Apnea is a common side effect when given this route

According to a recent study, which of the following factors was most likely to predispose eastern indigo snakes (*Drymarchon couperi*) to dystocia?

1. Indoor housing
2. Lower body weight
3. Younger age
4. Higher ionized calcium
5. Lower plasma glucose

Answer: B

Based on a recent study, bacteria of the respiratory tract of snakes are most likely to be resistant which of the following antibiotics?

1. Tetracycline
2. Florfenicol
3. Gamithromycin
4. Tilmicocin
5. Tulathromycin

Answer: A

**Practice Question:**

What is the mechanism of action of doxapram?

1. Sodium channel blocker
2. Calcium channel blocker
3. Potassium channel blocker
4. α2 adrenoceptor agonist
5. Dopamine receptor agonist

Answer: C

Which of the following is true regarding inhalant for the anesthetic induction and maintenance of prairie rattlesnakes (*Crotalus viridis*)?

1. Desflurane is recommended for quick, nonpainful procedures
2. Isoflurane produced the shortest time to return of righting reflex
3. Sevoflurane had the shortest time to return of pressure response
4. Desflurane had the shortest time to intubation
5. Isoflurane produced a marked decrease in heart and respiratory rate

Answer: D