Western Hognose Snake Care

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Western hognose snakes (*Heterodon nasicus*) are small, hardy, diurnal snakes native to the grasslands and semi-arid regions of the western United States. They are well known for their upturned "hog-nose," which they use to burrow through soil, and for their dramatic defensive behaviors, including hissing, puffing, and playing dead.

Western hognoses are fossorial (burrowing) snakes and spend much of their time underground. When properly housed and acclimated, they can make excellent pets for both beginner and experienced reptile keepers.

Adult Size and Lifespan

- **Adult size:**
  - Males: 14–24 inches
  - Females: 24–36 inches
- **Lifespan:**
  - 15–20 years with proper care

Housing

Enclosure Size

- Hatchlings and juveniles: 5–10 gallon enclosure
- Adults: minimum 36 x 18 inches (40-gallon breeder equivalent)
- Larger enclosures are always acceptable if temperature gradients are maintained

Western hognoses require:

- Multiple hides (at least one on the warm side and one on the cool side)
- Branches or low décor for enrichment
- A deep substrate to allow natural burrowing behavior
- A shallow water dish large enough for the snake to coil inside

Fresh water should be provided daily.

Substrate

Because hognoses are burrowers, substrate choice is critical.

Recommended substrates:

- Soil-based mixes (e.g., reptile-safe topsoil or commercial reptile soil)
- Coconut husk or coconut fiber
- Fine reptile-grade aspen shavings

Avoid:

- Pine or cedar (toxic aromatic oils)
- Large-particle substrates that may be ingested

Provide at least 2–3 inches of substrate. Soil substrates allow light misting to help maintain humidity; aspen does not retain moisture well and may require a humid hide.

Temperature and Heating

Western hognose snakes thrive in warm daytime temperatures with a cooler retreat.

- **Basking area:** 90–95°F
- **Warm side:** 80–85°F
- **Cool side:** 70–75°F
- **Night temperatures:** low 70s°F are acceptable

Heat can be provided using:

- Basking bulbs
- Ceramic heat emitters (CHE)
- Heat mats (always on a thermostat)

Use a thermostat and reliable thermometers to prevent overheating.

Lighting and UVB

Western hognose snakes are diurnal, meaning they are naturally active during the day.

UVB lighting is still an area of ongoing research in snakes, but studies and clinical observation show that diurnal species often demonstrate:

- Improved activity
- Better feeding responses
- More natural behavior patterns

Recommended UVB:

- 5%–10% UVB
- Linear bulbs (T5 or T8) are preferred over compact bulbs

Bulb replacement:

- Compact bulbs: every 3–6 months
- Linear bulbs: every 8–10 months
  (Replace even if visible light is still produced.)

Humidity

- **Target humidity:** 30–50%

Humidity can be maintained by:

- Lightly moistening soil substrate once weekly
- Providing a humid hide with damp sphagnum moss

Never allow the enclosure to become waterlogged, as this promotes bacterial growth and respiratory disease.

Diet

In the wild, western hognose snakes primarily eat amphibians. In captivity, they should eat frozen-thawed rodents.

Feeding Guidelines

- Hatchlings: pinky mice every 3–4 days
- Juveniles: appropriately sized mice as they grow
- Adults: once weekly feeding

Prey size should be approximately the same width as the snake's body.

Frozen-thawed rodents are the safest option. Snakes should be transitioned to rodents before purchase whenever possible.

Feeding Challenges (Common in This Species)

Western hognose snakes can be picky eaters, especially when young.

Helpful strategies:

- Scent prey with tuna juice or amphibian water
- Warm prey thoroughly
- Dip prey briefly in warm scented water
- Offer prey with tongs and allow the snake to drink water droplets first

Purchasing a snake that has already eaten 3–4 rodent meals consistently greatly reduces feeding issues.

Handling

Western hognoses are generally docile but easily stressed.

- Allow several days to acclimate before handling
- Start with short handling sessions
- Always support the body from underneath
- Handle close to the ground to prevent injury
- Avoid handling for 24 hours after feeding

Defensive behaviors such as hissing or playing dead are stress responses, not aggression.

Common Medical Problems

Impaction

- Can occur if substrate is ingested during feeding
- Feed in a separate container when possible
- Seek veterinary care if stools are infrequent or absent

Respiratory Infection

Signs include:

- Wheezing
- Open-mouth breathing
- Mucus or bubbles from the mouth or nose

Often linked to improper temperature, humidity, or air quality.

Poor Appetite

- Common in young hognoses
- Often related to natural diet preferences
- Persistent refusal to eat warrants veterinary evaluation

Stomatitis (Mouth Infection)

- Fragile gums and teeth
- Swelling, scabs, or discharge around the mouth are abnormal
- Requires veterinary treatment

Venom Note (Important for Owners)

Western hognose snakes are rear-fanged and mildly venomous, but they are not dangerous to humans. Bites are rare and typically occur only during feeding mistakes. Reactions in people are usually mild and localized. Should you be bit by your hognose, please seek medical attention.

Preventive Care

Daily and weekly care should include:

- Daily temperature checks

- Weekly spot cleaning
- Monthly full enclosure cleaning
- Secure enclosure checks
- Feeding and shedding records

A yearly veterinary wellness exam is recommended to monitor growth, body condition, and overall health. Fecal exams twice yearly are recommended.

Final Note

Western hognose snakes are unique, expressive, and rewarding reptiles when their natural behaviors are respected. Proper husbandry, patience with feeding, and regular veterinary care are the keys to a long, healthy life.

Ferguson Zones:
Matching UVB to Your Reptile

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Zone 1: Crepuscular or Shade Dwellers

Very low UVB exposure

These species spend most of their time in shade, dense cover, or are active at dawn and dusk. They receive little direct sunlight in the wild.

Examples:

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- Crested geckos
- Gargoyle geckos
- African fat-tailed geckos
- Corn snakes
- Ball pythons

Key point for owners:
These species still benefit from **low-level UVB**, but excessive UVB can be harmful.

Zone 2: Partial Sun or Occasional Baskers

Low to moderate UVB exposure

These reptiles move between shade and sunlight and bask intermittently rather than continuously.

Examples:

- (juveniles and non-dominant adults often fall here)
- Blue-tongue skinks
- Uromastyx (when not actively basking)
- Green anoles
- Some box turtles

Key point for owners:
UVB should be available, but animals must always have shaded areas to self-regulate exposure.

Zone 3: Open or Partial Sun Baskers

Moderate to high UVB exposure

These reptiles bask regularly and are adapted to brighter environments, but still retreat to shade.

Examples:

- Adult bearded dragons
- Veiled chameleons
- Panther chameleons
- Red-eared sliders and other basking aquatic turtles
- Spiny-tailed lizards

Key point for owners:
These species **require reliable UVB** to remain healthy and are at high risk for metabolic bone disease without it.

Zone 4: Full Sun Baskers

High UVB exposure

These reptiles live in very bright, open environments and bask for prolonged periods under intense sunlight.

Examples:

- Uromastyx species
- Desert tortoises
- Sulcata tortoises
- Rock agamas

Key point for owners:
Strong UVB is essential, but enclosure setup must still allow distance and shade to prevent overexposure.

Important Reminder for Clients

These zones are **general guidelines**, not rigid rules.
Factors that influence UVB needs include:

- Species
- Age
- Behavior
- Enclosure design
- Distance from the bulb
- Screen tops and materials

Always research species-specific needs before acquiring a reptile, and consult a veterinarian experienced in reptile medicine to confirm proper lighting for your individual pet.

Reptile Lighting: Why It Matters

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Proper lighting is one of the most important parts of reptile care, yet it is also one of the most misunderstood. Inadequate lighting is a leading cause of metabolic bone disease and other serious health problems in reptiles.

This handout explains what ultraviolet (UV) lighting is, why reptiles need it, and how to choose and maintain the correct lighting for your pet.

Understanding UV Light

Ultraviolet (UV) light is radiation that exists beyond the visible light spectrum. It comes in three forms:

- **UVA**
- **UVB**
- **UVC**

Only UVA and UVB are relevant and safe for reptiles.

UVA

- Helps regulate daily biological rhythms and behavior
- Important for normal activity, appetite, and reproduction

UVB (Most Critical)

- Essential for calcium metabolism
- Allows reptiles to properly absorb calcium from their diet
- Prevents metabolic bone disease, a painful and often fatal condition

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How UVB Works in the Body

UVB light activates vitamin D precursors in the skin, allowing reptiles to produce vitamin D3 naturally. Vitamin D3 is required for calcium to move from the gut into the bloodstream and into bones.

Research shows that:

- **Naturally produced vitamin D3** (via UVB exposure) is safer and more effective than oral supplementation in diurnal (day-active) reptiles
- **Some nocturnal species**, such as leopard geckos and corn snakes, can also benefit from low-level UVB exposure

Sunlight vs Indoor Lighting

Reptiles living outdoors receive UVB directly from the sun.

However:

- UVB does NOT pass through glass
- Placing a reptile near a window does not provide UVB

Indoor reptiles must be provided with artificial UVB lighting using bulbs specifically designed for reptiles.

Choosing the Right UVB Bulb

High-quality reptile UVB bulbs are essential. Brands commonly recommended include:

- Zoo Med
- Arcadia
- Reptisun

The type and strength of bulb needed depends on the species and natural habitat of your reptile.

Ferguson Zones: Matching UVB to Your Reptile

Reptiles are grouped into **Ferguson Zones** based on how much sunlight they naturally receive in the wild:

- **Zone 1:** Crepuscular or shade dwellers
- **Zone 2:** Partial sun or occasional baskers
- **Zone 3:** Open or partial sun baskers
- **Zone 4:** Full sun baskers

Knowing your reptile's Ferguson Zone helps determine:

- UVB intensity
- Bulb type
- Distance from the basking area

Ask your veterinarian if you are unsure which zone your reptile falls into.

Proper Placement of UVB Lighting

Correct placement is just as important as the bulb itself.

Fluorescent UVB Bulbs

- Reptile should be able to get within 12–18 inches of the bulb
- Use branches or logs to allow climbing closer if needed

Mercury Vapor Bulbs

- Must be placed at least 12 inches from the basking area
- These bulbs produce both heat and UVB and can overheat reptiles if too close

Screen Tops Matter

- Dense screen lids can block up to 50% of UVB
- Enclosures with heavy screening may require stronger bulbs or multiple fixtures

Measuring UVB

- Solar meters can be used to accurately measure UVB output and ensure proper exposure

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Bulb Replacement Schedule

UVB bulbs must be replaced regularly, even if they still look bright.

- Replace every 6–12 months, depending on the bulb model
- UVB output declines long before visible light burns out
- Date bulbs when installed to track replacement timing

Key Takeaways for Reptile Owners

- UVB lighting is essential for bone health and calcium metabolism
- Windows do not provide usable UVB
- Proper bulb type, placement, and replacement are critical
- UVB needs vary by species and natural habitat
- When in doubt, ask your veterinarian for guidance

If you need help selecting the correct lighting for your reptile or want your setup reviewed, please contact your veterinary team. Proper lighting is one of the most powerful tools you have to keep your reptile healthy.