

Hedgehog droppings are relatively soft and, depending on diet, can be quite messy. Although some hedgehogs use a litter tray, others deposit their droppings at random. Placing all of the droppings in the litter tray on a daily basis may facilitate litter training. Other litter training tips include providing a cardboard enclosure over the tray, placing the animal in the tray after feeding, placing another hedgehog's feces in the tray, and placing the tray where the animal seems most inclined to eliminate. Natural plant litters used for cats make the best litter substrate. Clay, clumping-type litter, or sand may stick to the animal and should not be used. Because many hedgehogs defecate in their hide boxes and exercise wheels and subsequently walk in their feces, daily spot cleaning of the cage is often necessary to prevent dermatitis and possible dissemination of *Salmonella* species.

Exercise wheels are highly recommended. The wheel must have a solid or fine plastic mesh for hedgehogs to run on because their legs tend to become entrapped by traditional wire rodent wheels. Hedgehogs should also be let out into a large area on a daily basis for exercise. Cardboard tubes, straw, safe climbing structures, swimming tubs, and other toys provide enrichment. Dirty hedgehogs may be bathed with a mild pet shampoo and a soft-bristle vegetable brush.

DIET

Wild African hedgehogs feed on a diversity of invertebrate prey as well as plant materials and occasional eggs, vertebrate prey, and carrion.⁵⁸ Although many of the natural food items are known, the nutritional content of invertebrates varies tremendously; this makes it very difficult to deduce nutrient requirements based on the wild diet. Insectivorous mammals are traditionally fed diets that are 30% to 50% protein and 10% to 20% fat (dry-matter basis).¹ Hedgehogs seem to require a higher level of dietary fiber than carnivores; this may be related to the large quantity of insect exoskeletons in their natural diet.

The base of the captive diet should consist of a commercially prepared hedgehog food. Scientific studies regarding hedgehog nutritional needs are lacking; however, commercial diets appear to be the most balanced staple that a pet owner can offer. If commercially prepared hedgehog food is not used, premium food for less active cats or dogs should form the basis of the diet. Ferret food is high in fat and is not recommended. With many individuals, food must be rationed to prevent obesity. Depending on the animal's weight and activity, 3 to 4 teaspoons of the main diet is typically fed daily. Growing animals and reproductively active females may be fed the usual diet ad libitum, and calcium-rich foods are recommended.

In addition to the main diet, approximately 1 to 2 teaspoons of varied moist foods and/or invertebrate prey (e.g., canned cat or dog food, cooked meat or egg, or low-fat cottage cheese; mealworms, earthworms, waxworms, gut-loaded crickets) and about 1 teaspoon of vegetable/fruit mix (e.g., beans, cooked carrots, squash, peas, tomatoes, leafy greens; bananas, grapes, apples, pears, berries) should also be provided daily. Invertebrate prey and other dry food items may be hidden in the bedding to promote foraging activity. Hedgehogs should not be fed raw meat or eggs, which may harbor *Salmonella* species. Milk, although relished by many hedgehogs, can cause diarrhea. Nuts, seeds, and large items or hard foods such as raw carrots can become lodged in the roof of the mouth and should be avoided. The need for vitamin or mineral supplementation, if any, is not known, but supplementation does not appear to be necessary

for animals fed a commercial diet. Moist or perishable foods should be offered in the evenings. Hedgehogs may be slow to accept novel foods, and any dietary changes must be made with care. Fresh water should be available at all times. Most hedgehogs can learn to drink from water bottles.

BREEDING AND NEONATAL CARE

Although pet hedgehogs may become sexually mature at 2 months, females should be at least 6 months of age before breeding. Pregnancy is most easily determined by weighing the female every few days; a gain of 50 g or more within 2 to 3 weeks of being placed with a male is suggestive of pregnancy.⁶¹ At 30 days, a general swelling of the abdomen or mammary enlargement may be detected. Infanticide, usually followed by cannibalism of the young, can occur. Novice hedgehog breeders should give the female strict privacy from other hedgehogs and humans from about 5 days before delivery through 5 to 14 days after delivery. Females conditioned to frequent handling are less likely to desert or kill their young in response to human contact.⁶¹ Providing a large cage and an additional hiding place for the female as a refuge from her litter may reduce stress.²⁹ Male hedgehogs must not be allowed near the neonates because cannibalism (by either parent) often results.

Normal pups (or "hoglets") stay close to their dam and littermates when resting. In cases of lactation failure or abandonment by the female, fostering of the pups to another dam with similarly aged pups is usually successful. Weaning generally occurs at 5 to 6 weeks, and the young may be moved to separate cages at 8 weeks.²⁹ Daily handling starting at 3 weeks of age will produce hedgehogs that remain tame.

If a surrogate dam is unavailable, a milk replacer may be fed through a dropper, feeding tube, or narrow-tipped syringe.⁶⁴ Based on the composition of European hedgehog milk, a canine milk replacer with added lactase (Lactaid, McNeil-PPC, Ft. Washington, PA) seems to be the most logical formula.^{31,58,64} Hand-rearing of hedgehogs is often associated with high mortality. Neonates should be fed as much as they will consume every 2 to 4 hours for about 3 weeks. The ambient temperature should be maintained at 90°F to 95°F (32°C to 35°C) for the first few weeks.⁶³ Neonates should gain approximately 1 to 2 g/day during the first week, 3 to 4 g/day during the second week, 4 to 5 g/day during the third and fourth weeks, and 7 to 9 g/day until they are 60 days old.^{58,63} Neonates should be stimulated to eliminate after each feeding by massaging the ventrum and perineal area with a cloth or swab moistened in warm water. At 4 to 6 weeks, parent- or hand-raised young should be weaned by offering canned dog or cat food, minced beef, or freshly molted mealworms. A slight weight loss may occur during weaning.⁶³

BASIC PROCEDURES AND PREVENTATIVE MEDICINE

RESTRAINT AND EXAMINATION

Even very tame hedgehogs often roll up when an examination or other procedure is attempted. Hedgehogs do bite, but infrequently. Patience and a quiet room with subdued light may help calm wary hedgehogs. High-pitched sounds, such as the jingling of instruments, should be avoided. A small towel and light gloves may facilitate handling. Some hedgehogs may be induced to uncurl voluntarily if supported in normal standing position