

Rearing orphaned hoglets

Monika Neumeier



www.pro-igel.de

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1 General information

For hedgehogs, a „suckling“ is classed as a young animal not older than 24 days, which is fed exclusively on mother's milk. Baby hedgehogs huddle around the nest. They are suckled during the day when their mother is in the nest. At night the mother goes out in search of food and leaves the babies alone.



2 First aid

Hoglets found outside their nest during the day with their eyes and ears still closed or weighing less than 100 g are without a mother, and should be taken into care immediately. The following procedure should be followed:

- Warm the babies: They are usually hypothermic. Place them in a high-walled cardboard box on a towel that has been wrapped around a hot-water bottle filled with lukewarm water, and then cover the babies with another towel (see section 3).
- Remove external parasites: Through the effect of heat, maggots will hatch out of the rod-shaped fly eggs within a very short time. Collect all the eggs and maggots with tweezers and check all body orifices. If in the case of a massive infestation this is not completely successful, go to a hedgehog rescue centre or vet as soon as possible (see also book „Hedgehogs in the veterinary prac-

tice“). Small injuries to the skin caused by maggots usually heal quickly. Fleas and ticks can also be removed manually. Hedgehogs should not be bathed in or treated with insecticides.



Attention: Fly maggots hatch under the influence of heat within the shortest time from the eggs!

- Help with urine and faeces: One of the first things that must be done when caring for baby hedgehogs is „toileting“ (see section 8). Hoglets that the mother has not been able to „toilet“ for a long time suffer from a tormenting urine and faeces congestion because they cannot discharge these substances without external stimulus. After warming them up and before any feeding, you must help them to find some relief.
- How old are the babies? Age determination (see section 4) is important in order to be able to estimate the stage of development.
- Marking and weighing: After being found, the hedgehogs are weighed and marked (see section 5). A care protocol must be made for each baby, documenting weight development, amount of food and so on.
- First feeding: The first meal should consist of unsweetened lukewarm fennel tea or chamomile tea, which is dribbled into the side of the baby's mouth using a 1 ml or 2 ml disposable syringe (see section 6).

3 Housing

A cardboard box is suited as a hedgehog nest. Cover a hot-water bottle

(filled with lukewarm water) with a towel then spread some kitchen paper on top of the towel. Then place the hedgehogs on top of the paper. Following this, cover them with another towel. The other half of the cardboard box is covered with layers of newspaper so that there is no height drop-off from the level of the hot water bottle to the rest of the box floor. This way the baby hedgehogs can easily crawl to the cooler zone.

After each feeding, replace the dirty kitchen paper, the damp towels and the contents of the hot water bottle. Hygiene is of the utmost importance!

It is possible to use heating pads but only with an external thermostat. Otherwise, there is a risk of heat build-up and the hoglets can die from overheating.

4 Determining age

This must be based more on the appearance and development of the small hedgehogs than on their weight. The body weight of a baby hedgehog is determined by factors that are often unknown to the carer, like e.g. the size of the litter or the length of time the babies have been in a state of hunger.



5 Marking and weighing

In order to be able to distinguish between babies, they are marked with a penny-sized spot of paint with either nail polish or non-toxic acrylic paint on the tips of the spines in different places.

Each hedgehog is weighed on a digital scale at the same time every day (!), preferably in the morning before the first feeding. The weight – down to the gram – is noted in the care protocol. Both the amount of food and the number of meals given are determined based on the weight of the hedgehog. In addition, such regular checks show whether the hedgehog is gaining weight or not. Any other abnormalities, medications and possible medical treatments must also be documented in the care protocol.

Table 4: Age determination of hoglets

Alter	at birth	1 week	2 weeks	3 weeks	4 weeks
Skin colour	pink	pink, grey	grey	grey	grey
Spines	white	a few dark	dark	dark	dark
Fur	none	none	bit of fuzz	visible fur	thick fur
Eyes / Ears	closed	closed	opening	open	open
Teeth	none	none	none	erupting	full erupted
Weight	12–25 g	30–50 g	60–80 g	100–130 g	140–180 g

6 Ernährung

The central point to keep in mind when rearing orphaned hoglets is the right nutrition.

When feeding, keep the hedgehog in an upright „sitting“ position so that it does not choke. The first meal should consist of lukewarm unsweetened fennel tea. This is not only recommended because the baby is often dehydrated (exsiccosis), but also because during the first feeding given by an inexperienced carer it can easily choke on what is given. If milk (or substitute milk) enters the lungs, this can result in fatal pneumonia.

On the first day of care only small portions are given, this makes it easier for babies to adjust from breast milk to the substitute milk.

6.1 Which substitute milk?

Hedgehog mother's milk is very rich in protein and fat, but almost lactose free. As a substitute milk preparation the puppy substitute milk Esbilac® from Albrecht is the most suitable. If Esbilac is not stocked at the vet, hedgehog babies that are a few days old should – for a short time (preferably not longer than one day!) – only be given fennel tea. Hedgehog babies older than a week can

usually tolerate Royal Canin's puppy or cat milk „Babydog milk®“ and „Babycat milk®“ (available e.g. in pet shops or over the Internet). Infants from 14 days of age onwards can initially be given lactose-reduced cat milk.



Cow's milk, condensed milk or similar, as well as other commercially available substitute milk preparations for dogs and cats, have a lactose content that is much too high and lead to severe diarrhoea.

6.2 Ready-to-use substitute milk

The Esbilac and Royal Canine preparations are powders that are mixed with unsweetened fennel tea (as per the instructions) and fed lukewarm. You should never mix more substitute milk than the amount needed for two meals.

Table 6.1 Comparison of dry substances

	Mother's milk ¹	Esbilac ²	Royal Canin ³
Crude protein	35,4 %	33,0 %	33,0 %
Crude fat	56,4 %	40 %	39,0 %
Carbohydrates (thereof lactose %)	0,16 (0,16) %	ca. 16,5 (15,6) %	19,0 (18,5) %

¹ Average values are given, which may vary depending on the age of the infants

² „Esbilac milk substitute food for dogs“, Manufacturer: Albrecht/Aulendorf

³ Two Royal Canin products with the same composition: „Babycat milk“ and „Babydog milk“

6.3 Feeding technique

Even when feeding the smallest hedgehogs, 1ml or 2ml plastic syringes are used - without a needle of course. Veterinarians have suitable soft plastic syringe attachments in stock. You can also put a 1-2 cm long piece of bicycle valve tube on the syringe cone as a replacement teat. Doll's milk bottles with rubber teats are not recommended, among other reasons because they do not have an exact millilitre scale. The feeding syringes must be rinsed thoroughly with hot water after each meal, preferably in the dishwasher.



To feed the baby, place it in one hand – with its back to your hand – and hold it with your thumb. If it kicks with its front paws against it, this does not mean that the animal is full. Rather, this „milking“ action, normally directed at the mother's teat, stimulates her milk flow.

6.4 Food additives?

- You can add one drop of vitamin B complex (from the vet!) to the substitute milk once a day for all hedgehog babies together. All other vitamins and calcium are sufficiently available in the substitute milk products.



Beware: Additional vitamin supplements can be harmful, i.e. they can have a poisoning effect or limit bladder function!

- The lactose content in all substitute milk preparations is high when compared to mother's milk. In order to digest the lactose, the ferment lactase – which is not produced in the hedgehog's intestine – is necessary. As intestinal bacteria convert the lactose into toxic substances, diarrhoea, flatulence, dehydration and often death are the result. Because intolerance to substitute milk preparations is mainly due to its lactose content, it is advisable to mix the substitute milk with a lactase preparation. Lactrase 1500® from „pronatura“ is best suited for this purpose. The contents of one capsule neutralize the lactose in about 40 g of substitute milk powder. Over dosages are not harmful as excess lactase is excreted.
- In order to improve the protein and fat content of the substitute milk, „Hill's prescription diet a/d“ can be added for babies that are more than one week old. Initially, only a pea-sized portion of the substitute milk is added, and then the amount is gradually increased.

7 Food quantity and weight gain

Up to a weight of about 90 g, the average weight gain should be 4 – 6 g per day. In order to achieve this, the little ones need an amount of food within a 24-hour period which equates to about a quarter of their body weight (= 25 %). Although the mother hedgehog does not suckle her babies at night – as she goes in search of food herself – her milk is constantly available during the daytime. A human foster parent cannot do this, which is why

they have to feed baby hedgehogs also at night, up to the age of 14 days (starting from when they open their eyes). This is necessary to provide the hedgehogs with a sufficient amount of food in small, and therefore easily digestible portions.

Table 7: Amount of food and number of meals when rearing baby hedgehogs

Weight (grams)	Millilitres (ml) in 24 hours	Number of meals		Millilitres (ml) per meal
		during the day	at night	
30	8	8	2	0,8
40	10	8	2	1
50	13	8	2	1,3
60	15	8	1	1,7
70	18	7	1	2,3
80	20	6	-	3,3
90	23	6	-	3,8*
100	25	5	-	5,0*

* incl. independent food intake

! Up to a body weight of approx. 90g, a weight gain of 4-6g/day should be achieved, with a body weight of over 90g, a daily weight gain of 9-11g should be achieved!

From about the 19th day of life onwards, babies are placed on a flat plate with substitute milk before being fed by syringe. At first the babies only lick a few drops, but very quickly they manage this kind of feeding well. In the beginning they will have to be „re-fed“ with the syringe. The daily weight gain now increases to 9 to 11 g. By the 25th day of life, hand-reared hoglets should be able to slurp their meals independently.

(see also section 10). When there is no more night feeding, the last meal is given at about 11 p.m. and the first meal in the morning at about 7 a.m. The amount of food fed (in ml) per meal is noted in the care protocol and compared with the weight gain.

8 “Toileting”

This means the opposite of feeding! Baby hedgehogs are not able to defecate and urinate independently. The mother licks the babies’ tummies and genitals and absorbs the excrement straight away so that the nest is not soiled. Before and after each meal the carer must massage the abdomen and anal area with a moistened finger or cotton swab until success is achieved. Patience is often required! If excrement and urine are found in the nest, this does not mean that toileting is superfluous, on the contrary: the babies “must”, urgently! Toileting is necessary until the hedgehogs can eat completely independently. As long as babies are fed with substitute milk, the droppings will consist of small green balls, which stick together.



9 General hygiene

Food leftovers along with faeces and urine irritate a baby's delicate and sensitive skin. Dirty areas around the mouth are removed with moistened cellulose tissue. The area around the anus should be dabbed before and after each toileting with baby oil or wound protection cream - or alternatively with vegetable oil. Under no circumstances should you use thick, sticky ointments or powders!

10 Feeding the young

If the hoglets are drinking some of their substitute milk independently, then the following can be mixed in: tiny amounts of very finely ground raw and, very fresh – because of the risk of salmonella – minced beef without tendons (or tartare), or scrambled egg. Initially, this addition will remain as a kind of “residue”, but along with the increasing appetite will be eaten. As a solid food, hedgehog babies weighing 100 g or more can also be offered protein-rich drone maggots. The amount of “solids” is increased daily. At the same time, the substitute milk should be made thinner, i.e. more water or tea should be added and the total amount of liquid should be reduced. At an age of about 30 days the changeover to the adult hedgehog's diet - even if still



chopped up – should be complete. Now only water is provided for drinking.

Beware: As soon as the baby teeth have broken through, a hedgehog can and should chew! It must therefore never be fed mushy food. If you start too late to get hoglets accustomed to eating independently, you run the risk of bringing up “eternally bottle-fed babies”..

11 Ongoing rearing

If the hedgehogs can eat by themselves, then in large litters it is necessary to divide them into smaller groups based on similar body weight. All hedgehogs should be able to eat at the same time - from several plates.

If it is still warm outside, place young that weigh about 250g in an outdoor enclosure that is not too small. The cooler the nights in autumn, the higher – up to about 400 g – their weight should be before moving them into the enclosure. The hedgehogs must now learn to find and catch natural food sources (beetles, worms, caterpillars etc.). The absence of a mother is not necessarily a disadvantage for the young, as she does not teach them how and what they should catch and eat. Of course, the young hedgehogs are still given their usual food. The small animals that they find in the open-air enclosure are by no means sufficient to feed them.

12 Release into the wild

After a two-week stay in the enclosure, the young hedgehogs are released into the wild. It is best to release them at the place where they were found. If this is not possible, look for a suitable natural garden in a green residential area and

continue to provide them with supplementary food for a short period of time. If winter has already arrived, hand-reared hedgehogs (currently in human care) must still be given the opportunity to hibernate in the cold.



13 Rearing problems

- Bloated bellies usually indicate feeding errors (too much lactose) or lack of toileting. Quick help: Boil tea with one teaspoon of caraway seeds and half a cup of water and mix into the next meal, or add the contents of one Lactrase 1500 capsule to 40 g of substitute milk powder.
- Constipation occurs with careless toileting and is life-threatening because the intestine can burst. If the administration of a few drops of vegetable oil does not help, an enema at the vet is necessary.
- Sore anus results from skin irritating elements of urine and faeces. This can be remedied by dabbing the anal area with baby oil, or even better with

“Penaten Wound Protection Complex”, both before and after toileting.

- Diarrhoea occurs mainly at the beginning of rearing (during the change from breast milk to substitute milk) and usually disappears quickly. If a bacterial infection is suspected, the veterinarian prescribes antibiotics or sulphonamide. An accompanying therapy with a lactobacilli preparation to build up the intestinal flora is recommended.
- Paralysis symptoms are usually the result of nutritional errors, and can almost always be treated with doses of vitamin B complex.
- Internal parasites do occur in hoglets, but prophylactic treatment is unnecessary, and even harmful! Hedgehogs have almost always been infected first through their natural food. But sometimes also from prenatal infections, coming via the mother’s milk or directly via the mother’s droppings. Internal parasites (in different development stages) are not found in the faeces of the young hedgehogs until 6 to 26 days after infection.



Deworming hedgehog babies is only useful when there are specific symptoms and after a positive faecal analysis, and taking into account the intensity of infestation!

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Correspondance: Pro Igel e.V.,

E-Mail: redaktion@pro-igel.de

For current information see:

www.pro-igel.de