

# CARING FOR HEDGEHOGS

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**Editor's Note:** Natasha and I extend our **sincere thanks** to the **British Hedgehog Preservation Society (BHPS)** for giving us permission to reproduce some of the information from their website here; in particular the *Caring for Unweaned Hoglets* section, which is published here, with minor amendments. If you have any comments or questions about this article, or about hedgehogs in your care, please contact us on: [hedgehoghelp@wildlifeonline.me.uk](mailto:hedgehoghelp@wildlifeonline.me.uk)

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Hedgehogs are nocturnal and if one is found in daylight, this is usually indicative that something is wrong.

Nest disturbance is an exception, as is being seen out in the early light mornings and evenings during mid-summer. A nursing female may occasionally be seen out during daylight in search of food and water before returning to her nest to suckle her young, but this is relatively infrequent. Nonetheless, daytime activity outside a few hours preceding dusk and proceeding dawn should be considered abnormal. Additionally, it should be noted that hedgehogs seen out and about at night during the winter are not necessarily a cause for concern. Hedgehogs will periodically rouse from hibernation and some may leave the hibernaculum to search for food or even build a new nest. Such hedgehogs should only be rescued if they appear sickly or moribund.

Hedgehogs do not come out during the day to lie in the sun – this is most definitely a sign of a very sick hedgehog trying to keep itself warm. Many seen out during daylight are likely to be orphaned, injured, poisoned or cold and starving; your help is essential. Staggering and poor muscle co-ordination may mean an internal injury, but it could also indicate hypothermia. If suffering with hypothermia, the hedgehog will be unable to eat, drink or curl up and so it is crucial that the casualty is kept warm.

If you're unable to take the casualty to your nearest hedgehog carer, wildlife centre or vet immediately (most wildlife centres offer a 24hr rescue service and some vets treat wildlife for free), there are some immediate steps you can take to care for the hedgehog(s) in the interim. **That which follows is in no way intended as a substitute for seeking veterinary or other professional help and advice.** Indeed, in many cases, injured hedgehogs will require treatment from a qualified vet as cases of broken limbs, serious cuts, parasite infection, diarrhoea and alopecia (loss of spines/fur) are not uncommon ailments and require specialist treatment. Those that have been hit by cars, or survived an encounter with a lawn mower or strimmer will need urgent hospitalisation.

### **Immediate actions to take:**

- I. Check for open wounds and fly eggs (they look like thick clumps of pollen/tiny cream/yellow specks) and/or maggots in the ears, mouth, anus, armpits and fur. Eggs/parasites must be removed as soon as possible with tweezers, or brushed off with a soft toothbrush. Any in the mouth should be washed out with diluted antiseptic mouthwash, and any in the eyes washed out with warm water. Bathe open wounds with warm salt water (one teaspoon in a pint of boiling water left to cool) and seek help as soon as possible. If there is a problem with the eyes, bathe them in warm water or Optrex® (cold tea can also be used - presumably it is the tannins in the tea that have a mild antiseptic effect) and again seek advice.
- II. Ensure the hedgehog is kept warm; place it in a HIGH SIDED BOX (hedgehogs are adept at climbing) lined with newspaper. Place the hedgehog on a hot water bottle that has been WRAPPED in a towel and cover the hedgehog with another towel. Ensure there's enough room for the hedgehog to move off the hot water bottle if it gets too hot. Be aware that direct heat is not advisable if internal bleeding is suspected. N.B. Electrically heated pads for pets are ideal but not always available. Each case should be assessed individually but, during treatment, the hedgehog should generally be kept at between 19oC and 21oC (66 - 70oF). It must be remembered that it's essential for very sick hogs (pneumonia/lungworm, traffic accidents) to have direct heat, as well as warm ambient temperature. If a hot water bottle is not available (or the box is too small to accommodate one and provide room for the hedgehog to retreat if it gets too hot), a small plastic pop/milk bottle filled with hot water, and wrapped in a tea-towel (which the hedgehog could lean against for warmth) would serve as a good alternative.
- III. Bathe open wounds with warm salt water (the salt will help flush out bacteria) and seek help as soon as possible. If there is a problem with the eyes, bathe them in warm water or Optrex® (cold tea can also be used - presumably it is the

tannins in the tea that have a mild antiseptic effect) and again seek advice.

- IV. Once the hedgehog has warmed up, offer it a drink of WATER or LECTADE® (Lectade® is a re-hydrating solution which can be obtained from a vet). A good emergency home-made re-hydrating fluid can be made by mixing **1 litre tepid boiled water with 1 tablespoon of sugar and 1 teaspoon of salt**. If the hedgehog is very weak, try administering the fluid with a dropper or syringe. **NEVER** give cow's milk as this can cause severe diarrhoea and enteritis. Store any excess in covered container in fridge and use within a few days, or pour into ice cube trays, freeze and then defrost and gently reheat as and when required.
- V. If the hedgehog is not visibly injured and appears to respond to your treatment, then offer a small amount of meat flavoured -- preferably not fish, as this seems generally less appealing to hedgehogs and so it's less likely they will eat it -- cat (or kitten food, if the casualty is a weaned hoglet) or dog food, or a little cooked chicken (without bones). Continue with the Lectade® drink as this will replace vital salts and minerals.
- VI. Keep the box in a warm, dark, quiet place to aid recovery and reduce stress. Cover it with a net curtain, or something similar, to protect from flies, dirt, etc.

**N.B.** Gloves should be worn when handling hedgehogs. This is for your protection as much as theirs. Hedgehogs have sharp spines and, in exceptionally rare cases -- e.g. when they are in severe pain or very frightened -- they may bite.

## EXTERNAL PARASITES

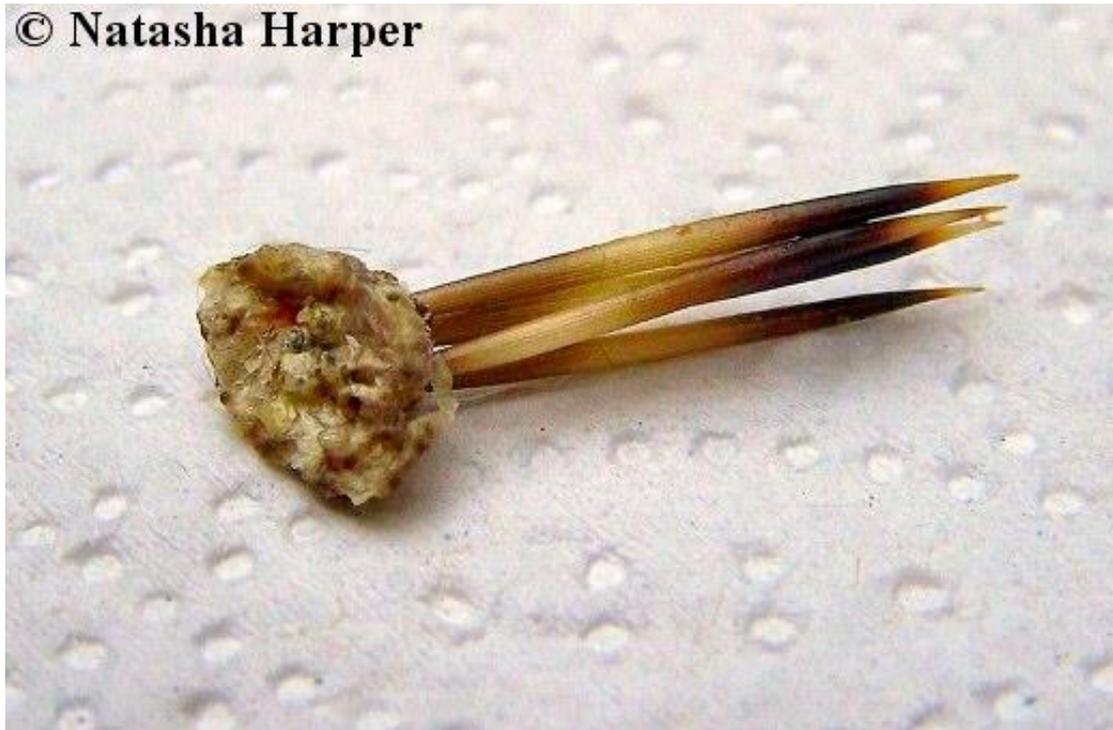
Most hedgehogs will have the odd tick or two (*Ixodes hexagonus* & *I. ricinus*) on them, which will drop off after having gorged on their host's blood; they'll then wait for their next host to wander past. Ticks are debilitating and should be removed. Suffocating the ticks by dabbing them with cooking or olive oil used to be a popular technique for removal, but recent research has shown this



method may stress the ticks into regurgitating their stomach contents into the hedgehog, which could cause infection. Instead, you can use tweezers to gently grip the tick's body, as near to the mouthparts as possible, and turn it anti-clockwise until it releases its grip. **DO NOT** just pull ticks off; you might leave the head and mouth parts embedded in the hedgehog's flesh, which may then turn septic. By far, the most effective, safest and effortless means of removing ticks is with a proper tick remover, e.g. O'Tom Tick Twister®, available in most pet stores, vets and online. If the hedgehog has an enormous tick burden, including difficult to remove nymph (minute) ticks, it would be best practice to take the animal to a vet or your nearest rescue centre

for treatment. (**Note:** Most vets will treat wildlife for free, but ring in advance to check their policy.)

Fleas are not debilitating and are host-specific (i.e. the fleas, *Archaeopsylla erinacei*, will only live on hedgehogs), but if you wish to remove them, a light sprinkling (taking care to avoid the hedgehog's face) with Johnson's Insecticidal Powder for Small Animals® is a safe and effective treatment. **DO NOT** use sprays or cat/dog flea treatments.



Mites are the major cause of fur/spine loss (see above). Mild cases of mite infestation can be treated with Johnson's Insecticidal Powder for Small Animals®, but a severe mite infestation will require a 3-week course of Ivermectin® injections from a vet (1 dose every 7 days for 3 weeks), owing to the life cycle of the mite. Occasionally, hedgehogs can also present with ringworm (fungal infection), especially if a mite infestation is already evident. Ringworm has a very similar appearance to a mite infestation, but with ringworm there will be small crusts or scabs at the site of the fur/spine loss. Ringworm is best treated by a vet, but there are some effective tried and tested home remedies: after gently sloughing loose skin crusts and spines with a soft toothbrush, mix a solution of one part Imaverol® (available to purchase online) with 50 parts warm water (e.g. 1ml:50ml ratio) in a water spray container and spray affected areas every 4 days, (totalling 4 treatments in all), taking care to avoid the eyes and nostrils. Affected areas on the face can be carefully painted with this solution using a fine artist's paintbrush or cotton bud. Dry the hedgehog on a towel before returning it back to its bed. Alongside the Imaverol® treatments, a good Tea Tree cream can also be applied to the affected areas until there are evident signs of improvement (i.e. new fur/spine regrowth).

## OVER-WINTERING AUTUMN ORPHANS/JUVENILES



### What is an Autumn Orphan/Juvenile?

Autumn juvenile hedgehogs are ones that are old enough to be away from their mothers but too small to hibernate. Autumn orphan hedgehogs are ones that are not old enough to be away from their mother and likely haven't been fully weaned. They can be found as early as September, although most are encountered during late November. Some will struggle on

and the occasional one can be found from December through until April. (The season will vary slightly depending whether you live in the south or north and depending on the weather.) Young hedgehogs can, and will, hibernate at 450g (1 lb) or less, but are unlikely to survive. It is preferable for them to weigh 700g+ (1.5 lbs) in order to hibernate successfully and be in sufficiently good condition to survive post hibernation.

Towards the end of October, or if bad weather is expected, the BHPS recommend that any hedgehogs weighing under 350g (12oz) should be rescued, whether they are out during the night or day [N.B. [These are the BHPS's guidelines. Many wildlife rescue centres advocate rescuing hedgehogs weighing less than, say, 500g in October, with the benchmark being moved higher with each passing month. 700g is considered a safe weight to hibernate.](#)]. The minimum weight recommendation for intervention varies around the country and is therefore guidance only. One factor accounting for such a variation is geographical, i.e. winter generally arrives earlier (and is colder) in the north, so southern hedgehogs have a little longer to build up their fat reserves than their northern counterparts.

From September onwards, small hedgehogs seen away from your garden, e.g. crossing the road at night, may also benefit from rescue as they may not have the readily available supplementary food that the ones visiting your garden are fortunate enough to have.

Many autumn orphans/juveniles present with lungworms that, in turn, can cause breathing difficulties/secondary infections. Those already showing signs of problems, i.e. out in the day, will be most at risk and are likely to have the highest worm burdens. Symptoms may include restlessness, lack of appetite, no weight gain even when eating, coughing and rapid breathing. These will need worming and antibiotics so should be taken to a vet for treatment, or passed to a hedgehog carer/rescue centre for treatment.

It is also important to note that the stress of captivity can kill a hedgehog, so if in doubt, please contact your nearest hedgehog carer or the British Hedgehog Preservation Society for further advice.

It is also worth noting that many adult hedgehogs are also underweight prior to hibernation. Just because they may look big, doesn't necessarily mean they are heavy enough to hibernate. The simplest method to determine this would be to weigh them, but if you don't have access to weighing scales, as a rule of thumb, a hedgehog should look wider than longer when it is curled into a ball. If it looks very much longer than wider, it is underweight. If the hedgehog is uncurled, and the back end tapers to a point, rather than a nice round shape, the hedgehog is underweight. These hedgehogs would fare better if taken into care, if only for a short time, to gain some much needed weight before releasing prior to hibernation.

**Important note: Once a rescued hedgehog reaches the required safe hibernation weight of 700g, it can be released back into the wild on a mild winter's evening by as late as December, thus avoiding unnecessarily incarcerating the hedgehog until the spring. Those that don't reach the required weight for hibernating will need over-wintering. For further information on winter releasing, please refer to Quick-fire Questions & Answers Q: What is a good temperature to release a hedgehog before winter?**

### **Where to Over-winter an Autumn Orphan/Juvenile**

Autumn orphan/juveniles are initially best cared for indoors, but once they reach about 700g, if it's too late to release them back into the wild (see Important Note above), they can be introduced to a cooler temperature -- by being moved into a shed, outhouse, or garage, etc. -- at which to continue their over-wintering, and probable hibernation. They will, of course, still need continuous feeding and monitoring.

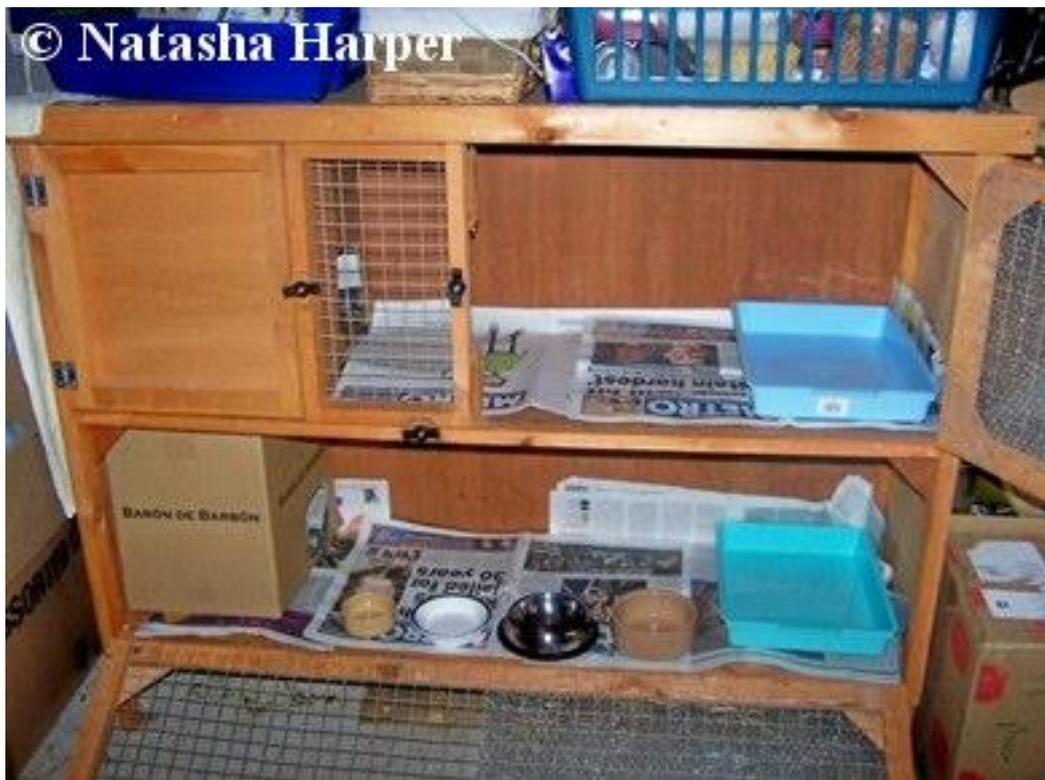


If over-wintering directly in a shed, outhouse, garage, etc., and weighing less than 450g, they will require additional heating in part of their bed area, to prevent them going into hibernation, until they've reached 700g. This is best provided by an electric heat pad

(see above – available from Spike's World and other online suppliers). Heating can be also be provided by a Pet Snuggle Safe, or a reptile heat mat. Hot water bottles (covered with a towel) can be used, but would need to be changed every few hours to ensure continued heat, otherwise it will have the undesired effect of an ice-pack and freeze the hedgehog! It is important when using an additional heat source to ensure there's enough room for the hedgehog to move away to a cooler part of their sleeping area if it gets too hot.

### Types of Enclosure

A rabbit hutch (or similar) would be the perfect dwelling for over-wintering a hedgehog(s). Line with newspaper and provide fleece blankets, old towels, or plenty of hay/straw, in the sleeping area for bedding. If a rabbit hutch (or similar) is not available, the basics needed to over-winter a juvenile are a HIGH-SIDED large box (hedgehogs are adept at climbing!). As with a hutch, line the box with newspaper and provide fleece blankets, old towel or hay/straw for bedding. A cardboard box (e.g. wine box size), with entrance hole cut out, lined with newspaper and a fleece blanket, old towel, or hay/straw for bedding, makes for a perfect snug and cosy nestbox within any enclosure being used to overwinter a hedgehog. If using hay/straw for bedding, leave some surplus just outside the nestbox and replenish as and when necessary. You'll be surprised at how much bedding a hedgehog will stuff into a nestbox to make a cosy hibernacula!



**Note:** Fleece blankets are more practical than towels because they are soft, don't snag (as towels can) and can be washed more easily and dry more quickly than regular towels. Soiled bedding and newspaper will need to be replaced daily.

If there is room in the enclosure, a shallow tray (e.g. small cat litter tray) filled with soil, dried leaves and twigs from your garden, would give the hedgehog something to snuffle about in and you may find he/she may even use this as a toilet.

### **Feeding Autumn Juveniles**

Regular food and water are essential. One should also bear in mind that hedgehogs have no table manners and will wade and climb into bowls; consequently, heavy based, shallow bowls and dishes are highly recommended.



In the beginning, food should be available 24/7 until a nocturnal routine is established, after which their main food should be served at dusk every day. They can have mashed up, meat based dog or cat food (or if very young, puppy or kitten food) mixed with a little cereal (Weetabix® or bran) to give it some bulk. Once settled in, hoglets will eat approx 100g of food per night, eventually increasing to

about 200g per night, so if their bowls have been licked clean by the morning, they haven't been fed enough and should be offered more the next night (until reaching a maximum of approx 200g per night to avoid obesity). As a rule of thumb, at the onset, there should be a little food left in their bowls every morning to gauge they've had enough to eat.

They should also be given meat based cat/kitten biscuits, which are good for their teeth, and help to remove plaque (these biscuits can be left out for them 24/7 as they may often wander out for a quick snack or a drink of water before you've arrived with their main evening meal).

In order to keep their diet varied and interesting, other foods can be fed alongside their main diet. These can include occasional treats of: sultanas; small pieces of fruit (apple, pear, banana, grapes); a little grated cheddar cheese; scrambled egg (no milk or salt added); light fruitcake; plain biscuits; sunflower hearts/seed; crushed or chopped unsalted peanuts; cooked chicken; raw beef/chicken mince; live mealworms; and dried mealworms. It is important to give them fresh water daily, especially if dry biscuits are eaten.

Vitamin supplements, such as SF-50 (previously known as SA37®) for pets, or children's Abidec® vitamin drops (or similar) sprinkled on their food, a couple of times a week, will aid optimum health.

They may also need worming. Autumn juveniles/orphans frequently present with a heavier intestinal worm burden than summer juveniles/orphans. Symptoms of intestinal worms range from poor appetite or failure to gain weight with good appetite to, in severe cases, inexplicable hyperactivity, green stringy/mucousy faeces sometimes blood-stained, coughing. Often, there may be an associated gastrointestinal bacterial infection with severe worm infestations.

Panacur for Small Animals® is the preferred safe choice for treating roundworm in hedgehogs. Panacur® can be purchased without prescription from any vets, or online, and is available in paste, suspension or granule formula, all of which can be mixed into their food. However, hedgehogs can also be afflicted with several other types of intestinal worms (e.g. tapeworm, fluke, thorny-headed), as well as commonly presenting with lungworm (parasitic worms migrating to the lungs/respiratory tract), all of which will require a stronger (prescription-only) worming preparation administered by a vet or wildlife hospital. Antibiotic cover is generally administered alongside treatment of severe intestinal worm burdens.

In order to treat a specific worm burden with an appropriate wormer, it's advantageous to identify which worm(s) the hedgehog is afflicted with in the first instance. Vets, wildlife hospitals and many independent hedgehog carers will willingly examine faecal samples under a microscope to identify which eggs/larvae/adult intestinal worms may be present. To this effect, Caroline Gould, Founder & Manager of Vale Wildlife Hospital & Rehabilitation Centre (<http://www.valewildlife.org.uk/>) and their vet Tim Partridge, have compiled a 'Basic Hedgehog Faecal Sampling' document, which incorporates the recommended drug regimes, and have granted their kind permission to replicate the data.

With regards to medication for hedgehogs, because drugs aren't licensed in the UK to treat hedgehogs, standard dosages administered by vets are generally too low, resulting in little effect to the hedgehog. Due to the hedgehog's high metabolic rate, compared with the lower metabolic rate of a domestic cat or dog for example, the recommended drug dosages for hedgehogs should be much higher. To this effect, Vale Wildlife Hospital & Rehabilitation Centre together with their vet, have formulated tried and tested proportionate dosages for hedgehogs and have granted their kind permission to endorse their 'Hedgehog Medication Chart'.

**N.B.** Gloves should be worn when handling hedgehogs. This is for your protection as much as theirs. Hedgehogs have sharp spines!

### **The Importance of Regular Weighing**

Weigh the hedgehog on its arrival and keep a daily record of its weight initially, preferably at the same time each day, as it can be difficult to tell whether it is eating, or just walking through the food. Not only will this enable you to chart their growth, but -- if you are over-wintering more than one together -- will alert you if there is a 'bully' present. If you notice that one particular hedgehog is gaining weight far quicker than the other(s), this one should be separated immediately as bullying can result in death from starvation/dehydration for the weaker hedgehogs. In order to tell them apart, you can 'mark' a few spine tips of each hedgehog with a small spot of nail varnish, water-soluble paint, or Tipp-Ex®.



### **Hibernation During Over-wintering**

Once your hedgehog has reached a safe weight for hibernation, let it decide when it wants to hibernate. It will wind down slowly; it will eat less and less and empty its bowels completely (pre- and post-hibernation stools are often dark green in colour, or 'stained' green). When you're certain your hedgehog has gone into hibernation, **DO NOT DISTURB** it, don't attempt to wake it or clean out his nest box: leave him be. Continue to leave dried food and fresh water out for it, for the occasional times (if any) it may rouse from its deep sleep.

If your hedgehog reaches around 700g+ before the very cold winter sets in and the weather is mild, it can be released. Otherwise, release in the spring. For further information on winter releasing, please refer to Quick-fire Questions & Answers Q: What is a good temperature to release a hedgehog before winter?

### **When and How To Release Hedgehogs**

If the hoglets were from a May/June/July litter, and are going to be released during the warmer summer months, they can be released when they reach around 450g (1lb) in weight, as they should be able to put on the additional fat reserves in time for the onset of hibernation. However, if the hoglets were from an August/September litter (autumn juveniles), and are thus likely to be released during the autumn or early winter, they should not be released unless they weigh at least 700g. Below this weight, they will need to be over-wintered by the carer because they won't have sufficient fat reserves to survive hibernation.

After over-wintering, let the wild hedgehogs outside be your guide for your impending releasee(s). If the wild hedgehogs are awake and up and about, it is time for yours to go. However, some males may start to become very restless beforehand and will spend all their waking hours trying to escape. If this happens, once they are up to weight, release them at the earliest opportunity otherwise they may become very stressed and could die.

When releasing a hedgehog, if not suitable to release into your garden, choose a place that is 'hedgehog-friendly' (i.e. already inhabited by hedgehogs, with no badgers or

crop-spraying in the vicinity), such as parkland, big gardens, organic farmland, and cemeteries where there are plenty of bushes, nesting materials (grasses, leaves, etc) and insects. A warm, muggy evening is the best time for the release, as this will ensure that there is plenty of natural food around. Leaving out supplementary food and water for a week or so at the release site may help the hedgehog adapt to its new environment, although don't be surprised to find the hedgehog ignores your after care service!



If releasing into your garden then you could leave the hedgehog's nestbox in a suitable place, with a dish of food nearby as 'back-up'. Some hedgehog carers 'soft-release' their hedgehogs prior to their final release to acclimatise them to the outside weather, noises and smells, but this is by no means essential. Soft-release can be achieved by simple modifications to a rabbit run containing a weatherproof hedgehog house. They will still need continuous feeding and monitoring.

Hedgehogs are very adept at digging, so -- unless the pen is to be placed on level, paved/concreted ground -- some modifications are needed in order to prevent them tunnelling out. Plastic mesh tacked to the bottom of the run covered with a couple of inches of soil and some dried leaves (so hedgehogs will not get caught on mesh while walking about) works well. To ensure the hedgehog house and food is kept dry, cover that section of the run with some roofing felt (or similar). Lastly, for the final phase of release, cut a small section -- approx 4 x 4 in. (10 x 10 cm) -- from one of the mesh side panels, to use as an exit/entrance door; this should be boarded up with a panel of wood/bricks, etc., prior to actual release. Once the hedgehog is ready for final release, remove the boarded entrance and leave it open in case the hedgehog wants to return for board and lodgings. If the soft-release pen is situated on level paved/concreted ground, just prop a brick under one corner of the pen to allow exit/entry.

The youngsters will stand a better chance of survival if they have not been handled more than is necessary and retain their suspicion of humans (i.e. roll into their defensive ball when approached).

Research studies into released orphaned hedgehogs show that their instinct to forage and nest build remains intact and their rate of survival is the same as their wild counterparts.

## **CARING FOR UNWEANED HOGLETS**

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### **When They Are Found**

Hoglets may be found abandoned in May, June or July, when the first litters are generally born, and in August/September, when the second litters appear. The average size of a litter is four to five, and they appear after a five-week pregnancy. If you find one or two, the area should be searched as there may be others, either still in the nest or nearby.

### **Why They Are Found**

If the mother is disturbed after the birth, she may desert her litter. Many more hoglets are made orphans because their mother is killed or injured. If they're from a very late litter, they may also be made orphans simply because the mother has gone into hibernation!

### **Where They Are Found**

Favourite nesting sites of hedgehogs are under a garden shed, in a hedgerow, pile of garden debris or a compost heap. You may hear their distressed, shrill, bird-like piping.

### **What To Do When You Find One**

Abandoned hoglets are vulnerable creatures and are often found in a poor state. For survival, human help is needed quickly, and generally, two things are needed **urgently**: **warmth** and **food**. However, before these are administered the hoglets should be closely checked for external parasites.

Obvious major injuries and breathing difficulties necessitate an urgent visit to your vet.

### **How To Reduce Stress**

Wild animals suffer stress in an unnatural environment and hedgehogs are no exception. The hoglets will need to be in a quiet, calm atmosphere and handled only when necessary.

### **How To Provide Warmth**

It is important to note that hoglets will refuse any food until they are warm to the touch, so warmth is absolutely vital. The hoglets should be kept in a temperature of no less than 24°C (75°F) by using a well-wrapped hot water bottle (ensure the opening is concealed to prevent a tiny youngster getting trapped), a heat lamp or an electric heated pad..

The hoglets can be placed in a cardboard box or similar (a cat basket is ideal), lined with plenty of newspaper and an old jumper, towels, or a fleecy hat for bedding. From the beginning, a 'surrogate mum' in the form of a clean piece of towelling, an old (clean) sock, soft toy or small slipper to bury into, can give a feeling of security and comfort.

### **Hygiene**

It is important that the hoglets, their bedding and feeding equipment are kept scrupulously clean. The bedding should be changed regularly and the feeding

equipment sterilised. After dealing with each hoglet, hands should be thoroughly washed.

### **How To Feed The Hoglets**

Weigh the hoglets regularly and chart their growth. Marking them with a spot of nail varnish on their prickles will help to tell them apart.

Esbilac is the most widely used powdered milk substitute to rear hoglets\*, but goats' milk, sheep's milk, and Cimicat have all been used successfully to rear hoglets too. Detailed below are the feeding guideline endorsed by the [British Hedgehog Preservation Society](#) for rearing hoglets with goats' milk:

**One Week Old** - weighs about 28-56gms (1-2oz) and 50-100mm (2-4") in length. These tiny hoglets have no teeth and their eyes and ears will be closed. They will need to be fed every two to three hours on 1-2mls Goats' milk diluted 2:1 with water, and vitamin drops added (Abidec® for children is widely used); or Goats' colostrum. A plastic pipette, icc syringe or doll's feeding bottle can be used to feed them with. Each hoglet should be held on its back in the hand and fed slowly, taking care not to get milk up its nose or in its lungs.

***After feeding*** it is important that you massage each hoglet's tummy with a brush or tissue - mum would do this in the wild to stimulate bladder and bowel movements (very young hedgehogs cannot do this for themselves, unaided). Droppings, on arrival, should be bright green, but on a diet of goats' milk should change to pale greenish/blue. Carefully clean the hoglet's mouth, face and tummy with damp cotton wool and gently massage with baby oil, especially inside the back legs and around the tail area.

**Two Weeks Old** - weighs about 56-85gms (2-3oz) and 70-130 mm (3-5") in length. Eyes will probably still be closed but could open soon. Ear holes begin to appear. Feeding should be increased to 3-5ml every 3-4 hours. ***After feeding*** clean and toilet as before.

**Three Weeks Old** - Weighs about 85-113gms (3-4oz). Eyes now open and teeth beginning to appear. Can now be encouraged to lap milk from a shallow dish. When lapping successfully, liquidized puppy food and milk could be offered. Hand feeds should continue. ***After feeding*** clean and toilet as before.

**Four Weeks Old** - Weighs about 113-170gms (4-6oz). Now looks like a mini-adult hedgehog. Gradually decrease the milk in the liquidized puppy food and eventually give the puppy food on its own, but mashed. Droppings will now become brown, firm and smelly. When the hoglet is no longer taking milk, offer a dish of water (would now be accompanying mum on foraging trips if still in the wild). When the hoglet is weaned worming should be considered. Panacur powder (available from your vet or online) is recommended: 110mg/500gm sprinkled on food over three meals, and then repeat in two weeks. ***After feeding*** clean as before but toileting can be reduced and stopped altogether when the hoglet copes unaided.

**Five Weeks Old** - Weighs about 190-225gms (7-8oz). Should now be eating twice daily: a dish of mashed or liquidized puppy food with added vitamins and cereal. New

flavours can be experimented with, such as chicken, lightly scrambled egg, a little grated cheese, banana. Heat will not now be necessary in the summer but adequate bedding should be provided.

**Six-to-Seven Weeks Old** - Weighs about 225-310gms (8-11oz). Now eating one tablespoon of mashed puppy food and cereal twice daily with added vitamins and minerals, and a dish of water.

**Eight Weeks Old** - Weighs about 350gms (12oz). Should now be eating adult cat or dog food twice daily, and given a vitamin and mineral supplement once weekly. Foraging expeditions in the garden can be undertaken. Shredded newspaper, straw or paper tissues can be given for nesting materials to encourage the youngster(s) to build their own nests.

### **Self-Anointing**

When you start introducing new flavours to the hoglet's diet, it may carry out the strange behaviour known as self-anointing. The hoglet will flick frothy saliva over its spines, contorting itself into awkward positions so that it can reach every part of its spiny coat. The procedure can last from just a few minutes to an hour or so and will stop suddenly. It is not known why hedgehogs do this although many theories have been put forward. It seems to be triggered by strange smells and tastes.

### **Determining the Sex of your Orphaned Hoglet(s)**

Male and female hoglets both have tails, with the anus at the base of their bodies. They also both have an umbilicus (belly button). There the similarity ends. The male's penis is underneath the umbilicus whereas the female's vulva is just above the anus. In very young hoglets it can be difficult to tell the difference as the male's penis is nearer to the anus at birth. It moves forward as the hoglet grows.

[\* Note: A lot of Hedgehog Rescues and Wildlife Hospitals have now stopped using Esbilac in favour of Royal Canin Babydog milk (Royal Canin Babydog milk has a higher fat content than Royal Canin Babycat milk, making it more beneficial for hoglets). Royal Canin Babydog milk is more easily obtainable than Esbilac and is also cheaper. In an emergency situation goat's milk or kitten milk (both available from supermarkets) can be used for a few days in the interim. Royal Canin Babydog milk (as with Esbilac) is only available to purchase online, local petshops as well as larger pet store chains don't stock either of these products.]

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*Please be aware that the foregoing weights, ages and amounts are approximate and for use only as a guideline. Like all young mammals, each hoglet's development will vary individually. For very comprehensive online instructions on rearing orphaned and baby hedgehogs, please visit [Epping Forest Hedgehog Rescue](http://Epping Forest Hedgehog Rescue).*

## The Perils of Self-Diagnosis

Wherever possible, a professional diagnosis should be sought. The reason for this is pretty straight forward: some symptoms can have more than one possible cause, thereby potentially complicating treatment. The table below has been compiled to explain what we mean. As you can see, hyperactivity, for example, can be a sign of a heavy worm infestation, an infection, dehydration or stress - each potential cause has a different, specific treatment. So, if a hyperactive hedgehog were diagnosed with dehydration when it actually had a lungworm infection, rehydrating fluids wouldn't solve the problem and may waste valuable time. Remember too that these are *likely* causes and not an exhaustive list of possible causes. A coughing hedgehog, for example, is likely to be suffering from either a lungworm infection (active or residual) or pneumonia. Coughing can, however, also stem from nest fouling -- if a hedgehog defecates in its nest, the faeces can often cause the hedgehog to cough --, dust on bedding hay/straw, or from being in an environment that's too dry. The moral here is simple: **if you think that the hedgehog needs medical treatment, take it to a qualified animal welfare centre or veterinary surgeon.**

| SYMPTOM  | LIKELY CAUSE(S)   |
|--|---|
| Tiny white/yellow flecks or pollen-like clumps | Fly eggs  |
| Tiny jumping insects                           | Host-specific hedgehog fleas  |
| White/grey shiny nodules                       | Ticks   |
| Fur/Spine loss                                 | Mites and/or ringworm (fungal infection)                              |
| Coughing                                       | Lungworm (coughing helps expel dead worms) or pneumonia.              |
| Green poo (jelly-like consistency or mucousy)  | Worms, enteritis  |
| Brown diarrhoea                                | Incorrect diet e.g. cow's milk, gravy-based cat/dog food              |
| Wobbling                                       | Dehydrated, hypothermia - typically secondary to underlying infection |
| Lying out in sun                               | Dehydrated, hypothermia - typically secondary to underlying infection |
| Wandering about in daylight                    | Poorly, starving/dehydrated, nest disturbance, lactating female       |
| Hyperactivity                                  | Heavy worm infestation, infection, dehydration, stress                |
| Distressed, crying (peeping), squealing        | Injured, very ill, or unweaned hoglet searching for mother            |

### **Adult hedgehogs sometimes need over-wintering too!**

There's much information and advice on rescuing autumn juveniles, but sadly very little on rescuing the struggling underweight adults/elderly hedgehogs that also need enough brown-fat reserves to survive hibernation. Size alone is not an accurate indicator of weight, just because a hedgehog may look big it doesn't necessarily mean it's heavy enough for its age/size.

Don't haul a hedgehog out of its nest just to weigh it, wait until it emerges. If it doesn't need rescuing, there's a high risk it'll abandon its nest afterwards as they need to feel 100% safe from disturbance/predators in their chosen nest sites.

A preliminary indicator to gauge size vs. weight is to assess the hedgehog's shape. This can be done without handling the hedgehog. If the hedgehog is uncurled during assessment and his rear end tapers to a point instead of being nice and round, that's indicative he's underweight. Tell-tale 'pinched-in' hips may also be noticeable. If the hedgehog is curled into a ball during assessment and his girth is noticeably narrower than his length ([below, right](#)), that's indicative he's underweight. Photos courtesy of Dr Toni Bunnell.



Healthy adult male hedgehog showing typical, almost spherical shape when curled up.



Malnourished, underweight hedgehog with tapering rear end, signifying insufficient body mass.

If either of the 'assessments' indicates the hog is underweight, he'll need an extra helping hand to survive the winter, even if just taken into care for a few weeks to fatten up prior to releasing before the harsh winter sets in. If this isn't achievable, the hedgehog will need to be over-wintered and released in the spring. See [Quick-fire Questions and Answers](#) below for information on releasing hedgehogs during the winter.

## **Something to Remember**

Finally, it is very gratifying to be able to release a healthy young hedgehog or litter back into the wild. However, if they were found sometime after desertion by their mother, they may be very weak and ill. You should not blame yourself if, after providing extensive care, you lose one or more of the litter. Indeed, in *The New Hedgehog Book*, Pat Morris notes that if the hoglet(s) you're caring for have yet to open their eyes (i.e. are less than 12 days old), there is little hope for them unless you're either very lucky or you're able to get them to a rescue centre; hoglets with a set of brown spines (i.e. about three weeks old) have better odds. Dr. Morris writes that it is important to remember that hoglets are very vulnerable until they're about six to eight weeks old, so it should not be a surprise if they die; in the wild, at least 20% do so before they reach this age. The crucial point for you to remember is that, even if the worst happens and they don't survive, your help gave them a fighting chance and it should not put you off trying to help others in the same situation.

## **Can rehabilitated hedgehogs survive back in the wild?**

Yes! Tracking studies have found that even juvenile hedgehogs with little or no experience living in the wild can cope with release. Subjects often experience a decrease in weight immediately following release, but this is thought to be the shedding of excess weight built up while in captivity. Released animals seem to resist homing in most cases, quickly settling into their surroundings and building a nest; they also travel about the same distances as wild conspecifics, interact with the wild population without aggression and mate with wild individuals. Captive-reared or rehabilitated hedgehogs seem just as vulnerable to predators and accidents (e.g. drowning, being killed on roads etc.) as those that have not spent any time in captivity and some mortality is to be expected. The only possible problem could be that captive individuals become used to human handling and this might lead to a greater risk of death under wild conditions – this hasn't been proven, but it is something to take into account when rearing a hedgehog, or preparing one for release.

Before release, the site should be chosen carefully to ensure that it represents "good hedgehog habitat" (this includes parks, large gardens, cemeteries, golf courses etc.). Release should take place on a warm, wet/muggy night and ideally away from badger setts or busy roads. Prior to release the hedgehog should weigh at least 700g (1 lb. 7 oz.) and be in good physical condition.

## **Quick-fire Questions & Answers**

### **Q: What is a good temperature to release a hedgehog before winter?**

**A:** It's inadvisable to release a hedgehog when there is a significant risk of frost, snow or heavy rain. It is generally advisable not to release the casualty unless the ambient night-time temperature is forecast to be **at least 6°C (43°F)** for several days to come. In a 2002 paper to the *Journal of Wildlife Rehabilitation*, Toni Bunnell noted that her hedgehogs were "*released back to the wild when the minimum overnight temperature was several degrees above zero (6.5–17°C [36°F]), the ground was not frozen, and food was still available*". Please be aware that hedgehogs kept indoors prior to release will require acclimatisation, which can be done by placing it (along with a nest box) into a shed, garage or outdoor rabbit run - if the stark contrast in temperature causes the hedgehog to go into hibernation, leave it where it is and release it in spring. If you

over-winter it to release in spring, remember to leave food and water in the enclosure in case it's required by the hedgehog as it periodically 'wakes up'.

**Q: Should I leave food out for the hedgehog once I've released it?**

**A:** Yes. This is called 'support feeding' (and is often part of the 'soft-releasing' process) and it's crucial to continue to leave out food and water for the hedgehog following a winter release, or for those hibernating in your care, because hedgehogs don't hibernate solidly throughout the winter. They frequently rouse and while some remain in their hibernacula during this wakeful period, others venture out in search of food and water for a fat-reserve top up before returning to hibernation. Dried food such as kitten/cat biscuits is recommended because it doesn't freeze or putrefy like tinned cat/dog food does.

**Q: How long will it take a hedgehog to build a hibernaculum?**

**A:** This will vary from animal to animal and the first part of the battle is locating a suitable spot. It may be greater or fewer for your hedgehogs, but it's best to assume several days (up to about one week) are required to complete construction. If you're able to provide the hedgehog with a purpose built weather-proof hedgehog house in a sheltered part of your garden upon release it would be hugely advantageous for the hedgehog.

**Q: How much should the hedgehog weigh before I release it?**

**A:** The current recommended pre-release weight is 700 grams (1.5 lbs).

**Q: How quickly should the hedgehog gain weight?**

**A:** This is a difficult question to answer because it varies from hedgehog to hedgehog and will depend on how emaciated it was when you found it. If the animal is otherwise healthy and not compromised with a heavy internal parasite burden or other ailments, a weight gain of 5-10g ( $\frac{1}{3}$  oz.) a day is typical, although some hedgehogs gain in excess of 30g+ (1 oz.) per night! As a **very rough guide** for healthy hoglets, the weights should be around:

One week old = 56 grams  
Two week old = 90 grams  
Three week old = 115 grams  
Four weeks old = 170 grams  
Five weeks old = 230 grams  
Seven weeks old = 310 grams  
Eight weeks old = 350 grams

**Useful Contacts:**

**British Hedgehog Preservation Society:** 01584 890801

**St. Tiggywinkles Emergency Line:** 01844 292292

**Wild About Britain Forums:** <http://www.wildaboutbritain.co.uk/forums/> (requires free registration, but you can then post your questions on the Mammal Forums)