

# Raising Baby Squirrels

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When feeding or handling any animal, wild or domestic, it is recommended standard procedure to wash your hands before and after handling. Gloves are also appropriate for those who wish to wear them.

NOTE: A healthy baby squirrel, while in the hairless state, is bright pink all over, with pink gums and lips; it squirms, responds to touch, feels warm, and is fat and round. A dehydrated or cold baby is grayish pink with grayish gums and lips; it will ball up, be unresponsive, sluggish or lie still; it will look thin and feel cold to your touch. A healthy furred baby will have very pink gums, respond appropriately to its environment, feel warm, and look round and full.

## EMERGENCY TREATMENT

**NOTE: EMERGENCY TREATMENT IS FOR INFORMATIONAL PURPOSES. IF YOU FIND A SQUIRREL NEEDING CARE OR SOMEONE BRINGS YOU ONE PLEASE TAKE IT TO ST. FRANCIS WILDLIFE OR DROP IT OFF AT NORTHWOOD ANIMAL HOSPITAL SO IT CAN BE STABILIZED AND EVALUATED BY STAFF BEFORE BEING FOSTERED.**

**A. GET THE BABY WARM!** (Do it now before going any further!) A baby squirrel should feel much warmer than your skin. If it feels cool to your touch then it is cold. Hypothermia will kill. Do not attempt to feed a cold baby. Until the baby is fully furred, he or she does not produce enough body heat to warm him or herself. A furred baby who is young, sick or injured will need a heating source. Wrapping it in a blanket will not suffice since the baby cannot warm the blanket. You must provide a constant heat source. The most dependable and accessible is an electric heating pad. Make sure it does NOT have an automatic shutoff. Until a pad is found and the nest box warmed, temporary heating can be supplied by filling a zip lock baggie with hot water, placing it in a second zip lock bag and putting it under a blanket with the baby in the blanket. When using a heating pad, turn it on the lowest setting and place it on a table. If the heating pad does not have a cover, fold a flannel receiving blanket and lay it on top of the pad; rumple another flannel receiving blanket or old t-shirt (no strings) and put it in a box or in a little carrier. If you use a box you have to make air holes on top and/or on the sides. The box should be bigger and taller than a shoebox with flaps that can be folded over. No matter how small, these babies can and will climb out of an inadequate nest. A good option is a plastic reptile carrier, 11x6x8", with a lid with air holes. They can't climb out of these handy carriers. Do NOT use a towel since the baby's feet can get caught in the loops and can cause nails to be torn or bone breakage. Make a pocket in the middle of the blanket with your fist, put in the baby and gather the covers together over the baby. Make sure the bedding in the carrier is not so thick that heat cannot radiate through to the babies. Place only half of the nest box on the heating pad, giving them a "cool down" area if needed.

**B. HYDRATE THE BABY!** The most important treatment you will give the baby squirrel you have found is hydration. Do not start the baby immediately on any formula - hydrate first. The baby squirrel has already been traumatized by being separated from its mother, not to mention falling, possible injuries, etc. including being without food for hours or even days. The smaller the baby, the greater the risk of dehydration and if you do not re-hydrate you will lose it. Even the healthiest looking babies should first be hydrated. Why is hydration so important? Water is essential for the digestion of food: fluid is pulled from the body's cells during the digestive process. If the fluid in the body is low, then there is not adequate fluid for digestion and the baby's reserves are drained. Additionally, the baby's body is accustomed to Mother's milk and introducing a new food can cause diarrhea, leading to further dehydration. Soon, without hydration, you can have a thin, dry, grayish looking little baby instead of a precious, fat, round, wet, pink baby.

**Hydration Instructions:** Most people immediately give the new baby milk of some kind. DON'T do that. A baby will not starve to death over a 24 hour period, but it can die of dehydration. Hydrate first with electrolytes (fluids). Use unflavored Pedialyte, or mix 1 qt water, 1 tsp salt, and 3 tsp sugar. Administer with a syringe. Once opened Pedialyte needs to be used within a few days (see bottle) or you can pour it into ice cube trays and freeze it for future use.

The amount of fluids given depends on how dehydrated the baby is. A dehydrated baby has grayish gums and lips; it will ball up, be unresponsive, sluggish or lie still; it will look thin and feel cold to your touch and if you pull the skin from its back it stays up or goes down slowly, as opposed to going down fast in a hydrated baby. See the attached fluids table to know the correct amounts of fluids to give during 24 hour periods. Recovering from dehydration requires fluids for 4 days. This does NOT mean you will give fluids only to a dehydrated baby, the baby needs nutrition also and fluids are not nutritious. The right combination of meals of fluids and meals of formula are essential for recovering.

If the baby is unmoving or cannot drink, take it to a vet or wildlife rehabilitator for further instruction and care. Transport the baby with a hot water bag under a blanket - it will be cold when extremely dehydrated.

ALWAYS give fluids as the first meal even if you think the baby is not dehydrated. NEVER start any baby on formula right away. Always hydrate first and then gradually introduce the formula as described in the formula section.

**C. TREATING WOUNDS:** Many squirrels are found with cat, dog or ant bites. Cat bites are deadly. Cat bites must be treated with antibiotics. If you have found a squirrel with cat bites, get them to your vet or rehabilitator for immediate treatment. All punctures should be cleaned by flushing with betadine. Watch the wounds for signs of infection. If a wound looks infected, ask your vet or rehabilitator for advice.

Head injuries must also be treated by your vet or rehabilitator. Most head injuries will have noticeable swelling.

Some squirrels will have fractures. Fractures should NOT BE TAPED. Taping can cause many problems and baby squirrels grow so quickly that taping is ineffective. Get expert advice if you think the squirrel has any type of fracture.

**D. FEEDING, FORMULA, and INTRODUCING FORMULA TO THE BABY:** The correct way to feed an infant squirrel is by using a 1 cc syringe. We do NOT recommend using any larger syringe until the squirrel is 6-8 weeks of age. At that age, a 3 or 6 cc syringe may be used if you are comfortable with the larger size. The best 1cc syringes are the type with "O-ring gaskets". Your local pharmacy will know what type of syringe you mean. Buy several so you are not constantly cleaning syringes. We recommend Zoologic nipples to be attached to the syringe. You need to customize the nipple. To create the new nipple, cut the elongated part of the Zoologic® nipple at the base. Attach that part to any size syringe, then add the base of the nipple. Squirrels adjust quickly, if not immediately, to this nipple.

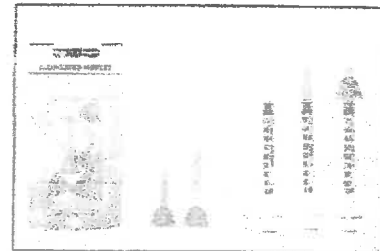
The most common mistake made in feeding infant squirrels is aspiration from feeding too quickly. Larger syringes are harder to control and it is much easier to aspirate using them. NEVER USE PET NURSER BOTTLES. No matter what the size of the squirrel, these types of bottles will aspirate. Aspiration is getting milk in the lungs of the squirrel which will cause pneumonia and death if not treated quickly.

When feeding squirrels, smaller ones need to be fed very slowly. Tiny ones (pinkies) are fed one drop at a time, allowed to swallow and then give another drop. All squirrels need to be fed with their heads in an upright position to minimize aspiration. While feeding if you see water or formula coming out of their nose, immediately wipe excess from nostril area and keep doing this until no more comes out the nostrils, tilt them upside down for a few seconds to allow for drainage. After aspirating, some may not want to continue eating. This is fine and they can be fed later. If they still want to feed, slow down the feeding. As stated before, aspiration usually comes from feeding too fast.

If you have aspirated a baby, after tilting and wiping the nostrils, check on them for the next hour or two. Hold them to your ear and if you hear "clicking" sounds, call your rehabilitator immediately. They will need immediate treatment.

**Formula:**

- Always use Esbilac powder milk replacer for puppies. Mix 1 part powder to 2 parts warm water (1 to 1 for underweight babies). Add a pinch of Lactobacillus powder (good bacteria).
- Only mix small amounts, whatever you think you will use in 1 day. Refrigerate powder and mixture.
- The formula needs to be prepared with warm water. Let it stay for a few minutes for all the ingredients to mix together. Mix the powder first with half of the water and after getting it creamy add the rest of the water.
- When preparing to feed take out only what you think you will need for that feeding. Warm it up to about 100 degrees. The formula should feel warm on your wrist, not too hot. Keep it warm while feeding. Discard leftovers.
- Introduce the formula gradually:
  - First feeding: electrolytes only
  - Second feeding: 1/4 formula and 3/4 water
  - Third feeding: 1/2 formula and 1/2 water
  - Fourth feeding: 3/4 formula and 1/4 water
  - Fifth and subsequent feedings: full strength formula
- Be sure there are not air bubbles in the syringe.
- The best way to know how much to feed the baby is to weigh it. The right amount of formula for each meal for each baby is 5% of body weight. A feeding chart can be found later in this section. Example:
  - If the baby is 100 gr. the 5% will be 5 gr.
  - Give 5 cc of formula
  - MOST PEOPLE DON'T HAVE ACCESS TO SCALES SO A CHART IS INCLUDED AT THE END OF THE DOCUMENT THAT GIVES APPROXIMATE AMOUNTS BY WEEKS.
- Hold the baby in an upright position.
- Push the syringe slowly and steady. If formula comes out from the nose stop immediately. That means the formula went the wrong way and can cause aspiration pneumonia. Wipe its nose immediately,
- How often you feed the baby squirrel depends on its weight and condition. Tiny pink babies without hair or with scant hair can only ingest small amounts per feeding, so more feedings are necessary. They should ideally be fed every 2 to 3 hours, but they can survive with only one feeding during the night. However, each squirrel differs in age and condition, so common sense and watching the stool content is the best judge for feeding frequency. If the baby is dehydrated or sick then you should give nightly feedings until it is fully recovered.
- NOTE: If the baby throws back its head during feeding and looks like a guppy breathing out of water don't panic. It is probably not choking if formula is not coming out its nose and mouth. It may be having a "feeding trance". Remove the syringe and let it relax and snap out of it before continuing to feed slowly.
- A good gauge of how well you are doing with the feeding is the condition of the baby's stool. The stools should be mustard yellow to brown, firm and well formed. If they become pasty or whiter in color you're probably overfeeding. You need to cut back on the amount of formula until it becomes the proper color and consistency again.
- The baby MUST be kept clean. Change bedding every day. Clean off formula and feces from the baby when necessary with a damp Q-tip tissue. After feeding the baby be sure to clean all formula off its skin, otherwise it will cause irritation to its sensitive skin.



or

**E. BATHROOM BUSINESS:** An infant squirrel should be stimulated to urinate and defecate every time you feed it. Failure to do so can cause uremic poisoning. All mother mammals lick their babies to initiate this process, and to keep their babies clean. A baby will leak on him or herself, but this is not the same as voiding a bladder. And also, an unclean baby will get diaper rash, urine burns, on its tender belly. Stimulate by gently rubbing the babies' genitals with a cotton ball, Q-tip, or tissue moistened with warm water or other soft, absorbent material. By the time they open their eyes they are usually going on their own.

**F. COMMON PROBLEMS****Diarrhea**

To avoid it:

- Use Esbilac powder
- Give the right amount of formula (do not overfeed, underfeeding is not as bad as overfeeding), at the right time
- Introduce the formula gradually
- Sterilize feeding utensils, syringes, nipples, etc.

- Sterilize bedding material
- Wash your hands frequently, before and after handling
- Avoid extreme or fluctuating temperatures
- Warm up the necessary amount of formula per feeding, discard leftovers

#### Treatment:

- Give electrolytes instead of formula for one feeding. Then, introduce the formula gradually again. Do NOT feed the baby Pedialyte only for several feedings! It will get very weak and skinny. Remember, Pedialyte is not a source of nutrients, its only purpose is to rehydrate the baby.
- Give extra Lactobacillus (Fox Valley or Bene bac) in the formula

#### **Bloating/constipation**

##### To avoid it:

- Use Esbilac powder
- Give the right amount of formula (do not overfeed, underfeeding is not as bad as overfeeding), at the right time
- Introduce the formula gradually
- Avoid bubbles in the syringe
- Avoid bubbles in the formula. Don't shake the container with the formula before a feeding, use a spoon to stir it. Don't mix the formula in a blender before a feeding. These procedures add air to the formula
- Never feed when the baby is cold

##### Treatment:

- Rub, rub, and rub their tummy very gently
- Submerge the lower part of the body of the baby in warm water for a few minutes while rubbing the tummy. Don't let the baby fall in the water and drown, be careful!
- Simethicone (Baby gas drops – pink liquid), give a couple of drops every hour or so
- Give extra Lactobacillus (Fox Valley or Bene bac) in the formula
- You should NEVER feed a bloated baby. You can wait up to 12 hrs. If the baby is still bloated after that they may need subcutaneous fluids. Take it to your rehabilitator.
- When the bloating goes down and the baby poops give Pedialyte for one feeding and then introduce the formula gradually again

#### **Aspiration pneumonia**

##### To avoid it:

- Always nurse with a syringe
- Use the right nipple or syringe tip
- Nurse the baby in the right position (upright)
- Push the syringe slowly and steady
- If they are in the "feeding trance" stop pushing the formula until they come out of this "stage"
- If you see bubbles coming out the nose, stop nursing and clean the nose immediately, wait a few minutes and keep cleaning the nose if necessary, in this way they can catch their breath

##### Treatment:

- Antibiotics

#### **Swollen genitals due to sucking**

##### To avoid it:

- Give the right amount of formula at the right time

##### Treatment:

**Separate the baby from others when necessary**

**Apple bitter or tea tree oil on genitals**

**Elizabethan collar when the baby is doing it to himself**

**Remove the scab on genitals with a damp Q-tip and/or apply antibiotic ointment until it falls (the scab!)**

**Be sure to stimulate until the baby urinates**

**If any of these conditions last 24 hours or longer, consult your rehabilitator.**

#### **Malocclusion**

Squirrels teeth never stop growing, that's why they need to trim them down constantly. They do so by gnawing on hard nuts, bones, trees, etc. When the upper and lower incisors are misaligned, usually due to a fall, they can't trim them down and they will keep on growing. This is a big problem for a squirrel. You MUST check their teeth to make sure they are not growing crooked. If they are, you should take the baby to your rehabilitator.

### G. HOW OLD IS THE BABY?

- 1 to 5 days - tiny, the size of a woman's thumb - knuckle to tip - and totally pink; no hair at all.
- 5 to 10 days - development of soft, reddish, sable hair around nose and mouth.
- 10 days to 2 weeks - a grayish purple shadow begins spreading over the head, shoulders, and back; the belly and legs are still bright pink.
- 2 to 3 weeks - grayish-purple color deepens until the emerging hair is long enough to be identified as hair.
- 3 weeks - the baby's lower front teeth begin emerging. Hair is now slick, smooth, and shiny. Still no hair on legs and belly.
- 4 weeks - has light grayish-brownish hair all over, except lower legs and belly and under tail. Some downy white hair beginning on belly and legs.
- 5 weeks - thicker hair, including legs and belly. Tail hair is short, straight, and lies parallel with the bone. Eyes open.
- 5 to 6 weeks - upper front teeth begin emerging. Begins curling tail over back.
- 6 to 7 weeks - fully furred, sleeping less with more active periods.
- 7 to 8 weeks - tail is fluffy. Should be placed in a cage with plenty of room to play. Caging similar to a rabbit hutch style can be made with ¼" hardware cloth around a frame.
- 8 to 9 weeks - looks like a miniature squirrel, very active and shredding your sweaters, curtains, furniture, and arms with its claws. It has lost infant appearance.
- 9 to 10 weeks - develops more muscular physique.
- 10 to 12 weeks - about 3/4 full size - release at 12 weeks.

**H. WEANING and DIET:** The baby's eyes open at 5 weeks, but they don't see well at first and nothing about their behavior will change for another 5 or 6 days; they will still eat and go back to sleep immediately. . At that age you can start giving solid food. Give rodent chow (dry biscuits), or monkey biscuits. Later on, when they are happily eating the rodent chow you can add vegetables such as broccoli, sweet potatoes, carrots, corn, and fruits such as apple, melons, strawberries. Grapes sometimes can cause choking so stick with other choices. Give big pieces of food. They could choke with tiny pieces and they like to rip food apart with their big teeth. Do not give nuts or sunflower seed at this point; they are candy with the nutritional content of a candy bar! Try to keep the rodent chow dry, don't mix it with the veggies and fruit. They don't like them damp/mushy.

Always have fresh foods in the baby's cage in addition to rodent chows. At approximately 8 to 9 weeks the baby will be able to open sunflower seeds. Get the large stripped sunflower seeds - do not give salted seeds

Squirrels will chew on deer antler or dog bones. Sterilized bones can be purchased from the pet store. It will be a good source of minerals and help strengthen teeth and jaws. They also like to chew on tender Oak and pine branches and of course eat acorns.

A squirrel fed mostly peanuts will develop metabolic bone disease (a lack of calcium and minerals), begin having seizures around 2 months, (you may not notice the seizures because they are at first very short and mild and may take place when the baby is out of your sight), and will die before 3 months of age. Give peanuts sparingly as treats.

**I. "SOFT RELEASE":** There is a special and simple way to successfully release the squirrel you have nurtured. Don't just take it to a tree and let go. The squirrel may reach your back door before you do, begging to come back in. That he is begging to come in doesn't mean he is rejecting his birthright, it means he is unfamiliar with the outdoor territory. Squirrels have home ranges in which they know every tree, rock, and bush, dog and cat. Take them to another area and they are completely unnerved and afraid. Provide a support system for your baby until he or she has adjusted to new surroundings and is comfortable outside. Your baby must learn to interact with its own kind as well as learn about its new environment. Put the cage outside a week or so prior to your release date. This will introduce the baby to outside temperatures, sounds, and daylight/nighttime schedules gradually. Place the cage in a protected area such as a screened porch, a covered patio, carport, etc. Make sure cats and dogs cannot reach the cage. You could even hang the cage high in a tree. Protect the cage from rain and too much direct sun. Continue putting food in every day. It will be very frightened at first and will probably hide in the nest box for a day, but will eventually come out. One day, when the squirrel is scampering all over the cage and the weather will be mild for several days, open the door and let it find its way out. Do not remove the cage and keep food and water and the nest box in the cage. He or she will come and go from the cage for awhile until it has built a nest or taken over an old one.

**J. SQUIRRELS ARE NOT PETS:** Squirrels are wonderful babies but can be vicious adults. They have no domestic instincts. Do not allow yourself to confuse their natures with those of dogs and cats. Squirrels have special dietary and special needs that are difficult to satisfy. Mature squirrels are unpredictable in mood, do not forget or forgive mishandling, and will bite even the hand that fed it and kept its bottom cleaned. Do not believe the stories you hear or read which imply squirrels are wonderful pets - they are not. Squirrels are creatures of pure instinct with very strong defenses. Their bodies are designed for trees and dirt, not houses and cages. They will shred your curtains, urinate and defecate anywhere they happen to be. The squirrel is driven by instinctive emotional and physical needs that cannot be satisfied in captivity and that cannot be changed. A squirrel you raised and who lives in your backyard is a happy squirrel. You can have a relationship with a free squirrel that you cannot possibly have in captivity, a relationship that is based on respect and admiration and not on possessiveness. Love and nurture the baby you have found, and after giving life, give the greatest gift of all - the freedom to enjoy that life. The first time you watch your baby scamper up a tree you will feel the rightness of it; you will see its unbounded joy. You will profit from one additional aspect of freeing your baby and that is a feeling of participation in the natural world by giving back to Mother Earth one of her own.

**PLEASE TALK TO THE ST. FRANCIS BEFORE RELEASING ON YOUR SITE TO INSURE IT IS APPROPRIATE.  
ST. FRANCIS HAS SAFE SITES THAT ARE USED FOR RELEASE. YOU CAN REACH ST.  
FRANCIS WILDLIFE AT 627-4151.**

#### **SUPPLIES - SUPPLIERS**

Esbilac – Pet stores

Lactobacillus powder - Fox Valley 1-800-679-4666

Carriers – Pet stores – about \$10 each.

Old t-shirts or flannel baby blankets (can buy at second hand shops)

Heating pad **without** automatic shutoff

Syringes with O-ring gaskets – 1 cc and 3cc- Chris's Squirrels and more

Q- tips

Soft facial tissue

Kitchen scale

Nipples – Chris's Squirrels and More – online

## DAILY FLUID REQUIREMENTS

These amounts are for total fluid intake during a 24 hour period. They can be given in two feedings. You give fluids in addition to the formula feedings when needing to rehydrate.

<u>Animal weight</u> <u>(grams)</u>	<u>Day 1</u> <u>(cc)</u>	<u>Days 2 &amp; 3</u> <u>(cc)</u>	<u>Day 4</u> <u>(cc)</u>
10	0.80	0.65	0.50
20	1.60	1.30	1.00
30	2.40	1.95	1.50
40	3.20	2.60	2.00
50	4.00	3.25	2.50
60	4.80	3.90	3.00
70	5.60	4.55	3.50
80	6.40	5.20	4.00
90	7.20	5.85	4.50
100	8.00	6.50	5.00
150	12.00	9.75	7.50
200	16.00	13.00	10.00

### FEEDING SCHEDULE GUIDELINE – (Approximations)

- 1 week - 1/2 to 1 cc every 2 to 3 hours
- 2 weeks - 1 to 2 cc every 3 hours
- 3 weeks - 2-3 cc every 4 hours
- 4 weeks - 3-4 cc every 4 -5 hours (start placing solid foods in with baby)
- 5 weeks - 5-6 cc every 5 hours (may skip night feeding, do not go over 7-8 hrs)
- 6 weeks - 6-8 cc 4 - 5 X per day
- 7 weeks - 10-12 cc 4 X day (should be eating a variety of nuts, fruits and vegetables)
- 8-9 weeks - 10-12 cc 2-3 X day
- 10-11 weeks - 12-15 cc once per day
- 12-13 weeks – Wean

Note: You may find that they stop the formula before 12 weeks as they eat more solid food.

## AMOUNTS OF FORMULA FOR BABY

## SQUIRRELS

These amounts are only guidelines, every individual is different.

Weight in grams	Cc's of formula per feeding	Number of feedings per day
10	0.50	Every 2 hours and one feeding at night
15	0.75	Every 2 hours and one feeding at night
20	1.00	Every 2 hours and one feeding at night
25	1.25	Every 2 hours and one feeding at night
30	1.50	Every 2 hrs
35	1.75	Every 2 hrs
40	2.00	Every 2 hrs
45	2.25	Every 2 hrs
50	2.50	Every 3 hrs
55	2.75	Every 3 hrs
60	3.00	Every 3 hrs
65	3.25	Every 3 hrs
70	3.50	Every 4 hrs
75	3.75	Every 4 hrs
80	4.00	Every 4 hrs
85	4.25	Every 4 hrs
90	4.50	Every 4 hrs
95	4.75	Every 4 hrs
100	5.00	3 feedings per day
105	5.25	3 feedings per day
110	5.50	3 feedings per day
115	5.75	3 feedings per day
120	6.00	2 feedings per day
125	6.25	2 feedings per day
130	6.50	2 feedings per day
135	6.75	2 feedings per day
140	7.00	2 feedings per day
145	7.25	2 feedings per day
150	7.50	2 feedings per day