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# INTRODUCTION TO BABY SQUIRREL REARING

WRNC 2024 Symposium










# AGENDA

1. Determine if they need Help
2. Warm, Weigh, Hydrate, Feed
3. Feeding and Feeding Tools
4. Development
5. Formulas
6. Weights and Recordkeeping
7. Housing Ideas
8. Solids
9. Sanitation
10. Questions

# Eastern Gray Squirrel Development

*Courtesy of Wildlife Welfare, Inc*

Age	Description / Appearance	Image
Birth	11-14 grams, pink, hairless, eyes sealed, ears folded to head	
5-10 days	The development of soft, reddish, sable hair around nose and mouth.	
10-14 days	A grayish purple shadow begins spreading over the head, shoulders, and back; the belly and legs are still bright pink; the eye slits become distinct	
12-21 days	Grayish-purple color deepens until the emerging hair is long enough to be identified as hair	
21 days	Lower incisors begin emerging; hair is now slick, smooth, and shiny; still no hair on legs and belly	
28 days	Has light grayish-brownish hair all over, except lower legs and belly and under tail; some downy white hair beginning on belly and legs	

Age	Description / Appearance	Image
28 days	Has light grayish-brownish hair all over, except lower legs and belly and under tail; some downy white hair beginning on belly and legs	
4-5 weeks	Eyes open; tail has short hair lying parallel to tail	
5-6 weeks	Upper incisors begin emerging; tail curling over back	
6-7 weeks	Fully furred, more active with less sleep	
7-8 weeks	Fluffy tail; looks like miniature squirrel	
8-9 weeks	Mostly weaned	
11-14 weeks*	Releasable (300g)	

# FEEDING

# Feeding Schedule For Eastern Gray Squirrels

*Courtesy of Wildlife Welfare, Inc.*



Best guideline for calculations:  $.05 \times \text{weight} = \text{cc's}$

WEIGHT in GRAMS	FREQUENCY and APPROXIMATE AMOUNT OF CC'S	TOTAL AMOUNT FORMULA PER DAY (Amounts may vary from squirrel to squirrel)
10-20g	Every 2 1/2 hours with night feedings = 6x 8 times per day (.05 x gram weight). Some may not take as much .5cc	Total of 4cc per day
20-30g	Every 3 hours with possible middle of the night feeding = 6- 7 times per day (.05x gram weight) 1.0cc	Total of 7cc per day
30-40g	Every 3 hours = 6 times per day 1.5cc	Total of 9cc-per day
40-50g	Every 4 hours = 5 times per day 2.0-2.5cc	Total of 10-12.5cc per day
50-60g	Every 4 hours = 5 times per day 2.5-3.5cc	Total of 12.5-17cc per day
60-70g	Every 4 hours = 5 times per day 4cc	Total of 20cc per day
70-80g	Every 4 hours = 5 times per day 4-5cc	Total of 20 -25cc per day
80-90g	4 times per day 5cc	Total of 20cc per day
90-100g	4 times per day 5-6cc	Total of 20-24cc per day
100-125g	4 down to 3 times per day as they approach 125g 6-7cc	Total of 24cc; reduce to 21cc per day
125-150g	3 times per day 7-9cc	Total of 21-27cc per day
150-175g	3 times a day down to 2 times a day as they approach 175g 10-11cc	Total of 30cc at 3 times per day; reduce to 20 cc at twice a day
175-200g	2 times per day 12-14 cc	Total of 24-28 cc per day
200-225g	daily but wean from formula quickly 14cc	Total of 14 cc per day

# Formulas Used for Feeding Squirrels

These are two of the most common formulas used. I use just plain puppy esbilac powder and FV 20/50.

There are other things you may add to your formula to increase fat. Always check with your mentor before adding anything to the formula.



Note: All unopened formulas must be stored in freezer; all opened formulas must be refrigerated to maintain freshness.

# Get Your Tools Ready for Mixing the Formula

## Take All Your Tools Out:

- Jars
- Knife
- Mixing Device
- Thermometer
- Strainer

Smooth the powdered formula evenly in a measuring cup using a knife edge



# Heating Water for Baby Squirrel Formula:



When small bubbles form on the bottom of the pan the water temperature is about 175° F. Cool down to 130° - 135°F (use thermometer). Add powdered formula(s), and immediately mix well using a handheld electric mixer or mixing balls.



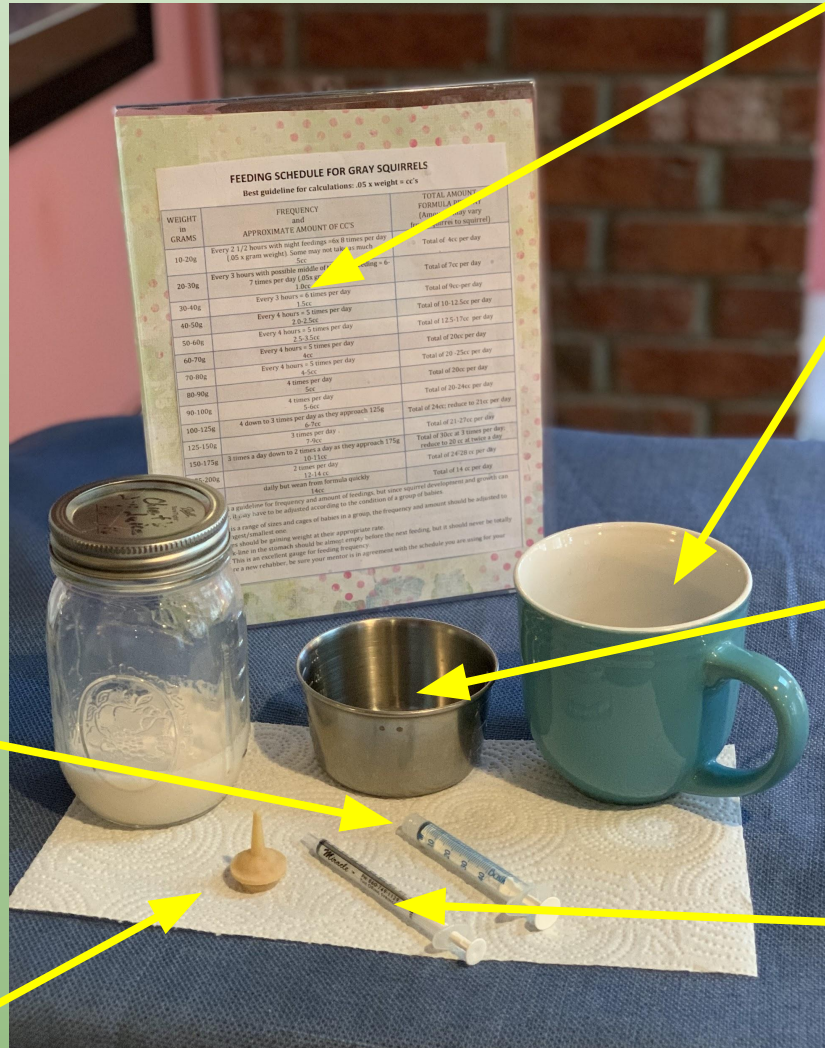


# Tools Needed for Feeding Station:

Formula that was made at least 4 hours in advance should be warmed in a water bath to 102°-106°F before feeding. Leave thermometer in formula to check often.

3cc syringe for 4-5 week old babies and older (consult with your mentor about when to switch from 1cc to 3cc)

Miracle™ Nipple



Feeding Schedule

Coffee mug for hot water to warm formula.

Container for formula. Place thermometer here.

1cc syringe for babies under 3-4 weeks

# Proper way to hold a syringe for feeding

This ensures that you can control the plunger so the baby is not getting too much formula which can lead to aspiration.



*IMPORTANT:*  
Index and middle  
fingers are actually  
wrapped directly  
around the  
**PLUNGER** so the  
pressure can be  
controlled!

# Tracking the Weight of the Squirrel

- Weigh your babies (in grams) each morning before feeding.
- Keep daily records of each baby's progress:
  - Date, time of feeding
  - Weight(g)
  - How many cc's consumed
  - Pee or poop?
- Check the feeding schedule each day after weighing to make sure you are feeding the proper amount.



# RECORD KEEPING

"Walnut"

Intake Date: 3/30/2019  
 Animal Species: grey squirrel  
 Weight: 105g  
 Aprox. Age at intake: 5 week(s)  
 Gender:  F  
 Group ID and #: \_\_\_\_\_  
 Individual ID (markings): █  
 Died/Released/Traded Date: 5/20/2019  
 Traded to or released by: Victoria Benson

External Injuries: Y  N  Cat caught Y  N  Food/Liquid Given: Y  N   
 Injury notes: NO  
 Dehydration at intake:  N notes: 3 mL LRS SQ  
 Location found: Big Oak Rd. Time \_\_\_\_\_  
 Receive from: Vick Donation \_\_\_\_\_  
 Address: \_\_\_\_\_ Phone \_\_\_\_\_  
 City: Raleigh Zip: \_\_\_\_\_  
 Circumstance of rescue: Unknown good Sam

Formula Started: FOX 20/50 75% → 50% → 75% → 100%  
 Switched: \_\_\_\_\_

Supplements \_\_\_\_\_  
 Supplements \_\_\_\_\_

Date	Weight (g)	Time feed and amount consumed at feeding (in cc)					Time/ medication type/ cc	Notes
		Feeding 1 time/cc	Feeding 2 time/cc	Feeding 3 time/cc	Feeding 4 time/cc	Feeding 5 time/cc		
SAT	3/30	105g	5pm/6cc ES	115/6cc 20/50			SMZ 0.04cc 11 <sup>15</sup> am	clicking in chest ES = electro-stat almost treated breathing sounds gone. Advantage II; fleas
SUN	3/31	112	10 <sup>30</sup> /5cc	140/4cc	11 <sup>00</sup> /4cc		SMZ x 2, 3cc LR	Chest sounds clear ☺
MON	4/1	119	10 <sup>30</sup> /7cc	5 <sup>30</sup> /6cc	11 <sup>00</sup> /2cc		SMZ x 2	3x/7-9cc (formula)
TUES	4/2	130	9 <sup>00</sup> /2cc	3 <sup>30</sup> /9cc	10 <sup>30</sup> /2cc		SMZ x 2	
WED	4/3	139	9 <sup>30</sup> /2cc	6 <sup>30</sup> /2cc	10 <sup>15</sup> /2cc		SMZ x 2	
THUR	4/4	142	8 <sup>30</sup> /2cc	4 <sup>30</sup> /2cc	10 <sup>30</sup> /2cc		SMZ x 2	
FRI	4/5	-	6 <sup>45</sup> /2cc	1 <sup>30</sup> /2cc	4 <sup>30</sup> /2cc		SMZ x 2	
SAT	4/6	144	9 <sup>00</sup> /2cc	4 <sup>00</sup> /2cc	11 <sup>00</sup> /2cc			
SUN	4/7	142	10 <sup>00</sup> /2cc	7 <sup>15</sup> /4cc				
MON	4/8	153	9 <sup>45</sup> /5cc	3 <sup>45</sup> /2cc	10 <sup>00</sup> /4cc			3x/10-11cc (formula)
TUES	4/9	165	12 <sup>30</sup> /4cc	7 <sup>30</sup> /4cc	12 <sup>30</sup> /15cc			
WED	4/10	171	9 <sup>30</sup> /4cc	5 <sup>30</sup> /5cc				2x/12-14cc (formula)
THUR	4/11	179	9 <sup>00</sup> /4cc	10 <sup>30</sup> /2cc				
FRI	4/12	185	10 <sup>00</sup> /4cc	11 <sup>00</sup> /15cc				
SAT	4/13	194	9 <sup>00</sup> /5cc	5 <sup>00</sup> /14cc				
SUN	4/14	202	10 <sup>00</sup> /15cc					Healthy, wild child! ☺
MON	4/15	212	9 <sup>30</sup> /15cc					Eats great, weaned after today ☺

Cheat notes: 1cc = 1 ml, Body weight (g) x 0.05 = minimum food required

☺

# Feeding Tips

- Feed in a quiet room away from pets, children, television, etc.
- Start with the strongest baby first; as they get older this will prevent jealous squabbling in the group
- If the baby is jumpy, wrap it in fleece like a burrito
- Feed with the baby in your lap or on a tabletop surface
- Keep hot formula out of reach of the baby to prevent them pulling it down on themselves and getting burned
- After each feeding, clean off any formula that may be around mouth and on fur with a warm, moist cloth. Dried-on formula will cause hair loss.



Held on  
tabletop

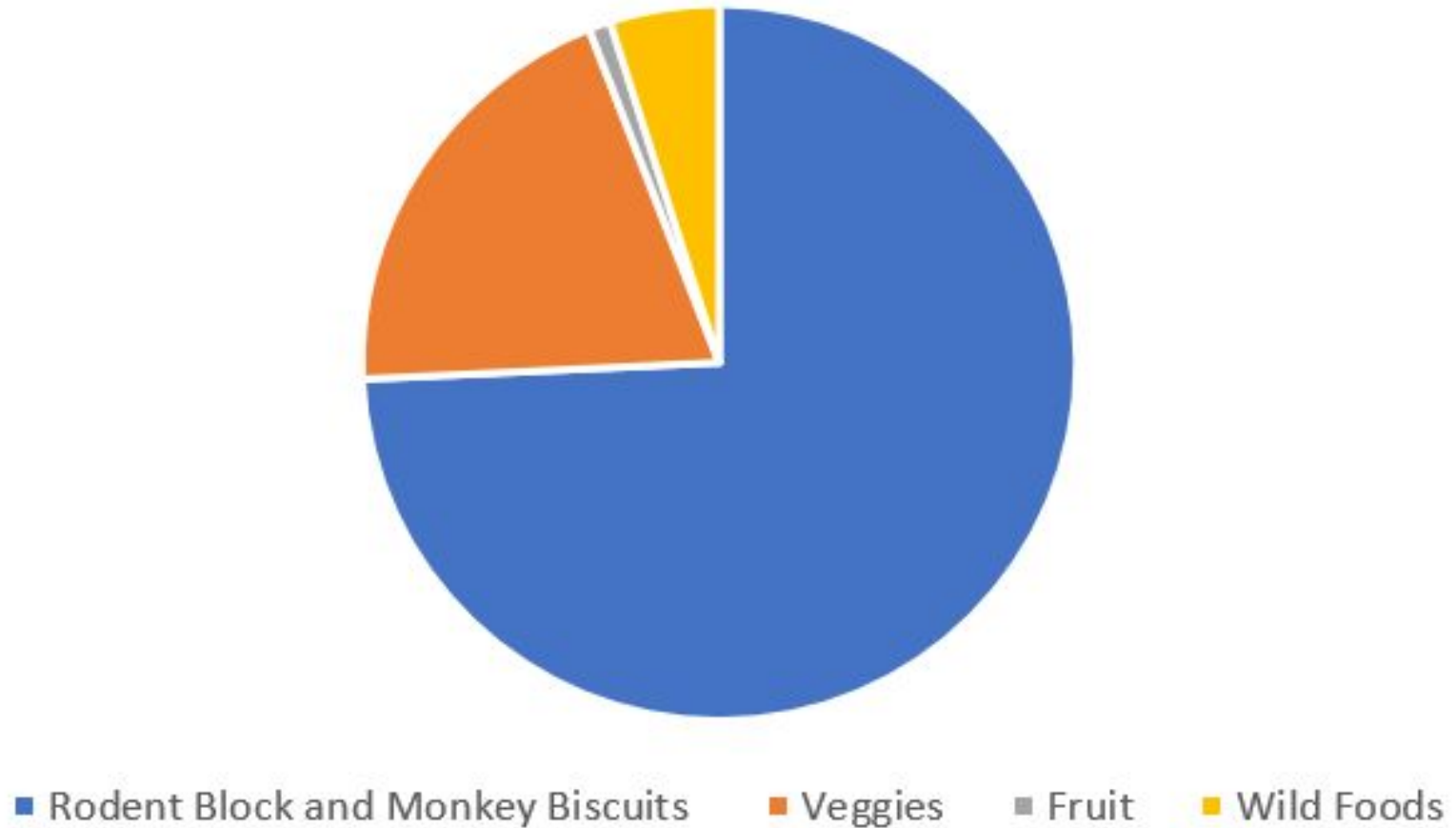


Held on lap

# SOLID FOODS

# Solid Foods Guide

Solid food diet for squirrels



# Solid Foods

Examples of veggie bowls.  
Rodent blocks are always kept in the cage, and a few monkey biscuits for a treat.





# Solid Food Do's

YUM!!!

- All veggies should be raw
- Broccoli
- Dark greens: kale, spinach, collard greens
- Brussels sprouts
- Cauliflower
- Raw corn on the cob (in small amounts)
- Apples (in small amounts)
- Carrots
- Sweet potatoes
- Cherry tomatoes cut into quarters
- White button mushrooms
- Dogwood flowers, branches, leaves
- Dandelion greens with roots
- Acorns or nuts in shell
- Cheerios, unsweetened Shredded Wheat
- Rodent block, monkey biscuits



# Solid Foods Don't

YUK!!!

- Cooked veggies
  - Bird seed blends
  - Shelled nuts
  - Peanuts
- OR
- Sugar cereal
  - Avocados
  - Peanut butter
  - Too much fruit



# HOUSING

4 STAGES

# Stage 1

Small Tub

Fleece to burrow under,  
keep warm



# Stage 2

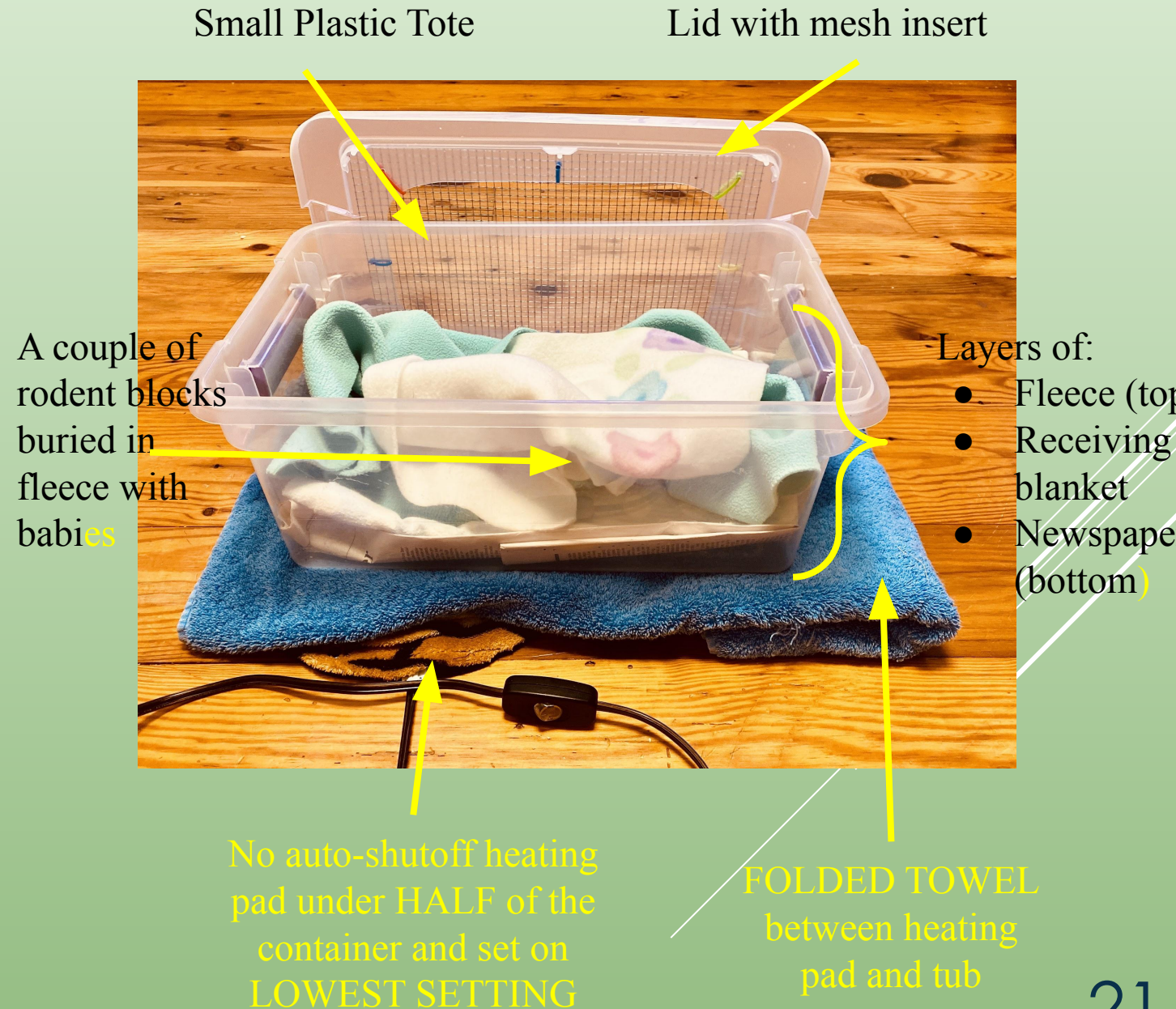
Large Tub

Hidey box, branches.  
Start adding enrichment

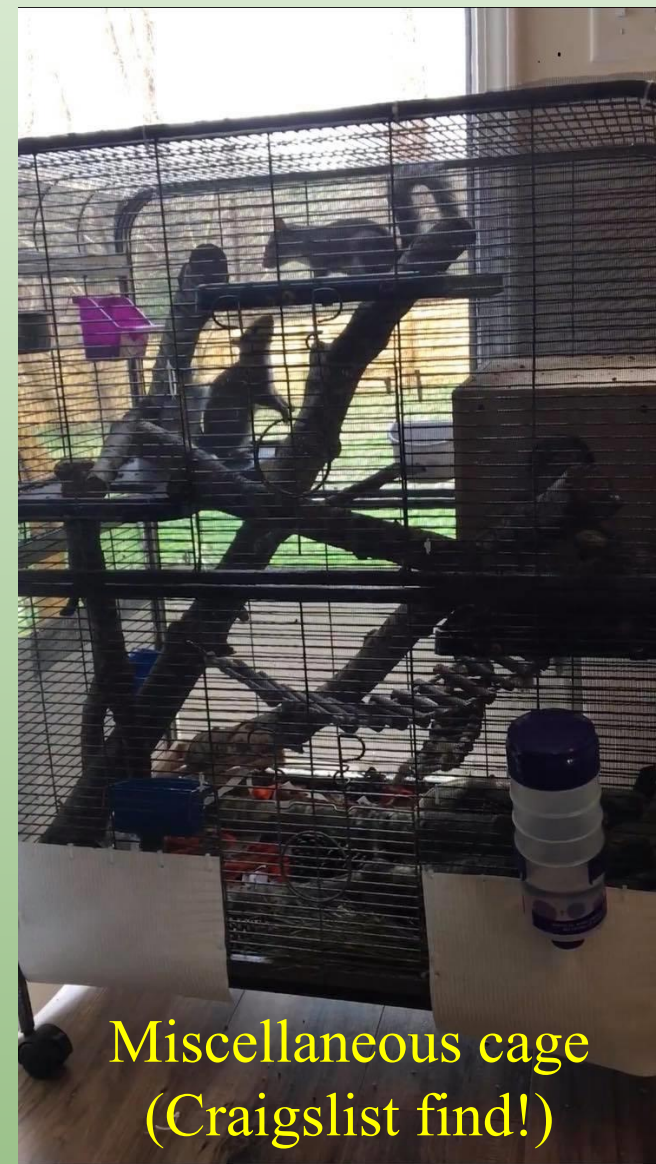


# Housing for eyes-closed babies that need heat

- Small tub with screen mesh in lid for good airflow
- Folded receiving blanket and several layers of non-colored newspaper line the bottom of tub
- **Light-colored fleece** for burrowing, keeping warm
- Keep half of the tub on top of a no-shutoff heating pad (set on the lowest heat setting) with a folded towel between tub and heating pad. **This is very important. SEE PICTURE**
- Keep a few pieces of rodent block in box with babies



# Stage 3 Housing (Pre-Release cages)



# Release cages



- Lots of trees; highway in the sky!
- Place next to tree at least 10 inches in diameter
- Some shade
- Lots of thick horizontal branches in cage for climbing and balancing

# Aspiration

- Formula bubbles out of nose during feeding
- Coughing, choking, throwing head back
- If baby aspirates, STOP FEEDING! Wipe formula from nose quickly and set the baby down until it stops sneezing and coughing. Continue to dab nose as necessary.

## Aspiration Pneumonia

Occurs when formula is inhaled into the lungs causing pneumonia. The main symptom is an audible “clicking” sound when breathing. Treat with antibiotics; can be fatal.



# Gulping Trance While Feeding

Squirrels prone to this behavior may do it frequently, but will eventually outgrow it.



Image obtained from Internet

# Bloat

This is a very painful condition that is caused by the animal not digesting formula. Once bloat occurs, DO NOT feed until the condition has resolved.



## Genital Nursing

- When babies suck on the genitals of others in the box or even themselves. The symptoms are a red, inflamed penis, sometimes scabbed at the tip.
- You must find the culprit and **SEPARATE THE SQUIRRELS IMMEDIATELY**. Inflammation of the penis can be very serious and can lead to the squirrel not being able to urinate, which is very painful and toxic to the baby.



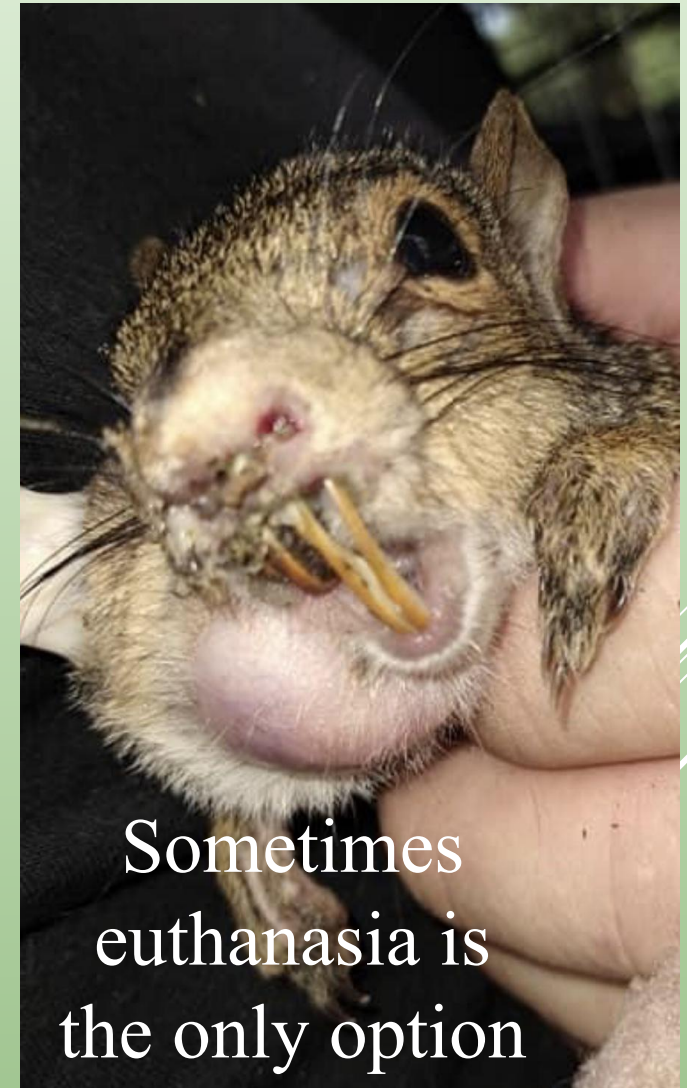
**Butterfly wrap with  
micropore paper tape**

**YOUTUBE VIDEO**

**<https://youtu.be/mSWDZzEhT2w>**

# Malocclusion

- **Squirrels cannot be released**
- Sometimes an experienced rehabber can trim the teeth and get them to line back up



Good  
Teeth



# Diarrhea / Stool change

- The most common cause of diarrhea or loose stool in squirrels is overfeeding.
- Other causes are: stress, overheating from heating pad, formula too hot or too cold, formula too old, wrong formula, lactose intolerance, dehydration, incorrect feeding technique, antibiotics, incorrect use of probiotic (too often), too much fat or sugar in formula, introduction of too many solids at one time, unsanitary feeding utensils or bedding.
- Parasites can also cause loose stool
- **CALL YOUR MENTOR IMMEDIATELY!**



Normal stool above:  
Blackish-brown to light mustard  
in color. Well-formed.



Loose stool

## DEHYDRATION



Loose, wrinkled skin that “tents”  
when pinched at back of neck.

Loss of appetite, lethargy,  
little to no urine, eyes  
sunken in. Contact mentor  
immediately!

## IMPRINTING

- No fear of humans or pets.
- While in our care as babies they will not fear us; we are their substitute mother.
- It is essential to survival that they not bond with humans or become “tame” once they grow to juvenile age.

## LOW BLOOD SUGAR

Lethargic behavior. Seizures can  
result if a consistent  
feeding schedule is not maintained.

# Sanitation is important!

- Always wash hands before and after handling animals. Keep cuts and scratches caused by squirrel nails clean.
- Clean tubs and cages daily. Evening is a good time since squirrels are active during the day.
- Sanitize tubs and cages between groups. Simple Green is a safe product to use.
- Replace branches and hidey boxes in cages occasionally to keep the smell down. Squirrels mark their territory!
- Change and wash fleece using dye free, unscented, natural laundry detergent to avoid allergic reaction and respiratory issues.
- Resist the urge to bathe your babies!



?????????QUESTIONS?????????

**Rehabber's Golden Rule:  
Warm 1st, Weigh 2nd, Hydrate 3rd, Feed 4th**

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