



WRNC Training

Basic Wildlife Rehabilitation Course



Squirrels





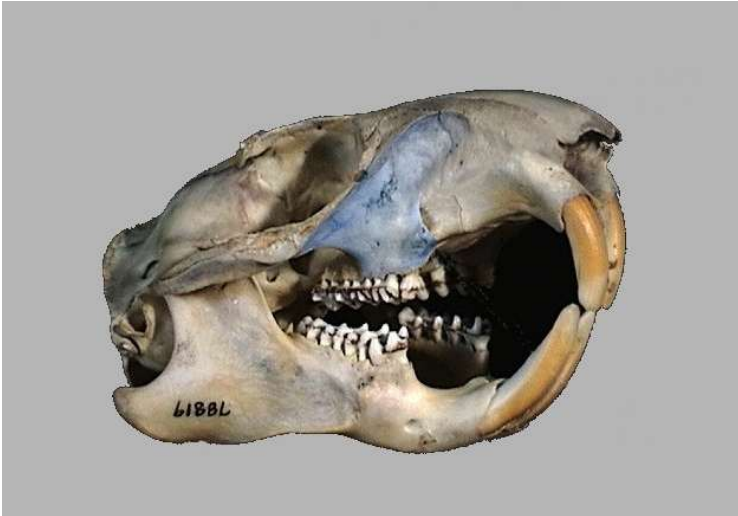
Squirrels

Rodents

2 sets open rooted incisors

Powerful jaws

20-22 pre molars/molars





Squirrels

Not really “gray”

Hair bands of brown, white, black

Tips of guard hairs white

Some distinctly reddish

Paws rusty brown to almost white

Belly usually white to buff



Squirrels

Two molts a year

Spring: starts head to flanks

Fall: starts flanks to head

Tails: once a year, late summer





Squirrels



Nests are called dreys

Winter dreys more substantial

Exterior: twigs, leaves

Lined w/moss, bark, fur, feathers,



Squirrels



Tree cavities preferred in winter months





Squirrels

Usually two litters a year (Spring & Fall)

44-45 day gestation

2-6 blind, naked babies (average of 3)

High mortality rate 1st year

Average life span in wild 7-8 years



Squirrels

Stages of Development



Squirrels

Newborn - 1 week



Pink, hairless first 3 days
Visible whiskers
Ears tight against head

Eyes closed & bulging
Approximately 15 gm at birth





Squirrels 1-2 weeks



Grayish pigment develops
Ears flaps begin to loosen
Eye slit becomes defined
Fur begins to erupt on nose



Squirrels

2-3 weeks



Increased hair growth
Belly still bare, few blond hairs

Tail – flat silver tipped hairs
Very slick and slippery





Squirrels 2-3 weeks



Ears flaps loosen

Eye slits more developed





Squirrels 3-4 weeks



Coat more luxurious
Silky hair on belly
Ears open and developed



Squirrels 3-4 weeks



Eye slits well defined
More aware of surroundings
Lower incisors erupt



Squirrels 4-5 weeks

Thick coat all over body
Eyes open
Still “sleepy eyed”





Squirrels 4-5 weeks



Upper incisors erupt
More active but unsteady
Still sleeps most of time



Squirrels

5-6 weeks



Tail starting to “fluff”
More active and alert
Grasping food
Still unsteady



Squirrels 6-9 weeks

Able to balance on haunches
Coordination greatly improved
Able to curl tail curl over back
Molars erupt
Able to eat solid foods





Squirrels

9+ weeks



Fully furred

Increased agility and muscle strength

Weaning begins

Most of calories coming from solids



Squirrels

9+ weeks

Tail banded
About 75% adult size
Able to crack nuts





Squirrels

Adult



Weight: 338-750 gm (12-16 oz)

Body 385-530 mm (16 ⁷/₈ -21")

Tail: 150-200 mm (8.25-10")

Hind foot: 53-76 mm (2-3")



Squirrels

General Care



Squirrels

Always keep wild animals away from sounds and smells of humans and domestic animals

Limit the number of different caretakers, preferably only one person

Keep predator/prey species isolated from each other



Squirrels

Can create surrogate litters with unrelated orphans

Should be of similar developmental level

Quarantine new intakes minimum 48 hrs

Can add a lone squirrel prior to moving out to pre-release caging



Squirrels

Wash hands after handling and between litters to minimize chance of disease transmission

Wear latex gloves (recommended)

Inspect and treat for ectoparasites upon admission

Be sure to recheck for newly hatched parasites regularly



Squirrels

Feeding



Squirrels

Feeding

	% Solids	% Fat	% Protein	% Carbo
Barker, et al.	23.2	11.3	8.4	1.6
Jenness and Sloan	24.4	7.0	4.8	4.1
$\frac{1}{\text{Esbilac}} + \frac{1/2}{\text{MMilk}} + \frac{2}{\text{H}_2\text{O}}$	21.7	10.5	7.3	2.3
$\frac{1}{\text{Esbilac}} + \frac{1/2}{\text{WCream}} + \frac{2}{\text{H}_2\text{O}}$	20.6	12.5	4.5	2.5



Squirrels Formulas

~~1 part powder: Esbilac
1 part **whipping cream**
1 part water~~

~~Evaporated milk
Egg yolk
Karo Syrup~~

~~Scalded Milk
Vitamin E~~



Squirrels

< 3 weeks



1 part

+ H₂O

2 parts



Squirrels

> 3 weeks



1/2 part

+



1/2 part

+

H₂O

2 parts



Squirrels

> 4 weeks



+

H₂O

1 part

2 parts



Squirrels

Formula Preparation & Storage

Mix fresh daily – keep refrigerated

Heat only amount for feeding- discard leftovers

Warm over hot water, don't boil or microwave

Always test temperature

Use separate feeding implements for each litter



Squirrels

Amount to Feed

Max. stomach capacity 5-7% BW

Eyes closed 5% max

Eyes open can increase to 7% (if tolerated)

Check abdomen for “milk line”

Weight in grams x .05

i.e. 90 gm x .05 = 4.5 cc





Squirrels



Temperature of formula is important

Many squirrels will refuse if not warm enough

Use feeding syringe w/nipple – O-rings are best

Syringes provide control so frantic eaters don't aspirate



2 box method helps keep track of which squirrels have been fed



Squirrels

Aspiration

Use syringes NOT bottles

Rather than depressing, may have to hold plunger to limit flow

Be prepared with bulb syringe if needed

Frantic nursers may do better if increase # feedings

ALWAYS watch that baby is actively nursing



Squirrels

Aspiration

In emergency can use “flinging method”
Must be careful to support entire body
Should be a smooth vertical motion
Shaking or jerky movements can cause brain damage



Squirrels

Frequency of Feeding

<2 weeks q2-2.5 hrs or 6-8x/day

2-4 weeks q3-4 hrs or 5-6x/day

4-6 weeks q5-6 hrs or 4-5x/day

6-8 weeks q6-8 hrs or 3-4x/day

8+ gradually decrease as solids increase



Squirrels Stimulation

MUST be stimulated to urinate

Stimulate at each feeding until eyes opened

Use damp cotton ball or tissue

Continue to stimulate until observe voiding on own



Squirrels





Squirrels

Introducing Solids

Once eyes open being introducing solids

Add a few pieces of rat chow or monkey biscuits

Can soak monkey chow to soften

Sweet potato and apple in very small quantities

Don't offer nuts until eating chow



Squirrels

Weaning to Adult Diet

90% rat chow or monkey biscuits

10% variety of foods:

Banana	Apple	Broccoli
Oranges	Grapes	Squash
Mealworms	Nuts	Seeds
Sweet-Potato		



Squirrels

Weaning to Adult Diet

Natural foods such as:

Buds and bark of nut and fruit trees, pine twigs & cones, fruits such as dogwood berries,

Provide deer antler or cuttle bone for gnawing and to provide calcium





Squirrels

Housing



Squirrels

Minimum Standards

Tree Squirrel (litter)	Infant care	Nursing	Juvenile
	10-20 Gal	20 Gal	4'x4'x8'



Squirrels

Newborns thru 4 Weeks



Small container w/ ventilated lid
(crab boxes, aquariums, plastic tubs)

Ravel free cloth
(polar fleece, sweatshirt material)



Squirrels

Newborns thru 4 Weeks



Heating pad on low under $\frac{1}{2}$ container
Aquarium light provides extra warmth
Monitor humidity





Squirrels 4-6 Weeks



Successively larger enclosures

Can wean from heat once eyes open

Use caution with wire bottom cages until coordination is adequate

½" x 1" wire for bottom

1" x 1" wire sides and top



Squirrels 6-9 Weeks



Increase height as climbing ability improves
Begin moving nest higher off floor of cage
Add fresh branches and limbs for climbing
Can add small pan of dirt as litter box.



Squirrels 9+ Weeks



Start moving outside during day

Or place in room by open window

Depending on season can be moved outside

Not all limbs in cage should be secure



Squirrels

Release Criteria

Acclimated to weather
(at least 2 weeks in outdoor cage)

Can crack hard nuts

Exhibit normal fear responses

Exhibit hoarding/caching of food

Demonstrate good coordination, strength,
balance and climbing skills





Squirrels Release Criteria



Hacking out/soft release preferable
Minimum 4' x 4' x 8' release cage
1/2" x 1/2" hardware cloth best
All exposed wood on outside
Any treated lumber must not be
accessible to chewing



Squirrels

Provide nest box about 12"x12"x12"

3"-3 1/2" Hole upper corner

Or internal landing/ledge

External "perch" to facilitate entry

Overhanging roof





Squirrels

Soft Release



Open in morning



Closed at night



Squirrels

Soft Release





Squirrels

Wintering Over

No guarantee squirrels will stay in area

May not be accepted in the area by the wild population

May not have option of returning to your feeding station for backup feeding

Need time to get nest established & store wild food

Rule of thumb: release by Election Day or winter over



Squirrels

Wintering Over

Diet of 90% monkey chow or rat chow a must

Provide natural bones, lots of leaves and sticks with bark

Collect and save several garbage bags dried leaves to replenish cage

Release in the Spring when there is ample wild food available.

Rule of thumb: release when the dogwoods bloom



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