



WRNC Training

# Rehabilitating Opossums 101

By: Kelsey Gaylor & Kara Kroshl





# Topics we will be covering:



- General Information
- Body Features
- Stages of Development
- Feeding / Diet
- Housing and Care
- Release



# General Information

- Marsupial
- Solitary
- Grow throughout their lives
- Short Life Span
- Low Body temperature
- Resistant to rattlesnake venom



# Body Features





# Body Features

## Teeth

Have more teeth than an other North American mammal!





# Body Features

## Prehensile Tail





# Body Features

## Marsupium(females)





# Body Features

## Hands/ Feet



Opposable thumb on rear foot





# Body Features

## Tracks





# Stages of Development





# Stages of Development

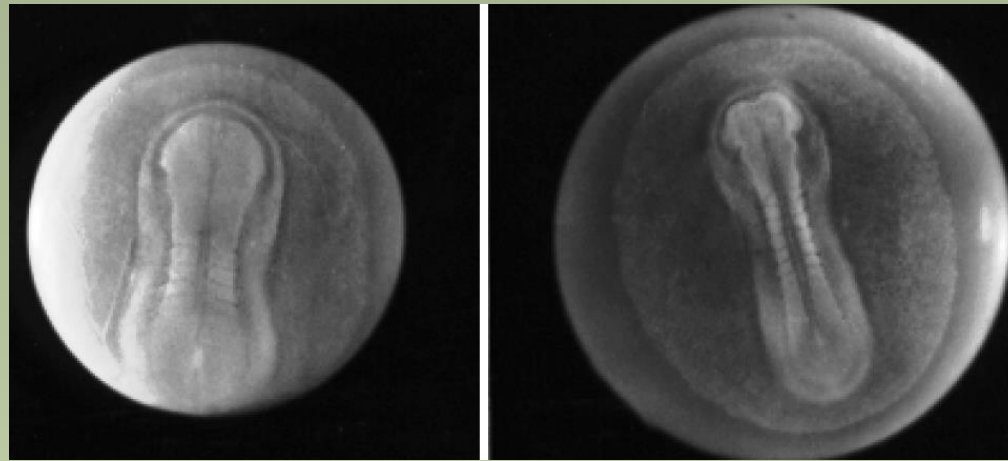
- Born after only 13 days in uterus
- Blind, hairless and partially formed
- Crawl from vulva to the mother's pouch
- Attach to a nipple
- Remain attached for more than two months
- Begin to leave pouch
- Weaned and fend for themselves





# Stages of Development

## Before Birth



8 day  
gestation



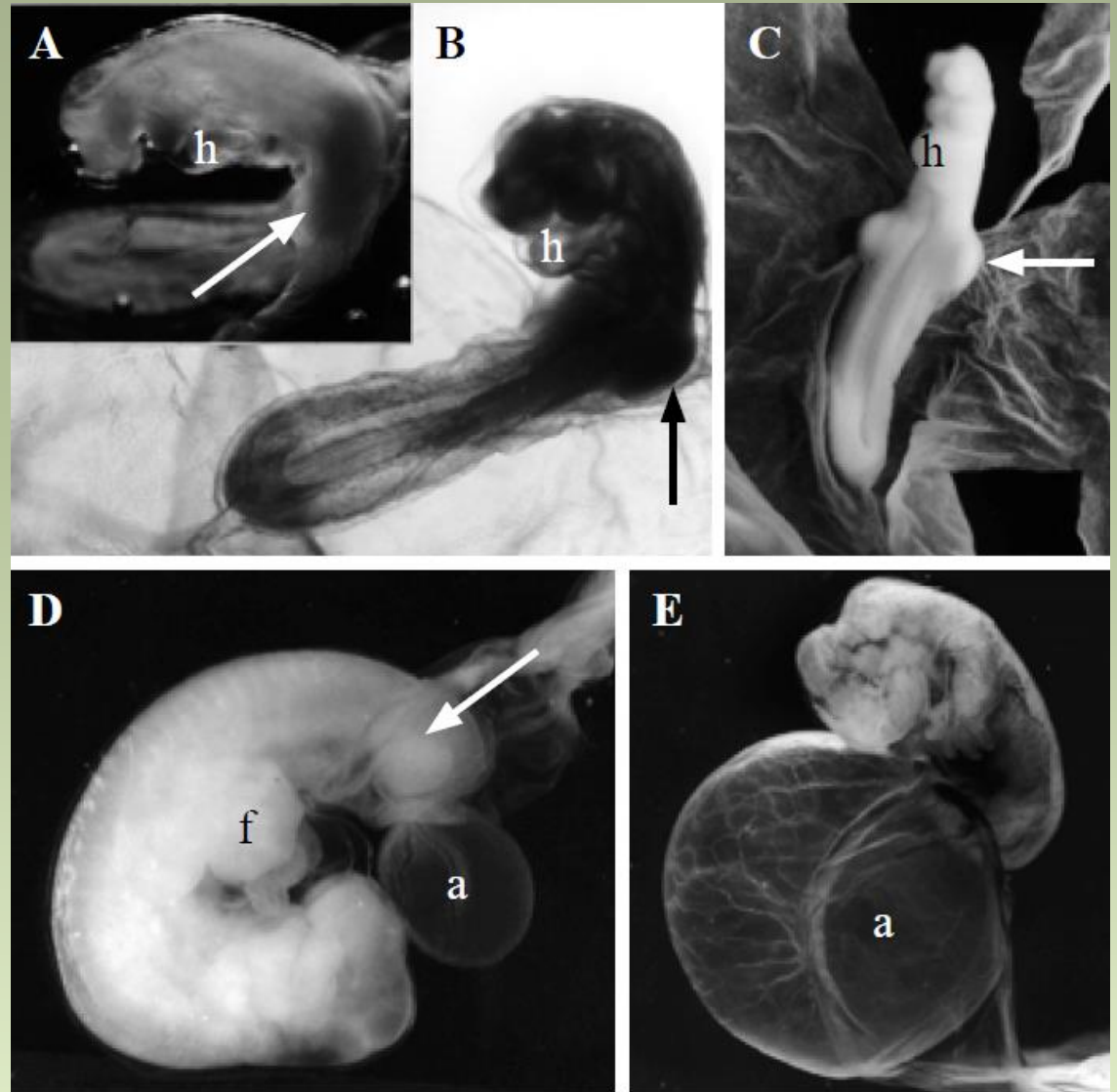
9 day gestation



# Stages of Development

Before Birth

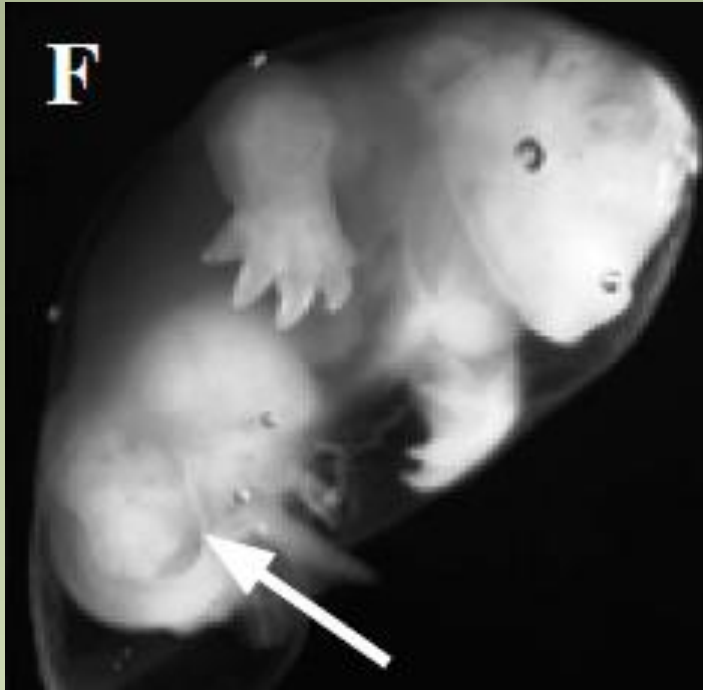
10-11 day gestation





# Stages of Development

Before Birth



11-day gestation





# Stages of development

Before Birth



12 day gestation

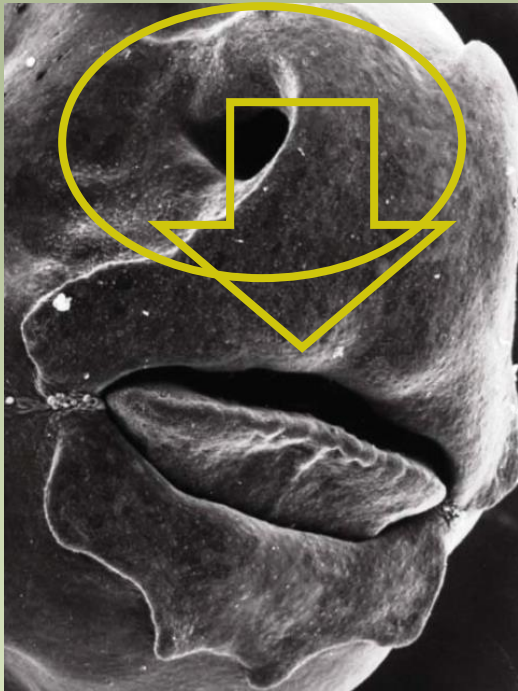




# Stages of Development

Before Birth

13 day gestation

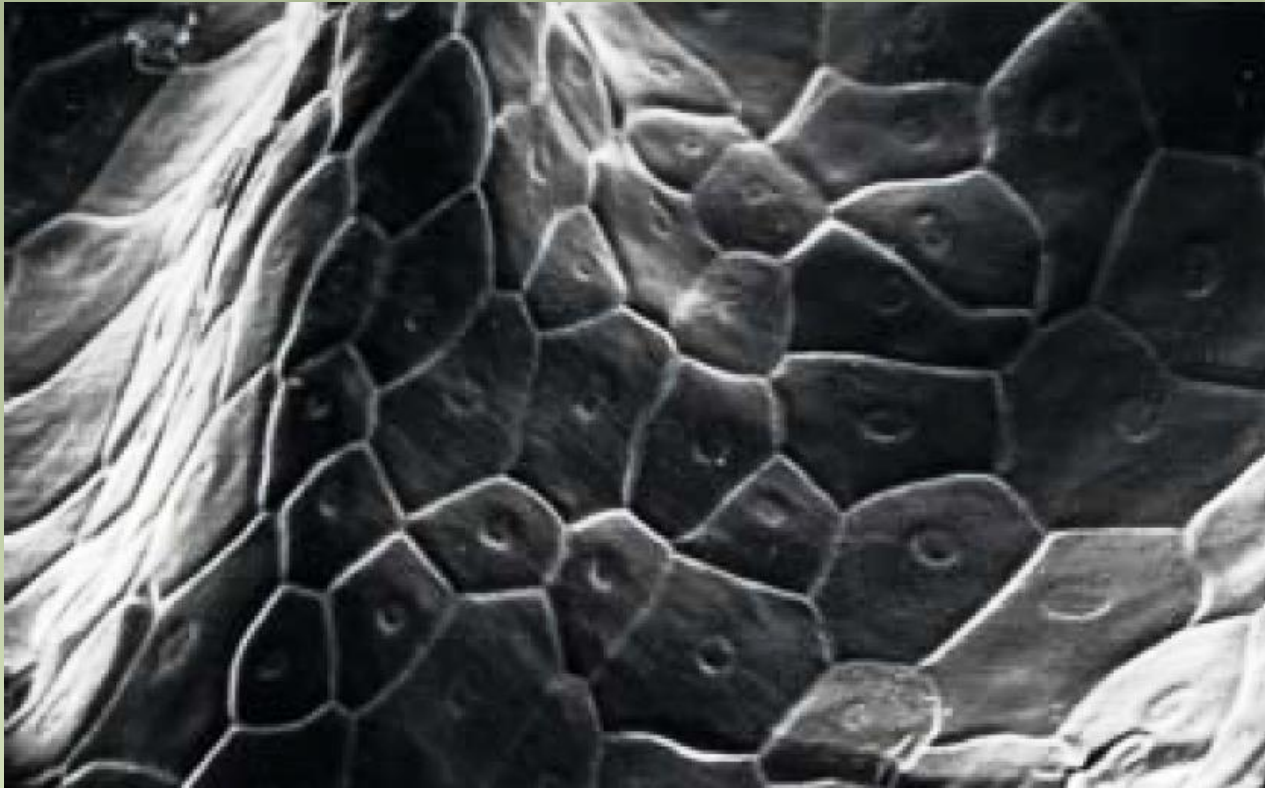






# Stages of Development

## Birth



Periderm covering external surface of newborns



# Stages of Development

**10 to 15 days**



**20 to 25 days**





# Stages of Development

25-30 days





# Stages of Development

40-45 days





# Stages of Development

60 days





# Feeding / Diet





# Feeding

## Tube Feeding

Why use it?

Used for infants and adolescents unwilling or unable to eat





# Feeding

## Tube Feeding

What to use?

For infants up to 60 days use a syringe with a French size 3.5 feeding tube attached

After 60 days can use a syringe with a French size 5 feeding tube attached.







# Feeding

## Tube Feeding

How to do it?

Learn how to insert feeding tube from someone who is experienced

If done improperly injury and death can result



# Feeding

## Tube Feeding Procedure

- Do other procedures first (weighing & meds)
- Stimulate
- Measure tube
- Tape tube
- Attach tube to syringe
- Release air bubbles





# Feeding

## Tube Feeding Procedure

- Position animal
- Insert tube and slide it down
- Release fluid
- Flush syringe and tube
- Sterilize tube





# Feeding

## Demonstration



# Feeding



Use 2-box or  
2-pouch procedure





# Feeding

## Amount to Feed



- Infants initially fed every 3 hours, eyes open 4 times per day
- Feed 50cc per kg (.05cc per gram)
- Should start lapping by around 50 grams



# Feeding

## Formula Preparation & Storage

- Mix fresh daily, refrigerate between feeding, heat only amount used per feeding, discard unused warm formula
- Heat over hot water, don't boil or heat in microwave
- Test temperature of formula. It must be warm
- Don't use same feeding implement across litters
- If water quality is poor, use distilled water



# Feeding

|  | <u>%<br/>Solids</u> | <u>%<br/>Fat</u> | <u>%<br/>Protein</u> | <u>%<br/>Carbo</u> |
|--|---------------------|------------------|----------------------|--------------------|
| Barker, et al.   | 23.2                | 11.3             | 8.4                  | 1.6                |
| Jenness and Sloan  | 24.4                | 7.0              | 4.8                  | 4.1                |
| $\frac{1}{1}$ Esbilac + $\frac{1}{2}$ MMilk + $\frac{2}{2}$ H <sub>2</sub> O   | 21.7                | 10.5             | 7.3                  | 2.3                |
| $\frac{1}{1}$ Esbilac + $\frac{1}{2}$ W Cream + $\frac{2}{2}$ H <sub>2</sub> O | 20.6                | 12.5             | 4.5                  | 2.5                |





# Feeding



1

+



1/2

+



2

H<sub>2</sub>O



# Diet

## Weaning

- Soaked high-quality cat chow & formula
- Add vegetables, hard boiled eggs
- Occasional fruit (low in calcium)
- Natural foods





# Diet

## Post-weaning diet

- High-quality cat chow should be 90% of diet
- Limit fruits (low in calcium)
- Do not include meat without bones
- Yogurt





# Diet

## Post-weaning diet

### **Do Not add liver**

Liver has excessive amount of vitamin A & D  
Opossums need the calcium from eating bones



# Diet

## Modified-Jurgenski Diet

- Soaked Purina **Kitten** Chow
- $\frac{1}{4}$  tsp pulverized Caltrate 600 or calcium carbonate powder per cup of mixture OR yogurt
- Formula



**Proportion of ingredients is not discretionary**



# Diet

## Natural Diet

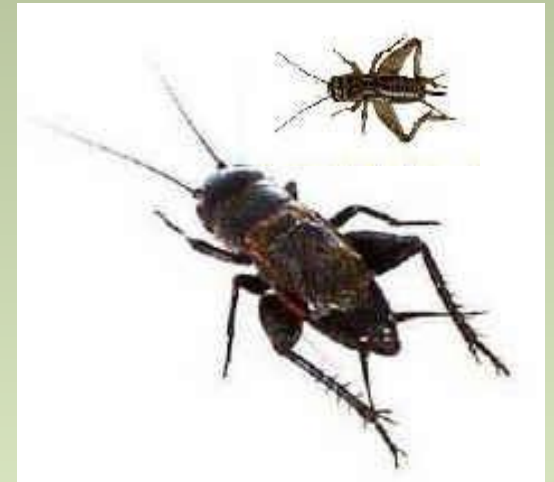
Insects

Mushrooms

Fruit

Bird eggs

Mice





# Housing and Care





# Housing and Care

## Hairless embryos (pinkies)

Transfer to the pouch of a lactating female with comparable size young if one is available

**Do not try to raise outside of pouch**







# Housing and Care

Eyes closed, light covering of hair

Provide pouch like sweat pants leg, heating pad cover or sewn flannel

Lanolin or olive oil can be used on tail to prevent dryness



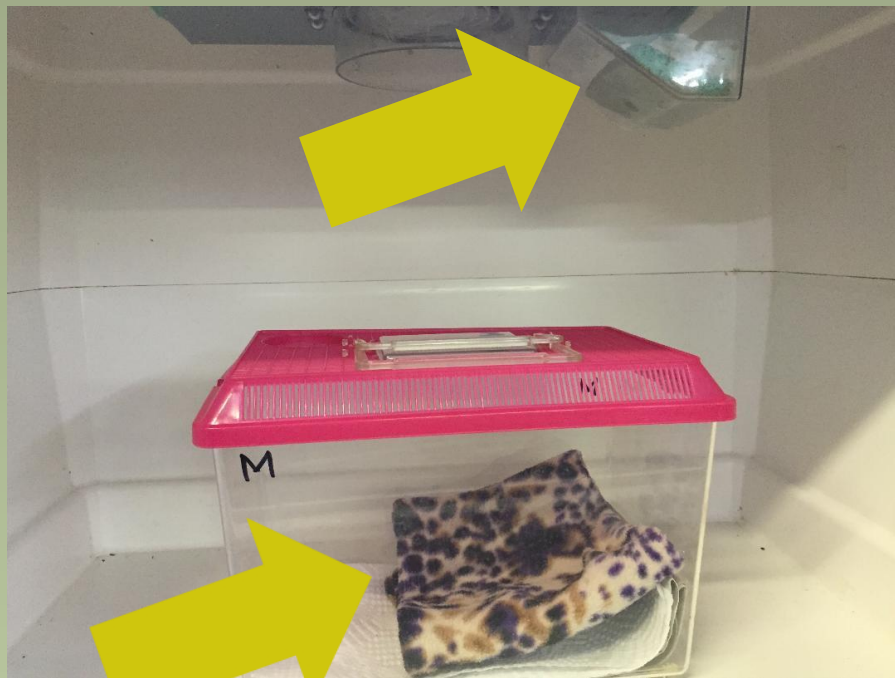


# Housing and Care

Eyes closed, light covering of hair

- House in a warm *humid* environment (damp wash cloth, paper towel or sponge)
- Small container with ventilated lid (aquariums, plastic tubs, crab boxes)
- Heating pad set on low underneath entire crabox

# Housing and Care





# Housing and Care

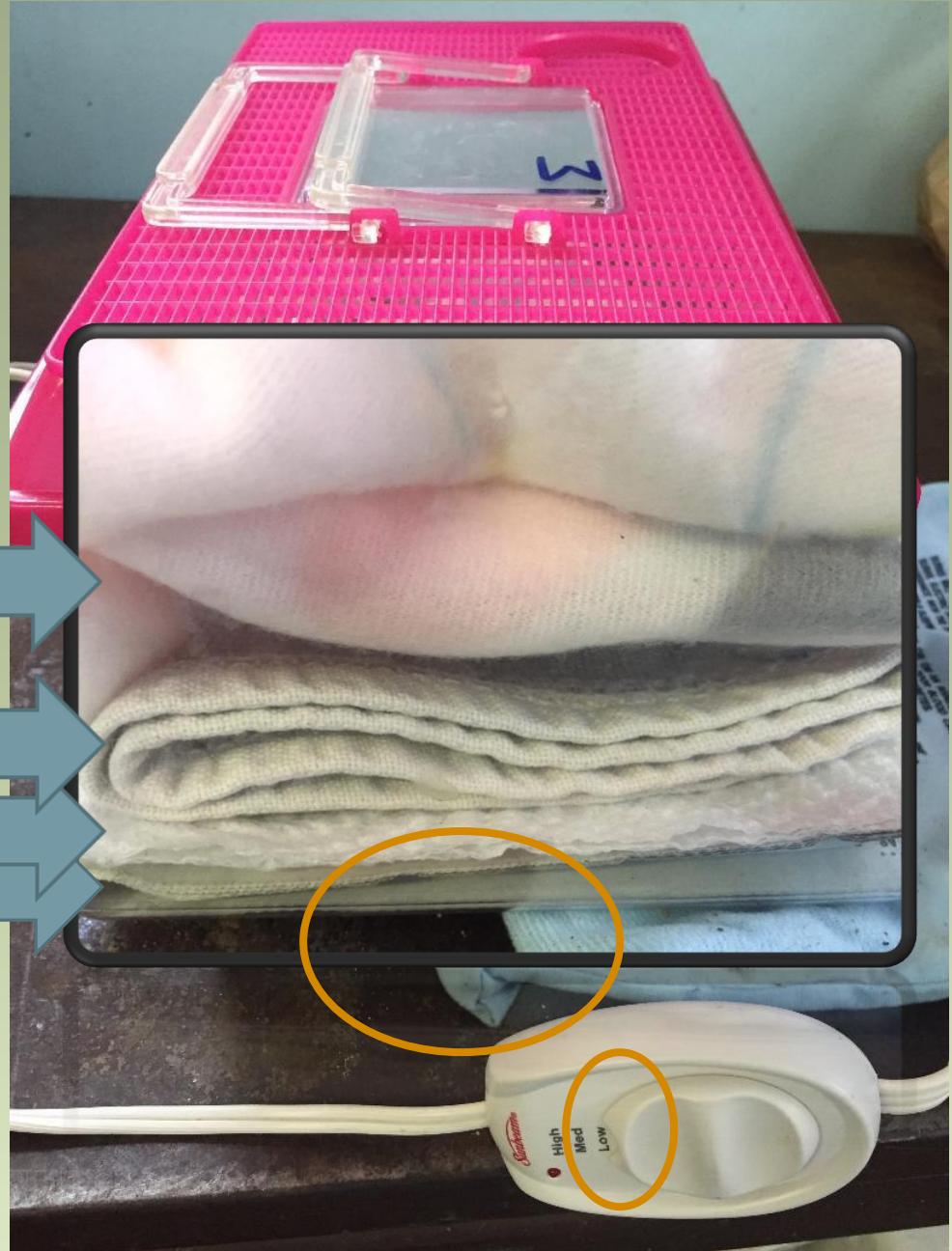
## Older infants

- Move to a larger box
- Provide a lots of fuzzies
- Heat should remain underneath box





# Housing and Care





# Housing and Care

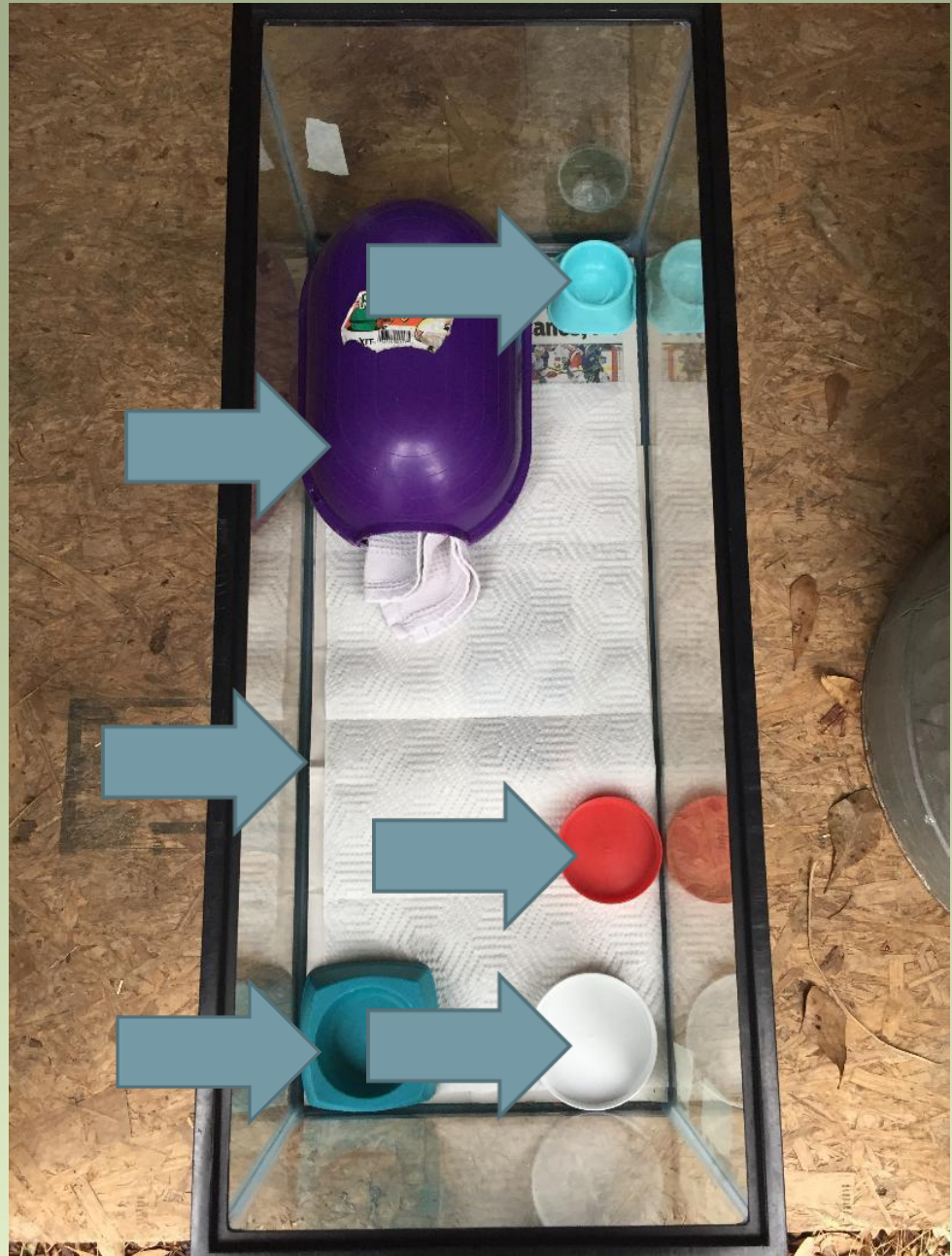
Eyes open, becoming well-furred



- Move to aquarium with breathable lid
- Provide a hiding house or hammock
- Heat should be on half of aquarium
- Diet change



# Housing and Care





# Housing and Care







# Housing and Care

Eyes open & completely covered in fur

- Discontinue heat when thermo regulating
- Large wire cage
- Provide nest area
- Discontinue humidity





# Housing and Care





# Housing and Care

Weaned and able to thermo regulate

- Outdoor cage with nest box
  - Large enough to allow exercise
  - Branches and hollow logs
- Secluded area
- Food & latrine located to promote exercise





# Housing and Care





# Housing and Care





# Housing and Care





# Housing and Care

## Minimum Standards

|          | <u>Infant care</u> | <u>Nursing/Pre-weaned</u> | <u>Juvenile</u> |
|----------|--------------------|---------------------------|-----------------|
| Opossums | (L) 10 GAL         | (L) 3x3x3                 | (1) 4x4x8       |



# Housing and Care

What's wrong with these set ups?







# Release

- Wary of people and afraid of dogs
- Size and weight guidelines
- Consider weather conditions
- Site selection
- Release at dusk





# Key Points



- Provide humidity for young opossums
- Learn to tube feed from someone experienced in doing it
- Feed high-quality cat chow as the dietary staple (90% of diet)



# Questions?





**Thank you!**

