Triaging Wildlife Workshop

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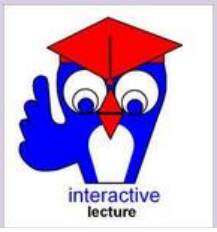
- **WRC**
  - Independent non-profit located in St Paul, MN
  - One of the largest wildlife rehabilitation centers in the country
  - Admit **~ 9000 animals/year**
  - Over 160 species
  - 2 full-time DVMs and 2 CVTs
  - 8 full-time staff members
  - >400 volunteers

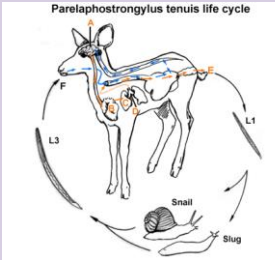
Interactive Presentation!

- When I ask a question, you _____?
- When you ask me a question, I _____?



Terms

- **Triage:**
  - the determination of priorities for action in an emergency.
- **Suffering:**
- **Parelaphostrongylus:**
- **Laugh:**
- **Cuteness Interludes:**



Cuteness Interlude

Main Goal

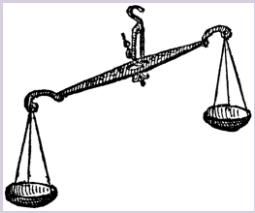
- Release!

Stress

Wildlife Rehabilitation Center of Minnesota

Goals

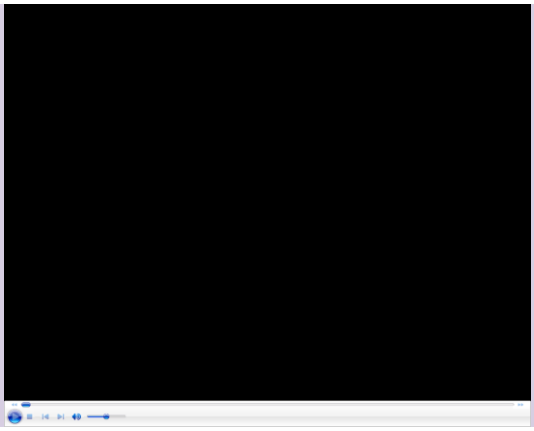
- Minimize stress
- Balance suffering with probability of release
- Take care of ourselves!

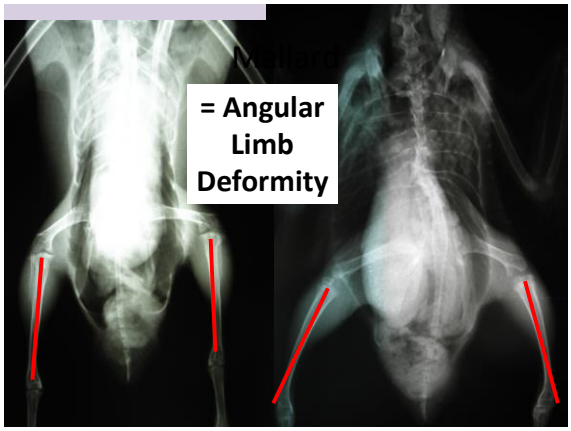


Triage

Triage: Step 1

- Read history thoroughly





Mallard

- Cause????
  - Genetic?
  - Improper diet
    - Wrong amount of protein?
    - Calcium?
    - Vit D?
    - Mg?
    - ??
- Treatment: ☹

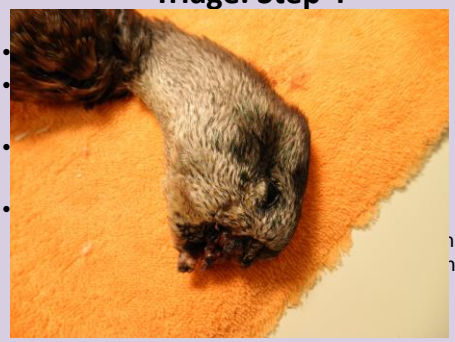
Triage: Step 2

- R
- T
  -

Triage: Step 3

- Read history thoroughly
- Thorough physical exam
  - Visual exam in box (no handling!)
- Observe outside box in empty room
  - Mallard previously

Triage: Step 4



-
-
-
-

…e
…n PE

- Read his
- Thoroug
  - Visual
- Observe
  - Insert
- Hands o
  - Look f… non-re… is dea…
- Put it ba…

…er the animal
…: after animal

Triage: Final Step!

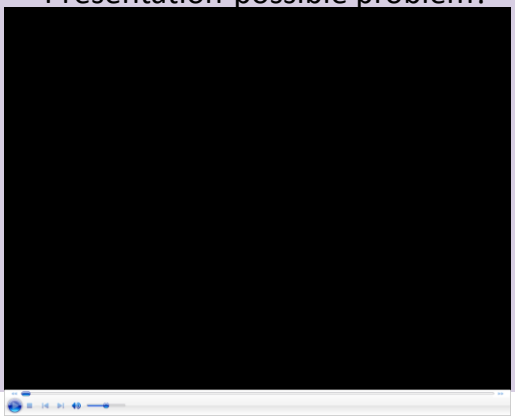
- Read history thoroughly
- Thorough physical exam
  - Visual exam in box (no handling!)
- Observe outside box in empty room
  - Insert video of goose from teaching cases
- Hands on physical exam
  - Look for injuries/disease that would render the animal non-releasable and euthanize → finish PE after animal is dead
- Put it back in the box
- Make a decision
  - …To treat or not to treat, that is the question…

Let's try some cases!

American crow

- Finder found by side of road

Presentation-possible problem?



Spinal Trauma in Wildlife

- **How**?
  - Hit windows (avian)
  - Hit by car
  - Dog/cat attack
  - other

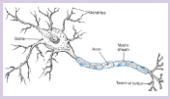
Presentation of Spinal Trauma

- **Lack of history**
- **Variety of physical exam findings-all <u>bilateral</u>** (Fossum, 2002)
  - Uncoordinated?
  - Unable to walk normally?
  - Unable to move legs at all?

Differentials

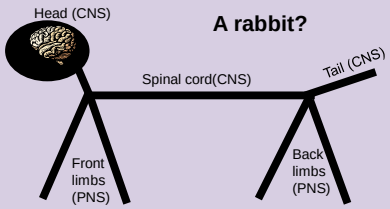
- Spinal trauma
- Bilateral Pelvis fractures
- Head trauma/other brain disease
- Bilateral leg fractures

(VERY basic) Neurology Review

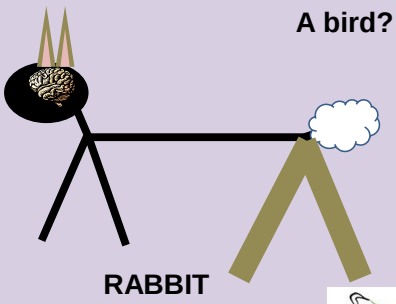


- **Central Nervous System (CNS)**
  - **Brain**
  - **Spinal cord**
- **Peripheral Nervous System (PNS)**
  - **Everything else** (nerves that go to your arms, legs, organs, etc)

Basic Animal



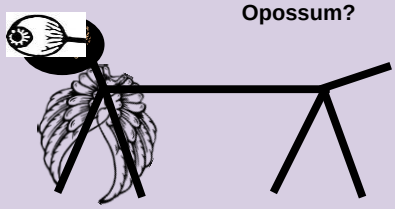
Basic Animal



A bird?

RABBIT

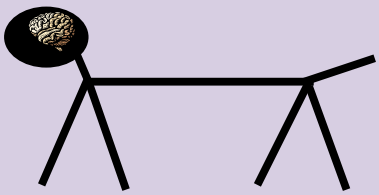
Basic Animal



Opossum?

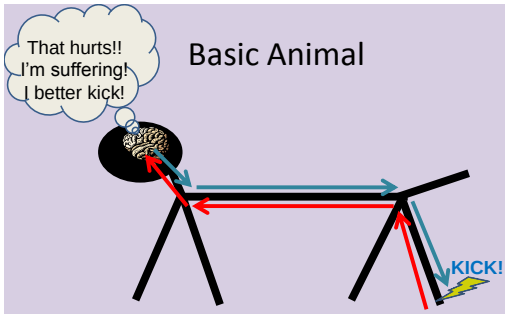
BIRD

Basic Animal

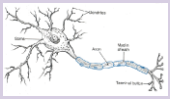


Opossum

Basic Animal

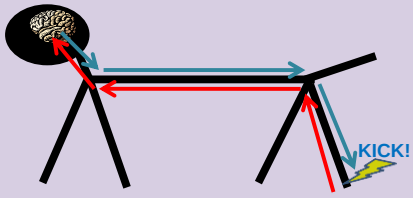


(very) Basic Neurology



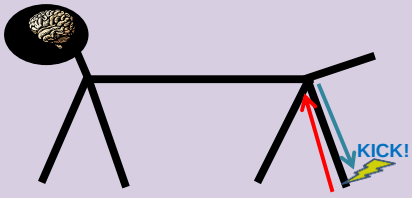
- **Voluntary motor function**= voluntary movement
  - the BRAIN actively says "I'm moving this leg"
- **Reflex**= purely SPINAL (Fossum, 2002)
  - the sensation (pressure, pain, etc) is transmitted to the spinal cord and back down to produce movement in the limb
  - **Brain doesn't have to get the message to produce movement**

Basic Animal



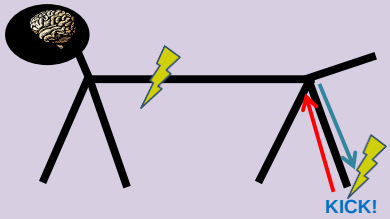
Voluntary motor function

Basic Animal



Spinal Reflex

Basic Animal



Spinal Reflex

Why do we care about reflexes vs voluntary movement?

Because it directly relates to prognosis!!

(Fossum, 2002, p1198) (Mazzaferro, 2010, p780)

- If the impulse is NOT getting to the brain (if the animal does not consciously feel the stimulus—the toe pinch) the animal will **not** recover to a releasable state.
- If SOME conscious perception that the stimulus is present, there is hope
  - "deep pain" or bone pain is the last sensation to go before complete paralysis

Wingfield 2001 (small animals)

Scoring of Severity of Spinal Cord Injury

SCORE	CLINICAL STATUS	SEVERITY	THERAPY
10	Normal	Least severe	
8	Pain only		Candidate for medical therapy
6	Paresis (walking) =good prognosis		
5	Paresis (not walking) =fair prognosis		Candidate for combination of medical and surgical therapies
4	Plegia (micturition, pain intact) =guarded prognosis		
3	Plegia (no micturition, deep pain intact) =very guarded prognosis=no release		
2	Plegia (deep pain absent < 48 hr) =grave prognosis=no release		
1	Plegia (deep pain absent > 48 hr)		Extremely poor prognosis =no release
0	Myelomalacia	Most severe	

Wildlife rehabilitation prognosis

Prognosis

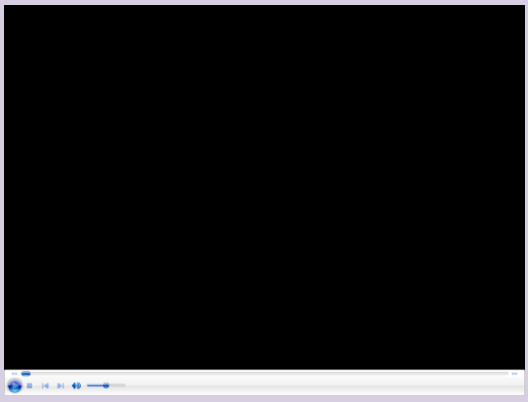
- Deep pain present?
  - Give it a chance (may or may not recover enough for release)
- NO deep pain present?
  - Humanely euthanize on admission

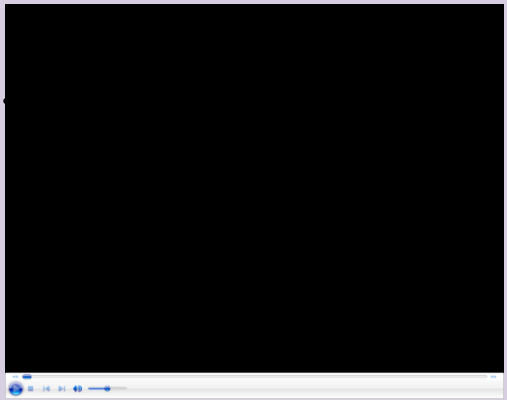
Remember--

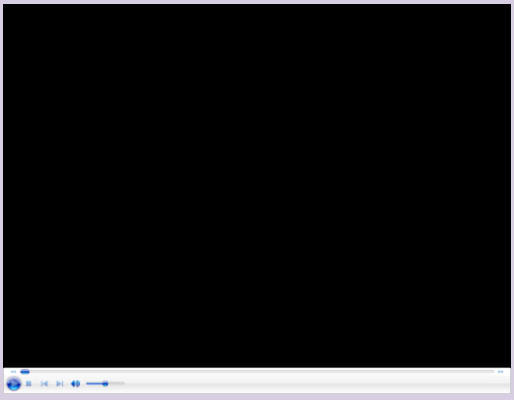
- "Withdrawl of the limb [when pinching toe] is not a behavioral response" (Fossum, 2002)
  - It's NOT voluntary movement
  - It says nothing in regards to prognosis when working with wildlife being rehabilitated for release!

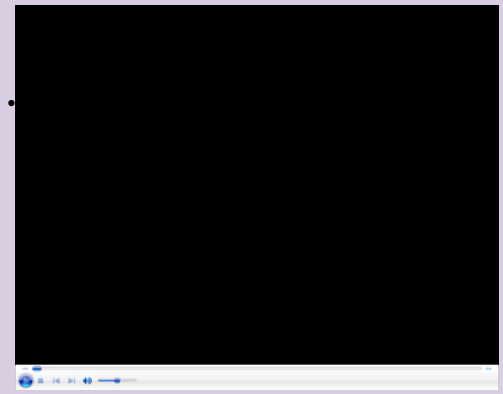
How to assess if deep pain is present

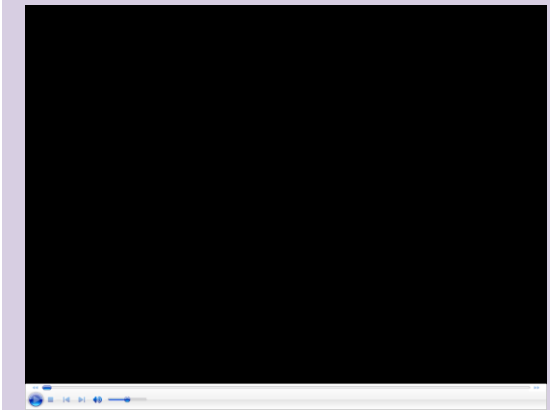
- Stabilize patient to a responsive state
- Use a long hemostat or tweezers to repeatedly pinch the toes of the hind limbs and watch the patient's expression—did he consciously feel that toe pinch?
  - Ignore movement in the *limb*
  - Move slowly so the patient doesn't see you pinching its toes
  - Go from a light pinch (if they react here, stop) to a very hard pinch (get the hemostats to clamp shut)
- Then pinch an area higher up (that you know the patient has control) of to compare reactions

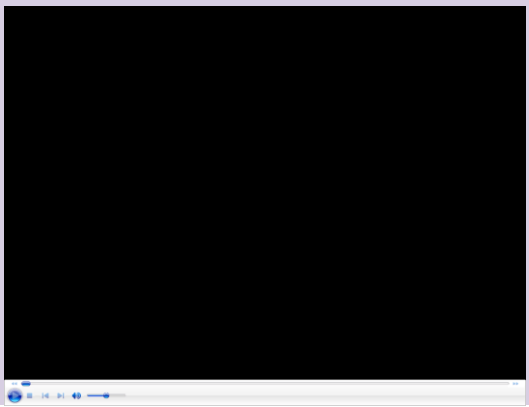


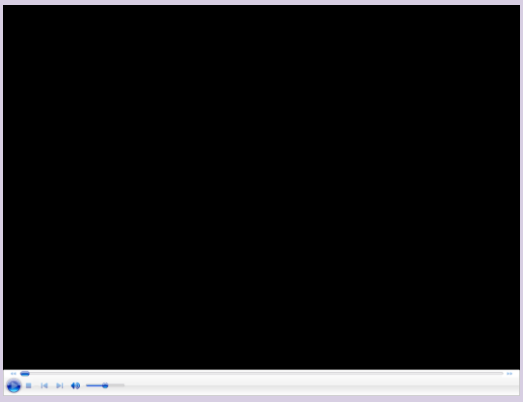






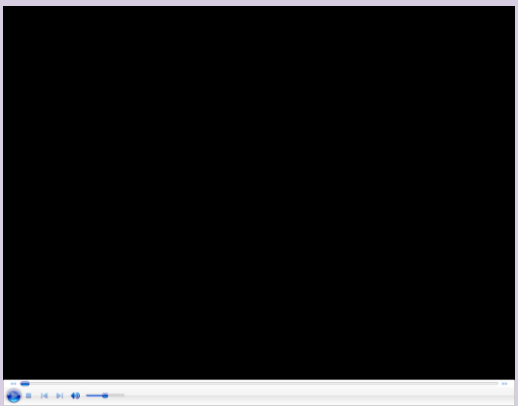




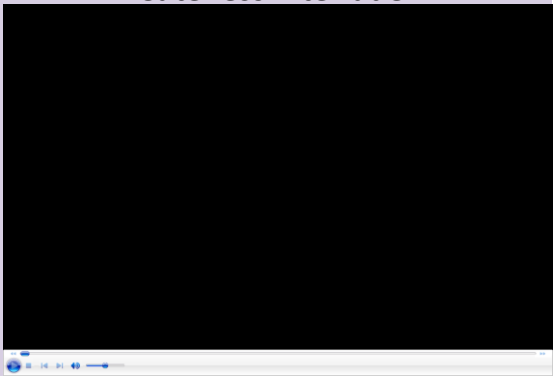


American Crow

- Deep pain assessment



Cuteness Interlude



Turtle

- Found by public on side or road
- Cause?
- Now what?

PE

- QAR, mostly in shell

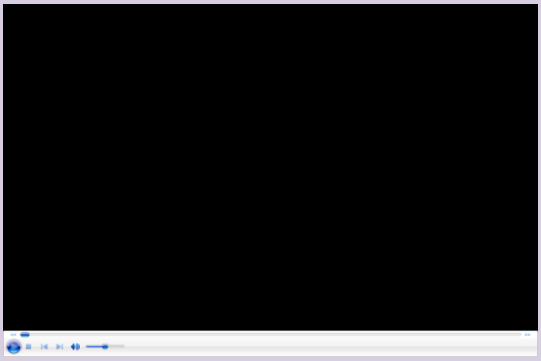
- Prognosis?

Shell Fracture Prognosis

- Shell fracture turtles with severe coelomic contamination and/or devitalized organs→ euth

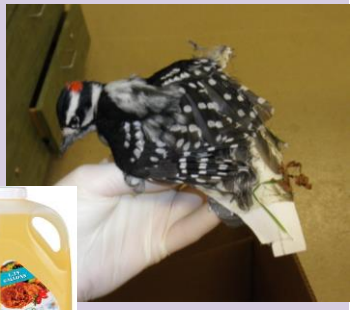
Turtle

-
-
-
-



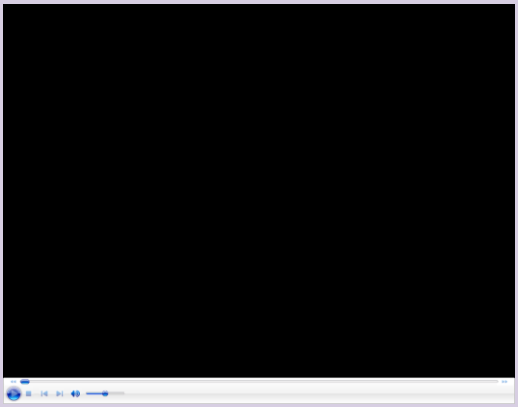
Bird

- Downy woodpecker
- What's going on?
- Treatment?



Canada goose

- Exam



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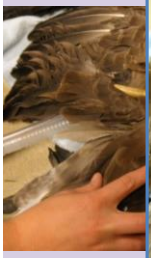
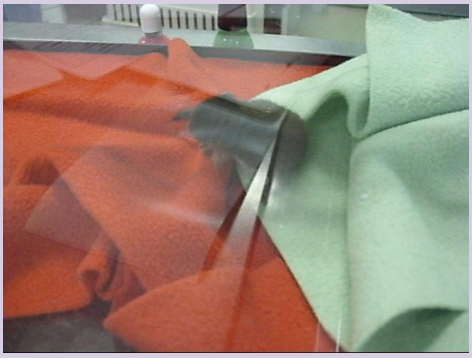


- Prognosis?

Cuteness Interlude

Cuteness Interlude



Eastern Cottontail Rabbit

Phone call→Baby bald eagle!!

Juvenile grey squirrel

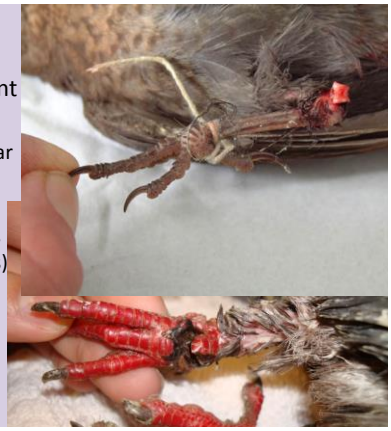
- Found in backyard
- PE: emaciated, severely dehydrated, hypothermic, severely lethargic

American bittern

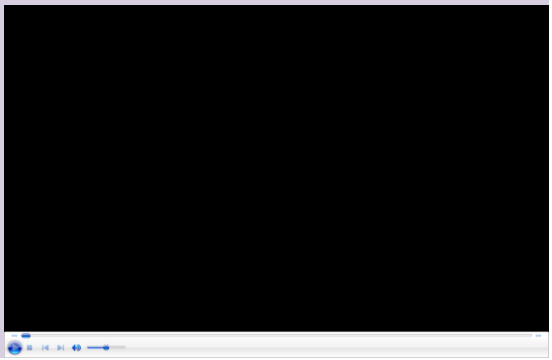
- "broken wing"
- Now what?

Joints=☹

- Traumatic joint injuries
  - Intra-articular fractures
  - Luxations/ subluxations (dislocations)



Cuteness Interlude

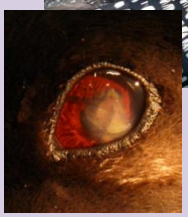


Bird-found outside

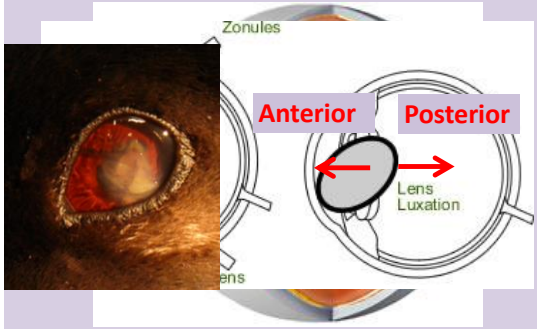
Rest
Meloxicam

Common loon

- Found on side of road

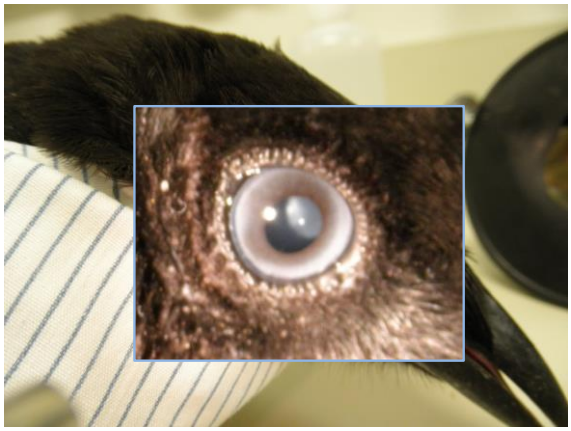


Luxated lens



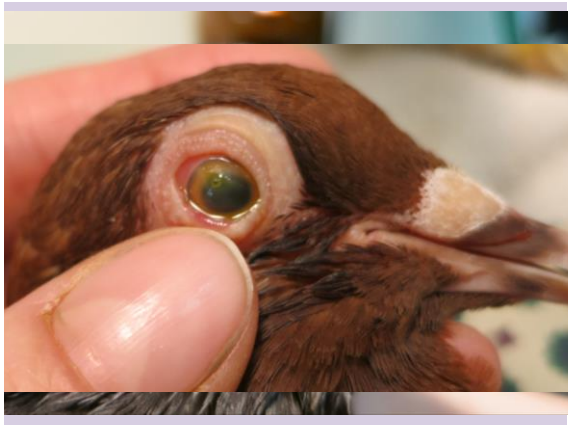
Luxated lens

→glaucoma → +/- painful
→Eye nonvisual
→Surgery?



Ruptured Globe

- Can visibly see one globe is smaller than the other
- Circle with a dot on the cornea
- Veterinarian can measure the pressure in the globe with a “tono pen”
- Ruptured glove=loss of vision in that eye



Loss of vision

- Some rehabilitators will release one-eyed flock prey birds
- Reports of adult owls surviving in the wild with one eye (also reports of them starving to death)
- Euthanize: solo prey animals; most predators

Eastern grey squirrel

Log-rolling animals=☹

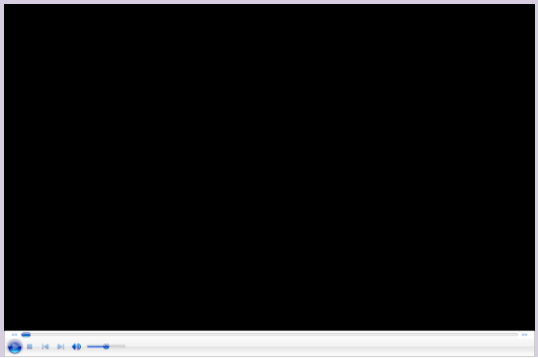
Amputations

- Illegal to amputate a migratory bird wing above the elbow
- Some animals with missing digits do well in the wild (depends on species and which digits)
- Euthanize limb amputations in any species (except turtles)

Raccoon

- Found in yard during the day, didn't run away
- **PE**: good-thin body condition, sl dehydrated, docile until aggravated. No other lesions

Raccoon



Euthanize

- Rabies vector species with abnormal neurologic signs
  - Raccoon, coyote, fox, bat, skunk (MN)
  - Get finders information, including 2 phone numbers → refer finder to Dept Public Health
- Distemper suspect species (raccoon, coyote, fox) with any one of the following signs:
  - Neuro signs (including seizures of any type)
  - WBC count <4,000 wbc/ul
- DDX?

Neonates/infants

- **Neonates/infants/juveniles comprise 70% of WRC's admits (5500 in 2011)**
- **Grave prognosis for neonates** (in WRC's large nursery setting)
  - Eastern cottontails (1793/year)
    - <50g → 1% chance of survival at WRC

Neonates/infants

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  - Eastern cottontails (1793/year)
    - <50g → 1% chance of survival at WRC
  - Eastern grey squirrels <43g (904)
  - Red squirrels < 20g
  - Raccoons <400g (420)
  - Mice <5g
  - Virginia opossum <20g (others 15g?)
  - Hatchling altricial birds (just out of shell) (1700 passerines)
  - Pinkies of any species

Cottontail-skin tear (cat attack)

- Rabbits with >1/3 of skin degloved = ☹

Beaks/hypsodont teeth

- M
  ir
  da

Summary

<u>Euthanize on admission</u>:

- Open, old fractures
- Traumatic joint injuries
- Luxated lens
- Rabies vector species (raccoon, coyote, fox, bat, skunk) or distemper suspect species (raccoon, coyote, fox) with abnormal neurologic signs (depends on your region!)
- Infant babies (decide minimum weight limits for you BEFORE babies start!)
- +/- Permanent blindness→ some vets/rehabbers will release one-eyed adult owls, one-eyed flock birds (never prey, solitary animals)
- Spinal trauma with no deep pain

References

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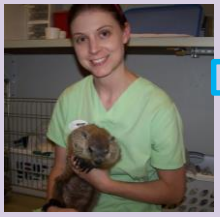
- Small Animal Critical Care Medicine. Editted by Deborah C Silverstein and Kate Hopper. Authors: Beverly K. Sturges and Richard A LeCouteur. Page 428. 2009.

Questions?



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