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

Goals

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

Triage

Triage: Step 1

- Read history thoroughly

Triage: Step 1

= Angular Limb Deformity
Mallard

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

Triage: Step 2

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

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

- 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

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 **bilateral**
  (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)
(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

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**Basic Animal**

- Voluntary motor function
  - KICK!

- Spinal Reflex
  - KICK!

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**Why do we care about reflexes vs voluntary movement?**

Because it directly relates to prognosis!!


- 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

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**Wingfield 2001 (small animals)**

<table>
<thead>
<tr>
<th>SCORE</th>
<th>CLINICAL STATUS</th>
<th>SEVERITY</th>
<th>THERAPY</th>
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<tbody>
<tr>
<td>10</td>
<td>Normal</td>
<td>Least severe</td>
<td>Candidate for medical therapy</td>
</tr>
<tr>
<td>8</td>
<td>Pain only</td>
<td>Good prognosis</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>Paraplegic (walking)</td>
<td>Good prognosis</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Paraplegic (not walking)</td>
<td>Fair prognosis</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Partial paralysis, pain intact</td>
<td>Fair prognosis</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Plagia (no movement, deep pain intact)</td>
<td>Fairly guarded prognosis</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Plagia (deep pain absent &lt; 48 hr)</td>
<td>Grave prognosis; no release</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>Plagia (deep pain absent &gt; 48 hr)</td>
<td>Grave prognosis; no release</td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>Myelomalacia</td>
<td>Most severe</td>
<td>Extremely poor prognosis; no release</td>
</tr>
</tbody>
</table>

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--

• “Withdrawal 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
Bird

• Downy woodpecker
• What’s going on?
• Treatment?

Canada goose

• Exam

• Prognosis?

Cuteness Interlude
Eastern Cottontail Rabbit

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

Common loon

- Found on side of road

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
- 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

- Misalignment or irreparable beak damage → ☹️

Summary

**Euthanize on admission:**

- 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

- Small Animal Surgery, Fossum, 2002
- Blackwell's Five-Minute Veterinary Consult Clinical Companion Small Animal Emergency and Critical Care, Mazzaferrro, 2010
- Emergency medicine Secrets, Wingfield, 2001
- Small Animal Critical Care, Silverstein & Hopper, 2009

Questions?

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