Physical exam basics

Dr. Nancy Mettee

Loggerhead
MarineLife Center
Our mission: To promote conservation of Florida’s coastal ecosystem with a special focus on threatened and endangered sea turtles.
All medical and surgical facilities are available onsite. We are a state licensed veterinary hospital.
LMC houses a fully functional veterinary hospital with a unique focus on sea turtles. This allows us to dedicate our resources to this class of endangered animals and pioneer medical and surgical techniques to improve rehabilitation efforts worldwide.
Our patients each receive a full diagnostic workup. This includes a thorough physical examination, temperature & weight check, complete blood work, and full body radiographs. This information is then compiled into a diagnosis and plan.
LMC minimum data base

- history (nature of stranding)
- digital photos (3 minimum)
- weight & measurements
- complete physical exam with nutritional assessment
- full body radiographs
- bloodwork (istat, cbc, chemistry panel)
Digital photo documentation
Ophthalmic/Otic

With natural light and white light
Includes flourescein dye test for corneal ulceration
Observe salt gland activity

Thursday, March 22, 12
Musculoskeletal

- Palpate all limbs for range of motion, swelling, or crepitus
- Evaluate muscle tone and strength
- Evaluate carapace and plastron for signs of injury
Integumentary

Scutes cover bone
Scales cover skin

Skin should be evaluated for excessive sloughing, wounds, abscesses, and scars

The thickness of sea turtle skin makes bruising invisible in most instances
Cardiac Rate can be obtained via doppler, EKG, or ultrasound

Peripheral pulses cannot be felt.
Respiratory system

Movement of carapace (up) and plastron (down) needed for full excursion.

Nares typically have no discharge.

Audible (gurgling) is atypical.

Forced expiration followed by rapid inhalation with breath holding - rate will vary.

Will lift head to breathe, even out of the water.
Gular pumping

Normal flushing of water out thru nares
Digestive system

Oral exam

Cloacal exam
open the mouth

Carefully
Fecal analysis

Direct smear, sedimentation, and evaluation for foreign material.
Lymphatic system

- lack distinct lymph nodes
- lymphatics wrap blood vessels
- lymph may be obtained during blood sampling, seen as clear liquid (will dilute blood sample)
**Endocrine system**

- *little is known*
- *few normal blood parameters for comparison*
- *euthyroid sick?*
- *endocrine disruptors?*
Neurologic system

*In water exams
*Out of water exams--both on back and on belly
*Serial exams needed to evaluate trends
Neurologic exam form

### While turtle is in the water

<table>
<thead>
<tr>
<th>Mentation</th>
<th>Alert</th>
<th>Depressed</th>
<th>Demented</th>
<th>Stuporous</th>
<th>Comatose</th>
</tr>
</thead>
<tbody>
<tr>
<td>Compulsive circling</td>
<td>None</td>
<td>Both directions</td>
<td>Left</td>
<td>Right</td>
<td></td>
</tr>
<tr>
<td>Head posture</td>
<td>Level</td>
<td>Tilted Left</td>
<td>Tilted Left</td>
<td>Tilted Right</td>
<td>Tilted Right</td>
</tr>
<tr>
<td>Head movement</td>
<td>Normal</td>
<td>Decreased</td>
<td>Absent</td>
<td>Uncoordinated</td>
<td>Tremors</td>
</tr>
<tr>
<td>Body posture</td>
<td>Level</td>
<td>Tilted Left</td>
<td>Tilted Right</td>
<td>Pelvic float</td>
<td></td>
</tr>
</tbody>
</table>

**Comments:**

- Visual avoidance
  - Left eye
  - Right eye
- General activity
- Righting response
- Tail movement

### While turtle is out of the water in ventral recumbency

<table>
<thead>
<tr>
<th>Activity while lifted</th>
<th>Increased</th>
<th>Normal</th>
<th>Reduced</th>
<th>Absent</th>
</tr>
</thead>
<tbody>
<tr>
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<td>Uncoordinated</td>
</tr>
</tbody>
</table>

**Comments:**

### While turtle is out of the water in dorsal recumbency

<table>
<thead>
<tr>
<th>Cranial nerves</th>
<th>L</th>
<th>R</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>I - Olfaction</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>II, VII - Menace</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>III, IV, VI - Pupillary reflex</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>V - Jaw tone/strength</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>VII - Pupillary reflex</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>VIII - Vestibular nystagmus</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>IX, X - Swallowing</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>XII - Tongue</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Indicate appropriate number:**

- 4 - Uncordinated
- 3 - Increased
- 2 - Normal
- 1 - Decreased
- 0 - Absent

**Comments:**

| Movement          | Cloaca & Tail |
|                   | Cloncal nociception |
| Strength          | Tail movement |
| Tone              | Tail nociception |
| Flexor reflex     |               |
| Crossed extensor  |               |
| Clasp response    |               |
| Dermal nociception|               |
| Periosteal nocicep.|               |
| Sensation         | L | R | L | R |
| Neck              |   |   |   |   |
| Seate             |   |   |   |   |

**Comments:**

**Location of lesion(s):**
support in water
Urogential system

Urinalysis not effective diagnostic
Most of urogential tract is inside shell
Fibropapilloma

- Class 1, 2, or 3
- Quarantine
- Fibropapilloma form
In water exam + buoyancy

Cranial or caudal?
Right or left?
Central?

Can turtle submerge? (Corking)
Estimate % of carapace out of water
Daily notes to assess trends
External parasites/epibiota

*note distribution (carapace & soft tissue?)

*algae
External parasites

Eggs

Adults

Leeches
External parasites

barnacles
Dry Dock

All patients dry dock first night.
Radiographs

Three standard views
Blood-work

Collect into lithium heparin (green tops) and make slides.
Nutritional assessment: emaciated
Nutritional assessment: emaciated
Nutritional analysis: thin
Nutritional assessment: thin
Nutritional assessment: good
Nutritional analysis : good
Nutritional analysis: robust
nutritional assessment

robust
Nutritional analysis: skeletal deformity