



Blood Draw Techniques in Hawksbill Turtles (*Eretmochelys imbricata*)

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GRENADA



WIDECAST

Wider Caribbean Sea Turtle Conservation Network



Ocean Spirits



DrCarterVet
TREATING EVERYTHING WITH A PULSE





Capture (Our Project)

- ▶ Small vessels
- ▶ Freedivers
- ▶ Hand catching

- ▶ You may have a different setup?

Restraint

Large Adults

- 1) Place on a lateral surface (heavy)
- 2) Distal Flippers (immobilization)
- 3) Bodyweight on the hind end





Restraint

Safety?

- ▶ They Bite (cover the eyes)
- ▶ Sharp Scutes
- ▶ Claws
- ▶ Heavy and Strong



Restraint

Sub-Adults

- Proximal Flipper or Shoulder (Immobilization)

Safety?

- Very Sharp scutes (long sleeves)
- Biting

Restraint

Juveniles

- ▶ Can hold on arms or legs (light)
- ▶ Proximal Flipper or Shoulder (Immobilization)

Safety?

- ▶ Easier to handle
- ▶ Very Sharp scutes (long sleeves)
- ▶ Biting



Approach

ON the Boat

- ▶ Sub-adults & Juveniles
 - Front
- ▶ Large Adults
 - Front or Lateral

Nesting Females

No restraint

- Lateral approach from the back. (left)



Equipment

- ▶ Antiseptic Spray or wash.
 - ▶ Alcohol?
- ▶ Syringes & Needles (21g,23g)
 - ▶ Two-way needle (multiple samples)
- ▶ Blood tubes
- ▶ slides
- ▶ Cooler with ice (field)



What Blood Vessel?

External Jugular vein

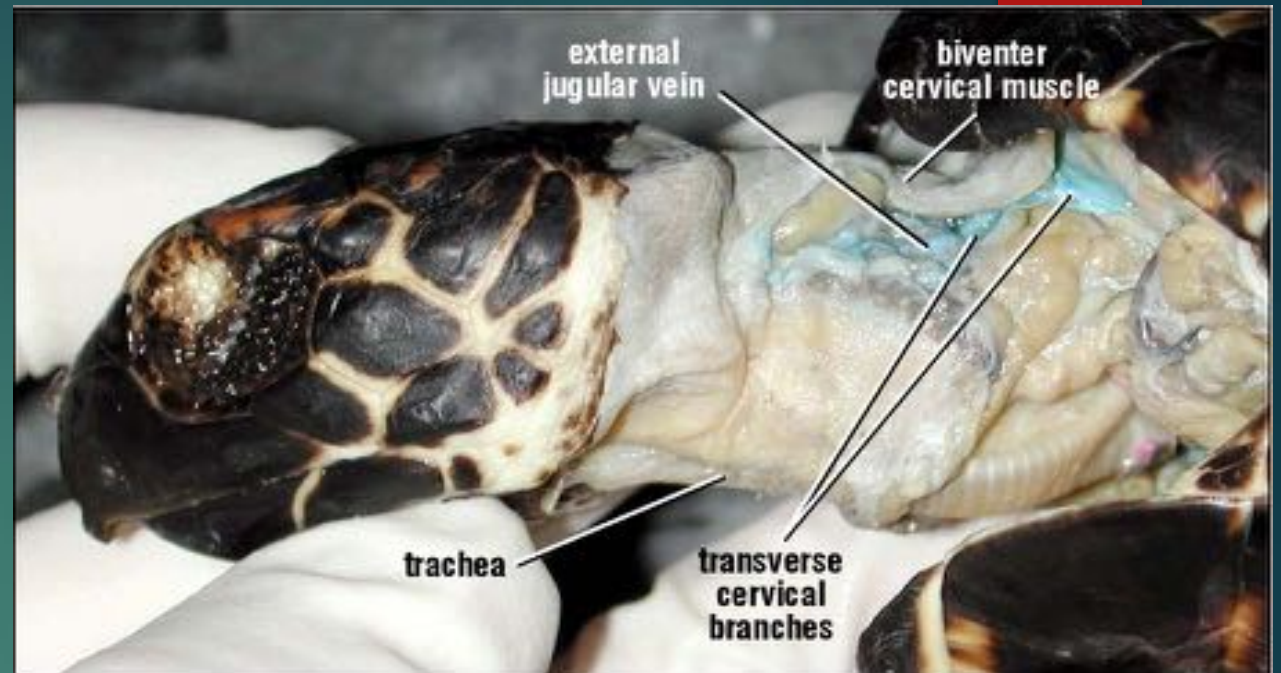
- There is Lateral Jugular (RT)

Dorsal Vertebral Jugular

- Transverse Cervical Branches (Wyneken 2001)
- Dorsal Cervical Jugular

Optimal Location ?

1/3 the way down the
midline





LIMITATIONS

- Miss the vessel (redirect)
- Moving boat
- Go through the Vessel
- Waves

Precautions

- Blood
 - Sharp Objects
 - Ocean
- ▶ Gloves
 - ▶ Sharps box or bottle
 - ▶ Move to calm water

Nesting Females

Publication ?

- No Restraint
- Red light
- Sampling while nesting

Green Turtle (*Chelonia mydas*)

- ▶ Similar restraint
- ▶ Aim for sinus
- ▶ BTP way for sub-adults and Juveniles





References:

- 1) Wyneken, J. 2001 The Anatomy of sea Turtle. U.S. Department of Commerce. NOAA Technical Memorandum pg. 89, 95
- 2) Charles, K. and Carter, K. (2021) Hawksbill sea turtle (*Eretmochelys imbricata*) nesting and blood sampling protocols, Grenada, West Indies. ResearchGate Unpublished.
- 3) Photo credits: Nicolas Winkler Photography, Dan Mele Photography, Kate Charles, Ocean Spirits, Dr Carter Vet



Any Questions?

Alguna Pregunta?

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