



Physical Examination & Assessment of Cetaceans

Art Ortenburger, DVM

Examination



- ❖ The place and the day
 - tides, surf, the shore, and access



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- ❖ The pod
 - species? offshore animals? loners?
 - number and range of sizes on the beach

Examination



- ❖ The place and the day
 - tides, surf, the shore, and access
- ❖ The pod
 - species? offshore animals? loners?
 - number and range of sizes on the beach
- ❖ Individual animal
 - distant exam: movement, vocalizations,
 - physical exam: measure length, assess for trauma, BCS, heart and respiratory rates, protective reflexes: write it down

Distant Exam: 10 minutes



Body Condition Score



- ❖ Are ribs visible?
- ❖ Is there a neck?





Ribs visible?



(courtesy S. Hariharan, AVC '05)

Body Condition Score



Heart and Respiratory



- ❖ Heart rate is a key measure of animal condition, normals vary by species
- ❖ ECG is preferred to stethoscope



Heart Rates*



Size	Example	Normal	Unfavorable
Small < 3m	dolphin	50 - 80	> 140
Medium 3 - 8	pilot whale Beluga	up to 80	> 120
Large >8m	Orca fin whale	10 - 30	> 60

** These numbers are approximate, and in fact are not known for many species.*

Respiratory Rates*



Size	Example	Normal Per 10 min.	Unfavorable
Small < 3m	dolphin	30 - 100	> 90
Medium 3 - 8	pilot whale beluga	10 - 30	> 30
Large >8m	Orca Fin whale	1 - 8	> 10

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Facts of (Stranding) Life



- ❖ Cetacean stranding is bad, mortality is high, and large whales seldom survive
- ❖ But mass strandings include some healthy individuals



Facts of (Stranding) Life



- ❖ Cetacean stranding is bad, mortality is high, and large whales seldom survive
- ❖ But mass strandings include some healthy individuals
- ❖ How do we ensure the maximum benefit (welfare) from the situation?

References on the Beach



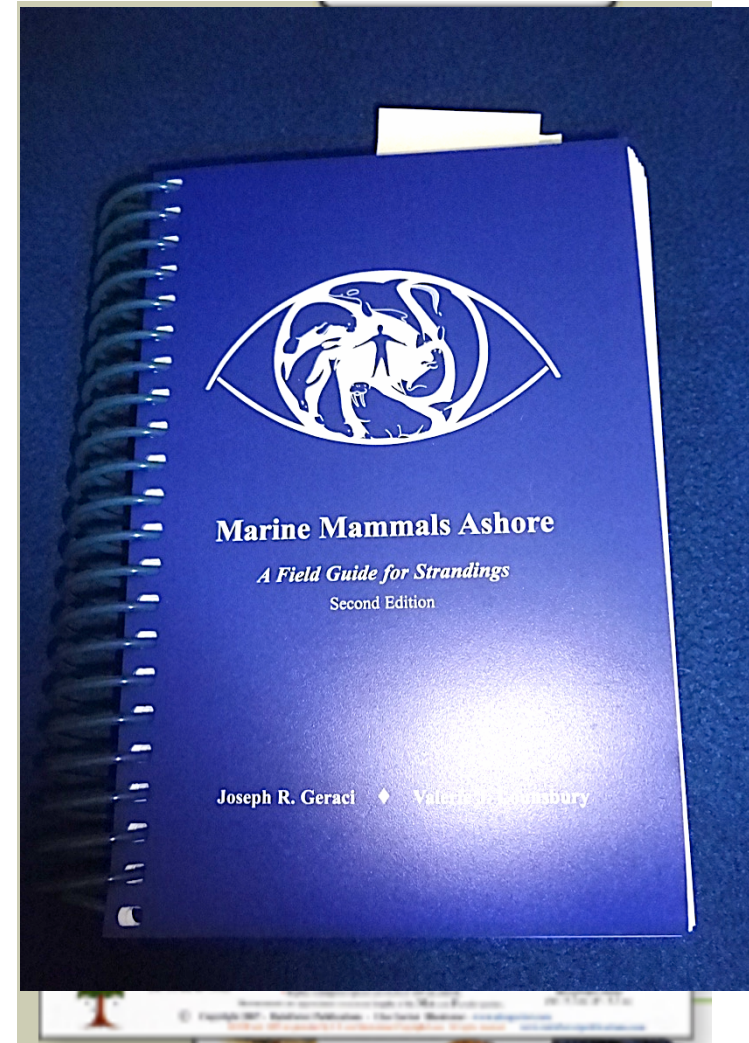
❖ Marine Mammals Ashore - Geraci, 2nd ed.

❖ 93-601 marine_mammals_ashore.pdf

❖ Field guides Rainforest Publications www.rainforestpublications.com/

❖ Euthanasia Technique

❖ [http://www.dfo-mpo.gc.ca/csas-sccs/
Publications/ResDocs-DocRech/
2014/2014_111-eng.html](http://www.dfo-mpo.gc.ca/csas-sccs/Publications/ResDocs-DocRech/2014/2014_111-eng.html)







Triage and Euthanasia



Triage and Euthanasia

- ❖ You will need a recorder, a beach chart, and specific criteria
- ❖ Be methodical, evaluate and mark each animal



Color	Priority	Condition
White	3	Dead or dying
Yellow	1	Minor injuries, disoriented, dependent
Green	2	Healthy, active, oriented

Criteria for Euthanasia



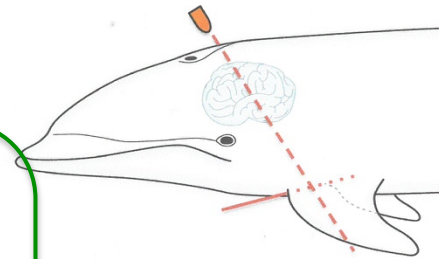
- ❖ a single sign is not enough
- ❖ young animal, dam is not present
- ❖ evidence of serious injury
- ❖ blood from any body opening
- ❖ stranded: > 12 hrs. (large) 24 hrs. (small)
- ❖ severe depression, weak or absent protective reflexes

Euthanasia of Whales and Dolphins

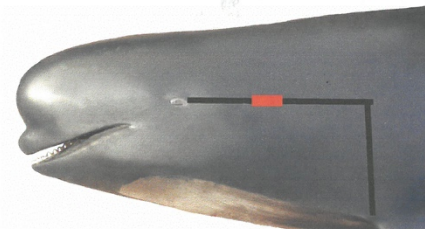
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Checklist for Whale Euthanasia

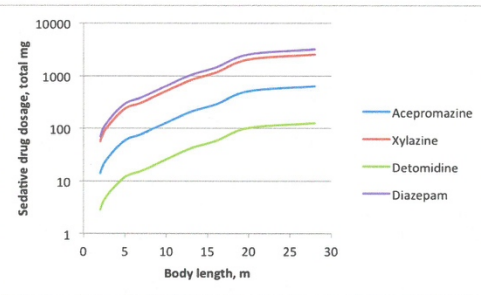
- ❖ Does the animal meet criteria for humane destruction?
- ❖ Locate firearms and appropriate ammunition, or
- ❖ Veterinary drugs and needles, appropriate for the species.
- ❖ Individual skilled in shooting or a veterinarian will be needed.
- ❖ Consider tides, surf, access to whale, crowd control.
- ❖ Consider safe disposal of the carcass after euthanasia if drugs have been used.
- ❖ Protected natural death with palliative care is appropriate when the requirements listed above for euthanasia cannot be met.



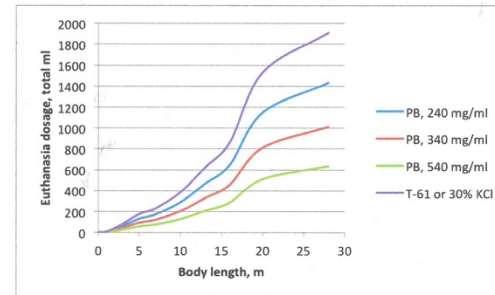
Point of aim for small whales and dolphins.



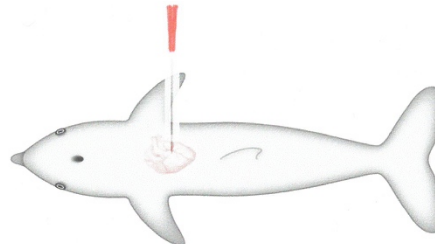
Lateral point of aim for small whales, one-third to one-half the distance from the eye to the front of the flipper.



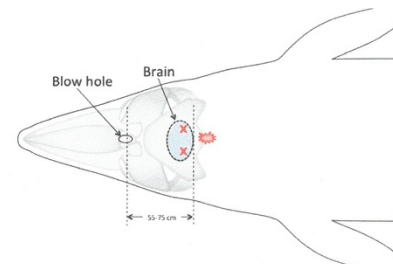
Sedative drug doses for whales, based on body length, for intravenous or intramuscular administration.



Euthanasia drug doses for whales, based on body length, for i.v. or intracardiac administration. PB=pentobarbital



Lateral approach for intracardiac administration of euthanasia drugs. A long needle is inserted just behind and at the level of a flipper, aimed to the same point on the opposite side.



Point of aim for adult Minke whale, 55-75 cm caudal to the blowhole and slightly to one side of dorsal midline.

DFO Field Guide



CANADIAN FIELD GUIDE FOR EUTHANASIA OF WHALES AND DOLPHINS

Size ¹ and Number	Gunshot (minimum caliber)	Explosives	Chemical	Protected natural death with palliative care (PNDPC)	Likelihood of success	Problems	Comment
one small whale	#2- ² .222 for porpoise, dolphin; .308 for pilot whale; .375 for minke whales	NR ³	#1- acepromazine, 30 minutes, then intravenous or intracardiac pentobarbital	not appropriate	high		chemical methods preferred
few small whales	#2- simultaneous shooting recommended	NR	#1- sedate all animals first, then euthanize in sequence	not appropriate	high	difficult to prevent live animals from seeing death of others or hearing gunfires	chemical methods preferred
many small whales	#1- simultaneous shooting recommended	NR	deep sedation of most animals may be possible	may be unavoidable	moderate	significant ecotoxicity may result with chemical methods	viable animals must be rescued prior to euthanasia of terminal cases
one large whale	#2- only with training and appropriate equipment (e.g., .458 or .50 BMG)	#4- only with training and appropriate charges	#1- requires training, special needles, and large quantities of euthanasia drugs	#3✓ ⁴	moderate	significant ecotoxicity may result with chemical methods	gunshot possible in whales up to 12 m long; requires minimum muzzle energy of 4600 ft-lbs
few large whales	NR	NR	#1- requires training, special needles, and large quantities of euthanasia drugs	#2✓	low	significant ecotoxicity may result with chemical methods	human safety may be a consideration with chemical method
sperm whale	NR	NR	NR	#1✓	not available	considered the most difficult species to euthanize	chemical methods may be possible; efficacy of shooting has rarely been shown

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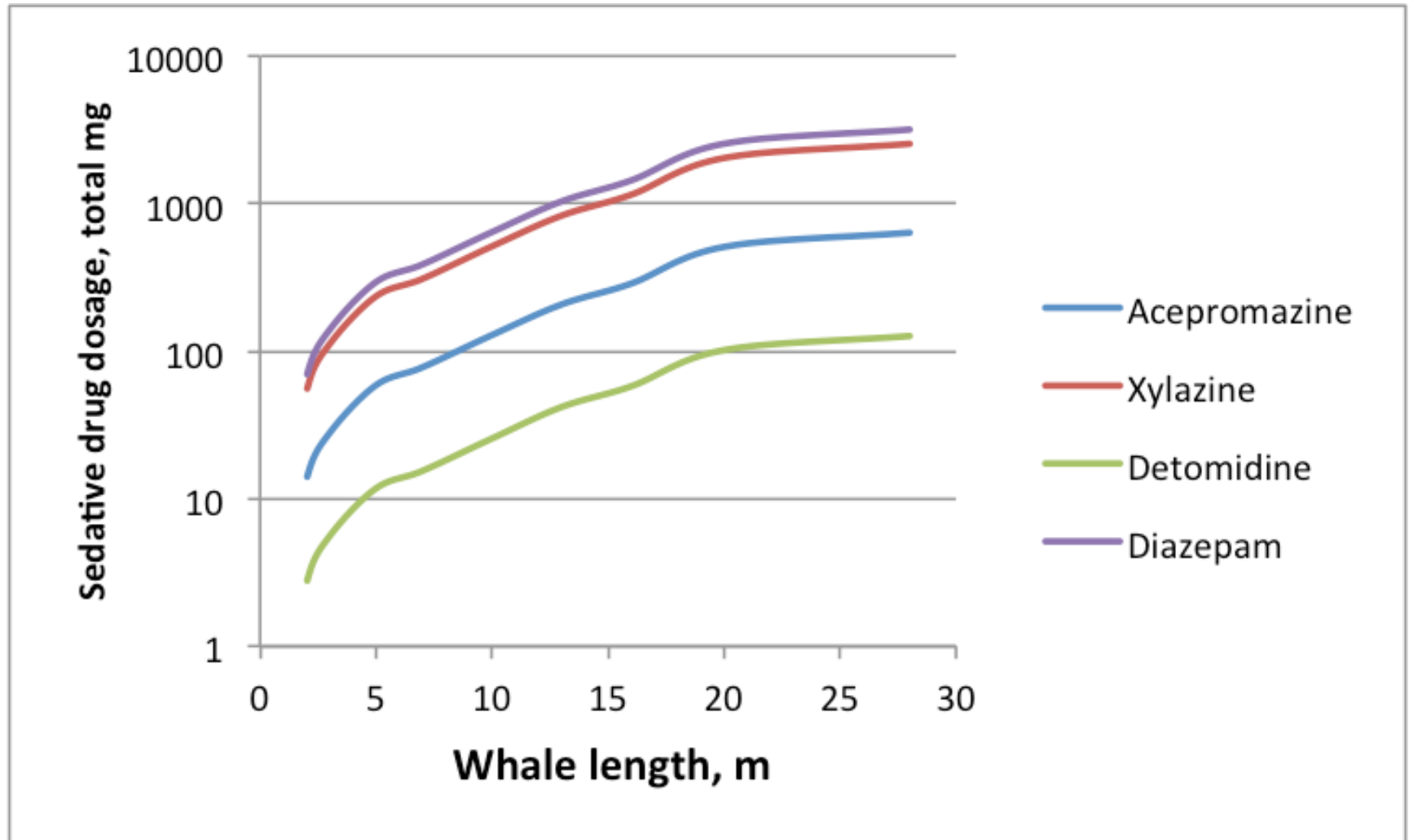
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Euthanasia by Injection

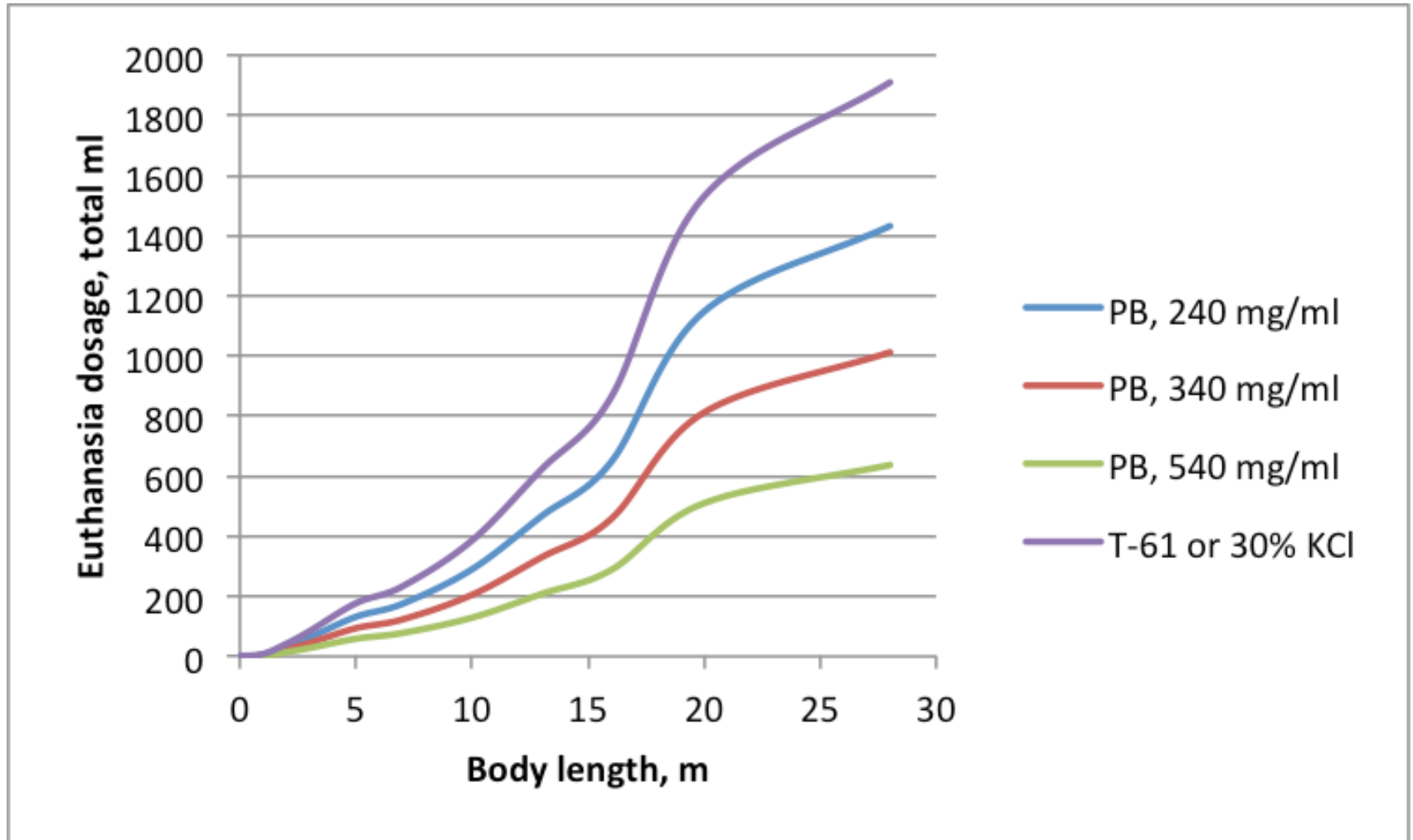


- ❖ smaller animals are not difficult
 - conventional drugs and doses are effective
 - cardiac injection is suggested
- ❖ larger species can be done but you need the equipment
 - long needles
 - a fluid pump
- ❖ confirm that death has occurred

Sedation Drugs and Dose

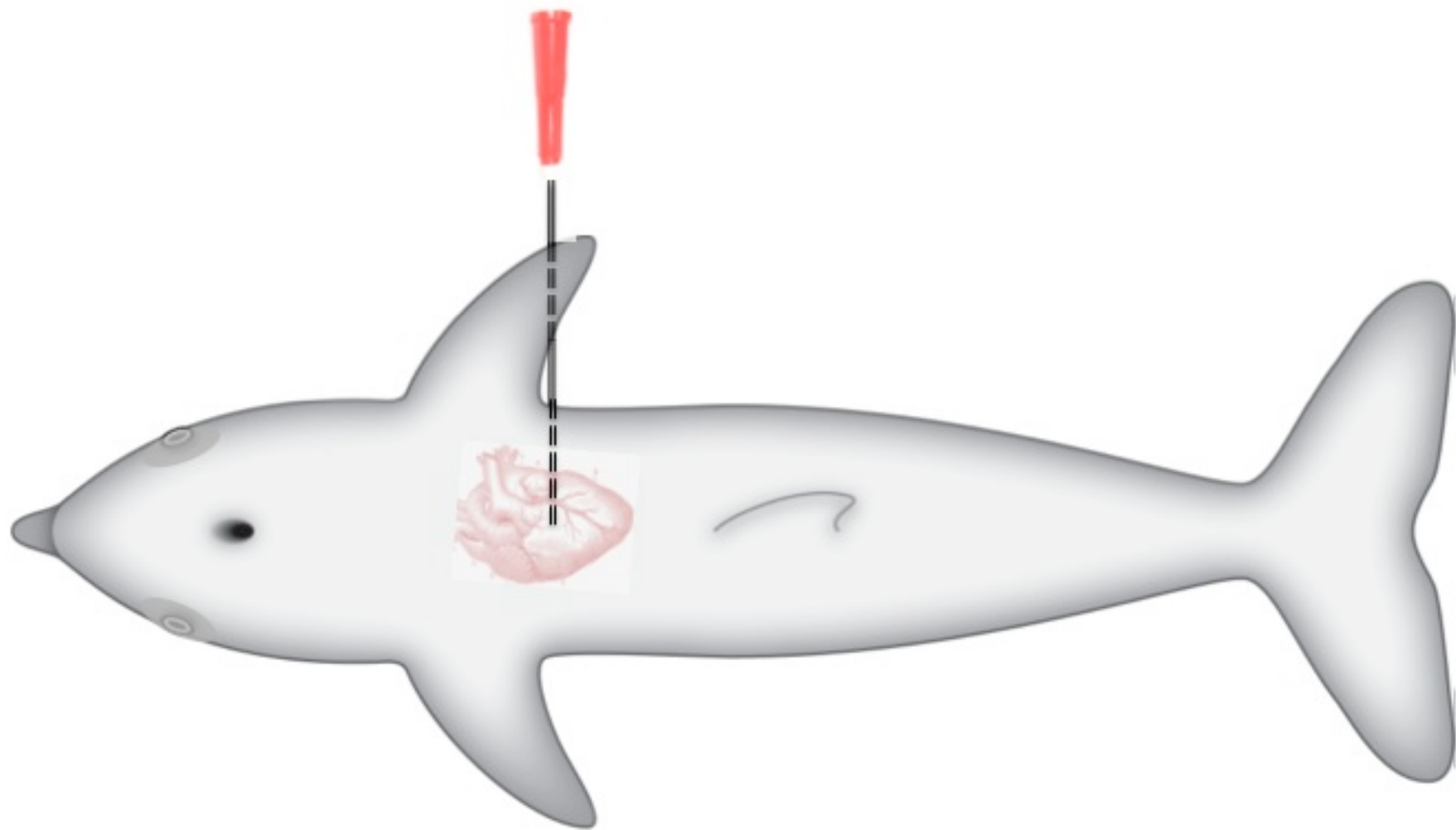


Euthanasia Drugs and Doses



Intracardiac Injection





Euthanasia by Gunshot



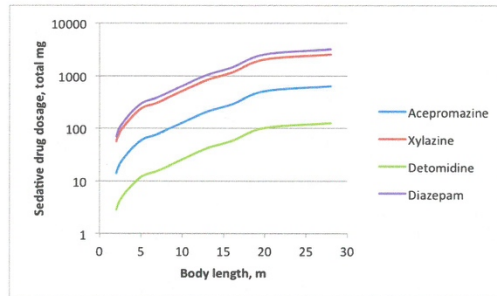
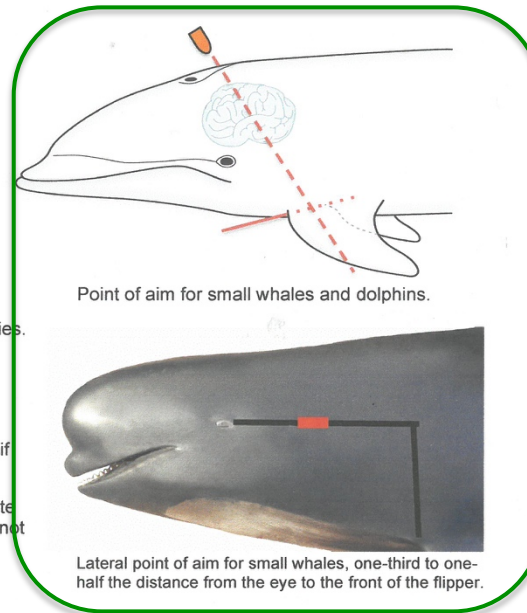
- ❖ must be safe, aimed, appropriate
- ❖ you need someone who knows how
- ❖ they will need the right equipment
- ❖ people watching need to be told
- ❖ confirm that death has occurred

Euthanasia of Whales and Dolphins

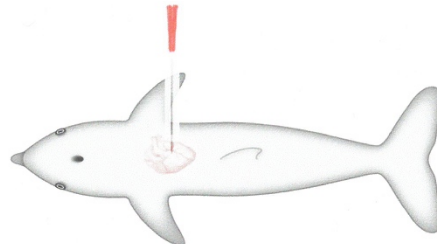
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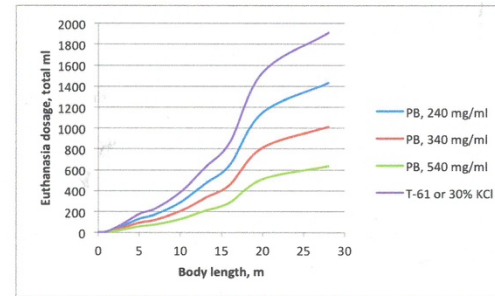
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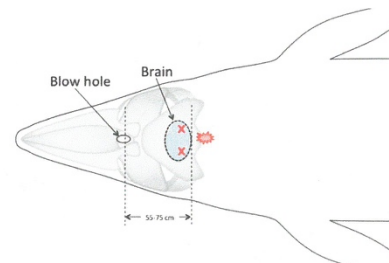
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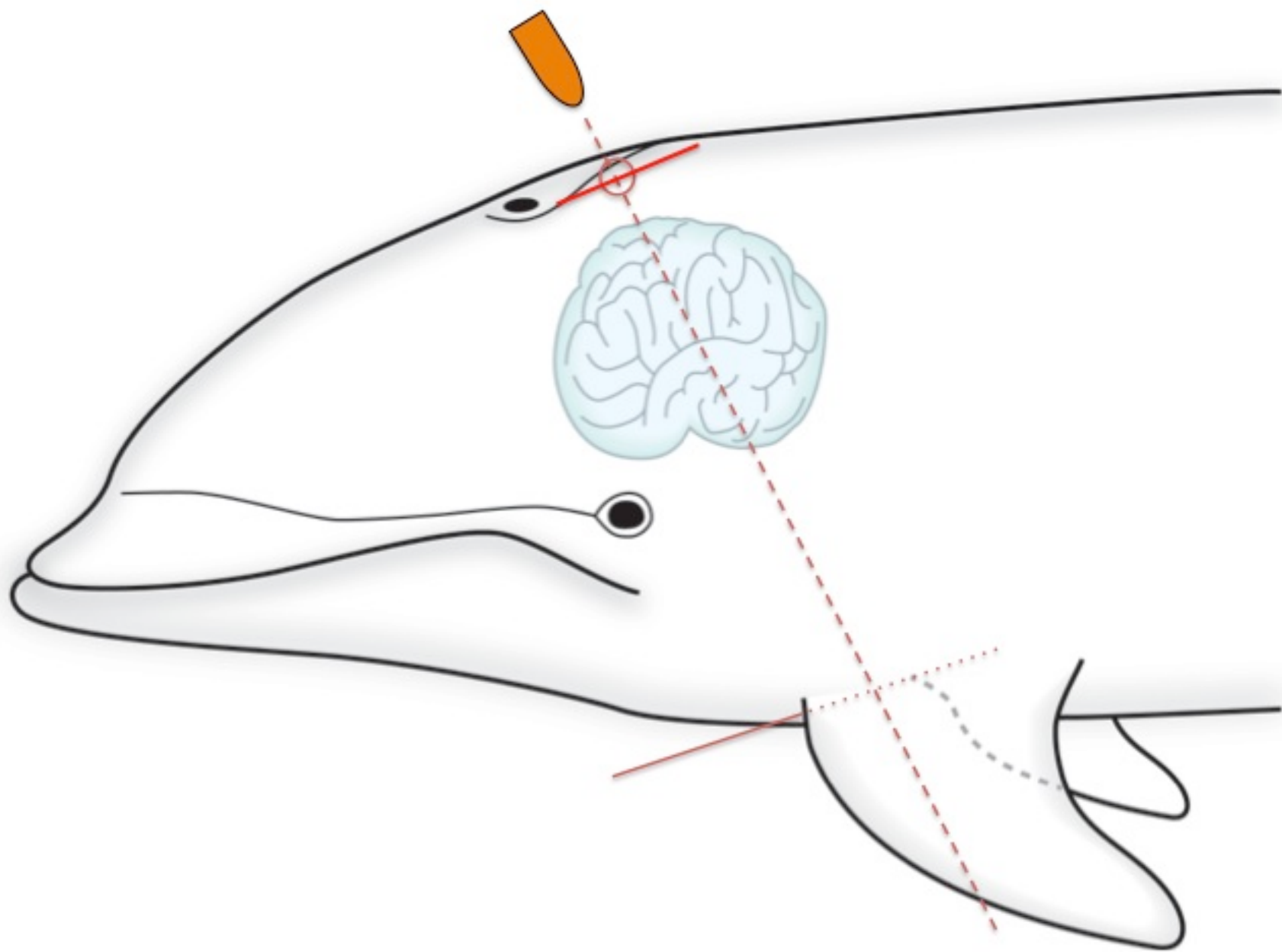
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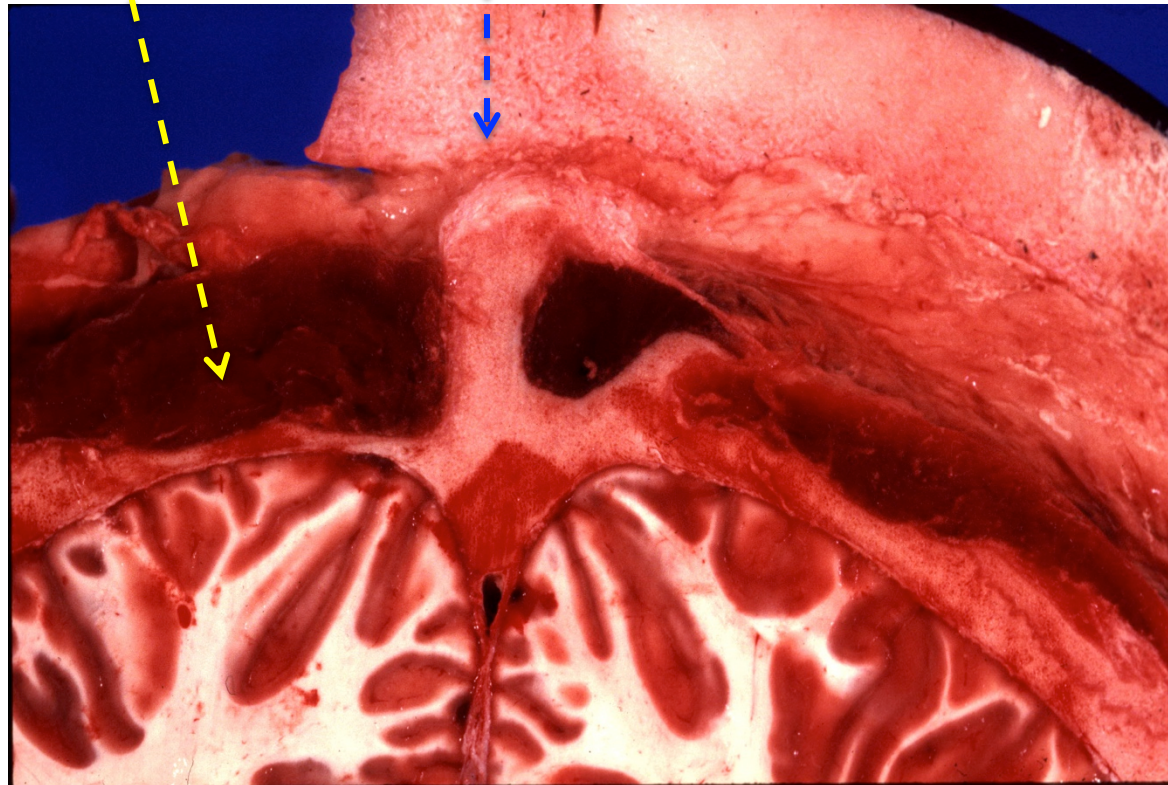
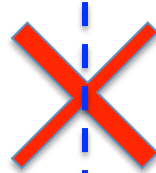
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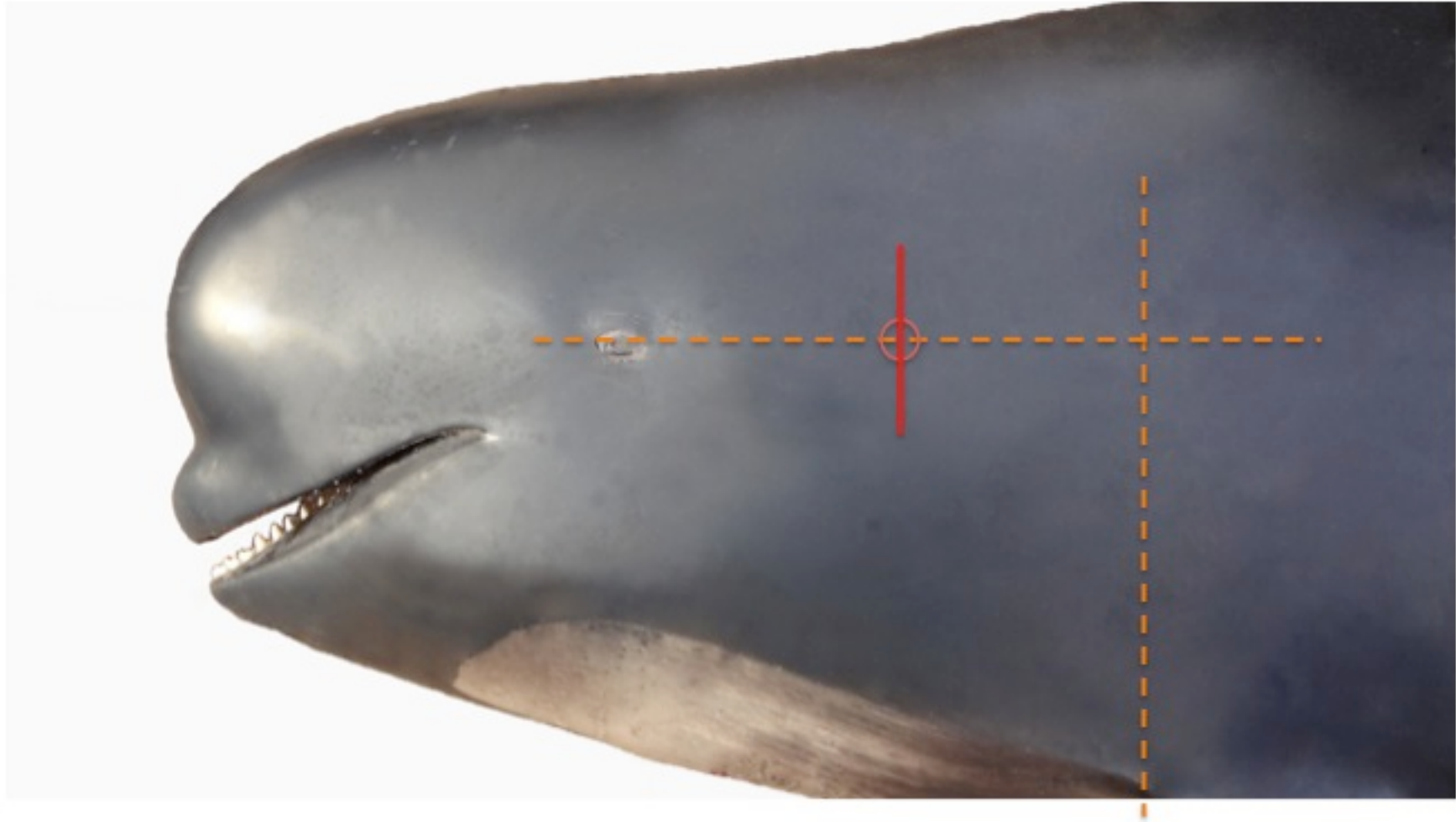


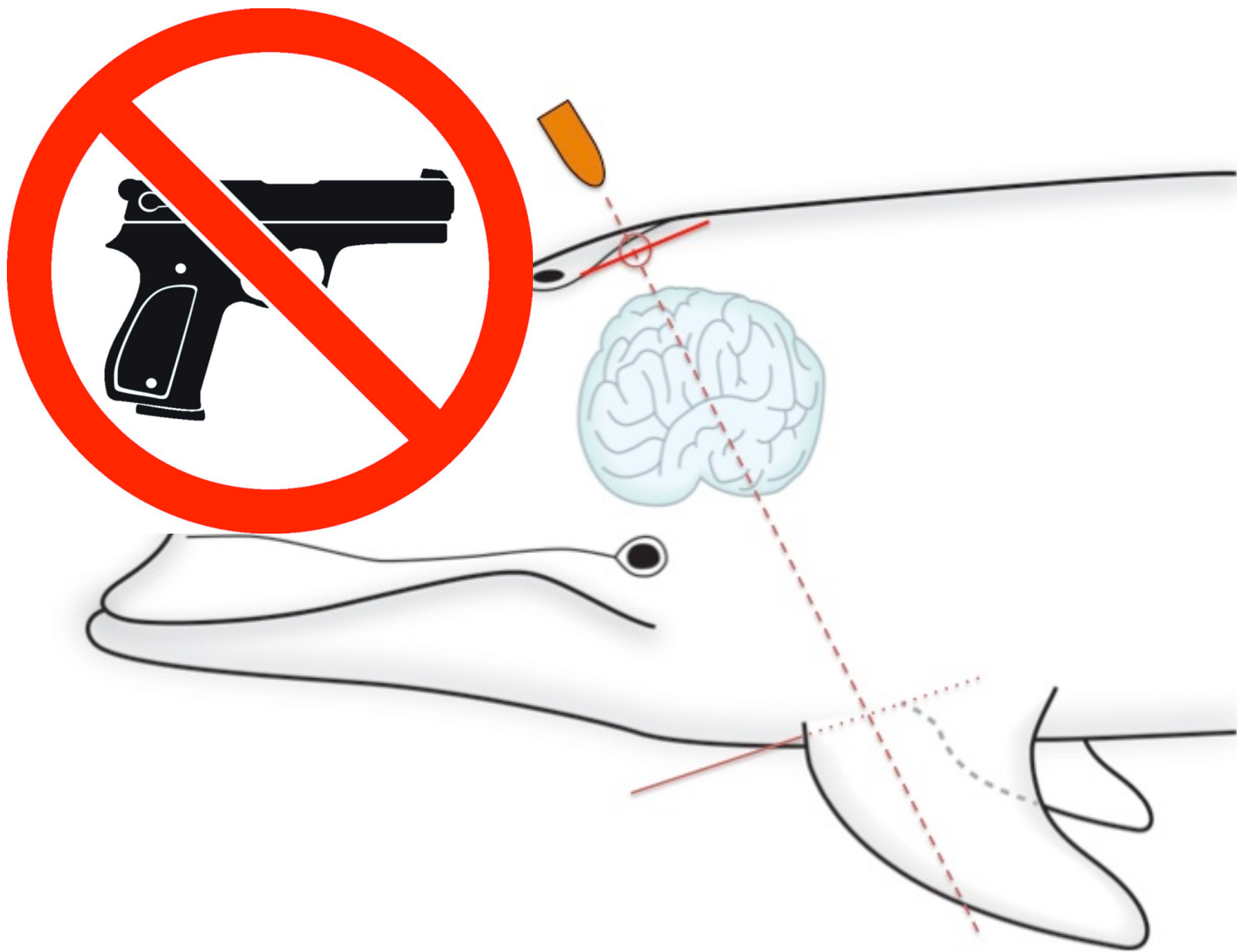
Point of aim for adult Minke whale, 55-75 cm caudal to the blowhole and slightly to one side of dorsal midline.



Not on the Midline







Sperm Whales



sperm whale
(*Physeter catodon*)
length up to 19 m (62 ft)



3 metres
9 feet

