

Sedation and euthanasia protocols in beef slaughter facilities

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Definitions

- Analgesia – the inability to feel pain
- Anesthesia – insensitivity to pain, especially as artificially induced by of gases or the injections of drugs before surgical operations
- Sedation – make sleep by administration of a drug
- Tranquilizer – drug taken to reduce tension or anxiety

Anesthesia

- Local anesthesia is anesthesia of a small part of the body such as a tooth or an area of skin.
- Regional anesthesia is aimed at anesthetizing a larger part of the body such as a leg or arm.
- General anesthesia is anesthesia that affects the whole body and usually induces a loss of consciousness

Xylazine

- Trade names – Rompun,
- Sedative and analgesic properties
- Dosage for cattle



Pharmacology of xylazine

- A potent alpha₂-adrenergic agonist.
- Lowered blood pressure, bradycardic effect, decreased tidal volume
- Ruminants are extremely sensitive to xylazine. Cattle require 1/10th the dose that horses require.
- Swine require 20 to 30 times the dose of cattle to see effect.

Xylazine

- Dosage of Xylazine is .02 to .2 mg/kg in cattle
- 10 ml of 100 mg/ml xylazine is 1000 mg or 1.5 mg/kg (1500 lb steer)
- Cattle will lay down within 10 minutes –
 - Calm, quiet patients require smaller doses, whereas anxious or unruly patients require larger doses or a second dose.
 - Salivation
 - Bloat

ACCIDENTAL EXPOSURE TO XYLAZINE

- CONTACT 911 IMMEDIATELY.
- Notify Plant Safety Manager – explain that team member had exposure to Xylazine and the potential dosage amount accidentally injected (cc/mg). Exposure is defined as a needle stick or Xylazine entering a cut/opening of the human body allowing for entry into the blood stream.
- Stay with employee until ambulance arrives and provide immediate first aid as necessary. Ensure a copy of the Xylazine drug label information sheet is provided to the ambulance personnel to provide to the emergency physician. A copy of the Xylazine drug label information sheet must be kept in the locked cabinet with the syringes of Xylazine.
- Notify prescribing veterinarian of incident and corrective actions.

Review of human intoxication cases

- 43 intoxication cases in the literature from 1966 to 2013
- 22 cases of fatal intoxication with xylazine
 - 17 deaths from using an adulteration with drug (cocaine/heroin/fentanyl) usage
 - 1 accidental intoxication
 - 2 suicide
 - 2 homicide

Accidental exposure – non-fatal (21)

- 9 accidental exposures
- 3 suicide attempts
- 3 recreational uses
- Misused – pain, insomnia
 - 37 year old female – 24 ml of Rompun
 - 34 year old male – 10 ml of 100mg/ml xylazine
 - 20 year old female horse trainer drank 4 ml of Rompun
 - 38 year old veterinary technician – irrigated eyes with 8 ml of Rompun
 - 36 year old veterinarian – 15 ml of xylazine and 10 ml of ketamine
 - Most small doses – CNS and respiratory depression

Accidental injections or exposures

- Dart fired into a man's foot
- Veterinarian put a needle cap in his mouth
- Two people ate an elk that had been injected with xylazine
- Veterinarians and technicians accidental injections



“Rabenhorst-Malone’s stepfather first began presenting symptoms such as slurred speech and a droopy face back in January 2018, telling doctors at the hospital where he received treatment that he thought his symptoms stemmed from stress, drinking energy drinks, and lack of sleep.”

Officials later tested the liquid in the man’s drinks and the syringes, finding traces of Xylazine, a drug used a tranquilizer for large cattle, the New York Daily News reported.

Clinical signs in humans

- CNS depression
 - Respiratory depression
 - Bradycardia
 - Hypotension
 - Miosis
-
- Reversal drug is Yohimbine

Safety in handling xylazine

- Confident but caring
- Cover cuts in hands – wash hands
- Wear eye protection

- Keep needles capped – no caps in mouth
- Carry pole syringe with needle pointed down
- Dispose of needle
 - Keep xylazine locked and keep inventory

- Cattle are unbelievable at kicking object

A VCPR is present when all of the following requirements are met:

The veterinarian has assumed the responsibility for making clinical judgments regarding the health of the patient and the client has agreed to follow the veterinarians' instructions.

The veterinarian has sufficient knowledge of the patient to initiate at least a general or preliminary diagnosis of the medical condition of the patient.

Timely visits by the veterinarian to the operation where the patient is managed.

The veterinarian is readily available for follow-up evaluation or has arranged for the following: veterinary emergency coverage, and continuing care and treatment.

The veterinarian provides oversight of treatment, compliance, and outcome.

Client Name: Tyson Foods
Address: 5000 N Fm 1912
City: Amarillo State: TX Zip: 79108

Veterinarian Name: Dan Thomson, PhD, DVM
Address: 7010 Pheasant Ridge Road
City: Riley State: Kansas Zip: 66531 Phone: 785-410-6233

Texas Veterinary License Number = 8843 USDA Accreditation Number: 083449 Exp date: 8/31/19

I hereby certify that a valid veterinary/client/patient relationship (VCPR) is established for the above listed slaughter operation through telemedicine. Within the valid VCPR, the veterinarian assumes the responsibility of making clinical judgements regarding the health of the patient(s) and provides oversight of treatment compliance, and outcome. The veterinarian agrees to have sufficient knowledge of the patient(s) in order to initiate diagnosis and treatment of medical conditions, and be readily available for follow-up evaluation of patient(s). In addition, within the valid VCPR, the client agrees to follow the veterinarian's instructions regarding standard operating procedures, treatment protocols, and legal extra-label drug use, and follow-up procedures. This includes keeping accurate written records of patient health status and prescription drug use. This agreement will remain in force until cancelled by either party, or until the expiration date is reached.

Historically, downed animals at the arrival of a slaughter facility can pose an injury risk to other cattle and to the cattle handling personnel. Cattle need to be unloaded from the truck to reduce stress and prevent injury. It is inhumane to unload cattle that would trample over the top of a downed animal on a truck. Therefore, it is recommended that downed animals should be rendered unconscious and then the truck should be unloaded. Once the truck is unloaded, plant personnel can safely enter the truck, humanely euthanize the animal and the carcass can be removed.

Downed animal treatment protocol:

- Xylazine (10 ml per animal intramuscularly)
- Captive bolt euthanasia

Client Signature: _____

Printed Name: _____ Date: _____

Veterinarian signature:  _____

Printed Name: Dan Thomson Date: 9/1/18

Prescription needed

Rx: Rompun (Xylazine 100 mg/ml) 50 ml:

For use in injured and downed cattle only. Administer 10 ml intramuscularly once for sedation. Follow SOP guidelines. Animals treated must not be entering the food chain under any circumstances.

Expiration date: 8/19/2020

Veterinary signature: _____



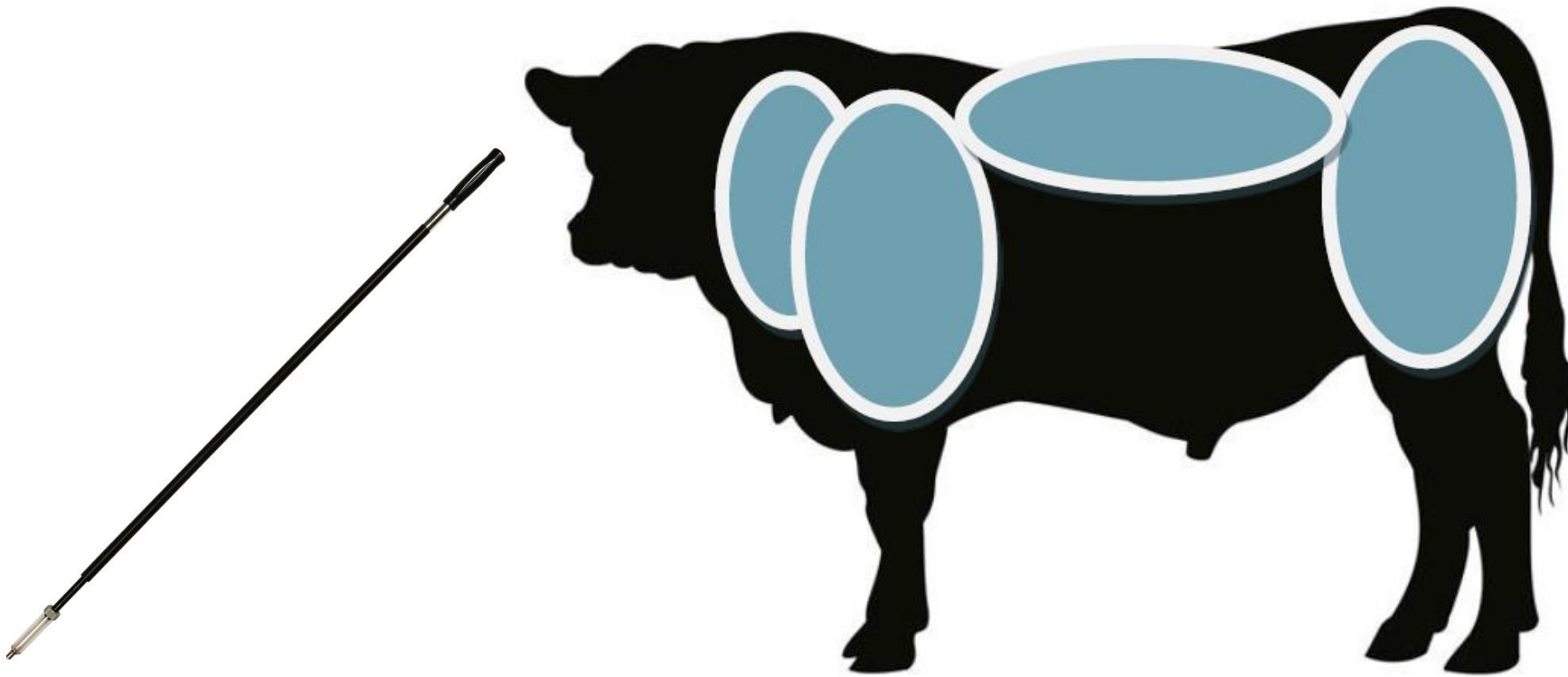
_____TX 8843

Date: __8/19/2019__

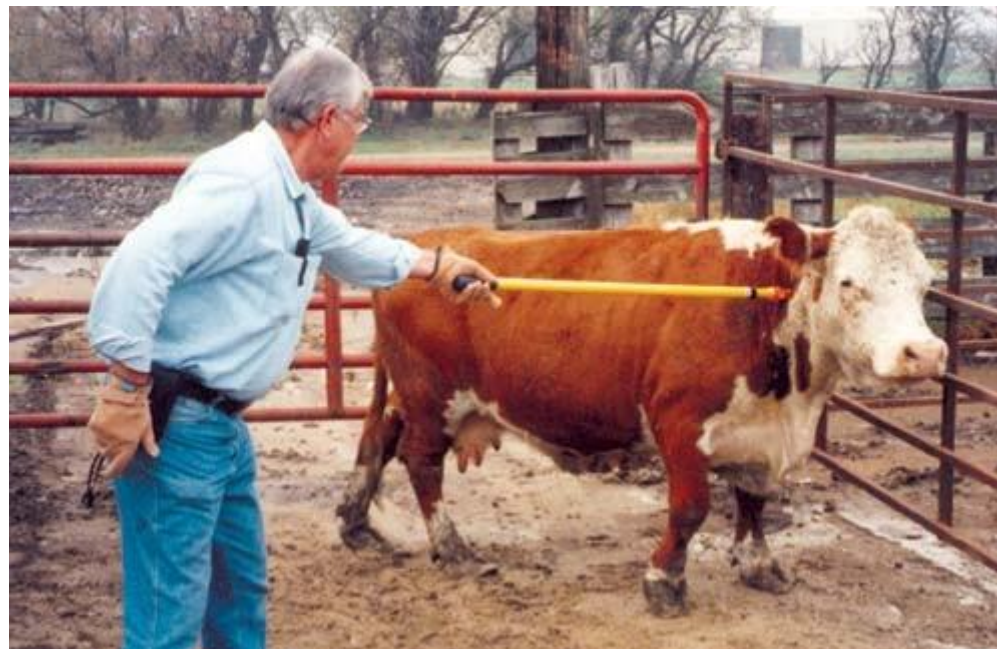
Why do we need this protocol?

- Cattle down on truck
 - Cattle disabled on yard
 - Any cattle disabled up to the restrainer
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- Animal Welfare
 - Food Safety
 - Employee Safety

Inject the Xylazine into the affected animal intramuscularly (into the muscle) in a large muscle body such as the neck, shoulder, rump or back (see below). Insert the needle into the animal until the hide is flush with the hub of the needle.



The Cow Poke



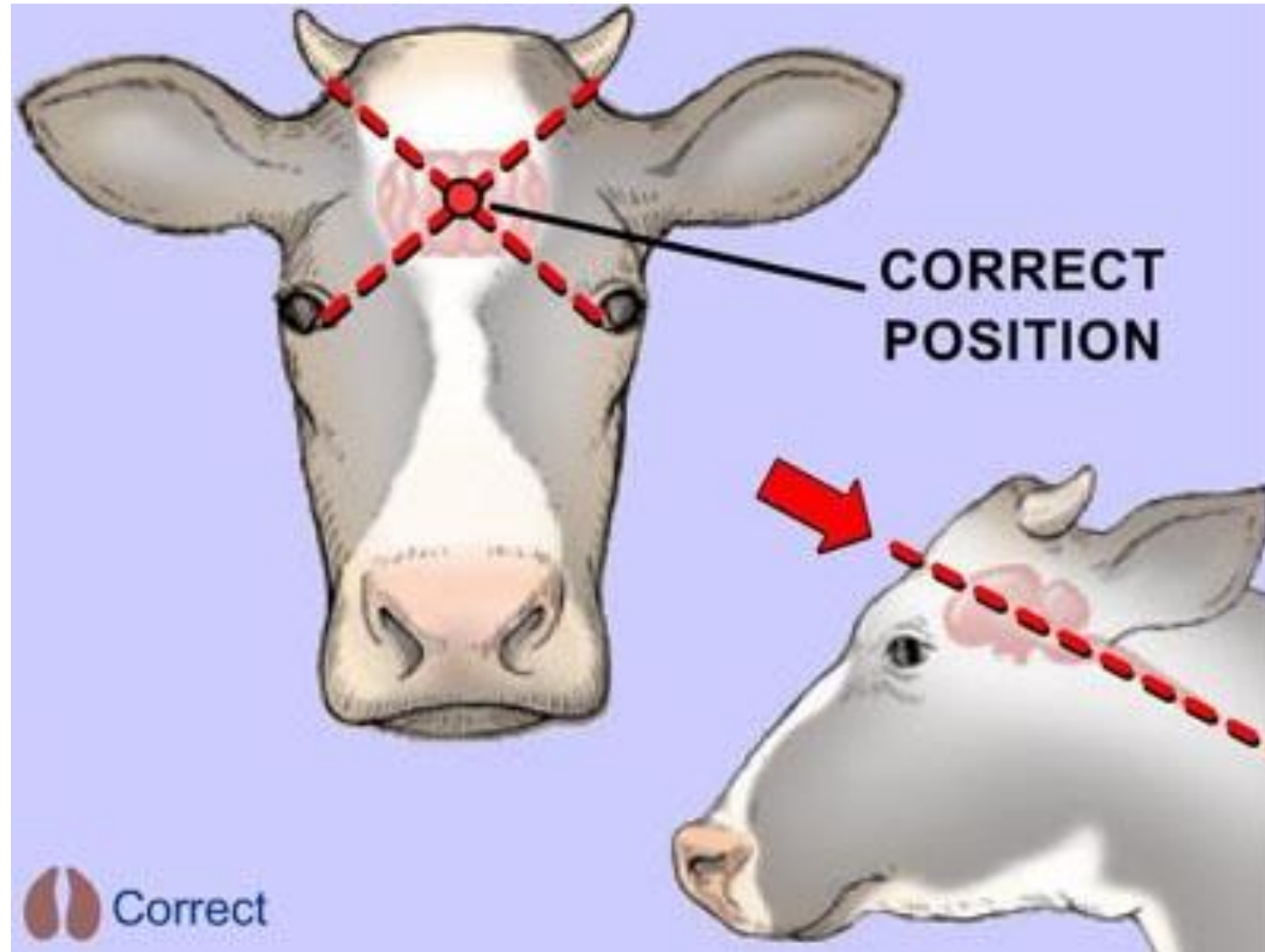
Euthanasia Captive Bolt



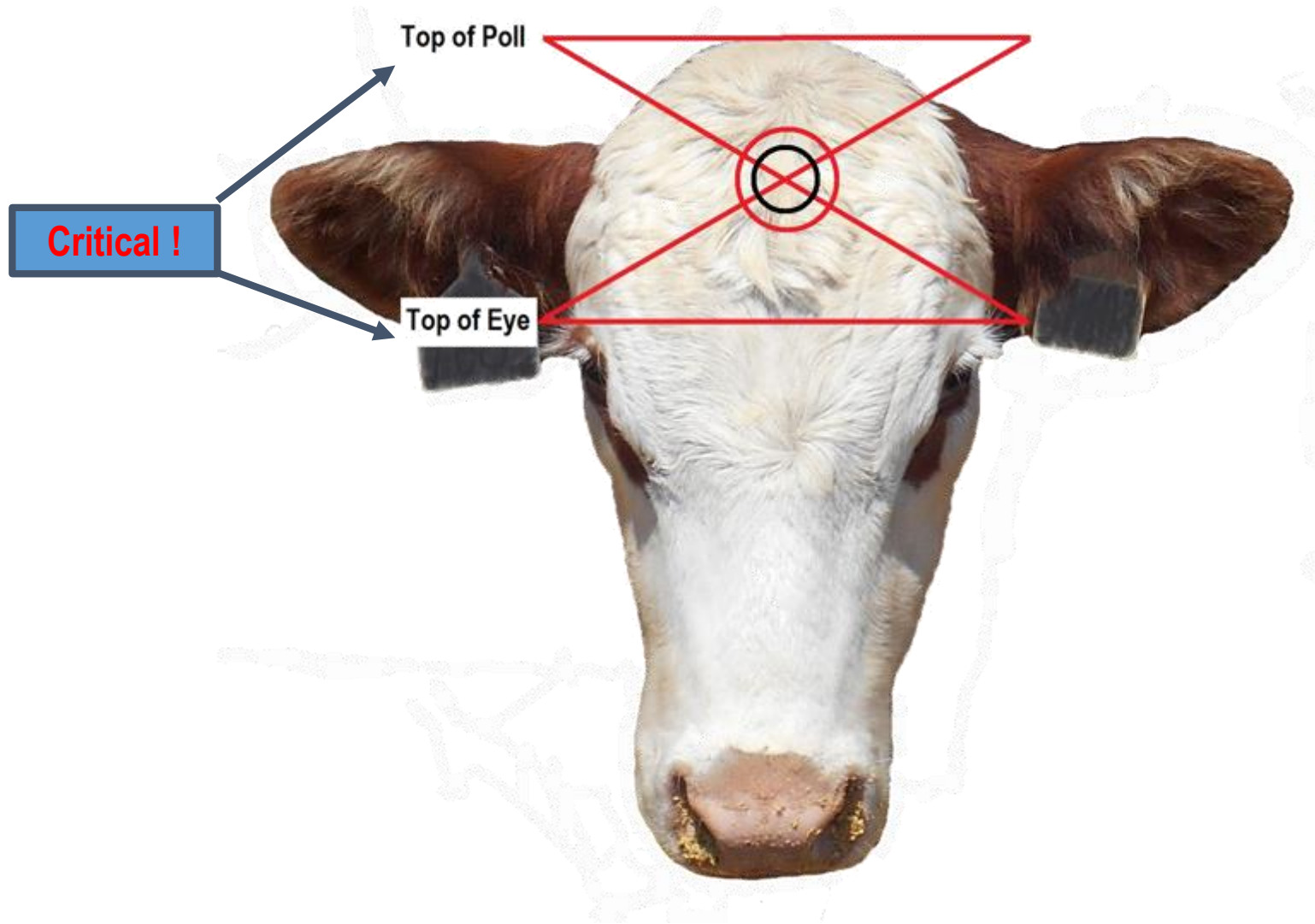
Captive Bolt Euthanasia



Euthanasia Anatomical Landmarks



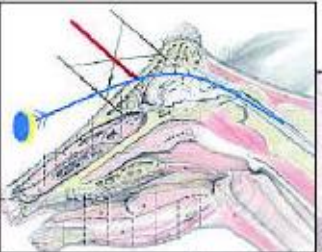
Euthanasia ... Stunning Anatomy







Secondary killing step



Euthanasia

Confirmation of Death



Euthanasia Confirmation of Death



Denature carcass and send to landfill



Conclusions

- Cattle are extremely sensitive to xylazine
 - Training employees is imperative
 - Accidental exposure needs immediate attention
 - Need VCPR and prescription
 - Proper euthanasia techniques
 - Denature the carcass
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- Human safety is much improved using xylazine