



ANIMAL WELFARE BOARD OF INDIA  
भारतीय जीव जन्तु कल्याण बोर्ड  
(Ministry of Environment and Forests, Govt. of India)  
(पर्यावरण एवं वन मंत्रालय, भारत सरकार)

MAJ. GEN. (Retd.) Dr. R. M. KHARB, AVSM  
CHAIRMAN

25<sup>th</sup> November, 2013

To Whom It May Concern


Animal Welfare Board of India (AWBI) is a statutory Body of Govt. of India established in 1962 under Section 4 of the Prevention of Cruelty to Animals Act 1960 (No. 59 of 1960). The Board consists of 28 Members including six Members of Parliament. At Present AWBI is working under the aegis of Ministry of Environment & Forests, GOI. This statutory body has been constituted by the Government of India for the promotion of animal welfare in general and for the purpose of protecting animals from being subjected to unnecessary pain and suffering, in particular.

The AWBI has learned that some animal shelters, veterinary institutions, veterinarians and veterinary assistants are euthanising animals in a manner which is associated with pain by administering / injecting only one chemical agent such as succinylcholine, magnesium sulphate or potassium chloride without prior sedation – while the animals are conscious and vulnerable to painful stimuli. *Injection of such chemical agents without prior sedation results in an extremely painful death thus contradicting the principles of euthanasia and violating The Prevention of Cruelty to Animals Act, 1960.*

Euthanasia is a humane method of alleviating animal suffering in cases of incurable disease, injury or debility. It is an effective and permanent way to relieve severe pain and suffering. **Euthanasia must be performed by qualified veterinarians who have an understanding of anatomical landmarks and the equipment and drugs used for the humane euthanasia of animals.**

The Board hereby recommends the following procedure for euthanising animals as well as following the enclosed guidelines on Euthanasia issued by Animal Welfare Board of India:

1. Sedate large animals using xylazine and small animals like dogs, using a combination of xylazine and Ketamine. Humane and compassionate handling without causing any stress to the animal could be the only substitute to sedation and a qualified veterinarian can take this decision based on the mental and physical assessment of the animal and the skills of the animal handler.
2. Inject an overdose of thiopentone intravenously (90 mg / kg BW) over a period of 10 seconds. In most of the cases it will stop the heart.
3. If the heart beat persists (especially in case of large animals), inject intravenously one of the following drugs immediately after the animal becomes unconscious (*these three solutions MUST NOT be administered to conscious animals*):
  - Saturated magnesium sulphate solution to effect
  - 10% Potassium chloride or iodide solution to effect
  - Chlorhexidine-cetrimide solution to effect
4. It may take few seconds to minutes for the heartbeat to stop. Do not rely on loss of respiratory movements or eye reflexes as signs of death. Use a stethoscope and check for heart beat. The veterinarian should not leave until he or she is certain that the animal is dead.

  
Dr. R.M. Kharb  
Maj. Gen. (Retd.), AVSM  
Chairman, AWBI

Cc: Department of Animal Husbandry, Dairying and Fisheries  
Veterinary Council of India  
State veterinary councils  
State animal husbandry departments  
All veterinary universities and colleges.  
All animal protection and welfare organisations



**ANIMAL WELFARE BOARD OF INDIA  
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**CRITERIA AND STANDARDS OF EUTHANASIA OF ANIMALS**

**Introduction**

Euthanasia is an act of inducing humane death in an animal with minimal pain and distress. It is the responsibility of the veterinarian administering euthanasia to ensure that the animal is dealt with highest degree of respect, with an emphasis on making the entire procedure as painless and distress free for the animal as possible. Euthanasia should result in rapid loss of consciousness followed by cardiac or respiratory arrest and the ultimate loss of brain function. It is important that the death of the animal is confirmed after euthanasia by examining the animal for cessation of vital parameters (heart beat/respiration)

**Concerns and Considerations**

**Decision making for euthanising animals**

The following essential considerations must be kept in mind by the Veterinarian while performing euthanasia: -

1. Veterinarians have the primary obligation to relieve an animal's incurable suffering and pain by performing euthanasia
2. A veterinarian must not cause any animal to suffer by failing to maintain adequate paw control and relief of suffering

**Decision making**

The following points need consideration in decision making to perform euthanasia of an animal: -

- a) History and seriousness of present illness and general health of the animal
- b) Thorough physical examination for evidences of intractable or incurable condition / ailments
- c) Prognosis of the case based on the above (a and b)
- d) Future life of the animal if not euthanised especially in relation to the five freedoms: -
  - i) Freedom from Hunger and Thirst
  - ii) Freedom from Discomfort
  - iii) Freedom from pain

- iv) Freedom to express normal behaviour
- v) Freedom from fear and distress

The decision to perform euthanasia is ultimately vested with the veterinarian based on the above guidelines. Subsequent to the decision, the procedure to be adopted for administering euthanasia, will be as per the guidelines / standards explained in this document.

#### **General consideration for choice of the Euthanasia drug / procedures: -**

1. Ability to induce loss of consciousness and death without causing pain, distress, anxiety or apprehension
2. Time required to induce loss of consciousness
3. Reliability of the procedure
4. Safety of personnel
5. Irreversibility of the procedure
6. Compatibility with requirement and purpose
7. Emotional effect on observers or operators
8. Compatibility with subsequent evaluation, examination or use of tissues
9. Drug availability, cost and human abuse potential
10. Compatibility with species, age and health status
11. Ability to maintain equipment in proper working order
12. Safety for predators/scavengers should the carcass be consumed

#### **Human Behavioural considerations for Animal Euthanasia**

- ❖ Moral and ethical concerns with regard to grief at the loss of life
- ❖ The Veterinarian certifying the need for euthanasia must give due consideration to moral and ethical concerns
- ❖ When owners choose to witness the procedure they must be fully aware of the happening
- ❖ Emotional uneasiness, discomfort or distress experienced by people to be minimized by utmost care and concern in handling of animal, choice of drug and procedure
- ❖ Utmost care in planning use of animals in research especially if euthanasia is the ultimate method of disposal
- ❖ Handling wildlife, relocation issues, need to euthanise, public, political administrative pressures
- ❖ Mass euthanasia of poultry and livestock in the face of disease outbreaks, bio-terrorism and natural disasters.

#### **ANIMAL BEHAVIOURAL CONSIDERATIONS**

- ❖ Minimal animal distress in handling (reduce animal fear, anxiety, nervousness)



- ❖ Careful and effective sedation prior to euthanasia
- ❖ Special attention to restraint in handling of wild and feral animals

### Conditions requiring euthanasia of animals

1. Old age associated with debility, poor mobility and irrecoverability to normal health
2. Incurable specific diseases (caused by bacteria, virus, endoparasites, ectoparasites, rickettsia, fungi)
3. Incurable systematic or non-specific diseases (cancer, tumours, pneumonia, nephritis, hepatitis, dermatitis etc) which may cause severe pain, digestive disorders, poor mobility, lack of appetite and will not respond to treatment.
4. Natural disasters – drowning, extensive fire burn wounds, cachexia due to starvation and inability to consume food
5. Rail and road accident victims with multiple fractures; grievous injuries, extensive tear, laceration wounds that cannot be repaired, head injuries leading to severe shock, permanent disabilities affecting normal movement
6. Serious conditions of shock, coma and unconsciousness that cannot be treated
7. Animals suffering from zoonotic diseases
8. Animals mutilated during research studies that cannot be restored to normalcy and will be in agony if permitted to survive
9. Destruction of in contact / suspected animals in the event of outbreak of contagious / infectious diseases in animals or birds and more seriously considered if the disease can spread to human populations

### Prohibited Methods of inducing euthanasia

- ❖ Electrocution – Hanging
- ❖ Stunning
- ❖ Hypothermia
- ❖ Drowning
- ❖ Using household products and solvents for Euthanasia
- ❖ Formalin injection
- ❖ Neuromuscular blocking agents injection (nicotine, magnesium sulphate, Curariform agents)
- ❖ Burning
- ❖ Rapid freezing
- ❖ Chloroform
- ❖ Strychnine injection
- ❖ Exsanguination
- ❖ Decompression
- ❖ Air embolism
- ❖ Cyanide administration

- ❖ Chloral hydrate injection

### **Essential principles of conducting euthanasia**

- ❖ Euthanasia techniques should result in rapid loss of consciousness followed by cardiac or respiratory arrest and the ultimate loss of brain function
- ❖ The technique chosen should minimize distress and anxiety experienced by the animal prior to loss of consciousness
- ❖ The drugs chosen should be of proven quality cost effective and easily available
- ❖ Veterinarian conducting euthanasia must be knowledgeable on the dose and route of administration of the drug
- ❖ Veterinarian performing euthanasia must have appropriate training and experience in the techniques being used and humane restraint of the animal to be euthanised to ensure minimal pain and distress to the animal
- ❖ Selection of the most appropriate method of euthanasia in any given situation depends on the species of animal involved, available means of animal restraint, professional skill of personnel and number of animals to be euthanised

### **Procedures of euthanasia**

The methods and drugs to euthanise animals in this document are with relevance to the availability of cost effective drugs in the field conditions in India. Availability of skilled and semi skilled manpower, the standards have been drawn for euthanasia of animals of different species. In view of the poor infrastructure and non availability of gaseous agents all over India in general, these agents have not been considered.

### **Pre-Euthanasia drugs – Tranquilizers / Sedatives / Immobilizers**

Medication with these drugs is required to facilitate humane handling of animals prior to Euthanasia to reduce stress in handling of animals.

### **General Guidelines for euthanasia for different species of Animal**

#### **Laboratory animals**

1. Sedate the animal with Xylazine I/M followed by administration of Thiopentone sodium. Route of administration I/V.
2. Sedation of the animal with xylazine followed by physical method (cervical decapitation). This method can be adopted for smaller species and neonates.



### Aviary and Poultry

1. Sedation with ketamine I/M and followed by cervical dislocation.
2. Sedation with ketamine I/M followed by Thiopentone sodium I/V.

### Dogs and cats

1. Sedation with xylazine I/M followed by Thiopentone sodium I/V.
2. Sedation with Acepromazine I/M followed by Thiopentone sodium I/V
3. Sedation with Diazepam I/V followed by Thiopentone sodium I/V.

### Reptiles

Sedation with xylazine and ketamine followed by Thiopentone sodium

### Elephants and camels

Immobilization with xylazine and ketamine followed by Potassium chloride 10% solution I/V.

### Equines

Sedation with acepromazine I/M / xylazine I/M followed by Thiopentone sodium I/V or Potassium chloride 10% solution I/V.

### Livestock

1. Sedation with xylazine I/M and ketamine I/V followed by 10% potassium chloride/Thiopentone sodium
2. For swine restraining with Gallamine I/M, followed by sedation with xylazine, followed by Potassium chloride/Thiopentone sodium I/V.

### NOTE

Potassium chloride 10% solution must be given intravenously at a very fast pace after proper sedation of the animal.

Barbiturates (Thiopentone) at three times the anaesthetic dose can be administered for euthanasia.

Proper carcass disposal should be ensured after euthanasia as most of the drugs used for euthanasia will have residual effect / harmful to predators and scavengers.

**SEDATION DOSAGE FOR SEDATION WITH XYLAZINE (mg/kg Body weight)**

S. No.	SPECIES	DOSE (mg/kg)/ ROUTE	REMARKS
1.	Dogs	0.5-1.0 mg IV 1-2 mg IM/SC	-
2.	Cats	0.5-1.0 mg IV 1-2 mg IM/SC	-
3.	Rabbits	5 mg SQ/IM	-
4.	Mice/ rats	13 mg IP	-
5.	Hamsters/ guinea pigs	8-10 mg IP	-
6.	Cattle	0.05-0.15 mg IV 0.10-0.33 mg IM	-
7.	Horses	1.1 mg IV 2.2 mg IM	-
8.	Sheep and goat	0.05 - 0.10 mg IV 0.10 -0.22 mg IM	-
9.	Deer species	3 mg IM	-
10.	Bison	0.6-1 mg IM	-
11.	Yak	0.6-1 mg IM	-
12.	Bear	8-10 mg IM	-
13.	Wolf	7-8 mg IM	-
14.	Primates	2-5 mg IM	-
15.	Camels	0.5 mg IM	-
16.	Elephant	0.1 mg IM	-
17.	Zebra	3-5 mg IM	-
18.	Lion	8-10 mg IM	-
19.	Spotted Leopard	8-10 mg IM	-

IV – Intravenous, SC -- Subcutaneous, IM-Intramuscular, IP - Intraperitoneal

8.	Mouse	150 IP	-do-
9.	Hamster	120 IP	-do-
10.	Rats	120 IP	-do-
11.	Rabbits	150 IP	-do-

#### Etorphine

S. No.	SPECIES	DOSE / ROUTE (mg/kg)	REMARKS
1.	Zebra	1.5 mg/IM Total dose	Drug is highly potent. Even 1.5 mg is fatal
2.	Chimpanzees	0.66-1.76 µg/kg IM	
3.	Small primates	0.44-1.3 µg/kg IM	
4.	Elephant	5-8 mg – Total dose IM	
5.	Camel	0.25-0.5 mg/45 Kg IM	

#### Gallamine

S. No.	SPECIES	DOSE / ROUTE (mg/kg)	COMMENTS
1.	Swine	4.0 IM	

#### Veterinarian Performing Euthanasia must confirm the Death of the animal

Confirmation of death is made from the following parameters:-

- No movement of the chest / No sign of respiration
- No heart beat when checked with the stethoscope
- No pulse on palpatian.
- Colour of the mucous membranes turns blue from brightened in the animal mouth
- Loss of corneal reflex and glazing of the eyes.

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**SEDATION using KETAMINE HCl in combination with xylazine**

S. No.	SPECIES	DOSE (mg/kg)/ ROUTE of Administration	REMARKS
1.	Cattle	2.2 IV	-
2.	Sheep	22 IV	-
3.	Goats	11 IM	-
4.	Reptiles	20-60 IM	-
5.	Birds	0.1 – 0.2 mg IM	Birds < 100 g
		0.05-0.1 mg IM	Birds weighing 250 – 500 g
		0.02-0.1 mg IM	Birds weighing 500g – 3 kg
		0.02 – 0.05 mg IM	Birds over 3 kgs
6.	Camels	1-2 mg IM	-

**EUTHANISING AGENTS with dosages for different animals THIOPENTONE SODIUM I/V and POTASSIUM CHLORIDE I/V**

For euthanasia Thiopentone Sodium is given three times the anaesthetic dose for that species. The euthanasia dose of Thiopentone Sodium is as under:-

S. No.	SPECIES	THIOPENTONE DOSE (mg/kg) / ROUTE	REMARKS
1.	Dogs	90 IV	Alternatively 10 Potassium chloride can be used as euthanising agent after Xylazine sedation
2.	Cats	90 IV	-
4.	Horses	35 IV	With preanesthetic tranquilization
5.	Swine	35 IV	Swine weighing 5-50 kg
6.	Sheep	45 IV	-do-
7.	Goats	70 IV	-do-
8.	Cattle	120 IV	-do-