

GUIDELINE FOR THE HUMANE KILLING OF ANIMALS DURING EMERGENCY EVACUATION

Background

The purpose of this guideline is to safeguard the wellbeing of animals undergoing experimental or surgical procedures in the event of an emergency building evacuation. This is to ensure that anaesthetised animals are killed humanely if the procedure or surgery has already commenced and will require further intervention prior to recovery, e.g., completion of invasive surgery, closing of the incision site, removal from a stereotaxic apparatus, etc.

A physical method of euthanasia is recommended because of the time constraint during building evacuation events which limits the use of injectable pharmacological methods (e.g., pentobarbitone sodium) if these are not easily accessible. Physical methods provide an alternative, rapid and effective way to humanely kill laboratory animals.

These physical methods are permitted to be used even if not explicitly approved in the animal ethics application. However, the chosen method should be appropriate for the species, the experiment that is being conducted, and the investigator's competency in performing the chosen method.

Killing Method	Species and conditions	Description
Cervical Dislocation	Unconscious or anaesthetised mice, rats weighing <200 g	<ul style="list-style-type: none"> The thumb and index finger are placed on either side of the neck at the base of the skull or, alternatively, a rod is pressed at the base of the skull. With the other hand, the base of the tail or the hind limbs are quickly pulled, causing separation of the cervical vertebrae from the skull resulting in the depression of the CNS and damage to the brain stem. <p>View the microlearning module including demonstration video</p>
Bilateral Thoracotomy and Exsanguination	Unconscious or deeply anaesthetised mice, rats weighing >200g, rabbits, guinea pigs, sheep.	<ul style="list-style-type: none"> Material required: Scalpel blade or sharp scissors OR Large gauge needle (16-18G) Locate the space between the 3rd and 4th or 4th and 5th rib or the point on the lateral chest wall behind the elbow joint. The location is similar to the site for lateral cardiac puncture technique. Advance the scalpel blade or scissors or large-bore needle ensuring that at least 1 - 2cm has penetrated the thoracic wall. Repeat the procedure on the other side of the chest wall. This procedure will produce bilateral pneumothorax (collapsed lung), and rapid intrathoracic exsanguination resulting from the incision of the heart and transection of the major blood vessels (vena cava, aorta) causing rapid death (Figure 1 and Figure 2).
Pneumothorax through the abdominal cavity and diaphragm	Unconscious or deeply anaesthetised mice, rats.	<ul style="list-style-type: none"> Material required: Scalpel blade or sharp scissors. Cut through the skin and muscle of the abdomen just below (caudal to) the thorax. Cut the diaphragm. The heart could also be cut or removed to accelerate the process and ensure death. <p>View the microlearning module including demonstration video</p>

Figure 1 (Adapted from Constantinescu 2018)

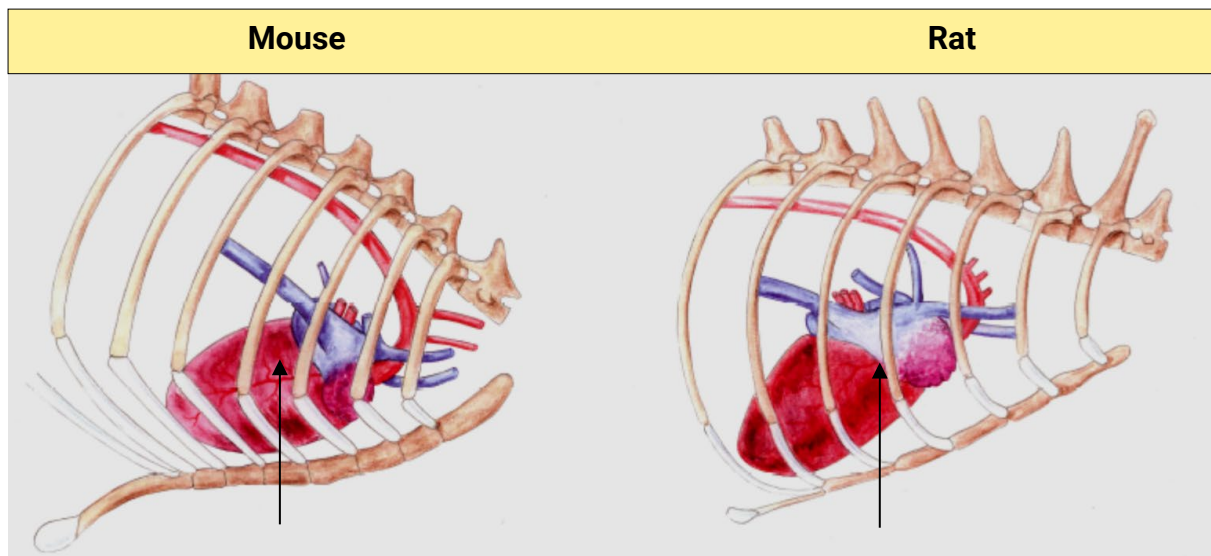
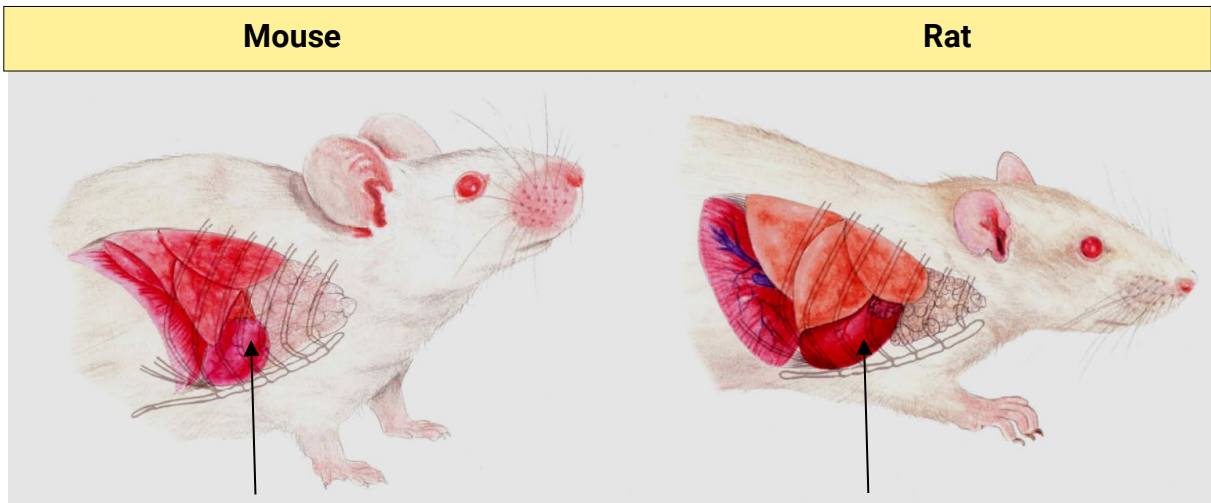
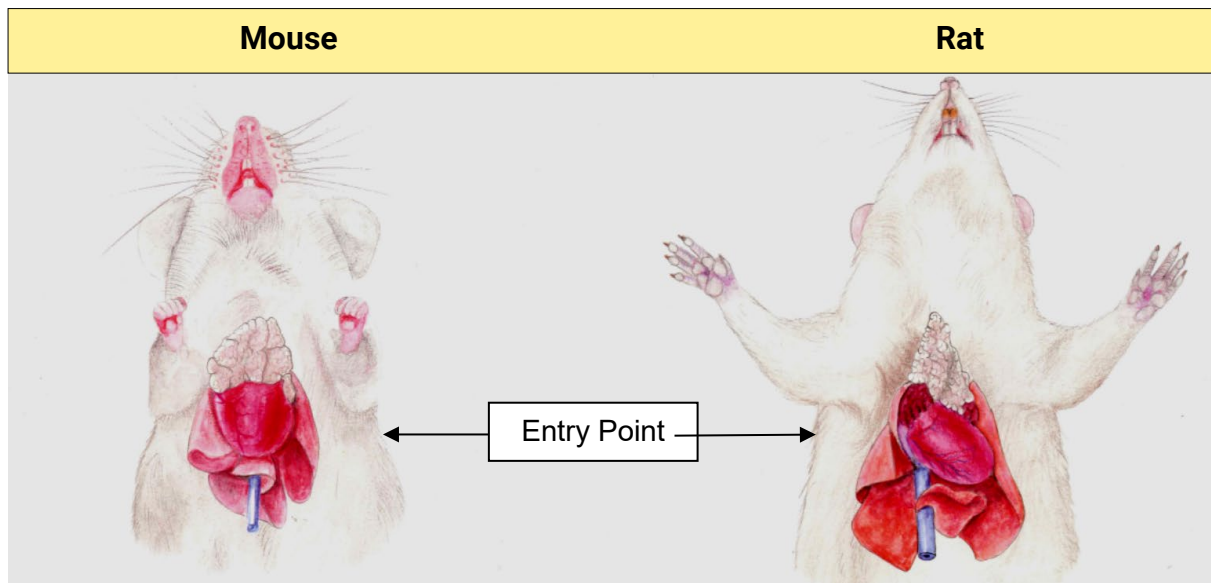
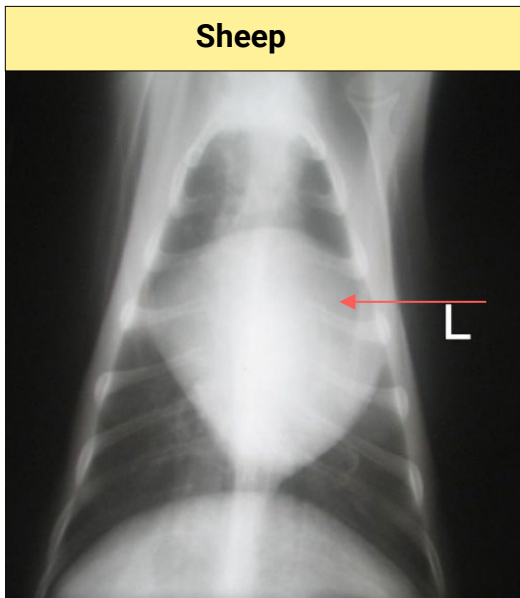
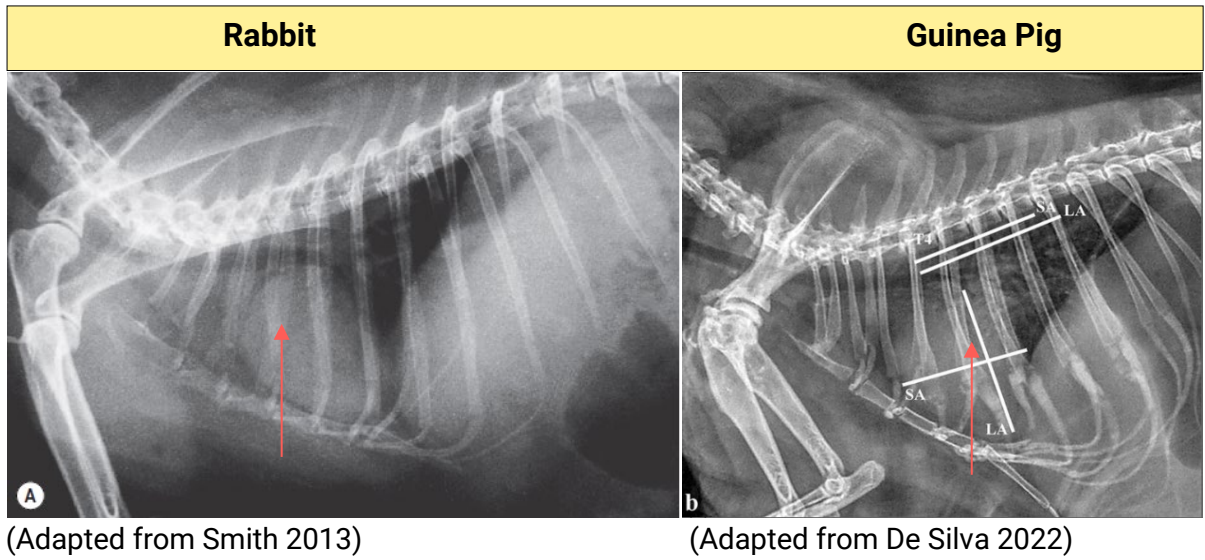


Figure 2



References:

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Microlearning Modules:

Cervical Dislocation	Pneumothorax
