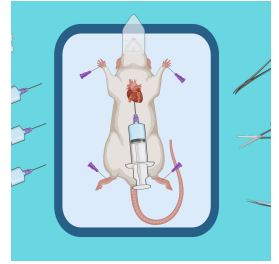


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# Isoflurane Anesthesia Protocol

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**Protocol status:** Working

**We use this protocol and it's working**

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**Keywords:** anesthesia, isoflurane, rat, isoflurane anesthesia protocol protocol, anesthesia machine with isoflurane, anesthesia machine, protocol

## Abstract

protocol describes how to use anesthesia machine with isoflurane to anesthetize a rat.

## Attachments



iso machine.JPG

3.1MB



IMG\_8179.JPG

2.1MB

## Guidelines

Ensure the anesthesia box that contains the rat has a fully closed and locked lid. Ensure that the nose cone used to maintain anesthesia is tightly around the rats nose. Perform procedure in a hood for safety and wear lab coat and gloves. Turn off the gas flow as soon as you are done using it for anesthesia.

## Materials

Paper towels

A glove

Tape

Isoflurane cart (Tape, extra isoflurane, oxygen tanks, black wrench to open oxygen tank)

Rat

## Troubleshooting

## Safety warnings

- !
  - Make sure at least one of the valves are open
  - Always check oxygen levels and isoflurane levels
  - Turn off isoflurane using the dial when you are not using it



## Before start

- Handle rat beforehand to reduce stress
- Bring rat from vivarium (or wherever it is kept) to surgery room in a clean cage

## Setup

- 1 Make sure you have a surgery room booked
  - 1.1 Some sort of table or surgical workbench to transfer rat to when fully anesthetized
- 2 Grab isoflurane cart and/or supplies and bring it to the surgery room
- 3 Place paper towels in the plastic container
- 4 Make sure the tubing is tightly sealed together (if tape is needed add tape)
  - 4.1 Make sure all of the tubing is in the correct place and connected
  - 4.2 Make sure the valves are parallel with the tubing (the pink and orange tubing)
- 5 Use larger thicker tape to secure white tubing down onto the surgery table (where you want it on the workbench)
- 6 Snip open a little hole in a glove and place it over the tubing for the rat's mouth as a nose cone for anesthesia during surgical procedures
- 7 Check isoflurane level (make sure it is between the minimum and maximum fill lines)
  - 7.1 If the isoflurane level is low then unscrew the cap and slowly add in the isoflurane  
Set isoflurane regulator on top-adjust dial as appropriate
- 8 Use the black wrench to open the oxygen tank
  - 8.1 Turn to the right to open



- 9 Look at the oxygen regulator and turn the green knob so the silver ball is in the middle of the 1 on the regulator.
- 10 Place the rat in the plastic box and close the lid
- 11 Adjust isoflurane dial as needed
- 11.1 Start at 4 (if female)
- 11.2 Start at 5 (if male), heavier animals usually need more isoflurane to become anesthetized
- 12 Keep rat under for a few minutes or until the rat's breathing slows down
- 13 Take the rat out of the plastic container and place it onto the surgery table
- 14 Do a toe pinch using forceps to make sure the animal does not feel any pain
- 14.1 If the rat has a pain reflex or a jerk motion of the limb then place back into the plastic container and continue anesthesia
- 14.2 If the rat has no pain reflex or jerk then continue
- 15 Put the tubing that has the glove with the slit over the rat's mouth and nose to maintain anesthesia
- 16 Then when the rat is fully anesthetized you can proceed with your surgery

## Turning off machine



17 Turn off the isoflurane dial (back to 0)

18 Take the black wrench to close the oxygen tank

18.1 Turn to the left to close

## Troubleshooting

19 Check to make sure there is no tubing loose/disconnected

19.1 In case there is a leak

19.2 Or if something is not working

20 Adjust dial

20.1 More or less isoflurane depending on how the rat is doing

## Cleanup and Transport

21 Press the green oxygen flush button

21.1 This clears out oxygen from the tubing

22 Remove the paper towels and dispose of them



- 23 Clean out the plastic box with paper towels and water only
- 24 Return isoflurane machine and supplies to its storage place
- 25 Place cage where the dirty cages go to be cleaned