


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Isoflurane Anesthesia Protocol

Michaela Selby¹, Alicia Avelar²¹UCSD; ²UCSD, Scripps1 *Works for me* Sharedx.doi.org/10.17504/protocols.io.36wgqj7m5vk5/v1Alicia Avelar
UCSD, Scripps

ABSTRACT

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

ATTACHMENTS

[iso machine.JPG](#) [IMG_8179.JPG](#)

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KEYWORDS

anesthesia, isoflurane, rat

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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 TEXT

Paper towels

A glove

Tape

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

Rat

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 STARTING

- 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