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## Deep hind paw incision model

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COMMENTS 0

WORKS FOR ME

1

## ABSTRACT

The deep hind paw incision model is established to evaluate postoperative pain. Based on TJ Brennan's rat model of incisional pain (1996), several modifications are made. This protocol outlines the procedures from a to data anesthesia to consciousness recovery.

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## IMAGE ATTRIBUTION

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## GUIDELINES

Please follow the Animal Research: Reporting of In Vivo Experiments (ARRIVE) guidelines.

## MATERIALS TEXT

Disinfection:

- 10% povidone–iodine solution (popiyodon solution 10%; Yoshida Pharmaceutical Co., Ltd., Saitama, Japan)
- Drapes
- Cotton buds

Surgery:

- 5mL syringe for plantar-flexion position
- Scalpal blades for incision
- Double-ended micro spatula
- Iris forceps (curved)
- Dumont forceps (angled 90°)

Suture:

- Micro-Adson forceps
- Needle holders
- 6-0 nylon suture with needle
- Operating scissors
- Baramycin ointment (TOYO Pharmaceutical Co., Ltd., Osaka, Japan; catalog number: 672639)

## Anesthesia and disinfection

- 1 The mouse placed in a prone position under sevoflurane anesthesia (4 volume% in 1 L/min oxygen) delivered via a nose cone. Sevoflurane inhalation is used, as it is safe, non-invasive, rapid, and easy to control. Adequate anesthetic depth is ascertained by loss of response to tail clamp. 3m
- 2 Keep the ipsilateral paw in plantar-flexion position. Disinfection with 10% povidone–iodine solution. Place a drape. 1m

### Note

## Deep hind paw incision

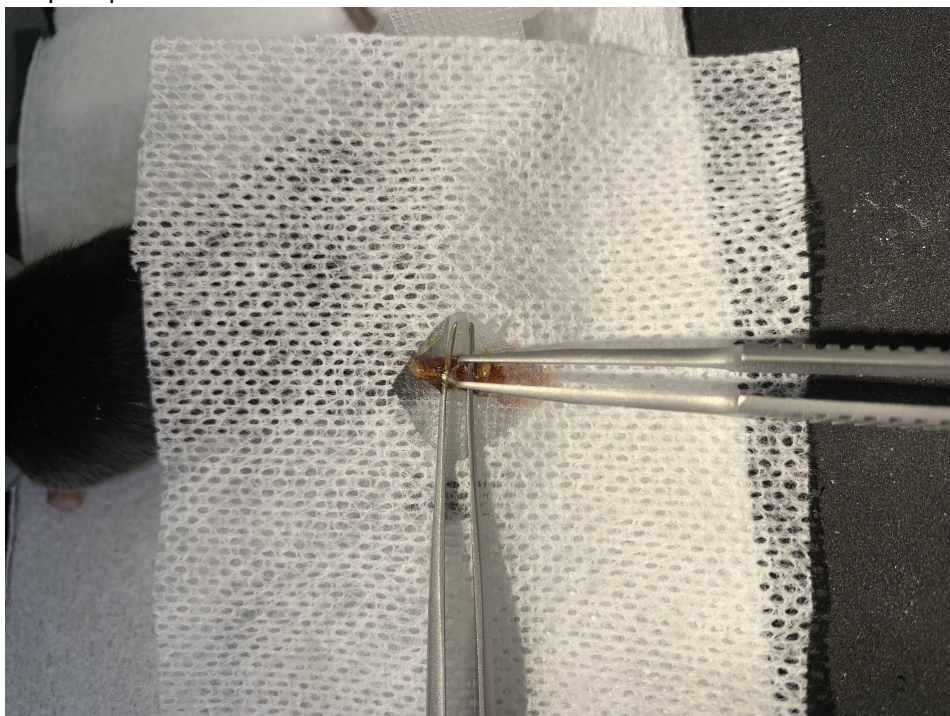
- 3 Make a 5-mm longitudinal incision through the skin using a scalpel blade, starting 2 mm from the proximal edge of the heel and extending toward the toe. 12m  
30s



- 4 Elevate the underlying plantaris muscle using curved iris forceps, with the help of a double-ended micro spatula.



Incise the fascia and plantaris muscle with angled 90° dumont forceps. Keep the position for 5 min.



5m



- 5 After hemostasis, close the wound using a 6-0 nylon suture and cover it with bacitracin ointment to prevent wound infection.

2m



- 6 Place the mouse in a recovery cage. Once the mouse is fully recovered as it regains the righting reflex and ability to stand, return it to its home cage. Respiratory patterns and reactions to surgical stimulation are continuously monitored during the entire surgical procedure.

5m

#### Expected result

## Sham surgery

- 7 The sham surgery comprises anesthesia, antiseptic preparation, and application of topical antibiotics without skin and muscle incision and elevation.