



May 10, 2019

U Mass - Surgery – carotid artery cannulation

DOI

<https://dx.doi.org/10.17504/protocols.io.x4pfqvn>



Jason Kim¹

¹University of Massachusetts

Mouse Metabolic Phenotyping Centers
Tech. support email: info@mmpc.org



Lili Liang

Create & collaborate more with a free account

Edit and publish protocols, collaborate in communities, share insights through comments, and track progress with run records.

Create free account

OPEN  ACCESS



DOI: <https://dx.doi.org/10.17504/protocols.io.x4pfqvn>

External link: <http://mmpc.org/shared/document.aspx?id=158&docType=Protocol>

Protocol Citation: Jason Kim 2019. U Mass - Surgery – carotid artery cannulation. **protocols.io**
<https://dx.doi.org/10.17504/protocols.io.x4pfqvn>

License: This is an open access protocol distributed under the terms of the [Creative Commons Attribution License](#), which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited

Protocol status: Working

We use this protocol and it's working

Created: February 13, 2019

Last Modified: May 10, 2019

Protocol Integer ID: 20335

Keywords: carotid artery, mice, carotid artery cannulation summary, carotid artery, carotid artery for blood sampling, survival surgery, surgery, chronic indwelling catheter, anesthetized mice

Abstract

Summary:

Chronic indwelling catheter is placed in the carotid artery for blood sampling during experiments. Survival surgery is performed in anesthetized mice, and mice recover from surgery after 4~5 days.

Materials

MATERIALS

⊗ 0.9 % Sodium Chloride Injection USP **B.Braun Medical Inc** Catalog #NDC0264-4001-55

⊗ Ketamine **Vedco** Catalog #NDC50989-996-06

⊗ Xylazine **LLOYD Inc (Anased)** Catalog #NADA#139-236

⊗ Heparin **Pfizer (Hospira)** Catalog #NDC0409-2723-01

⊗ HelixMark Standard Silicone Tubing **Helix Medical, Inc.** Catalog #0.012" ID / 0.025" OD

⊗ Ketoprofen **Patterson Veterinary** Catalog #07-803-7389

Note:

B Braun Medical, Cite this ([B Braun Sharing Expertise, RRID:SCR_007148](#))

Hospira, [RRID:SCR_003985](#)

- 1 Anesthetize mice with an intraperitoneal injection of ketamine (100 mg/kg body weight) and xylazine (10 mg/kg body weight).
- 2 Check the level of general anesthesia using a pinch stimulus of animal's tail and/or foot.
- 3 Make a transverse incision (~0.5 cm) over the trachea, and isolate the carotid artery.
- 4 Carefully introduce a silastic catheter (PE 10) into the vessel. The catheter should be filled with a saline solution containing heparin (10 U/ml) and plugged.
- 5 Guide the catheter to the back of the neck, and place under the back skin to prevent its accessibility from the mouse.
- 6 Tie a silk to the catheter, and make a small opening at the back of neck.
- 7 This silk, which is partially exposed, will be used/pulled on the day of experiment to expose the catheter.
- 8 On the day of experiment, flush the catheter using a heparinised saline solution.
- 9 All surgical procedures should be performed using standardized aseptic techniques, and all surgical tools should be autoclaved following the surgery.
- 10 Apply post-operative care based on the institution's animal care and use committee standard operating policy.