



Surgery – jugular vein cannulation

Version: 1

Edited by: Jason Kim

(note that the following list should be linked to the appropriate location.)

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Summary: *(This area will include a brief description of what the protocol is used for and why someone would need to use it.)*

Chronic indwelling catheter is placed in the jugular vein for intravenous infusion and injection of drug, hormones, and metabolites. Survival surgery is performed in anesthetized mice, and mice recover from surgery after 4~5 days.

Reagents and Materials: *(This should be a comprehensive list of stock solutions and material. The reagent list for the stock solutions is included in the reagent preparation area that is included at the end of this SOP.)*

Reagent/Material	Vendor	Stock Number
0.9 % Sodium Chloride, Injection, USP	B.Braun Medical Inc	NDC0264-4001-55
Ketamine	VEDCO	NDC50989-996-06
Xylazine	AnaSed (LLOYD)	NADA#139-236
Ketoprofen	Fort Dodge Animal Health Care	NDC056-4396-01
Heparin	Hospira	NDC0409-2723-01
HelixMark Standard Silicone Tubing	Helix Medical, Inc.	0.012'' ID / 0.025'' OD

Protocol:

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 right jugular vein.
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.

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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.