

- SOP No:** AHT 52
- SUBJECT:** Intravenous (Jugular) Vein Cannulation in Rats
(June 2015)
- POLICY:** This procedure may only be performed by operators skilled in the technique.
Surgery must be performed under aseptic conditions
No more than two (2) grafts are allowed per animal.
- PRECAUTIONS:** Surgical gloves, eye protection, long-sleeved gown, closed in shoes.
All instruments and materials (including catheter) must be sterilised before use.
Surgery must be performed under aseptic conditions
- EQUIPMENT:** Anaesthetic
70% Alcohol
Heparinised saline
Scalpel (No 22), scissors, forceps, haemostats
Silk ligatures
Suture material or staples
Sterile Cannula o d 1.05mm x i d 0.5mm
- PROCEDURE:**
1. Anaesthetise rat (specify dose, route and volume).
 2. Lay the rat on its back with the head away from the surgeon.
 3. Measure the distance required by the cannula (around 3-4cms or ~20 cm if exteriorising via stainless steel spring at the back of neck).
 4. Shave hair on the ventral neck from midline to 1cm past jugular groove and swab the skin with alcohol.
 5. Make a 1.5-2.0mm incision in the neck to one side of the midline. Blunt dissect away the fat and connective tissue.
 6. Pass a pair of haemostats under the vein and place 2 ligatures around the vein.
 7. Using blunt dissection, clear the area of connective tissue and fat until the bifurcation of the internal and external jugular veins is exposed.
Loosely position ties around the internal and external branches and the common jugular vein (i.e., one tie on each of the three branches of vein).
 8. Raise the posterior ligatures and hemi-transect the vein between the two ligatures.
 9. Introduce a heparinised saline filled cannula into the vein and advance it towards the heart. Verify the patency of the catheter by withdrawing blood. Flush with heparinised saline.

10. Tie the anterior ligature firmly around the catheter once inside the common jugular vein. Tie the posterior ligatures around the cannula and vein.
11. Grasp the cannula and create a "stress loop"
12. Secure the catheter loop with the posterior ligatures
13. Shave the dorsal neck and swab with alcohol.
14. Make a 0.5-1.0ml incision and create a s/c tunnel using a straight pair of haemostats.
15. Cut the cannula leaving 2.5-3.0cm exterior to the skin.
16. Suture the skin or pass the catheter through a stainless steel spring and suture the base of the spring into the s/c pocket at the back of the neck.

RECOMMENDATIONS:

Give benzylpenicillin 60mg i.m. to prevent infection.

Recommended for repetitive, chronic blood sampling studies.

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CHAIR OF AEC

REFERENCES

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