

T400-Series Surgical Protocol

Sheep Carotid Artery: Chronic Blood Flow Measurement

APPLICATION BASICS

Site:	Carotid artery
Species:	Sheep
Weight:	40 kg
Duration:	Chronic
Vessel Diameter:	6 - 8 mm

PROBE

Size:	8 mm (side exit)
Reflector:	L with sliding cover
Connector:	10-pin
Cable Length:	60 cm
Catalog #:	MC-8PSS-LS-WC60-CRA10-GC

FLOWMETER

TS420 Perivascular Module

Flow Ranges Observed

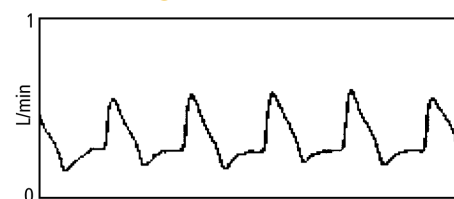


Fig. 1: Instantaneous flow in the carotid artery ranged from 150 to 550 ml/min.

Application

This protocol was developed for the early validations of transit time technology. In some experiments, the carotid artery was completely exteriorized in a skin loop and a cannula was installed. The carotid artery is also a convenient location for the installation of vascular access ports and pressure catheters.

Surgical Approach

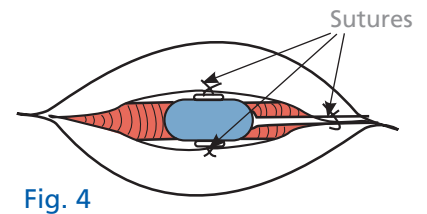
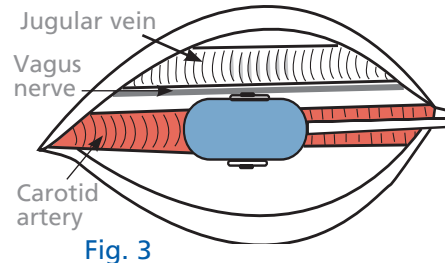
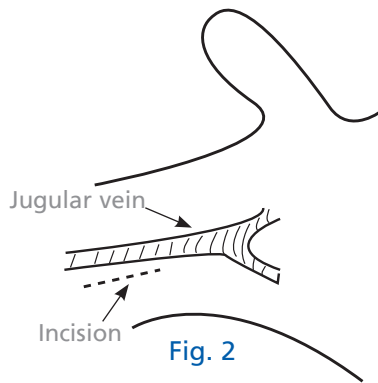
Withhold feed for 24 hours prior to surgery. Premedicate with 0.4 g glycopyrrolate IM, induce with 1 g ketamine IM and maintain anesthesia on 1.5% - 2% halothane.

Have a non sterile assistant compress the vein at the thoracic inlet so that the jugular vein may be visualized. Make a 5 cm skin incision ventral to the jugular vein as shown in Figure 2. Palpate for the pulsating artery and separate the sternomastoideus and cleidomastoideus muscle to expose the carotid sheath. Carefully incise the sheath and separate the vagus nerve from the common carotid artery. Place the L bracket of the Probe around the artery. Close the slide and secure the screw.

Appose the separated muscle layers with 2-0 non-absorbable suture as shown in the figure on the next page. Secure the Probe with sutures through the holes in the bracket and around the cable as shown in Figure 4. Create a subcutaneous tunnel to a second skin incision 5 cm from the dorsal midline of the neck. Pass the cable through the subcutaneous tunnel and exteriorize with a skin button.

Close the skin with simple interrupted sutures. Also close the stab incision and the cable exit site with simple interrupted sutures. Suture the cable to the skin for strain relief and close the incision at the cable exit site, spray the site with a topical antibiotic and place a Stent bandage over the incision. The connector is soldered on the cable during recovery.

Sheep Carotid Artery: Chronic Blood Flow Measurement Cont.



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