T400-Series Surgical Protocol

Rabbit Auricular Artery: Chronic Blood Flow Measurement

APPLICATION BASICS
Site: Auricular artery
Species: Rabbit, NZ White
Weight: 3.5 - 4 kg
Duration: Chronic
Vessel Diameter: 1 mm

PROBE
Size: 1 mm
Reflector: L with sliding cover
Cable Length: 60 cm
Catalog #: MC-1PRB-LS-WC60-CM45-GC

FLOWMETER
TS420 Perivascular Module

Flow Ranges Observed
Fig. 1: Auricular blood flow in a conscious rabbit seven days after surgical implantation of the Flowprobe. Range: < 1 - 25 ml/min.

Application
When used in conjunction with Laser Doppler flowmetry (see Rabbit Ear Acute Perfusion LD-108-sp) the rabbit ear can be used as a longitudinal model for the study of human digital pathophysiology.

Surgical Approach

PREPARATION
Before instrumenting the rabbit, acclimate the animal to a restrainer for a week with repeated restraint conditioning of increasing durations for up to an hour.

INSTRUMENTATION
Anesthetize the rabbit with a mixture of ketamine (30 mg/kg) and xylazine (8mg/kg) administered intramuscularly. Administer supplemental dosages as needed. Isolate the auricular artery carefully from the neurovascular bundle on the dorsal, basal portion of the ear and place the artery within the lumen of a 1PRB Flowprobe (Fig. 2). Hold the Probe in place with cyanoacrylate glue (Nexaband®, Tri-Point Medical, Raleigh, NC). From the Probe head, pass the Probe cable and connector beneath the skin down the base of the ear, across the top of the cranium and out through a cylindrical anchor attached to the rabbit’s skull (Fig. 3).

MEASUREMENTS
Place the rabbit in a restrainer, remove the screw-on cap of the electrical connector and connect the Flowprobe with the transit-time Flowmeter. Record measurements via a chart record or data acquisition system.

Volume Flow
Rabbit Auricular Artery: Chronic Blood Flow Measurement Cont.

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REFERENCES