

## **OFFSITE SWINE COURSE**

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### **DAY 1**

#### *Morning Lectures:*

##### Anesthesia/Analgesia-1 hour

The lecture includes the principles to be followed in selection of an anesthetic protocol. This includes consideration of the physiologic effects of anesthetics and tailoring a protocol to minimize experimental variables. It also includes the physiologic processes involved in the prevention of pain and distress. Specific recommendations are made for anesthetic and analgesic protocols for various experimental procedures.

##### Catheter and Device Implantation-1 hour

Principles involved in the implantation of biomaterials, catheters, fistulas and devices are discussed. This includes specific surgical techniques for implantation and prevention of complications.

##### Perioperative Care Procedures, Behavior & Cardiac Emergencies-1 hour

This is an extension of a brief introductory overview of husbandry, handling, preparation for surgery and monitoring of animals which is included in the lectures on Anesthesia and Catheter Implantation. In both of those lectures an overview of the procedures is provided in a few slides. Generally, this lecture is important for research groups performing complex survival surgical procedures.

##### Lunch-Working Lunch/Problem Solving

#### *Afternoon Lecture:*

##### Comparative Anatomy and Models-1.5 hours

The lecture provides information on the comparative anatomy and physiology of the various organs and systems of the pig as compared to humans. The lecture is organized by system and includes discussion of the most common models that are used within each system.

##### Surgical Lab Demonstration-1 hour

I demonstrate all the procedures to be performed on one pig. This demonstration may be performed at the start of the laboratory on the second day.

## **DAY 2**

8:00 am Surgical Laboratory: Intubation, venipuncture, neck and femoral cutdowns, abdominal procedures, thoracic procedures, troubleshooting of problem models and protocols. Require 1 pig / 4 people. Need ventilator and iv fluids.-3-4 hours

ADDITIONAL LAB DAYS MAY BE REQUIRED DEPENDING UPON THE NUMBER OF PARTICIPANTS AND THE REQUESTED PROCEDURES

LEAVE PM

**SUGGESTED LAB PROCEDURES FOR OFFSITE SWINE COURSE (two lab days are needed to complete all of these procedures)**

PIGS WILL BE ANESTHETIZED AND BE ON THE SURGICAL TABLES WITH AN EAR VEIN CATHETER AND IV BAG AT THE START OF THE COURSE

VENIPUNCTURE ACCESS 20G 1.5 IN NEEDLES; IF YOU HAVE INTRACATH SETS THEN EAR VEIN TO JUGULAR CATHETERIZATION; VENIPUNCTURE ACCESS TO NECK, FEMORAL, FORELEG AND ABDOMINAL VESSELS

IV CUTDOWNS: EXT JUGULAR, INTERNAL JUGULAR, CAROTID, SUPERFICIAL CERVICAL A & V, MEDIAL SAPHENOUS ARTERY, FEMORAL ARTERY AND VEIN

BONE MARROW ACCESS IN TIBIA AND SPINAL ACCESS FOR EPIDURAL. THESE REQUIRE SPECIAL NEEDLES IN THE EQUIPMENT LIST.

VASCULAR ACCESS PORT IMPLANTATION

LEFT LATERAL THORACOTOMY AND MEDIAN STERNOTOMY ACCESS TO CHEST

CHEST PROCEDURES INCLUDE CORONARY ARTERIAL ACCESS FOR PRODUCTION OF INFARCT, ACCESS OF CIRCUMFLEX ARTERY AND HEMIAZYGOUS VEIN, HILUS OF LUNG AND BLOOD VESSEL EXPOSURE

MIDLINE ABDOMINAL INCISION

GASTRIC PROCEDURES INCLUDE CHOLECYSTECTOMY, ISOLATION OF PANCREAS AND PORTAL VEIN, HEPATIC BIOPSY/HEMORRHAGE PROCEDURE, ISOLATION OF INTESTINAL STRUCTURES

FLANK ACCESS TO KIDNEY AND RENAL STRUCTURES

AT THE END OF LAB PROCEDURES EACH DAY A TRACHEOSTOMY AND ENDOTRACHEAL INTUBATION CAN BE PERFORMED

ANY OTHER SPECIFIC PROCEDURES CAN BE ADDRESSED

ALL OF THE PROCEDURES ABOVE CAN BE ACCOMPLISHED IN TWO LAB DAYS (4 HOURS/DAY)