I PURPOSE

The purpose of preparing the intravenous pump, oximeter, and thermometer is to be able to administer fluid and measure and record oxygen saturation and temperature throughout surgery.

II SCOPE

This procedure provides instructions for the preparation of the intravenous pump, oximeter, and thermometer the morning of the surgery.

III RESPONSIBILITIES

It is the responsibility of Metabolic Assessment Laboratory personnel to follow this procedure. It is the responsibility of supervisory personnel to ensure compliance with this procedure and to train employees and students responsible for performing this procedure. Students will report accidents to the principal investigators immediately.

IV REFERENCES

N/A

V REAGENTS AND MATERIALS

V.A. Intravenous tubing.
V.B. Ringer’s lactate 5% dextrose IV- one liter bag.
V.C. 22-guage needle.
V.D. White tape.
V.E. Paper towels.
V.F. KY jelly.
V.G. 70% ethanol.

VI EQUIPMENT

6.A. Intravenous pump
6.B. Oximeter
6.C. Thermometer

VII SAFETY PRECAUTIONS

VII.A. Members of the MAL have been trained extensively in the procedures described in this SOP.
VII.B. Members of the MAL have completed animal contact training in order to work in the PNICU.

VIII DEFINITIONS

VIII.A. Standard Operating Procedure (SOP) – Standard Operating Procedure is a document that provides instructions for completing a specific task in the lab.
VIII.B. Metabolic Assessment Laboratory (MAL) – The Metabolic Assessment Laboratory is the laboratory that will use this SOP.
VIII.C. Piglet Neonatal Intensive Care Unit (PNICU) – The PNICU is a unit where the piglet is monitored by 24 hour care and routine check-up parameters using PNICU SOPs conducted by the MAL.

IX PROCEDURE

IX.A. IV preparation
IX.A.1. Transfer Intravenous pump from the PNICU into the surgery room.
IX.A.2. Obtain a bag of Ringer’s lactate 5% dextrose solution. Hang the bag on the intravenous pump.
IX.A.2.a. Make sure the rolling clamp is closed at this time
IX.A.3. Remove all air bubbles from the tube
IX.A.3.a. Option 1: Make sure the roller clamp is open and allow the bubbles to exit the needle end of the tube by gravity.
IX.A.3.b. Option 2:
IX.A.3.b.(1). Close the roller clamp past the bubble (nearer to the needle end of the tubing).
IX.A.3.b.(2). Hold a few inches of the tubing above and below the bubble taut like a guitar string.
IX.A.3.b.(3). Next, flick the tubing very quickly to dislodge the bubble from the interior of the tubing, to allow the bubble to rise.
IX.A.3.b.(4). Repeat this procedure as necessary until the bubble finally reaches the bubble trap.
IX.A.4. Fill the tube with solution by controlling flow with the roll clamp.
IX.A.5. Undo the roll clamp and allow the solution to flow through the tubing.
IX.A.6. After all air bubbles have been removed, it is common for an air bubble to remain in the Y junction.
IX.A.6.a. If this is the case, uncap the Y junction and use the same technique used on the tubing to remove any remaining air bubbles in the Y junction.
IX.A.7. Stop the solution from dripping by closing the roller clamp.
IX.A.8. Turn the Lock/Open lever to the open position, and slide the safety clamp to the open position.
IX.A.9. The Lock/Open lever should separate the IV pump into two pieces, revealing a channel wide enough to thread the IV tube into.

IX.A.10. Thread the tubing through the channel.

IX.A.11. Leave a little slack in the tubing above the channel opening, but make sure that the tubing in the channel is very tight.

IX.A.12. Make sure that the tubing slides into the white groove on the roller. The white groove is difficult to see, so you must look closely to see it.

IX.A.13. Turn the Lock/Open lever to the lock position. The safety clamp will close automatically.

IX.A.14. Connect the power cord to the wall outlet.

IX.A.15. Press the ON/OFF button

IX.A.16. Bleed some solution out of the tube.

IX.A.17. Press the RESET button.

IX.A.18. Put the rate (mL/hr) on 20 and the Volume to be infused on 200.

IX.A.18.a. This is not necessarily the rate that will be needed during surgery.

IX.A.19. Press the START button

IX.A.20. After solution starts to drip from the end of the tube, press the STOP button.

IX.A.20.a. Have a paper towel ready to clean up any solution that drips out. Avoid spilling solution and clean any spills immediately with ethanol.

IX.A.21. Obtain a 22-gauge needle, and attach it to the end of the tube.

IX.A.22. Do not uncap the needle. This will be done during survival surgery, right before the needle is inserted into the venous catheter.

IX.A.23. After the tube has been flushed with solution, turn the rate (mL/hr) onto the desired rate, and also set the desired volume to be infused.

IX.A.24. Tape the catheter needle to the surgery table so that it is easily accessible when ready to be attached to the venous catheter during surgery.

IX.B. Oximeter preparation

IX.B.1. Tape the oximeter to an area so that the cable is not going over any sterile field and so that the ear piece can reach the piglet’s ear.

IX.C. Thermometer

IX.C.1. Tape the thermometer and the cord to an area that will not be in the way of sterile fields. Tape the probe to the side of the surgery table leaving enough slack so that it can go into the piglet.

IX.C.2. Have KY Jelly ready for the surgery and make sure to wipe the tip of the thermometer with ethanol before inserting it into the piglet.

IX.C.3. Refer to SOP# CP063.00 for measuring core body temperature.
X ATTACHMENTS

X.A. For a list of materials and their locations, refer to SOP# CG098.00.