**Fluids and Anesthesia**

* One of the most common uses of fluid therapy is for patient support during the perianesthetic period.
* Decisions regarding whether to provide fluids during anesthesia and the type and volume used depend on many factors, including the patient’s signalment, physical condition, and the length and type of the procedure.
* Advantages of providing perianesthetic fluid therapy for healthy animals include the following:
  + Correction of normal ongoing fluid losses, support of cardiovascular function, and ability to maintain whole body fluid volume during long anesthetic periods
  + Countering of potential negative physiologic effects associated with the anesthetic agents (e.g., hypotension, vasodilation)
  + Continuous flow of fluids through an IV catheter prevents clot formation in the catheter.
* Many anesthetics have direct effects on the heart or vasculature, decreasing cardiac output and blood pressure. This is further complicated by increased fluid requirements during anesthesia and surgery that may result in hypovolemia.
* Fluid requirements are increased because: the animal has not received its normal fluid intake since it was fasted; many anesthetics are metabolized in the kidney (creating a slight diuresis minimizes renal toxicity).
* To minimize the effects of surgery and anesthesia on hydration:
  + Place an intravenous catheter whenever possible to provide access for fluids and medications
  + Supplement fluids, intravenously if possible; otherwise intraperitoneally or subcutaneously
  + Monitor hydration status- Overhydration results in frequent urination and pulmonary edema, underhydration results in sticky mucous membranes, loss of skin elasticity, the eyes sinking into the orbit, decrease in blood pressure and increase in heart rate.
* The water and electrolyte balance of an animal is a most important factor in determining the uncomplicated recovery or after operation. The majority of animal patients suffer only minor and recent upsets of fluid balance so that treatment by intravenous infusion with isotonic saline, Hartmann's solution or 5% dextrose depending on whether sodium or water depletion is more predominant, is all that is required.

For the lab if Intra-op fluids for 0.9% saline were to be used, the formula would be:

Calculated of drip rate in drops per sec - (ml/min x drip factor)/60 = drops/sec