

Kidney Lab Report grading (updated 10/30/23)

Total Points = 35

- In general, ½ pt off for every spelling error and major grammatical error.
- ½ pt off for not labelling the sections as Abstract, Introduction, Methods, Results, Discussion (or Conclusion is fine), and Literature Cited.

Title = 2pt

½ pt for actual title of paper (that it's there)

½ pt for their name and "Department of Biology, Francis Marion University, Florence SC" (as per the lab report guidelines)

Abstract = 2pts

1 pt for summarizing what they did (examined changes in urine output & specific gravity (s.g.) in response to drinking either water or 5% saline. 2 pt for describing what they found (if urine output increased and s.g. decreased in water drinkers, and if urine output decreased and s.g. increased in saline drinkers).

Introduction =8pts

6 pts - MUST have background on negative feedback of how blood osmolarity regulated through ADH. What happens when osmolarity too high (sensed by hypothalamic, which releases ADH, which increases water retention at the kidneys, decreases urine output, and increases urine s.g.) versus when osmolarity is too low (ADH release inhibited, which decreases water retention at the kidneys, increases urine output, and decreases s.g.).

Don't forget to use a numerical superscript as your literature source!

1 pts for including purpose of experiment

1 pts for including hypothesis of experiment

Methods = 8pts

1 pts for including number of people in each experimental group (water and 5% saline groups).

2 pts for including the volume of fluid drank of each solution (350ml for water and 75ml for 5% saline group).

4 pts for explaining that subjects drank their solution, then collected a full urine sample, recorded urine volume and urine specific gravity (using a refractometer) at time 0, 30, and 60 minutes.

1 pts for stating that data was entered into and summarized using Excel.

Results = 8 pts

3 pts for time 0, 30, and 60 urine volume and s.g. for water group (1.5 pt for each average included)

3 pts for time 0, 30, and 60 urine volume and s.g. for 5% saline group (1.5 pt for each average included)

2 pts for including what increased or decreased **between time 30 & 60** for each experimental group.

Discussion = 6pts

2.5 pts for explaining WHY urine volume increased and s.g. decreased for people drinking water (they urinated a larger volume of more dilute urine). They likely experienced decreased blood osmolarity, so had ADH inhibition, which caused decreased water retention.

2.5 pts for explaining WHY urine volume decreased and s.g. increased for people drinking 5% saline (they urinated a smaller volume of concentrated urine). They had an increase in blood osmolarity, so experienced ADH release, which caused the water retention.

- 1 pts for giving a possible source of experimental error.

Lit Cite = 1pt

For including full citation of the course textbook, You can have supplemental sources, but if they are online you must cite the http address. Sources must be listed in numerical order in which they were found in the introduction.

____ Wikibooks Contributors, Human Physiology 2006. http://en.wikibooks.org/wiki/Human_Physiology (Pg. 192)