

Physiology: Signature Assignment

For your signature assignment, compose a 3- to 4-page case analysis (in addition to a title, abstract, and a reference page) written in APA format with at least 3 references, with one non-Internet reference.

The following should be covered in the paper:

- **Title page:** Case title, full name, section, date, instructor, and campus
- **Abstract:** Summarize the case.
- **Introduction:** Explain the physiological importance of the liver, pancreas, and kidneys for the proper functioning of the human body.
- **Body:** Respond to the prompts. Organize your analysis with headings that thoroughly answer the prompts (e.g., “Calcium and Sodium Imbalance” should be the heading for question 1).
- **Conclusion:** Summarize the paper in a paragraph.

By submitting this paper, you agree to the following: (1) you are submitting your paper to be used and stored as part of the SafeAssign services in accordance with the Blackboard Privacy Policy; (2) your institution may use your paper in accordance with your institution's policies; and (3) your use of SafeAssign will be without recourse against Blackboard, Inc., and its affiliates.

End-Stage Kidney Disease

Sarah, a 63-year-old female with a past medical history significant for diabetes mellitus, cirrhosis, gout, and a 30-pack a year smoking history presents to the emergency room with chest pain revealing pericarditis in the echocardiogram, secondary to recently diagnosed end-stage renal disease. Physical examination reveals yellowish discoloration to the skin and sclera, multiple bruises, 2+ bilateral edema, and weakness lasting more than three weeks. Her medications include Glisten, a new drug for diabetes that causes ATP sensitive potassium channels to close, thereby releasing insulin. Her recent laboratory results are as follows:

	CBC
Sodium	126 mEq/L
Glucose	220 mmol/L
Calcium	7.1 mg/dl
Red blood cell count	3.9 cells/ul
	Vitals
Blood Pressure	92/64 mmHg
	Blood Gases
pH	7.28
CO ₂	30 mmHg
HCO ₃	12 mmol/L
	Hormone Panel
Renin	Low
ADH	Elevated
Aldosterone	Low
	Vitamins
Vit D	Low
Vit K	Low
Vit E	Low
Vit A	Low
	Urine and Stool Sample
Stool color	Gray
Stool content	Increased Fat Content
Urine color	White

Please address each of the following regarding Sarah's case:

1. Explain the cause for her low calcium and sodium levels.
2. Explain the cause of her anemia. What laboratory test should indicate she is suffering from anemia?
3. Explain the cause of her hypotension. How will her body attempt to establish homeostasis?
4. What type of acid-base disorder has she developed, and how will her body compensate?
5. Explain the cause of her elevated ADH and glucose levels.
6. What is the correlation between her illnesses and the low vitamins (D, K, E, and A), renin, and aldosterone levels?
7. Which hormone would the body elevate in response to her low calcium levels? Why?
8. Explain the physiological reason behind her physical findings (yellowish tint of the skin, sclera, multiple bruises, weakness, and edema).
9. Explain the cause of her abnormal stool and urine sample.
10. What cell does Glicen work on? Explain how this medication is able to stimulate insulin secretion.

*Support your opinions with evidence from your readings and research.
Review the rubric for complete grading criteria.*