Endocrine System Physiology Lab


2. Hypothalamus $\rightarrow$ TRH $\rightarrow$ hypophyseal portal vein $\rightarrow$ ant. Pituitary $\rightarrow$ TSH $\rightarrow$ blood $\rightarrow$ Thyroid Gland $\rightarrow$ T₄ and T₃ $\rightarrow$ increase BMR

3. Propylthioureia decreases the Basal Metabolic Rate. It is a drug given to patients with goiter.

4. Renal threshold for glucose is 180mg/100ml of blood. It means up to this level in blood kidneys will be able to reabsorb all glucose from urine. Above renal threshold glucose passes in urine. It increases the osmolarity of urine. Therefore, more water also passes in urine causing polyuria. (review question 5)

5. In a diabetic body cannot use glucose as fuel, therefore, body breaks up fats and proteins for energy. This produces ketone bodies including acetone. These are intermediates of fat metabolism and are acidic in nature. As body burns more and more fats it produces more acidic ketone bodies. It lowers pH of blood causing acidosis. (review question 6)

6. Some tablets increase the amount of insulin secreted by the pancreas. Some increase the action of insulin in the body. Other tablets delay absorption of glucose from digestive system. Some suppress hormone glucagon and stop its antagonistic action against insulin. Mostly type 2 DB patients, but some tablets help type 1 DB patients too. (review question 7)

7. Learn definitions in review question 8.

8. What is glucose tolerance test? What is the difference in curves of normal and diabetic persons?

9. Distinguish between T1DM and T2DM.

10. Understand the opposite actions of insulin and glucagon.

11. Hormone Replacement Therapy is giving Estrogen or Calcitonin to increase calcium transfer from blood plasma to bones and avoid osteoporosis.

12. Ant Pituitary $\rightarrow$ FSH $\rightarrow$ growth of Ovarian follicles $\rightarrow$ Estrogen

13. T score is a quantitative count of mineral content of bones. It is measured with Dual X-ray Absorptiometry (DXA) to indicate vertebral bone density (VBD).

14. Normal T score: +1.0 to −0.99

15. Osteopenia (thin bones) T score: − 1.0 to − 2.49

16. Osteoporosis T score: − 2.5 and below