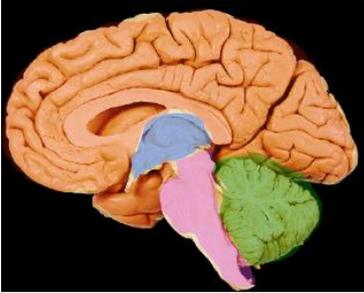
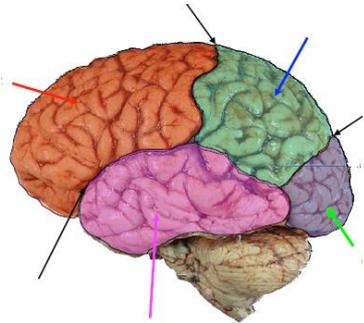


## Mod 1 Part 1: Control of body systems: Endocrine

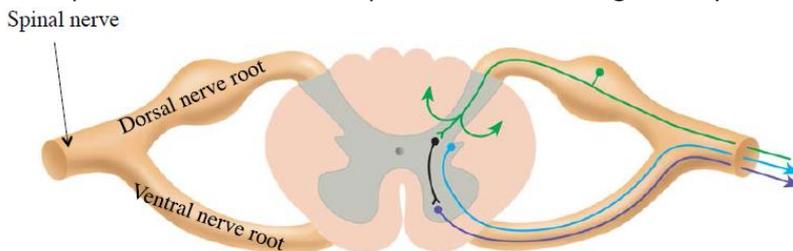
1. What mechanisms and pathways does the nervous system use to get such a rapid response?
2. What mechanisms or pathways does the endocrine region use to get such a slow response?
3. Which system has feedback loops and which system is consciously controlled?
4. How many pairs of cranial (brain) & spinal (spine) nerves does the spinal cord and brain stem have respectively?
5. What are two subsystems of the nervous system?



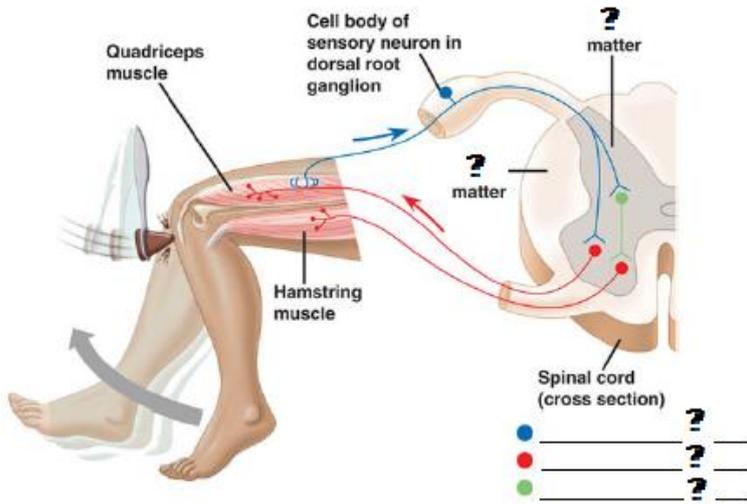
6. Label these four regions (orange, blue, pink, green)



7. Label the seven arrows
8. What is a gyri and a sulcus?
9. What is the function of the gyri and sulci?
10. What is the main purpose of grey matter
11. What is the basic pathway from stimulus to conscious awareness of stimuli and thence conscious control?
12. What parts of the brain are responsible for receiving sensory information? (There are four of them)

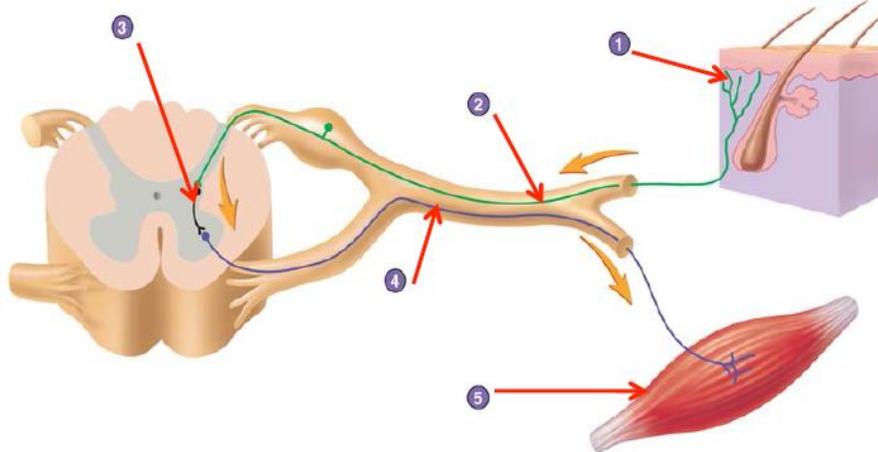


13. Which line represents the sensory and motor control pathways?
14. Define a reflex using these words: involuntary, rapid, predictable & unlearned



15.

Fill in the five question marks

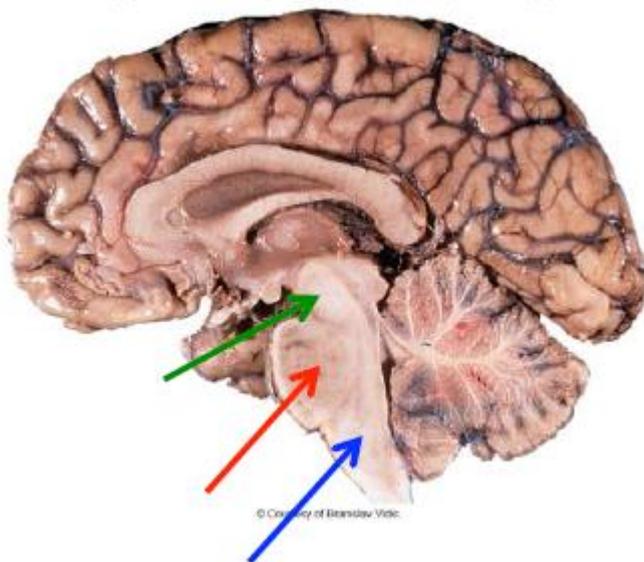


16.

Label the numbers

17. So, what part of the brain do reflexes bypass?
18. There are two types of reflexes, what are they and what functions do they serve?
19. Which one deals with balance and posture?
20. Which one controls CO<sub>2</sub> levels?
21. Which one controls defecation and digestion?
22. What is the purpose of the brain stem or spinal cord with the reflexes?

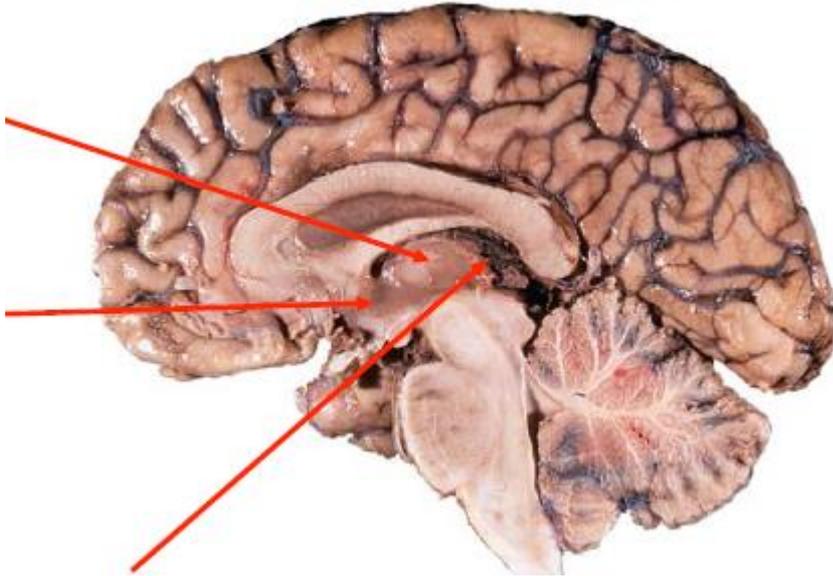
**Part 2:**



1. Label the parts of the brainstem
2. What is the importance of this part of the brain?
3. The lower part (blue arrow) connects below to which organ?

4. Name some functions of this part (blue arrow), slides have seven
5. What functions does the middle part (red arrow) have on the body?
6. The upper part (green arrow) connects to which brain part above?
7. What is its importance?
8. This part of the brain is involved in reflex movements and has two parts, the superior and inferior. What are they individually involved in?

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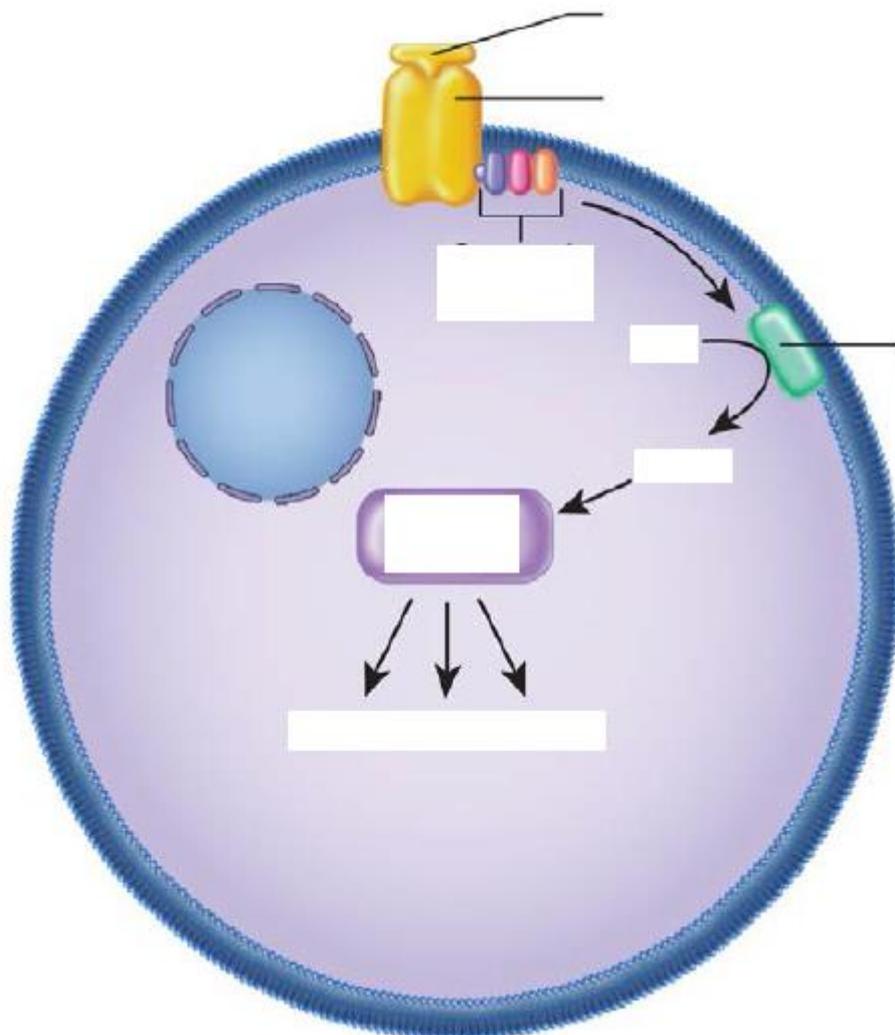


9. Label these three areas (hypothalamus, epithalamus & thalamus), what larger area of the brain is this under?
10. What function does the hypothalamus serve?
11. What gland is inferiorly connected to the hypothalamus?
12. What is the name of the connection between the hypothalamus and this inferior brain section?
13. What does the hypothalamus do for this particular gland?
14. What is autonomic control?
15. This particular gland has two parts, what are they called?
16. Where does the anterior and posterior part grow from? What kinds of cells are in these regions?
17. How many hormones does the anterior part secrete?
18. What part of the brain is responsible for control of concentration of hormones? (Where does this organ get its orders from?)
19. Releasing factors are responsible for releasing/inhibiting hormones from this part of the gland into the blood. This is done through a network of capillaries, what is the name of this network called?
20. Name the seven hormones and their target tissue. (*Hint: GH, TSH, ACTH, FSH, LH, Pro, MSH*)
21. What are tropic hormones?
22. How many hormones are released by the posterior part of the gland? Where are these hormones made? What is the process of this particular hormone secretion called?
23. What role is the infundibulum involved in?
24. What is this tract of axons called?
25. What are the names of these hormones that are released by this part of the gland?
26. What do these hormones do?

### Part 3:

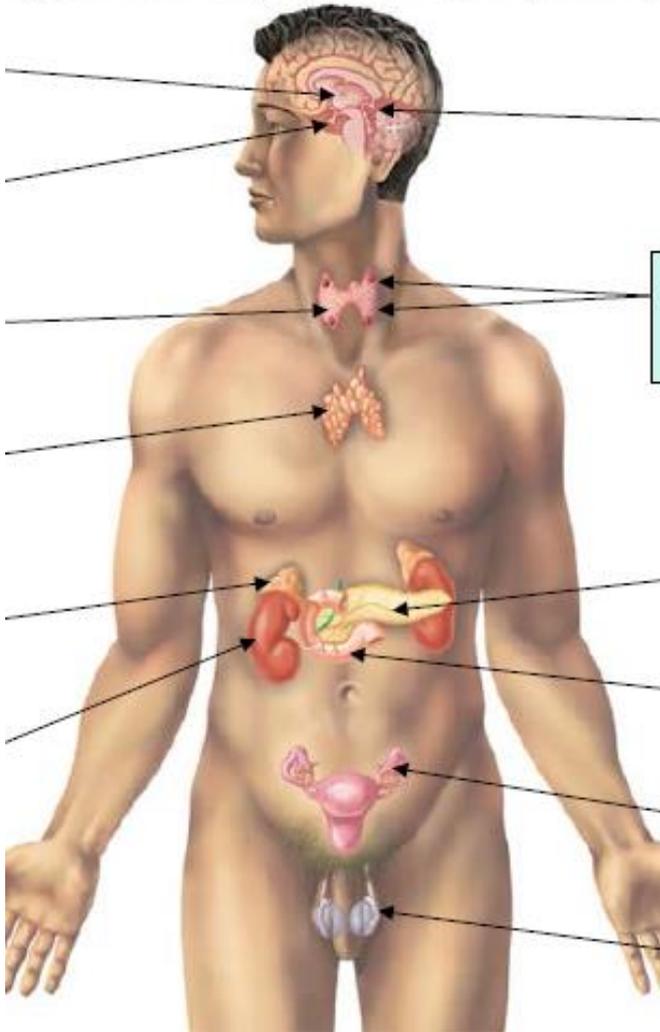
1. What is the endocrine system?
2. What does the endocrine, paracrine and autocrine communication methods do?
3. If endocrine glands are ductless, then how does the gland secrete hormones? Explain the process briefly

4. How are exocrine glands different? How are the products that they secrete different to that of the endocrine gland
5. All hormones are water soluble except the hormones that come from which gland? What is the name of these steroids?
6. Are steroid based molecules lipid or water soluble?
7. Give some examples of steroid based molecules
8. What are hormones made from?
9. How does their chemical composition alter their effects?
10. Water soluble hormones dissolve in plasma, how long are they around for?
11. What is the major difference in the mechanism of lipid and water soluble hormone transport in the blood system from endocrine cell to target cell?
12. Hormones must attach to receptors to have an effect. Where are these receptors located?
13. Receptors at these places accept either lipid or water soluble hormones, where specifically are water and lipid soluble hormone receptors found?
14. Which lipid or water soluble hormone is responsible for direct or indirect action?
15. Give three examples of hormone actions
16. What sort of hormones can affect the DNA directly? Are they direct or indirect?
17. What sort of hormones require a cell mediator? Are they direct or indirect?
18. Once receptor and hormone pass through the nucleus what specifically can the hormones do?
19. What is a G protein complex? What does it do?
20. What is adenylyl-cyclase?
21. What does cAMP do? What does it stand for?
22. What are protein kinases?



Fill in the 8 spaces

24. What is a humoral, neural and hormonal stimuli?
25. What is a negative feedback loop? Give an example
26. Give another example that involves the hypothalamus and the pituitary
27. What is a positive feedback loop? Give an example



28. Label the glands, what system do they belong to?