

Reproductive System Concept Questions

1. It is important that only one sperm fertilize an egg. Predict the result of the fertilization of an egg by more than one sperm.
2. Explain how each of the following could be described as an adaptation that helps to ensure fertilization:
 - a) seminal fluid
 - b) production of millions of sperm
 - c) cilia lining the walls of the oviducts.
3. A couple is having difficulty conceiving so their doctor suggests they avoid using their hot tub. Suggest a reason for the suggestion. Spermatogenesis occurs normally only when the testes are cooler than normal body temperature. Extensive use of a hot tub (or of very tight-fitting underwear) can cause a decrease in sperm quality and number.
4. All humans start out as females but those with a y chromosome become males during early embryonic development. As we would expect, females and males have analogous structures that have slightly different functions. For each of the following, identify the female structure that is analogous to the male structure.
 - a) testes
 - b) vas deferens
 - c) penis
5. Most ectopic pregnancies are tubal. Explain why they are dangerous.
6. Suppose a woman's oviducts were blocked.
 - a) Predict whether she will produce eggs.
 - b) Predict whether she could she become pregnant.
7.
 - a) Identify the fertile period of the menstrual cycle.
 - b) Explain why females are fertile only during this period.
8. Estrogen is at its highest just before ovulation. Explain how this happens and why it is important.
9. Explain how negative feedback regulates the level of FSH during the menstrual cycle.
10. Describe the hormone changes that trigger the beginning of a new menstrual cycle.
11. Predict what would happen if the corpus luteum disintegrated during pregnancy.
12. Explain why it is important that the menstrual cycle is stopped during pregnancy and how hormone interactions achieve this.
13.
 - a) Explain how the birth control pill prevents pregnancy.
 - b) Explain why a woman does not take birth control pills for the entire 28 days of the menstrual cycle.
 - c) Identify the days of the menstrual cycle on which the pill is not taken.
14. Propose a reason doctors recommend that women avoid most medications and alcohol during pregnancy.

15. A family friend began menopause eight or nine months ago and says she is worried about an unplanned pregnancy because of her age. Propose reasoning that would support or refute her concern.
16. The fetus is unable to breathe oxygen or eat *in utero*. Identify the important substances that must pass through the placenta.
17. Sometimes physical trauma to the mother can affect the fetus. Predict how partial detachment of the placenta from the endometrium would affect the fetus.
18. If a woman is past her due date or complications are suspected, her obstetrician might induce labor. Propose a way in which this could be done.