**Task:** You will be learning about a genetic disease of your choice. As a genetic counselor, you will advise a family on their chances of passing on this disease to their children. You will create an informational pamphlet, create a pedigree for the family, and advise them on their future.

**Procedure:** Choose and research a genetic disorder. Create an informational pamphlet that answers the questions at the end of this handout. Create a pedigree chart for the family listed below.

**Family Description:** Robert, the dad, is 32. He is a businessman and travels several days in a week. He is married to Angela, his college sweetheart whom is a registered nurse and works in the local hospital. Robert’s parents, Jim and Cathie, are both retired. Robert has two brothers, John and Paul. Angela’s parents, Ron and Marie, are also both retired. Angela has a younger sister, Kiersten. Using these individuals, create a possible pedigree for the disorder you have chosen. At least 2 individuals must have the disorder.

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| --- | --- | --- | --- | --- | --- |
| Requirement | 4.0 | 3.0 | 2.0 | 1.0 | 0 |
| Correct and thorough answers to questions in pamphlet. | All answers are present, correct, thorough, and easy to understand. | Most answers are present, correct, thorough, and easy to understand. | Missing several answers or answers are incorrect, incomplete, or difficult to understand. | Most answers are missing, incorrect, incomplete, or difficult to understand. | Not attempted |
| Family Pedigree | Pedigree is complete, accurate, and matches the mode of inheritance. | Pedigree is mostly complete and accurate, but does not match mode of inheritance. | Pedigree is incomplete or inaccurate. Does not match mode of inheritance. | Pedigree is incomplete. | Not attempted |
| Class Presentation | Student presents pamphlet in a professional manner. Speaks knowledgably on the topic. | Student presents pamphlet in a semi-professional matter. Knows some about the topic. | Student presentation is semi-professional. Can answer some questions about topic. | Student presentation is unprofessional. Lacking basic knowledge of topic. | Not attempted |
| Final question | Gives family sound advise based on disorder and family risk. | Gives family some advise based on disorder and risk. | Gives family advise, leaves out either severity of disorder or risk. | Does not calculate risk. | Not attempted |
| Original Work and Citations | All work is original and contains 3 citations in correct APA format | All work is original and contains at 3 citations in nearly correct APA format. | All work is original and contains at least 2 citations in correct APA format. | All work is original but contains less than 2 correct APA citations. | Not attempted |

**Questions:**

1. What is the name of the genetic disorder?

2. What system/part of the body does the disorder affect?

3. What gene and/or chromosome is mutated in this disorder?

4. What is the type of mutation that causes this disorder?

5. Is this mutation dominant or recessive?

6. What are the symptoms of this disorder?

7. What are the possible treatments for this disorder?

8. Does this disorder affect specific populations of people more so than other populations?

9. What is the percentage or ratio of the population suffering from this disorder?

10. What is the outlook for a child born with this disorder?

Final question: What is your expert opinion on Robert and Angela having children? Would you personally recommend they have children, with the risk of the disorder, or do you think they should look at other options, such as adoption? Please explain.