**Human Genetic Disorders Webquest**

There are thousands of genetic disorders that affect humans, some of which can have profound effects on a person's quality of life. Genetic disorders are passed from parents to offspring in the genetic code, and in some cases, a person may be a carrier for a disease and pass it to their children without knowing. Because genetic diseases are usually **caused by errors or mutations in the genetic code**, it is extremely difficult to cure the condition, and in most cases, doctors can only treat the symptoms. In this WebQuest, you will explore genetic diseases and summarize the information in a table form.

Feel free to use GOOGLE to find information about your disease or explore the links in the genetic disorders pages. Keep in mind that not ALL sites you visit are necessarily medically correct; the locations below can be considered “trusted” for accuracy.

Genetic and Rare Conditions Site   
<http://www.kumc.edu/gec/support/>

The DRM Web Watcher

<http://www.disabilityresources.org/RARE.html>

Genetics Home Reference

<http://ghr.nlm.nih.gov/>

Noah Online Access to Health

<http://www.noah-health.org/en/genetic/>

Human Genome Project

<http://www.ornl.gov/sci/techresources/Human_Genome/medicine/assist.shtml>

Medline Plus

<http://www.nlm.nih.gov/medlineplus/geneticdisorders.html>

| **Disorder/**  **Disease** | **Type of Disease & Genetic**  **Cause** | **Symptoms** | **Treatment/Cures** | **Interesting Fact** |
| --- | --- | --- | --- | --- |
| Sickle-Cell Disease | Autosomal Recessive Disease;  Point Mutation in the Hemoglobin-Beta gene on Chromosome 11 |  |  |  |
| Turner Syndrome |  |  |  |  |
| Klinefelter Syndrome |  |  |  |  |
| Down Syndrome (Trisomy 21) |  |  |  |  |
| Cystic Fibrosis |  |  |  |  |
| Huntington’s Disease |  |  |  |  |
| Phenylketonuria |  |  |  |  |
| Colon Cancer |  |  |  |  |
| Hypothyroidism |  |  |  |  |
| Alzheimer’s Disease |  |  |  |  |
| Hemophilia |  |  |  |  |
| Albinism |  |  |  |  |
| Tay Sachs Disease |  |  |  |  |
| Adrenoleukodystrophy  (Lorenzo’s Oil) |  |  |  |  |
| Achondroplasia |  |  |  |  |
| Fragile X Syndrome |  |  |  |  |
| Duchenne Muscular Dystrophy |  |  |  |  |
| Congenital Fructose Intolerance |  |  |  |  |
| Trisomy 13 (Edward’s Syndrome) |  |  |  |  |

Part II:

**Human Genetic Disorders: Deep Dive**

*Choose one genetic disorders and provide more details by researching and answering the QUESTIONS …IN COMPLETE SENTENCES!!*

**Medical**

1. How does a person inherit it? Is it considered a dominant or recessive trait…OR…is it a sex-linked trait?

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2. What are the possible genotypes of the parents? (you may use whatever letters you want to express this) If the disease is a chromosomal abnormality, describe the abnormality.

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3. How prevalent is the disease in the population? (include statistics)

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4. What are the chances of a person with this disease passing the disease to their offspring? (include a possible scenario)

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5. How is the disease diagnosed?

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6. What are the physical symptoms of the disease?

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7. What is the life expectancy of someone with the disease?

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8. How can the disease be treated?

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**Personal**

1. What is everyday life like? What is the quality of life?

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2. What limitations does the person have?

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3. What are some organizations that can help a family cope with a child's disorder (give web links)

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4. How possible is it that a cure will be found?

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