Cystic Fibrosis

1. Causes excess of mucus in lungs & digestive tract

2. How it is inherited: recessive, autosomal. Both Mom & Dad can be carriers.

3. Symptoms:
   - Breathing problems
   - Problems with digestion
   - Possible malnutrition
   - Salty tasting skin

4. Treatment
   - Lung treatments
   - Antibiotics

5. Prognosis = predicting the outcome of having a disease.
   - With proper treatment, CF patients can enjoy a normal life-span.
Cystic Fibrosis

6. Distribution / Frequency
   = how common it is in a population
   - 1/2000 Caucasians
   - Less common in other ethnic groups

Sickle-cell Anemia

1. Red blood cells get stuck in vessels
due to abnormal shape

2. How is it inherited?
   - Codominant disorder
   What does co-dominant mean?
   Both genes always show

3. Symptoms:
   - Pain
   - Fever
   - Severe chest pain
   - Fatigue
   - Weakness
   - Tissue damage
   - Possible brain damage
   - Possibly fatal

4. Treatment:
   - Transfusions
   - Pain killers

5. Prognosis
   - Risk of bloodborne pathogens via transfusion
   - High risk of disease
   - Normal life possible with proper precautions & treatment
**Sickle-cell Anemia**

6. Distribution / Frequency

- 1/100,000 world population
- 1/400 African Americans

**Tay Sachs’ Disorder**

1. General description:
   - baby normal at birth
   - an enzyme is lacking, causing progressive deterioration of central nervous system
   - fatal by age 5

---

**Tay Sachs’ Disorder**

2. How it is inherited: autosomal recessive

Every person of Jewish, Irish, French-Canadian or Cajun heritage should be tested for Tay-Sachs

---

**Tay Sachs’ Disease**

3. Symptoms:
   - @ about six months dvlpmnt. slows down
   - gradual loss of motor skills & mental f(x)s.
   - blindness, deafness, mental retardation
   - usually fatal by age five.

---

**Tay Sachs’ Disease**

4. Treatment: none

---

**Tay Sachs’ Disease**

5. Prognosis:
   - death before the age of five.
Tay Sachs’ Disease

6. Distribution / Frequency

1/27 Jews in the U.S.
1/27 Cajuns
1/50 Irish Americans

Huntington’s Disease

1. General description:
   - Neurological disorder
   - Loss of mental faculties
   - & physical control

2. How it is inherited:
   - Autosomal dominant

3. Symptoms: develop between 35-40 yrs. old
   - Depression
   - Personality changes
   - Mood swings
   - Memory loss
   - Involuntary movements

4. Treatment:
   - None
   - Meds. to manage symptoms

5. Prognosis:
   - Deterioration of nervous system
   - Fatal within 15 years of onset
   - Negative effects on family
Huntington’s Disease

6. Distribution / Frequency

1/10,000 Americans
30,000 Americans have it
250,000 Americans at risk

PKU

Phenylketonuria

1. General description:
   - Body chemistry disorder
   - Causes mental retardation if not treated
   - Cannot break down the amino acid phenylalanine.

2. How it is inherited:
   - Autosomal recessive

3. Symptoms:
   - Lose interest in surroundings
   - Irritability
   - Restlessness

PKU Test
(blood taken from baby’s heel)

4. Treatment:
   - Special diet in first 3 weeks of life

5. Prognosis
   - Early detection important
   - (Testing required within two weeks of birth in Colorado)
   - With low phenylalanine diet, no mental retardation

NO !
YES!!
PKU

6. Distribution / Frequency
- 1/15,000 births
- All ethnic groups

Bibliography

[1. Image of cystic fibrosis](http://www.nlm.nih.gov/medlineplus/ency/images/ency/fullsize/18135.jpg)
[2. Inheritance of CF](http://www.nhlbi.nih.gov/health/dci/images/cf_graphic_1.gif)
[3. Normal vs. sickled RBCs](http://www.dartmouth.edu/~toxmetal/images/sicklecell.jpg)
[5. Lung treatment](http://goldbamboo.com/images/content/4083)
[6. Image of antibiotics](http://www.enviroblog.org/pills)
[7. Normal vs. sickled RBCs](http://www.dartmouth.edu/~toxmetal/images/sicklecell.jpg)
[8. Inheritance of sickle cell](http://blogs.salon.com/0001970/categories/sunsets/)
[11. Sickle cell child with family](http://www.stlouischildrens.org/SITE_IMAGES/sicklecell1.jpg)
[13. Sickle cell distribution](http://anthro.palomar.edu/synthetic/images/map_of_sickle_cell_frequencies.gif)
[15. Tay Sachs inheritance](http://www.jewishgeneticscenter.org/images/graph.gif)
[17. TSD inheritance](http://www.wepsicklecell.org/pages/about.html)
[18. TSD symptoms](http://pinker.wjh.harvard.edu/photos/cape_cod/images/Sunset%20on%20Pilgrim%20Beach.jpg)
[19. TSD prognosis](http://cas.bellarmine.edu/tietjen/Ethology/Ethol06.gif)
[20. Huntington''s inheritance](http://www.dailyherald.com/graphics/jackowfam.jpg)
[22. Easter lily](http://www.aspca.org/toxicplants/images/TN_IMG01455_300X300Y.jpg)
[23. PKU Inheritance](http://www.myspecialdiet.com/Files%5CProds%5CImages/PKU3.jpg)
[24. PKU diet](http://www.myspecialdiet.com/Files%5CProds%5CImages/PKU3.jpg)
[25. Diet soda](http://www.uthscsa.edu/mission/ArticleData/2006--01/images/diet_soda.jpg)
[26. Image of child](http://www.growingkids.co.uk/images/809.jpg)
[27. PKU Test](http://openlearn.open.ac.uk/file.php/2389/SK195_6_002i.jpg)
[28. Woody Guthrie](http://www.historycooperative.org/journals/jah/87.3/images/exr_4_f1.jpg)

6