Your Body, Your Future

Fact: Genetic counselors provide you with important knowledge, make sure you understand your risks and help guide your reproductive decision-making process.

Visit www.jewishgenetics.org to learn more about genetic disease, genetic screening and genetic counseling.

Genetic Myths & Facts

Myth: “Genes” are something we wear and mostly come in blue.
Fact: Our genes are structures found on chromosomes that give our body instructions and come in many sizes.

Myth: We can change our genetic blueprint.
Fact: We are born with a genetic blueprint (our chromosomes) that determines our growth and development.

Myth: Gene changes, or mutations, are always bad.
Fact: Some gene changes lead to variation in features, such as differences in eye or hair color, but some mutations can lead to disease.

Myth: Genes and genetic disease skip generations.
Fact: A healthy individual might be a carrier (have one changed gene copy) for a disorder. If their partner is also a carrier, they may be at risk to have a child with a genetic condition. Also, some disorders result from a new genetic mutation (change) in the child.

Myth: If I don’t have a genetic disease, there is no chance to have a child with a genetic disease.
Fact: A healthy individual might be a carrier (have one changed gene copy) for a disorder. If their partner is also a carrier, they may be at risk to have a child with a genetic condition. Also, some disorders result from a new genetic mutation (change) in the child.

Myth: If both my partner and I are carriers for a recessive condition, there is no chance to have a healthy child.
Fact: For a carrier couple, the chance to have a child with a genetic condition is 1 in 4, or 25%, in every pregnancy. Carrier couples have many reproductive options available to them.

Myth: A genetic counselor works with couples to create “designer” babies.
Fact: Genetic counselors are health care professionals who provide information and support to families with birth defects or genetic disorders.

Myth: A genetic counselor delivers scary information and makes decisions for you.
Fact: Genetic counselors provide you with important knowledge, make sure you understand your risks and help guide your reproductive decision-making process.

Visit www.jewishgenetics.org/disorders if you are not familiar with these disorders or the carrier frequencies within your ethnic group.

Your Genes, Your Health

Want to have children someday? It’s smart to learn about your ancestry long before you even begin thinking about starting a family.

Talk to your parents or grandparents about your family health history! Whether you are Jewish or African-American, East Asian or Indian, you may be a carrier of a recessive disorder found with greater frequency in your ethnic group. Recessive disorders require both parents to be carriers in order to have an affected child.

African-American: Hemoglobinopathies (hemoglobin disorders, including sickle cell anemia), glucose-6-phosphate dehydrogenase deficiency
Ashkenazi Jewish: Gaucher disease type I, cystic fibrosis, Tay-Sachs disease, familial dysautonomia, Canavan disease, glycogen storage disease, maple syrup urine disease, Fanconi anemia type C, Niemann-Pick disease type A, Bloom's syndrome, mucolipidosis IV, torsion dystonia
Asian (including Southeast Asian and Chinese): Thalassemia
French Canadian: Tay-Sachs disease, tyrosinemia
Hispanic Caribbean: Thalassemia, hemoglobinopathies, cystic fibrosis
Hispanic Mexican/Central American: Thalassemia, hemoglobinopathies, cystic fibrosis
Indian (Asian subcontinent): Thalassemia, hemoglobinopathies
Irish/English/Welsh: Neural tube defects, cystic fibrosis
Mediterranean (Southern European Caucasian): Cystic fibrosis, thalassemia, glucose-6-phosphate dehydrogenase deficiency, sickle cell anemia
Middle Eastern: Phenylketonuria (Turkish), thalassemia, hemoglobinopathies
Northern European: Cystic fibrosis, phenylketonuria, alpha-1-antitrypsin deficiency, hereditary hemorrhagic telangiectasia
Sephardic Jewish: Familial Mediterranean fever, glucose-6-phosphate dehydrogenase deficiency, glycogen storage disease, thalassemia

Myth: A genetic counselor is to help me have a healthy baby.
Fact: A genetic counselor works with couples to create healthy babies.

Your Future

Ethnicity and family medical history are important tools for your physician or health care provider in diagnosing and treating a variety of illnesses and genetic disorders. Genetic counselors are part of your medical team and can discuss these issues, and tell you about tests that can help you have a healthy pregnancy. Go to www.jewishgenetics.org/screening to find a genetic counselor in your area.

You may need to talk to a genetic counselor if:
• You are of one of the ethnic backgrounds listed in this brochure, and therefore at increased risk for being a carrier for certain disorders.
• You have a genetic disorder.
• You have a sexual partner who is related to you (e.g., cousin).
• You are currently pregnant or considering pregnancy and want to learn about tests that may help you have a healthy pregnancy.
• You are currently pregnant and concerned about exposures to alcohol, drugs, medications or illnesses.
• A member of your family is a carrier for a genetic disorder such as cystic fibrosis, Tay-Sachs disease or sickle cell anemia.
• You or family members have had two or more miscarriages.
• You were born with a birth defect or have a family member with a birth defect.
• You have a family history of learning issues or developmental disabilities.
• You have a family history of a genetic disorder or any disease that seems to “run in the family.”


Educate yourself!

Will you talk to a genetic counselor?

Now you get to make decisions about your life and how you want to live it. You decide what you eat and drink, what medications or drugs you take, whether you exercise and whether you abstain or practice safe sex.

But what about the things you can’t control? Like your ethnic background and your genes. Like whether you have a genetic disorder or an illness yourself, in your family or more prevalent in your ethnic group. These things may affect you in some way now or later in life, but starting today you have the power to make good choices that will affect your future.

All you need are the tools...

**Folic acid**, a B vitamin, may help protect women from heart disease, cervical and colon cancer and possibly breast cancer. Taking folic acid before and during pregnancy may help reduce your baby’s risk for birth defects of the brain and spine (called neural tube defects). Folic acid can be found in multivitamins, and folate (the natural form) can be found in foods such as broccoli, spinach, beans, fortified orange juice and grains.

**Maintaining a healthy weight** (not too thin or too heavy) allows for an active and fun lifestyle. A healthy weight will reduce your stress and your risks of heart disease, high blood pressure and diabetes, and it will help you look and feel your best!

**Exercise** will help you achieve and maintain your ideal weight. If you are thinking about a family in the future, now is the time to establish a regular exercise routine that you enjoy.

**Have a conversation** with your health care provider about your choices concerning exercise, nutrition and vitamin supplements.

If you are taking any of these drugs or medications, do not be alarmed! If you are planning a family or become pregnant, ask your obstetrician if your medications are also teratogens and may be harmful if taken at particular times during pregnancy, such as:

- **Acetaminophen**
- **Anticonvulsants such as Depakote, Tegretol, Fenitoin, Lamotrigine**
- **Anticoagulants such as Warfarin or Coumadin**
- **ACE inhibitors such as Captopril or Enalpril (Vasotec)**
- **Diuretics (in high doses)**
- **Lithium**
- **Strychnoscin**
- **Tetracycline**

If you are planning a family or become pregnant, your health care provider may recommend that you talk with your physician or pharmacist about these exposures.

**Your Family Health History**

Learn about your family health history from your parents or grandparents. The information can help your health care provider give you the best possible care.

**Good Chemistry**

When you’re pregnant, exposure to agents such as drugs, chemicals and infections can cause birth defects. These agents are called **teratogens**. Some medications are also teratogens and may be harmful if taken at particular times during pregnancy, such as:

- **ACE inhibitors such as Captopril or Enalpril (Vasotec)**
- **Diuretics (in high doses)**
- **Lithium**
- **Strychnoscin**
- **Tetracycline**

**RESOURCES**

- **The Chicago Center for Jewish Genetic Disorders**
  Go to www.jewishgenetics.org to learn more about the information presented in this brochure, particularly about genetic disorders and genetic counseling.
- **March of Dimes**
  Visit http://www.marchofdimes.com to learn more about preventable birth defects.