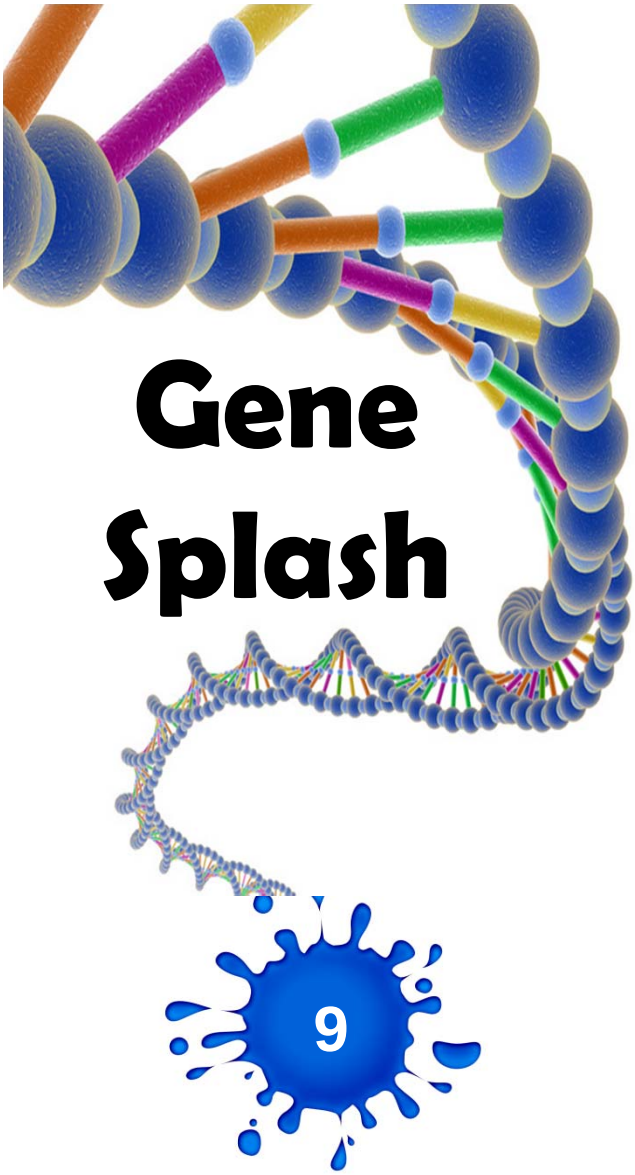

Patterns of Inheritance

Did you know …

We get **one** set of **genes** from each of our parents. Some genes impact human development and others code for chemicals required for the body to function.

Autosomal recessive (AR)

- A person needs **2** copies of a **mutated** gene to have the trait/disorder .
- A person with only **1** copy of the mutated gene is called a **carrier.**
- A carrier can pass the genetic mutation to their children.
- Diseases include Tay Sachs, Cystic Fibrosis & Sickle Cell.

Autosomal dominant (AD)

- A person only needs **1** copy of a **mutated** gene to have the trait/disorder.
- A child of the affected person has a 50% chance to be affected.
- Males and females are equally affected.
- Diseases inherited in an AD manner include Huntington's disease and Marfan's syndrome.

X-linked recessive

- The **mutated** gene occurs on the **X** chromosome
- Males have an **X** and a **Y.**
- Since females have 2 **X** chromosomes, a mutated gene on 1X usually has less effect and that female would be a carrier.
- A mutated gene on the X chromosome in a male is enough to cause trait/disorder.
- Traits include color-blindness & hemophilia.

Other disorders may be **multifactorial**. They are likely associated with the effects of multiple genes in combination with lifestyles and environmental factors. Multifactorial disorders include **heart disease** and **diabetes**.

Future issues of **Gene Splash** will address genetic questions submitted by South Shore Hospital employees. If you have a general genetic question or a specific one regarding a patient, contact us. The chosen question along with an answer will be displayed in a future issue of Gene Splash and Esplash. Submit your questions to Emily Lazar and Judy Jackson at Judith_Jackson@sshosp.org

Reference: 5 Minute Clinical Consult 2008, The 16th edition. Lippincott, Williams & Wilkins, 2008.