

CONCEPT: AUTOSOMAL INHERITANCE

Autosomal Disorders

● Traits/disorders associated with _____ (non-sex-chromosomes) can be inherited in 2 ways:

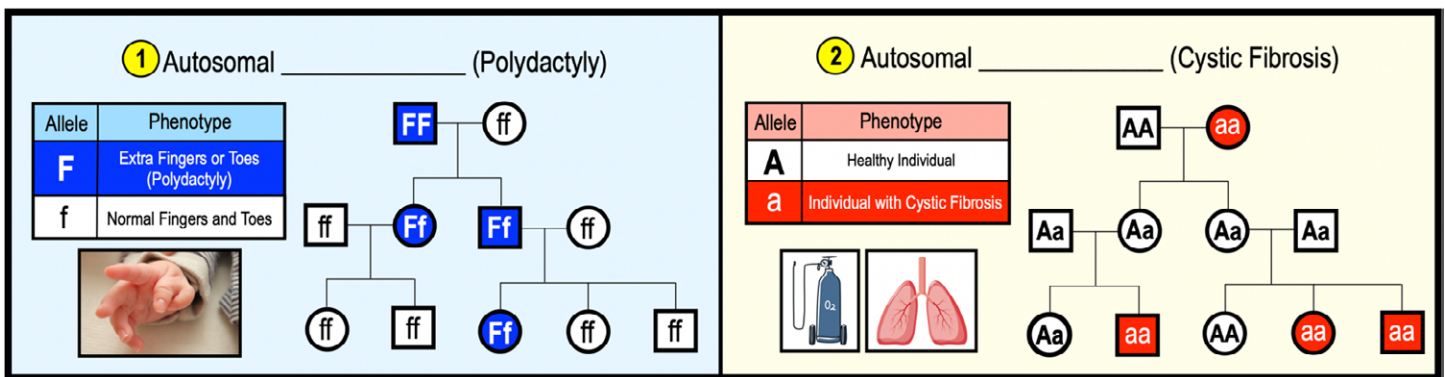
1) **Autosomal _____ Disorders:** disorder in individuals with ≥ 1 *dominant* allele (ex. FF or Ff).

□ *Dominant* disorders tend to appear in _____ generation.

2) **Autosomal _____ Disorders:** disorder in individuals that are homozygous *recessive* (ex. aa).

□ *Recessive* disorders tend to _____ a generation.

EXAMPLE: Autosomal Dominant Disorder vs. Autosomal Recessive disorder Pedigrees.



PRACTICE: If a genetic counselor was examining a pedigree chart and noticed an occurrence of a disease in every generation, the counselor would most likely assume that the disease was caused by:

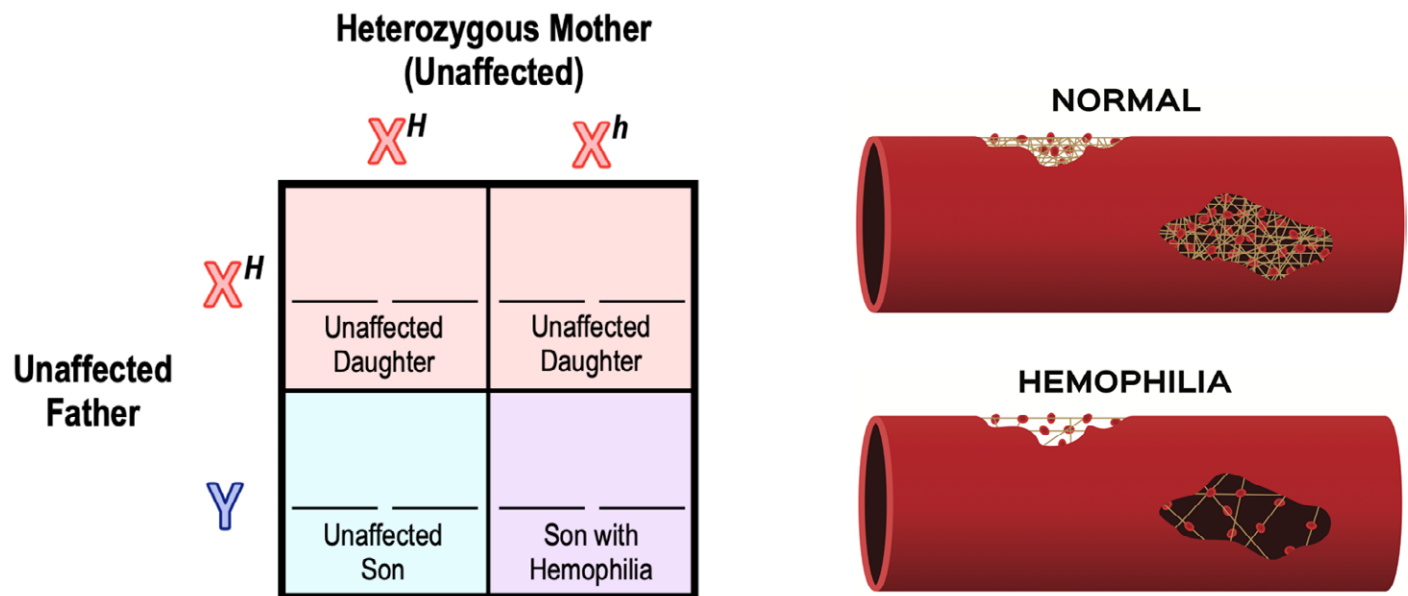
- a) A new reoccurring mutation.
- b) An autosomal recessive disorder.
- c) A chromosomal abnormality.
- d) An autosomal dominant disorder.
- e) Having an extra set of chromosomes.

CONCEPT: SEX-LINKED INHERITANCE

X-Linked Recessive Disorder: Hemophilia Inheritance

- Hemophilia (abnormal blood clotting) is an _____-linked _____ disorder in humans.
- **X-Linked Recessive Disorder:** expressed if individual only has the _____ allele(s) on X chromosome(s).
 - Females must be *homozygous recessive* (_____ recessive alleles) to be affected.
 - Males only require _____ recessive allele to be affected, making males _____ likely to be affected.

EXAMPLE: Hemophilia A is an X-Linked Recessive Disorder.



PRACTICE: Women with X-linked disorders always pass the genes for the disorder on to _____. While men with X-linked disorders always pass the genes for the disorder on to _____.

- only their daughters; only their daughters.
- both their daughters and sons; only their sons.
- both their daughters and sons; only their daughters.
- both their daughters and sons; both their daughters and sons.

CONCEPT: SEX-LINKED INHERITANCE

X-Linked Recessive Pedigrees

- Pedigrees depicting an X-linked recessive disorder show that _____ males are affected than females.
 - Females can only be affected if the father is affected & the mother is at least a carrier.
 - All sons of an affected _____ will be affected.

EXAMPLE: Pedigrees of an X-linked Recessive Disorder.

