

9 Multiple choice questions

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What is a carrier of a recessive disorder?

- ☐ A person with one recessive allele (Aa) who does not show symptoms but can pass it on.
- ☐ A person with two dominant alleles (AA) who shows symptoms.
- ☐ A person with one dominant allele (Aa) who shows symptoms.
- ☐ A person with two recessive alleles (aa) who does not show symptoms but cannot pass it on.

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How many copies of the dominant allele are needed to express the disorder?

- ☐ Two copies – only homozygous recessive (aa).
- ☐ One copy – either heterozygous (Aa) or homozygous dominant (AA).
- ☐ Three copies – either heterozygous (Aa) or homozygous dominant (AA).
- ☐ One copy – only homozygous dominant (AA).

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How many copies of the recessive allele are needed to express the disorder?

- ☐ One copy – heterozygous (Aa).
- ☐ Three copies – homozygous dominant (AA).
- ☐ Two copies – homozygous recessive (aa).
- ☐ Two copies – heterozygous dominant (AA).

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What is a dominantly inherited disorder?

- ☐ A disorder caused by multiple dominant alleles.
- ☐ A disorder caused by two copies of a recessive allele.
- ☐ A disorder caused by a single copy of a dominant allele.
- ☐ A disorder caused by a mutation in mitochondrial DNA.

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What is the chance two carriers will have an affected child?

- ☐ 100% chance of carrier (aa), 0% chance of affected (aa).
- ☐ 50% chance of unaffected (aa), 25% chance of affected (aa).
- ☐ 75% chance of affected (aa), 25% chance of carrier (aa).
- ☐ 25% chance (aa), 50% chance of carrier (Aa), 25% chance of unaffected (AA).

What is an example of a dominantly inherited disorder?

- ☐ Parkinson's disease.
- ☐ Huntington's disease.
- ☐ Alzheimer's disease.
- ☐ Tay-sachs disease.

Can a person with one affected parent inherit a dominant disorder?

- ☐ Yes – there's a 100% chance if the parent is homozygous.
- ☐ No – inheritance is only possible if both parents are affected.
- ☐ No – there's a 0% chance if the parent is heterozygous.
- ☐ Yes – there's a 50% chance if the parent is heterozygous.

What is a recessively inherited disorder?

- ☐ A disorder that appears only when both alleles are recessive.
- ☐ A disorder that appears only in males.
- ☐ A disorder that is always expressed regardless of alleles.
- ☐ A disorder caused by a single copy of a dominant allele.

What is an example of a recessively inherited disorder?

- ☐ Turner syndrome or Down syndrome.
- ☐ Cystic fibrosis or sickle cell anemia.
- ☐ Huntington's disease or Marfan syndrome.
- ☐ Hemophilia A or muscular dystrophy.