

What is Down Syndrome?



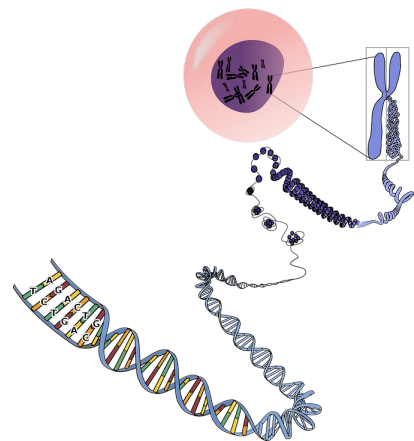
What is Down Syndrome?

Down syndrome is a genetic condition that results in certain physical and intellectual features, including shorter stature, an upward slant of the eyes, and delayed development (National Down syndrome Society, n.d.). To understand Down syndrome, though, we have to get microscopic.

Cells and Chromosomes

You, and every other living thing—from plants to tigers—are built entirely from billions of tiny compartments containing all the necessary chemicals for life, called **cells**. Cells are actually 5,000 times smaller than a grain of salt (Cell Size and Scale, n.d.)! It might be hard to imagine, because we can't see cells without a microscope, but these little guys are thought of as the building blocks of life, and they contain an even smaller compartment called the nucleus that holds your

DNA. What is DNA? Think of it like building a house. You have to know what you're going to do first, so you draw out a blueprint. Our DNA is like that blueprint. It holds all the information necessary to make us who we are—from your eye color to your heart's ability to beat. Each cell has a copy of this DNA, amounting to 2 meters per cell (taller than most adult men)! How can all of that DNA fit in such a small space? It's condensed into tiny rod-like structures called



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2008). A karyotype can identify chromosomal abnormalities including if an extra chromosome is present.

Historically, people with Down syndrome didn't live beyond their childhood years. With medical advances and an improved understanding of the condition, today they frequently live into their 60s and beyond. There currently is no cure, although individuals can receive medical



help for the associated health risks. However, scientists have made great strides in figuring out ways to cure Down syndrome, such as trying to turn off the extra copy of the chromosome (Yong, 2013). Importantly though, people with Down syndrome can live productive and fulfilling lives with proper medical, academic, and social support, including

regular health checkups, support groups, and classroom aides.

Famous people with Down syndrome

Despite how they are perceived, people with Down syndrome have done many great things. For example, Madeline Stuart, an eighteen-year-old runway model, is aiming to break traditional beauty standards, and in 2015 was the first model with Down syndrome to walk at the New York Fashion Week (Haslett, 2016). Others include Owen Groesser, a passionate middle school basketball player, who was recently featured on ESPN, and Angela Bachiller, who in 2013 was the first person with Down syndrome to be elected to political office (Flanders, 2014).



Madeline Stuart

Every March 21st we celebrate World Down syndrome day. On this day, and every day, remember to respect others even if they are different from you, and appreciate the differences and similarities that make everyone who they are.



Reading Comprehension Questions

1. What is Down syndrome?
2. What
3. What
4. What is DNA? Name a few things DNA determines for us.
5. How is DNA organized in cells?
6. How
7. How
8. How do doctors identify a patient with Down syndrome (name two ways)?
9. Is
10. What are some solutions scientists have thought of to treat Down syndrome?

Extension Questions

11. After doing some research,
12. What are some things
13. Research and list at least 5 famous people with Trisomy 21 who were not mentioned in this text.

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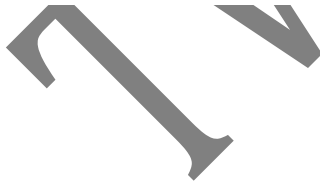
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