Yelm Family Medicine Patient Newsletter

COMMITTED TO YOUR HEALTH

National Down Syndrome Awareness

In every cell in the human body there is a nucleus, where genetic material is stored in genes. Genes carry the codes responsible for all of our inherited traits and are grouped along rod-like structures called chromosomes. Typically, the nucleus of each cell contains 23 pairs of chromosomes, half of which are inherited from each parent. Down syndrome occurs when an individual has a full or partial extra copy of chromosome 21.

This additional genetic material alters the course of development and causes the characteristics associated with Down syndrome. A few of the common physical traits of Down syndrome are low muscle tone, small stature, an upward slant to the eyes, and a single deep crease across the center of the palm - although each person with Down syndrome is a unique individual and may possess these characteristics to different degrees, or not at all.

How common is Down Syndrome?

According to the Centers for Disease Control and Prevention, approximately one in every 700 babies in the United States is born with Down syndrome, making Down syndrome the most common chromosomal condition.

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Haunted Houses

My Morbid Mind

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Scary night

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About 6,000 babies with Down syndrome are born in the United States each year.

When was Down syndrome discovered?

For centuries, people with Down syndrome have been alluded to in art, literature and science. It wasn't until the late nineteenth century, however, that John Langdon Down, an English physician, published an accurate description of a person with Down syndrome. It was this scholarly work, published in 1866, that earned Down the recognition as the "father" of the syndrome. Although other people had previously recognized the characteristics of the syndrome, it was Down who described the condition as a distinct and separate entity.

In recent history, advances in medicine and science have enabled researchers to investigate the characteristics of people with Down syndrome. In 1959, the French physician Jérôme Lejeune identified Down syndrome as a chromosomal condition. Instead of the usual 46 chromosomes present in each cell, Lejeune observed 47 in the cells of individuals with Down syndrome. It was later determined that an extra partial or whole copy of chromosome 21 results in the characteristics associated with Down syndrome. In the year 2000, an international team of scientists successfully identified and catalogued each of the approximately 329 genes on chromosome 21. This accomplishment opened the door to great advances in Down syndrome research.

Are there different types of Down syndrome?

There are three types of Down syndrome: trisomy 21 (nondisjunction), translocation and mosaicism.

What causes down syndrome?

Regardless of the type of Down syndrome a person may have, all people with Down syndrome have an extra, critical portion of chromosome 21 present in all or some of their cells. This additional genetic material alters the course of development and causes the characteristics associated with Down syndrome.

The cause of the extra full or partial chromosome is still unknown. Maternal age is the only factor that has been linked to an increased chance of having a baby with Down syndrome resulting from nondisjunction or mosaicism. However, due to higher birth rates in younger women, 80% of children with Down syndrome are born to women under 35 years of age.

There is no definitive scientific research that indicates that Down syndrome is caused by environmental factors or the parents' activities before or during pregnancy.