What is Down Syndrome?

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.

Down Syndrome – a few facts

- Down syndrome is a common genetic variation that usually causes delay in physical, intellectual, and language development. There is an extra 21st chromosome in all cells of the body in most children with Down syndrome; a small percentage have “mosaic Down syndrome” where not all cells have the extra chromosome.
- The exact causes of the chromosomal rearrangement and primary prevention of Down syndrome are currently unknown. Nothing that mother or father DO causes the trisomy 21.
- Down syndrome is one of the leading clinical causes of cognitive delay in the world – it is not related to race, nationality, religion, or socio-economic status.
- The incidence of Down syndrome in the United States is estimated to be 1 in every 700 live births. Of all children born in this country annually, approximately 5,000 will have Down syndrome.
- There are approximately a quarter of a million families in the United States who have a family member with Down syndrome.
- While the likelihood of giving birth to a child with Down syndrome increases with maternal age; nevertheless, 80 percent of babies with Down syndrome are born to women under 35 years of age, as women in that age group give birth to more babies overall. In a small percentage of pregnancies, the extra chromosome comes from the father.
- There is wide variation in mental abilities, behavior, and physical development in individuals with Down syndrome. Each individual has his/her own unique personality, capabilities, strengths and talents.
- 30–50 percent of the individuals with Down syndrome have heart defects and 8–12 percent have gastrointestinal tract abnormalities present at birth. Most of these defects are now correctable by surgery.
- Individuals with Down syndrome benefit from loving homes, early intervention, inclusive education, appropriate medical care, and positive public attitudes.
- In adulthood, many persons with Down syndrome hold jobs, live independently, and enjoy recreational opportunities in their communities.