



Chromosomal Birth Defects

What are chromosomal birth defects?

Chromosomal birth defects are caused by abnormalities in chromosome number or structure. Chromosomes are the structures within cells that contain genes. Abnormalities in chromosomes may result during egg or sperm formation. Babies born with Down Syndrome, for example, have an extra copy of chromosome 21.

What causes chromosomal birth defects and how can the risk of chromosomal birth defects be reduced?

Some chromosomal defects are passed down from parents to children, while others are due to random changes in chromosomes and may be influenced by environmental factors. The risk of chromosomal defects increases with increasing age of the mother.

How severe are chromosomal defects?

Chromosomal abnormalities may result in conditions ranging from mild to severe, while Down Syndrome may result in mild to moderate retardation and other health problems. Individuals with Down Syndrome are at risk for other birth defects such as cardiac or intestinal defects, vision problems, hearing loss, infections, memory loss, thyroid problems, leukemia, and seizures.

What can be done to detect or treat chromosomal defects?

Because many of these disorders are genetic, prenatal genetic counseling and prenatal testing may help reduce the risk of chromosomal defects. There is no treatment for Down Syndrome or many of the other chromosomal defects, but developmental monitoring and special educational programs as well as treatment of associated health conditions may help increase quality of life for affected individuals.

How does Washtenaw County compare to Michigan?

Chromosomal defects make up a low proportion of all birth defects. The rate of chromosomal defects is 2.0 per 1,000 live births in Michigan and 2.6 per 1,000 live births in Washtenaw County. Down Syndrome makes up about half of chromosomal birth defects, with a rate of 1.1 per 1,000 live births in Michigan and 1.3 per 1,000 live births in Washtenaw County. The rate of chromosomal defects in Michigan and Washtenaw County is higher in births to women over 35 years old compared to women 35 years old or younger, and whites have a slightly higher rate compared to blacks. Trends for the chromosomal birth defect rates from 1992-2003 in Michigan and Washtenaw County are shown below.

