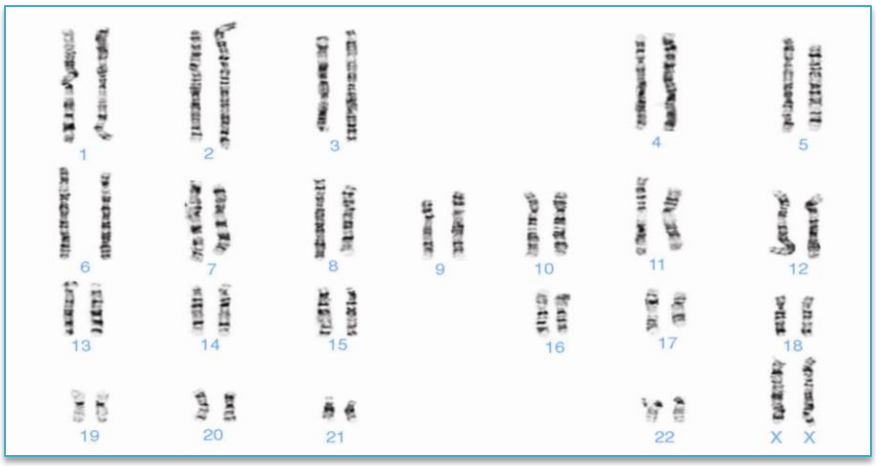
Gene Splash

Do You Know? *Not all chromosomes abnormalities are inherited?*

- Humans typically have 23 pairs of chromosomes (46 chromosomes)
- In each pair, 1 chromosome comes from a female and the other from a male
- Sperm and egg cells (sex cells) undergo meiosis, where the 46 chromosomes are subdivided resulting in 2 cells that contain 23 chromosomes each. At conception, sperm and egg cells rejoin, to complete the process resulting in 46 chromosomes in an offspring

Picture of the 46 Human Chromosomes called a Karyotype



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- Occasionally there is an error during meiosis where the egg or sperm receives an extra chromosome or piece of chromosome, or it is missing a chromosome or piece of it
- If that abnormal sex cell is involved in conception, the pregnancy is chromosomally abnormal
- Greater than 50% of miscarriages are due to chromosome abnormalities

- When a pregnancy loses or gains chromosomal material there is more or less genetic information than normal and this most often causes development to be abnormal
- In Trisomy 21 (Down Syndrome), there is an extra copy of chromosome 21. It is the most common chromosome abnormality diagnosed in newborns

Clinical Relevance: Most often chromosome abnormalities occur sporadically and are not inherited. A couple who has a pregnancy or child affected with a chromosome abnormality, most often has only a small chance to have another affected pregnancy.

For questions contact Gene Team member Judy Jackson x8139 or Emily Lazar x4157

Reference:
1. M. Thompson, Genetics in Medicine