

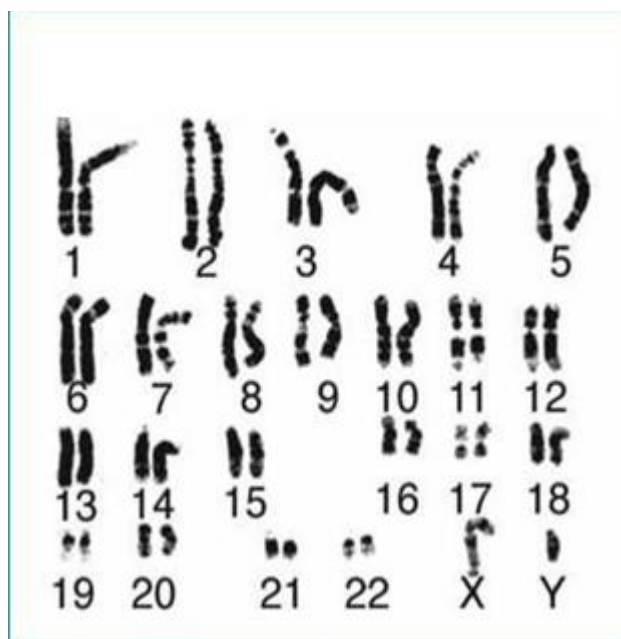
# An Introduction to Chromosomes

## What are genes and chromosomes?

Our genetic information is made up of individual instructions known as genes. These are the instructions for how our body functions. In order for the body to manage these instructions they are packaged onto structures called chromosomes.

When we look at chromosomes under a microscope there is a usual pattern which can be detected. We have a set of 46 chromosomes, which come in 23 pairs. These are numbered in order of size. Chromosomes 1-22 are the same in men and women and the last pair is known as the sex chromosomes. Most often women have two X chromosomes while men have an X and a Y chromosome.

This is a picture of the usual pattern for a male, arranged in order of size:



The pattern of chromosomes is called a Karyotype. It is important that we have the right amount of genetic material as the genes control the way we grow and develop. Having too much or too little genetic material can cause significant problems in development.

## For more information

If you need more advice about any aspect of chromosomes, you are welcome to contact:

### **Manchester Centre for Genomic Medicine**

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