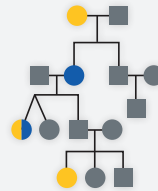


## SOURCES OF GENETIC MUTATIONS

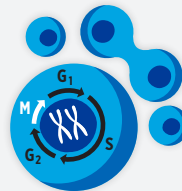
Cancer initiation and progression are predominantly caused by the accumulation of changes, or mutations, in the genetic material of a cell over time. The primary sources of genetic mutations are as follows:

Nearly 10 percent of cancer cases are linked to inherited genetic mutations, which are mutations that are present in each cell of the body from birth.



**Most mutations, however, are acquired during a person's lifetime.**

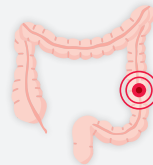
Some occur during cell multiplication, and the number of times a cell multiplies increases the chance that it will acquire a mutation.



Some occur because of persistent exposure to substances that damage genetic material, such as carcinogens in tobacco smoke and ultraviolet radiation from the sun.



Other mutations occur because of chronic inflammation caused by medical conditions such as Crohn's disease.



These factors come together to determine the chance that an individual cell has of acquiring mutations over time, which in turn determines the overall risk that a person will develop cancer. It is important to note that not all mutations lead to cancer.