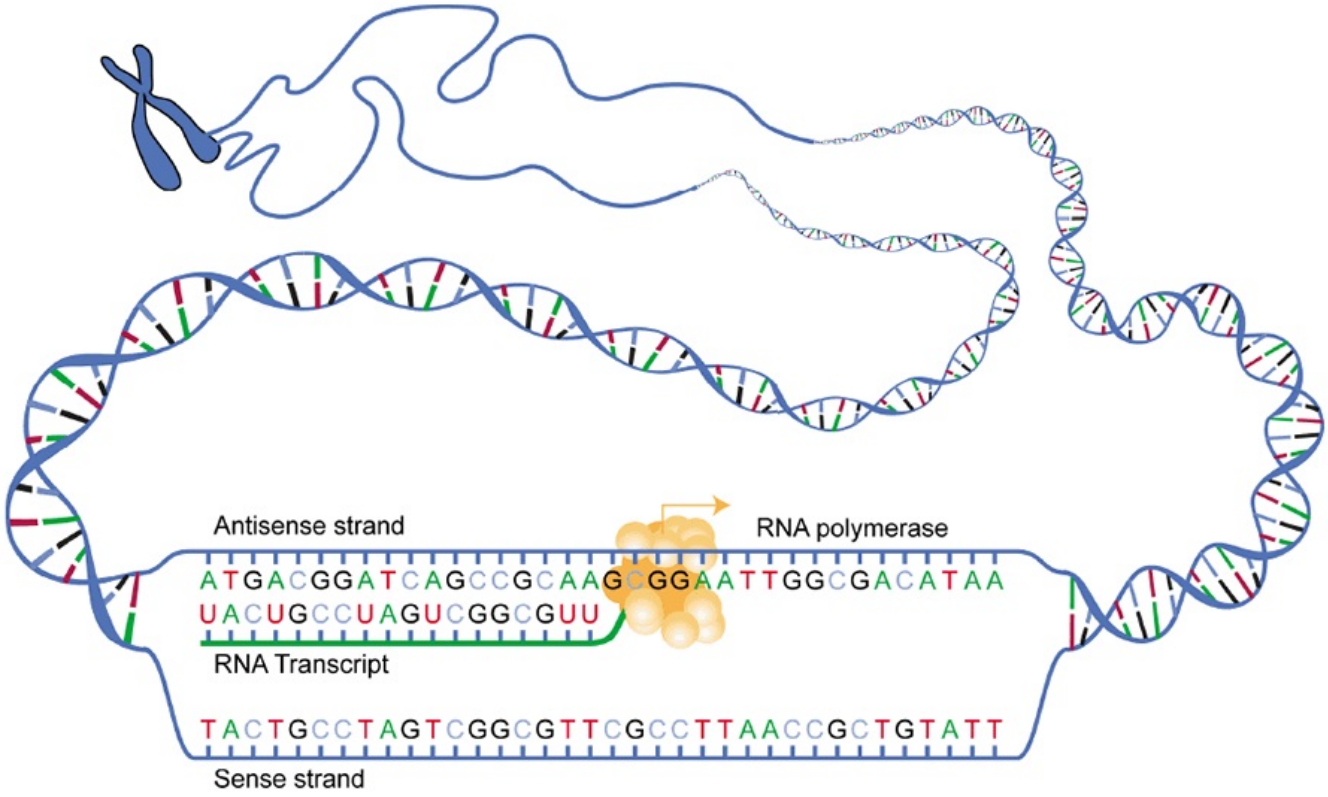
Misreading of damaged DNA causes major problems.

Printed from https://www.cancerquest.org/newsroom/2011/03/misreading-damaged-dna-causes-major-problems on 11/19/2026



Genetic damage is critical in the development of cancer. A new review suggests that there is more than one way that damaged DNA can cause problems. The first is when altered DNA is 'read' (transcribed) correctly but actually encodes the wrong thing. It would be as if the word 'CAT' was replaced by the word 'BAT' in a book. It is still a word but it is very different. In cells, this type of change can have serious results.

In the new article, the authors suggest a second way that DNA changes can cause problems. When DNA is damaged, it is possible that the letters (nucleotides) may be damaged in a way that makes it impossible to read them at all. It would be as if CAT were replaced with C#T. When it comes time to 'read' the message, cells can choose to essentially guess at what the # should be. If the guess is wrong, the result can be an altered protein. The authors suggest that these errors can be a significant factor in the development/spread of cancer.

Source
http://www.nature.com/nrc/journal/v11/n3/full/nrc3006.html#abs
Learn More
Learn More