Scientists attempt to determine role of epigenetics in cancer

You could be forgiven for thinking of cancer as a genetic disease. Sure, we know it can be triggered by things you do – smoking being the classic example – but most of us probably assume that we get cancer because of a genetic mutation – a glitch in our DNA. It turns out that this is not quite the end of the story.

We now have the first direct evidence that switching off certain genes – something that can be caused by our lifestyle or the environment we live in – can trigger tumours, without mutating the DNA itself. The good news is that these changes are, in theory, reversible.

All cells contain the same DNA, but individual genes in any cell can be switched on or off by the addition or subtraction of a methyl group – a process known as epigenetic methylation.

For years, researchers have known that mutations to our DNA – either those passed on at birth or those acquired as a result of exposure to radiation, for example – can cause cancer. But epigenetic changes have also been implicated in cancer because abnormal patterns of gene methylation are seen in virtually all types of human tumours.

Read the full, original story: ‘Epigenetic’ gene tweaks seem to trigger cancer