

## Smoking causes DNA changes in our body 吸烟会导致人体内基因变异

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《科学》杂志上发表的一项研究报告显示，吸烟者一生中吸的烟与人体内基因转变的次数有着直接的联系。这些基因转变是永久性的，就算吸烟者成功戒烟，也无法重新将其修复。请听 BBC 记者 Fergus Walsh 的报告。

The researchers **sequenced** the **genome** of thousands of cancers. They calculate that a 20 a day smoker will **accumulate** an average of 150 **mutations** every year in each lung cell - 97 in the **larynx** and 23 in the mouth. These changes are permanent, and each one represents a chance of **triggering** cancer. Even in tissues not directly exposed to smoke, there are DNA mutations - 18 per year in the bladder and six in the liver.

The joint lead author Prof Sir Mike Stratton, of the Wellcome Trust Sanger Institute, said DNA analysis would help explain the **mechanisms** triggering other cancers.

"By looking in the DNA of those cancers, we will find these mutational signatures, these **archaeological** traces of the past exposures, these will provide us clues to the agents that are responsible, and that will lead potentially to prevention."

One clear message from this research is that the quicker and younger smokers quit, the fewer DNA mutations they will be **harbouring**.

## 词汇表

<b>sequenced</b>	按次序排列
<b>genome</b>	基因组，染色体组
<b>accumulate</b>	累积（数量逐渐增加）
<b>mutations</b>	突变、变异
<b>larynx</b>	喉
<b>triggering</b>	引发
<b>mechanisms</b>	原理、机制
<b>archaeological</b>	考古学的
<b>harbouring</b>	使藏着，使潜伏着

## 测验

请听报道并回答下列问题。

1. How many mutations are seen on average in each lung cell every year for a 20 a day smoker?
2. Which part of the body is more likely to experience DNA mutation for a smoker?
3. True or false? *'Tissues not directly exposed to smoke are protected from DNA mutations.'*
4. Which word has a similar meaning to 'historical'?

## 答案

1. How many mutations are seen on average in each lung cell every year for a 20 a day smoker?

**On average 150 mutations can happen to each lung cell.**

2. Which part of the body is more likely to experience DNA mutation for a smoker?

**The larynx or the voice box is most likely to experience DNA mutations for a smoker.**

3. True or false? *Tissues not directly exposed to smoke are protected from DNA mutations.*

**False. Even tissues that are not directly exposed to smoke are at risk from DNA mutations.**

4. Which word has a similar meaning to 'historical'?

**Archaeological.**