Low-calorie diet may delay onset of rogue elements that damage DNA

A new study has found evidence that health becomes endangered when ageing cells lose control of rogue elements of DNA called transposons.

Research has shown that a low-calorie diet, a key intervention already known to increase lifespan, dramatically delays the onset of increased transposon activity.

The new study…strengthens the links that have led scientists to propose the “transposon theory of ageing”.

…

Transposons are rogue elements of DNA that break free in ageing cells and rewrite themselves elsewhere in the genome, potentially creating lifespan-shortening chaos in the genetic makeups of tissues.

As cells get older,…tightly wound heterochromatin wrapping that typically imprisons transposons becomes looser, allowing them to slip out of their positions in chromosomes and move to new ones, disrupting normal cell function.

Meanwhile, scientists have shown that potentially related interventions, such as restricting calories or manipulating certain genes, can demonstrably lengthen lifespans in laboratory animals.

The new results come from several experiments that are thorough and direct in connecting the dots among weakening heterochromatin, increased transposon expression, ageing and lifespan.

The GLP aggregated and excerpted this blog/article to reflect the diversity of news, opinion and analysis. Read full, original post: How rogue elements of DNA endanger our health