

## STUDY HIGHLIGHTS 'SELFISHNESS' OF 'FLU SYMPTOM RELIEF

■ **Antipyretic drugs such as ibuprofen and aspirin may inadvertently cause more harm than good when taken to relieve symptoms of 'flu, according to research in Canada.**

Ironically, findings from the study, carried out at McMaster University, have suggested that the widespread use of such medicines may be responsible for a significant excess of influenza cases, and by implication a proportion of the deaths attributable to influenza.

The McMaster research team analysed data from a number of sources, including studies in both humans and ferrets (the favoured animal model for human influenza). They then used a mathematical model to compute how the increase in the amount of virus given off by a single person taking fever-reducing drugs would increase the overall number of cases in a typical year, or in a year when a new strain of influenza caused a 'flu pandemic.

Their analysis showed that fever suppression increases the number of annual cases by approximately 5%, which corresponds to more than 1,000 additional deaths from influenza in a typical year across North America.

"When they have 'flu, people often take medication that reduces their fever. But it turns out that our comfort might be at the cost of infecting others," said lead author Professor David Earn.

"Because fever can actually help lower the amount of virus in a sick person's body and reduce the chance of transmitting disease to others, taking drugs that reduce fever can increase transmission."

## DIABETES STUDY SENDS EVOLUTIONARY THEORISTS BACK TO DRAWING BOARD

■ **An elegant and widely accepted theory as to why human evolution has failed to eliminate the harmful genes associated with increased risk of type 2 diabetes through natural selection has been put into question by recent findings from the UK.**

The widely espoused hypothesis held that during times of "feast or famine" throughout human evolution, these "thrifty" genes were advantageous, as

those who possessed them processed food more efficiently. However in the modern developed world where food is plentiful, these same people would be more susceptible to type 2 diabetes.

In the most detailed study of its kind to date, a team from the Wellcome Trust Sanger Institute in Cambridge tested this theory by examining 65 genetic regions known to increase type 2 diabetes risk. If these harmful variants had been beneficial in the past, the team would have expected to see a genetic imprint of this in the DNA around the affected regions. However, they found no such imprint.

Their findings pose an intriguing question: if the harmful genetic variants that are associated with type 2 diabetes were not beneficial in the past, then why have they not been eliminated?

"Understanding how variants that appear, in the current environment, to have largely harmful consequences, have become so frequent will be an important step on this path towards better treatment and prevention," writes co-author Professor Mark McCarthy.

## 'BROKEN HEART' NOT JUST A ROMANTIC CONCEPT

■ **Studies looking into the impact of bereavement on health have suggested that dying from a broken heart may be more literally plausible than previously thought.**

Findings from the research, carried out at St George's University, London, show that the risk of a heart attack or stroke doubles in the crucial 30 day period after a partner's death for those experiencing loss of a loved one.

Bereavement has long been known as a risk factor for death, but this study increases our understanding of its effects on cardiovascular problems such as heart attacks and strokes, the investigators say.

The research team compared the rate of these events in older patients aged 60 and over whose partner had died to that of individuals whose partners were still alive during the same period.

They found that 16 per 10,000 of patients studied experienced heart attacks or strokes within 30 days of their partner's death, compared with 8 per 10,000 in the normal population. This increased risk started to taper off after 30 days.

Dr Sunil Shah, Senior Lecturer in

Public Health and a co-author of the report, said: "There is evidence from other studies that bereavement and grief lead to a range of adverse responses, including changes in blood clotting, blood pressure, stress hormone levels and heart rate control. All these will contribute to an increased risk of events such as heart attacks and stroke after loss of a partner.

"We think it is important that doctors, friends and family are aware of this increase risk of heart attacks and strokes so they can ensure care and support is as good as possible at a time of increased vulnerability."

## NEW LIGHT SHED ON ANTIOXIDANTS PARADOX

■ **Antioxidant vitamins, widely assumed to help prevent cancer, may actually raise the risk of tumours in high enough doses, a new study has suggested.**

Researchers at the University of Gothenburg, Sweden gave vitamin E or the antioxidant drug N-acetylcysteine to mice engineered to have lung cancer. They then observed the tumours multiply and become so increasingly aggressive that the animals died twice as quickly as untreated mice.

While the antioxidants did prevent some cell damage, they also blocked the signalling of a well-recognised tumour-suppressing gene named p53, the study authors explain.

"You can walk around with an undiagnosed lung tumour for a long time," said study co-author Dr Martin Bergh. "For someone at high risk, such as a former smoker, taking extra antioxidants could speed up the growth of that tumour."

The investigators stress that they cannot, on the strength of their data, make general health recommendations, but they point out that their work backs up existing cautions about antioxidant use.

For people who already have cancer, the National Cancer Institute points out that the research does not examine whether antioxidants might help prevent tumours from forming in the first place – only what happens if cancer already has begun. Nevertheless they have advised that until more is known about the effects of antioxidant supplements in cancer patients, these supplements should be used with caution.