

New hope for victims of stroke

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A drug used to treat rheumatoid arthritis also reduces the damage a stroke inflicts on the brain according to lab research and preliminary findings from a clinical trial of stroke patients. The results open the door for a larger clinical study to refine the drug anakinra's use as an effective therapy for victims of stroke.

Top British neuroscientist Nancy Rothwell will summarise her team's latest research into both the causes of brain damage in [stroke](#) patients as well as future treatment options when she delivers The Physiological Society's annual public lecture on 30 June 2010.

Rothwell has just been appointed the new President and Vice-Chancellor of The University of Manchester - where she has worked since 1987 - making her the first woman to lead the University or either of its two predecessor institutions.

Rothwell's research group has been trying to find out what causes damage or death of brain cells in diseases such as stroke, [brain injury](#), and Alzheimer's disease. They have discovered that a protein called interleukin-1 (IL-1) is an important "killer molecule" which is switched on after an insult to the brain. Rothwell's team have also shown that a naturally occurring blocker of IL-1 (called IL-1RA) reduces damage to the brain in experimental stroke. In commercial form, IL-1RA is currently produced as the drug anakinra and prescribed to sufferers of [rheumatoid arthritis](#).

During every minute after a major stroke two million [brain cells](#) are lost,

14 billion connections are gone, and 7.5 miles of brain wiring destroyed.

"The brain is the most complicated structure that we know about," says Rothwell. "It houses billions of [nerve cells](#) and millions of kilometres of connections which allow us to move, breathe, think and remember. Even a small injury to part of the brain can be devastating, and brain diseases pose the greatest burden on society, affecting an increasing number of people and their families."

Stroke is the third most common cause of death in England and Wales. It's estimated that 150,000 people have a stroke in the UK each year and there are over 300,000 people in England living with significant disability as the result of a stroke.

Rothwell's talk - entitled 'Tracking Down Killers in the Brain' - is the public lecture for The Physiological Society's main meeting 'Physiology 2010'. The Physiological Society is a learned scientific society and registered charity which seeks to promote and support the study of physiology around the world. Each year at their main scientific conference the Society holds a public lecture designed to illustrate the importance of physiology and further its understanding by the general public and in schools.

Provided by University of Manchester

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