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## **MEDIA RELEASE**

### ***Canadian researcher finds genetic cause of diseased blood vessels, leading to stroke and dementia***

**OTTAWA, April 6, 2006** – A Canadian researcher has discovered a gene that leads to the weakening of blood vessels in the brain, increasing the risk of stroke.

Dr. Doug Gould, who is training with Dr. Simon John at the Jackson Labs in Maine – the world centre for mouse genetics, published his findings today in the prestigious *New England Journal of Medicine (NEJM)*. The study shows that mutations in a form of the structural protein collagen weaken the blood vessels, making them more susceptible to damage.

Damage can take the form of bleeding in the brain, also known as hemorrhagic stroke, and it can also result in mini-strokes, a major contributor to dementia in the elderly. Weakened by the mutation, the blood vessels in the brain are more susceptible to the stresses caused by the risk factors for stroke, such as high blood pressure.

The discovery paves the way for the development of new drugs to protect blood vessels, as well as the development of a potential genetic screening tool for hemorrhagic stroke and dementia. An additional benefit of the research is the development of the first mouse model for hemorrhagic stroke.

The *NEJM* publication builds on a groundbreaking 2005 study in *Science* in which Dr. Gould and his colleagues discovered that mutations in the same gene caused a rare neurological disease resulting in hemorrhagic stroke and cavity formation in the brains of infants. Importantly, Dr. Gould's work also shows that reducing the stress to the blood vessels at birth by cesarean delivery techniques could save the lives of infants with this disease.

Dr. Gould's post-doctoral work is funded through a unique Canadian partnership called Focus on Stroke, which brings together the Canadian Stroke Network, the Canadian Institutes of Health Research (CIHR)/Rx&D Collaborative Research Program, the Heart and Stroke Foundation of Canada and AstraZeneca Canada to provide an incentive for the country's top young researchers to conduct research in the field of stroke, a leading cause of disability and death.

"Here's a wonderful example of how we're attracting some of the brightest young minds to the field of stroke research and the payback is that they're delivering fundamental new insights into the molecular basis of stroke," says Dr. Antoine Hakim, CEO and Scientific Director of the Canadian Stroke Network. "This study is a great example of how basic research can be taken right through to clinical disease."

"Through its research partnerships, the Heart and Stroke Foundation is furthering our understanding of stroke and helping to ensure the research results are rapidly applied in the clinic," says Sally Brown, CEO of the Heart and Stroke Foundation of Canada.

“Through its CIHR/Rx&D Collaborative Research Program, CIHR supports innovative health research that holds the key to improved health and quality of life for Canadians and people throughout the world”, said Dr. Alan Bernstein, president of CIHR.

“This remarkable milestone demonstrates what can be achieved through research partnerships,” said Michael Cloutier, President & CEO, AstraZeneca Canada and Board member of the Canadian Stroke Network. “We applaud Dr. Gould’s work as it contributes significantly to the understanding of stroke and dementia which is ultimately going to benefit patients.”

Dr. Gould, who would like to return to Canada when he completes post-doctoral work, says the Canadian Stroke Network “provided the impetus for me to continue to focus on stroke.” Dr. Gould won top prize at the Canadian Stroke Network’s annual poster competition last year for his research in this area.

**About the Canadian Stroke Network ([www.canadianstrokenetwork.ca](http://www.canadianstrokenetwork.ca))**

The Canadian Stroke Network includes more than 100 of Canada’s leading scientists and clinicians from 24 universities who work collaboratively on various aspects of stroke. The Network, which is headquartered at the University of Ottawa, also includes partners from industry, the non-profit sector, provincial and federal governments. The Canadian Stroke Network, one of Canada’s Networks of Centres of Excellence, is committed to reducing the physical, social and economic impact of stroke on the lives of individual Canadians and on society as a whole.

**The Heart and Stroke Foundation ([www.heartandstroke.ca](http://www.heartandstroke.ca))** is a leading funder of heart and stroke research in Canada. The Foundation’s mission is to improve the health of Canadians by preventing and reducing disability and death from heart disease and stroke through research, health promotion and advocacy.

**About the Canadian Institutes of Health Research (CIHR) ([www.cihr-irsc.gc.ca](http://www.cihr-irsc.gc.ca))** is the Government of Canada’s agency for health research. CIHR’s mission is to create new scientific knowledge and to catalyze its translation into improved health, more effective health services and products, and a strengthened Canadian health care system. Composed of 13 Institutes, CIHR provides leadership and support to close to 10,000 health researchers and trainees across Canada.

**About Rx&D ([www.canadapharma.org](http://www.canadapharma.org))** is a national association representing over fifty research-based pharmaceutical companies in Canada. The mission of Rx&D is to improve the quality of life of all Canadians and enhance our health care system by fostering the discovery, development and availability of new medicines.

**About the CIHR/Rx&D Collaborative Research Program** enables scientists, clinicians and members of the full spectrum of health professions, and Rx&D members to optimize access to health research, with particular interests in clinical research, intended to ultimately impact on health.

**About AstraZeneca Canada ([www.astrazeneca.ca](http://www.astrazeneca.ca))**

AstraZeneca is a leading global pharmaceutical company with an extensive product portfolio spanning six major therapeutic areas: gastrointestinal, cardiovascular, infection, neuroscience, oncology, and respiratory. AstraZeneca’s Canadian headquarters and packaging facilities are located in Mississauga, Ontario. The company also has a state-of-the-art drug discovery centre based in Montreal, Quebec. For more information, visit the company’s website at [www.astrazeneca.ca](http://www.astrazeneca.ca).

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