

## The Future Stroke Research: Interaction between Basic Scientists and Clinical Researchers

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Stroke is the third most common cause of death in the world after coronary heart disease and cancer and is a major cause of serious and long-term disability in the aging population. Stroke is also a major risk factor for the later development of various neurological disorders including Alzheimer's disease and vascular dementia (de la Torre 2004). Because of the increasing longevity of many populations around the world, these diseases are medical problems of mounting social and economic impact. The brain receives a constant supply of oxygen and nutrients from a network of blood vessels. When one of these blood vessels ruptures or blocks as a consequence of stroke, the brain areas supplied by this blood vessel suffer from ischemia, which leads to neuronal death and subsequent neurological deficits. At present, there are no drugs that can be used to treat stroke patients other than the thrombolytic compound recombinant tissue plasminogen activator (rt-PA), which can only be used to treat a very small proportion of stroke patients and this drug increases the risk of intracranial haemorrhage (Green and Shaub, 2006). The development of acute stroke therapies has proven to be a difficult task, with many failed clinical trials (Ginsberg, 2008). Experimental research into cerebral ischemia contributes significantly to the understanding of stroke injury but suffers from its limited relevance for clinical treatment strategies. The translation of experimental results to beneficial treatments requires the expertise of basic scientists and clinicians with widely divergent skills and knowledge. The future for developing acute stroke therapies will require continual reassessment of how best to translate knowledge of experimental research into clinical trials and this will only be achieved with increased interaction between basic scientists and clinicians.

### References

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