

## The impact of a dying care pathway on end of life care following stroke

Professor Lorraine Smith, Professor David Stott, Dr Matthew Walters, Dr Christine McAlpine, Dr Mark Barber, Dr Gillian Mead, NHS Scotland (stroke) – £89,394 over three years

The preservation of life is central to medical ethics but there comes a point where the issues surrounding the end of life must also be addressed.

This study aims to describe and explore what happens when patients who are not expected to survive are admitted to stroke units. Once there, they are placed on a dying care pathway, a recognised set of guidelines for patients who are dying.

The researchers want to ascertain whether a dying pathway improves care delivery for the patient, from the perspective of both the family/carer and the professionals involved. At the same time, they are interested in what happens in cases where those who die were not placed on such a pathway.

Ultimately, they want to ensure that patients at the end of life, and their families, feel supported and cared for during this time.

## Can routine data be used to answer important questions about the optimal care of stroke and TIA patients in Scotland?

Dr Mary Macleod, Professor Martin Dennis, Professor Peter Langhorne, Dr Mark Barber, University of Aberdeen (stroke) – £52,041 over two years

A new approach to assessing existing stroke care data could pave the way towards reducing the risk to patients of recurring – possibly fatal – strokes.

The Scottish Stroke Care Audit, established in 2002 and covering all hospitals managing acute stroke in Scotland, has collected information about all patients coming into hospital after a stroke. This is used to compare how well different hospitals perform in relation to agreed national standards, and helps to improve patient care.

The award provides funding to help link this data to other information on hospital admissions or death. This in turn creates a unique dataset with the potential to answer important questions on stroke care – for example, to help find out what factors reduce the risk of death or further strokes.

# Chest Heart & Stroke Scotland Research Awards 2011



Charlie Chung, NHS Fife Head Occupational Therapist, helps stroke patient James Ward with a computerised movement and strengthening system designed to build up grip strength. In another therapeutic project, Charlie is a member of a team at the Victoria Hospital, Kirkcaldy, which received a £3,500 award from CHSS to examine the value of music to patients in an acute stroke unit. They hope to determine if music therapy contributes to recovery.

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# Chest Heart & Stroke Scotland Research Awards 2011

With awards totalling more than £500,000 each year, Chest Heart & Stroke Scotland continues to fulfil a vital role in providing support for research teams in Scottish hospitals and universities who are dedicated to improving techniques in prevention, diagnosis, treatment and rehabilitation.

## CHSS Research Profile

### Cooling the brain to help stroke recovery

Dr Malcolm Macleod, Professor Peter Sandercock, I. Marshall, P. Andrews, Professor Joanne Wardlaw, Clinical Neurosciences, Western General Hospital, Edinburgh (stroke) – £87,721 over three years, 2009-2012

CHSS funding is being channelled into a major project to assess the effects of cooling the brain in patients who have had a stroke. Scottish doctors are leading a Europe-wide trial to induce hypothermia to boost survival rates and reduce brain damage. Lowering body temperature by around two degrees puts the body in a state of artificial hibernation, allowing the brain to survive with less blood supply and giving doctors precious time to treat blocked or burst blood vessels. Dr Malcolm Macleod said: "Every day 1,000 Europeans die from stroke and about twice that number survive but are disabled. Our estimates are that brain cooling might improve the outcome for more than 40,000 Europeans every year."

### Vitamin K to improve vascular health and physical function in older people with vascular disease – a randomised controlled trial

Dr Miles Witham, Dr Faisal Khan, Dr Marion McMurdo, Dr Alexander Hill, Professor Allan Struthers, Ninewells Hospital, Dundee (stroke/heart) – £88,697 over two years

Low vitamin K levels have been linked with a number of health issues – stiff arteries, high blood pressure, blood vessel disease – especially in older people. In a randomised controlled trial, the researchers will test whether giving vitamin K can improve matters for people with these conditions. This in turn may also result in improving muscle strength and reducing disability in older people.

The team will test the effects of vitamin K in people aged 70 and over who already suffer from cardiovascular disease. This group is at highest risk of further heart attack and stroke and they also suffer most from weaker muscles.

### MRI measurement of heart muscle injury in a randomised controlled trial of anti-inflammatory elafin in coronary artery by-pass surgery

Dr Peter Henriksen, Dr Scott Semple, Professor David Newby, Queen's Research Institute, Edinburgh (heart) – £74,200 over three years

While heart surgery saves countless lives each year, doctors continue to seek ways to protect the heart muscle during and after such surgery. This research team has funding from the Medical Research Council to conduct a clinical trial to see whether elafin, a protein known to have therapeutic potential, can protect the heart muscle when blood flow is interrupted during coronary by-pass surgery.

CHSS is providing additional support to allow patients in the trial to be scanned with cardiac MRI (Magnetic Resonance Imaging). This should help give researchers a better understanding of how elafin can reduce heart muscle injury and aid healing, and the role of macrophage, an important regulatory cell in heart muscle healing.

### A randomised controlled trial of the effect of remote ischaemic conditioning on heart muscle function in patients with angina

Dr Colin Berry, Dr Johnny Watt, Dr Alex McConnachie, Professor Naveed Sattar, Dr Keith Oldroyd, University of Glasgow (heart) – £56,763 over two years

Recent studies show an inflatable arm cuff – similar to those used to check blood pressure – may hold the key to reducing the risk of heart muscle injury during a heart attack.

The fact that an item so cheap and widely available, with no side effects, could make a difference has prompted the research team to look into the reports more closely.

Evidence suggests that repeated brief arm cuff inflation during a heart attack reduces heart muscle injury. If future studies confirm this to be the case, then cuff inflation could complement other established treatments.

This study will seek out new information about whether cuff inflation might indeed improve heart artery function.