

STROKE



3
TIPS
FOR COPING
WITH A STROKE

ACT EARLY AND QUICKLY

Dr Hilary Jones explains how quick treatment improves the quality of recovery

How I recovered
Justin Smallwood
tells his experience
of life after a stroke



Reduce your risk
Knowing your
blood pressure
could save your life



PHOTO: ITV



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To learn more see page 9

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CHALLENGES

There is a myth that stroke only happens to older people, when in fact it can happen to anyone at anytime – even children and babies. Every five minutes someone in the UK has a stroke, so by the time you've read this article another person will have been struck down by this debilitating condition

Stroke awareness is saving lives

Stroke is the number one cause of long-term severe disability and the second biggest cause of dementia. Across the world, one in six people will experience a stroke at some point in their lives and, in this country, a quarter of all strokes happen to people under the age of 65.

Today is Stroke Awareness Day and we want to make sure that people know that strokes can be prevented and are treatable. With support, many people can make a good recovery and find there is life after stroke. For the last 20 years we have been the major funder of research into stroke treatments and developments in prevention – this report gives hope to many stroke survivors, no matter what their age.

Pioneering work

1 Since the English National Stroke Strategy launched in 2007, we've seen great progress in the treatment and awareness of stroke. However, there are still sub-

stantial variations in hospital care and in the support available for stroke survivors and their families once they leave hospital. We want to see everyone getting the help and assistance they need wherever they live. About a third of people who have a stroke make a significant recovery within a month but many stroke survivors will have long-term problems, so it's imperative that people are given continued support and are not forgotten.

A stroke is a brain attack that happens when the blood supply to the brain is cut off. They affect people in different ways, depending on what part of the brain has been damaged and how widespread the problem is. Stroke survivors can be left with paralysis on one side of the body and can have problems speaking, eating and with incontinence. Sometimes people who've had a stroke may have problems with their vision, suffer from extreme tiredness, issues in understanding or reading and writing. Depression, anger and anxiety are also common for many stroke survivors.



Jon Barrick
Chief Executive, The Stroke Association

KNOW THE SIGNS

Facial weakness:

F Can a person smile? Has their mouth or eye drooped?

Arm weakness:

A Can the person raise both their arms?

Speech problems:

S Can the person speak clearly and understand what you say?

Time to call 999...

T If you spot *any* of these symptoms.

Positive action

2 The good news is that some of the things that can affect your risk of stroke can be changed. High blood pressure is the single biggest risk factor and can be easily treated. In the last year alone, we have tested more than 20,000 people's blood pressures and found that 43 per cent of those were high, giving them an increased possibility of a stroke. Through appropriate medication, stopping smoking, drinking in moderation and having a healthy diet and lifestyle, people can reduce their risk.

We've come a long way in the awareness, diagnosis and treatment of stroke in the last five years, but there is still much to do. We can save lives through making people more aware of the steps they can take to reduce the risk of stroke. Through our pioneering research and campaigning for the support stroke survivors deserve, we are moving closer to our vision where there are fewer strokes and all those touched by stroke get the help they need.



WE RECOMMEND



Justin Smallwood
Former Royal Marine talks about life after a stroke

PAGE 6

'If you keep going and don't give up or get down, you can make huge improvements'

Getting checked **p. 8**

1. How getting your blood pressure checked could save your life

New technology **p. 10**

2. The robotic grip that is helping patients recover from a stroke

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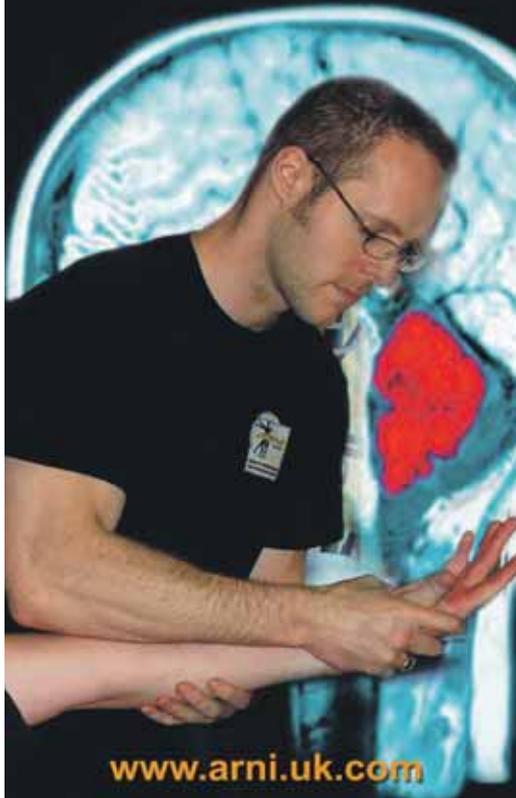
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INSPIRATION

Question: What do people need to know about stroke? Is it an unavoidable hazard for the elderly?

Answer: Far from it, says practising GP and TV physician Dr Hilary Jones. Strokes affect young and old, and, crucially, they can be avoided

Early treatment helps recovery

CHANGE

One of the most important messages Dr Hilary Jones believes people should take on board about stroke is that preconceptions are often misleading.

Stroke can impact the lives of working-age people and not just the elderly. At the same time, thanks to medical advances, the practising GP and resident TV doctor on *Daybreak* and *Lorraine*, points out stroke is not always a long-term crippling condition.

"I think a lot of people still have the impression that a stroke is just something old people have and it leaves them huddled in a wheelchair for the rest of their lives," he says. "There are more than 20,000 strokes among people aged 45 or under every year, so it's not just an old person's condition. The good news is that there are wonderful specialist stroke units up and down the country who are doing amazing physiotherapy and speech therapy

work that can help people make a good recovery."

Acting early

Getting early treatment is crucial Dr Jones insists, not just from an ambulance crew and at hospital, but also the sooner physiotherapy can start, the sooner recovery can start.

"We find that most people, if they're given early treatment, will make the biggest strides in the first couple of months after a stroke, although recovery will normally take about a year," he says.

"You have to bear in mind that the level of recovery will depend on the severity of the stroke and where in the brain the damage has occurred. So, not everyone will be able to make a full recovery, but they will at least get help achieving the best recovery they can.

"For those that are able to make a full recovery, the key thing is the patient themselves. The more work they put into regaining the use of a weak arm or im-



'I always tell patients who are able to make a good recovery that within a few months of having a stroke they'll likely be healthier than they were before'

Dr Hilary Jones

proving their speech, the better their recovery will be."

Better than ever

The positive news that doctors are now noticing is that people who survive a stroke are very keen to get back to their active way of life and will follow a doctor's advice to the letter. This can have the ironic result of Dr Jones seeing patients become healthier following a stroke than the many years they felt they were healthy but clearly weren't.

"People who have had a stroke are obviously worried they will have another one," he says. "I always tell patients who are able to make a good recovery that within a few months of having a stroke they'll likely be healthier than they were before. It's because, after a stroke, a patient really works on the advice you give them to quit smoking, cut down on alcohol, take regular exercise and eat a healthy, balanced diet."

Prevention key

Ultimately, the most important message Dr Jones would impart is a challenge to the preconception that there is little that can be done to avoid a stroke. Far from being an affliction that only strikes randomly, the advice is that taking some sensible precautions and speaking to a GP could prevent many strokes every year.

"Like all doctors, I see a lot of patients who've had minor strokes and we can help them avoid getting a full-blown stroke," he says. "However, I'd estimate only a third have warning signs like this, so it's vital people get their blood pressure and cholesterol levels checked by their GP. It's a very simple test and if either gives a high figure, we have medicines, diets and lifestyle advice we can offer. The conditions are very treatable, yet left unmonitored they can lead to stroke."

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ON SET
 Dr Hilary Jones is a practising GP and resident doctor on Daybreak and Lorraine
 PHOTO: ITV

Healthy living is key to prevention

As with most medical conditions, there are several common-sense steps that people can take to dramatically reduce their risk of stroke

The most effective way is to keep a regular check on blood pressure through making an appointment for a reading at a GP practice. It is the highest avoidable risk factor for stroke and so for the couple of minutes it takes to get tested, The Stroke Association estimates 40 per cent of strokes could be avoided.

The same goes for cholesterol levels, which can easily be checked at a GP's office. Both high blood pressure and cholesterol levels are highly treatable through medicines and diet.

The link with high blood pressure means that prevention measures include remaining fit and active with a diet that includes five portions of fruit and vegetables per day and isn't high in salt.

Beyond diet, the single piece of advice doctors pass on to those seeking to reduce their risk of stroke is to not smoke and to drink in moderation.

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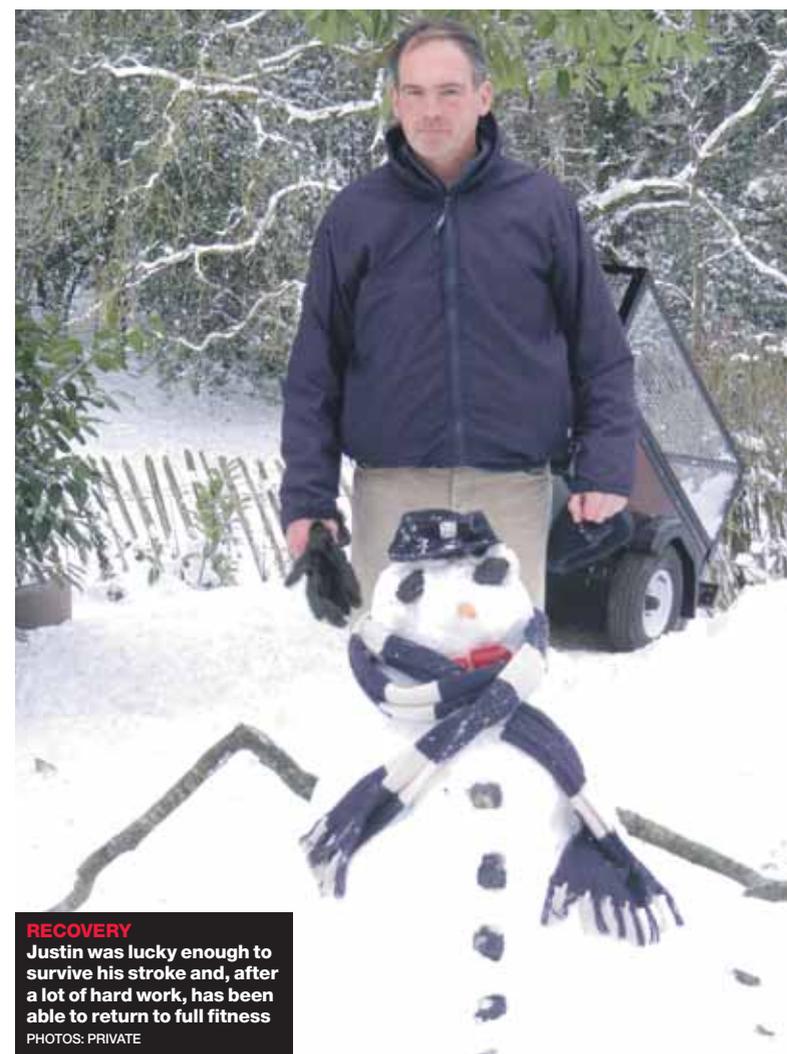
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INSPIRATION

TIP

1

DON'T GIVE UP



RECOVERY
Justin was lucky enough to survive his stroke and, after a lot of hard work, has been able to return to full fitness
PHOTOS: PRIVATE



Dermination is the key to recovery

Question: Can someone make a good recovery after suffering a stroke relatively early on in life?

Answer: Fifty year old former Royal Marine Justin Smallwood, certainly thinks so. He has put in a lot of hard work — and received some luck — on his way to becoming the fittest he's felt in a decade



'I was fortunate to survive and fortunate that I had the positive will to get out there and get fit again'

Justin Smallwood
Former Royal Marine

candidates for commissions within the Royal Navy, and the team was very supportive.

Positive attitude

I think that as long as your conditions allows, if you keep going and don't give up or get down, you can make huge improvements.

You still need good medical treatment, of course, and I was lucky enough to have an operation at St Bart's where they "zapped" the part of the heart that was giving the wrong electric signals that was causing AF. It enabled me to get off beta blockers, which made me feel tired and cold; they were really unpleasant.

I'm now retired from the armed forces and have a wonderful time helping teach outdoor activities to boys who don't find the traditional classroom a welcoming environment. It's very fulfilling because you can see the enjoyment they get from activities such as kayaking and walking.

I'm making myself available to speak about stroke awareness to interested groups and that's very fulfilling work as well.

SEAN HARGRAVE

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QUESTION & ANSWER



Trudie Lobban MBE
Founder and CEO AFA

What is AF?

Atrial Fibrillation (AF) is the most common heart-rhythm disturbance encountered by doctors. It affects approximately 1 million people in the UK. It can affect adults of any age, but is more common as people get older.

Normally, the heart beats in a regular, organised way, at a rate of 60-100 beats per minute. However, AF occurs when chaotic electrical activity develops in the upper chambers of the heart. As a result, the atria no longer beat in an organised way, and pump less efficiently.

This may cause symptoms of palpitations, shortness of breath, chest discomfort, light headedness, fainting or fatigue.

Why does it raise the risk of stroke?

In AF, the contraction of the upper chamber becomes disorganised and does not contract smoothly. The atria appear to shake like a jelly. In this situation, the blood flow reduces in some areas. This is particularly a problem in a side chamber of the left atrium called The "left atrial appendage".

When the blood stops moving it will tend to form clots. When clots have formed in the atrium there is a chance that they will move in to the blood flow. When this happens, they are carried in the circulation to smaller blood vessels of the brain. When an artery in the brain becomes blocked by a clot, the part of the brain the artery supplies loses its blood supply. This is the cause of a stroke.

Is it inherited or is it acquired?

There is no question that there is a clear age-related incidence of AF, suggesting that there is a powerful element of "wear and tear" involved in the development of this heart rhythm abnormality. However, there are other influences such as high blood pressure, underlying problems with the thyroid gland and, possibly for some, an underlying problem with the structure of the heart.

For more information visit
www.afa.org.uk

HOW I MADE IT

Nearly three years ago I had what you can probably call a near death experience but today I can honestly say I am the fittest I have been in a decade.

Being commando trained I have a positive "get on with it" attitude that has really helped, but I can't say it's all down to me. I've been lucky that I've had good treatment, strong support from work colleagues and I've been well enough to carry on skulling and running to keep fit.

So much so, in fact, I recently took part in a veterans Thames rowing race from Mortlake to Putney. The team I was in came 11th out of 200, so I'm really proud of that.

Fortitude and luck

It was during the second week of the Beijing Olympics I collapsed at home while trying to make a cup of tea. I wasn't aware but I had had a stroke.

I already knew I had atrial fibrillation (AF) where the heart quivers instead of pumping properly. It can cause a stroke if blood collects and clots and then gets pumped up

FACTS

Atrial fibrillation is estimated to affect 1.2m people in the UK

A normal heart will beat rhythmically between 60 to 100 times per minute at rest with AF this may rise as high as 140

The rhythm of the heart-beat flutters as chaotic electric activity in the upper part of the heart causes a

to the brain, as happened with me.

I was unlucky for it to cause a stroke but I was fortunate to survive and fortunate that I had the positive will to get out there and get fit again. I had weakness down my left side, and my memory and speech weren't great, but it's improved with time and effort.

I was a part of at the Admiralty Interview Board, which assesses

quivering heart-beat

AF is broken down in to three sub categories: Paroxysmal atrial fibrillation will normally pass within 48 hours without treatment. Persistent atrial fibrillation will last for more than a week (or less if treated) and longstanding persistent atrial fibrillation, which will normally last for more than a year

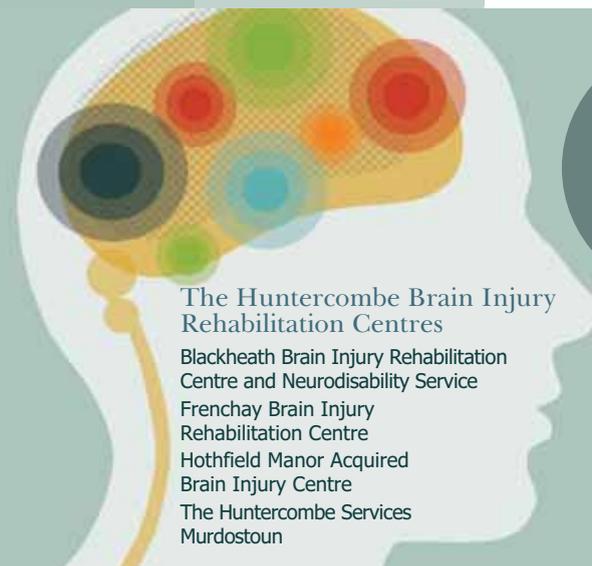
ASK FIRST TO HELP PREVENT A STROKE LATER

If you have AF (which is a type of irregular heartbeat), you may be at risk of a stroke. Be aware of your risk by ASKING your GP for a pulse check.

Stroke Helpline 0303 3033 100
www.stroke.org.uk/askfirst



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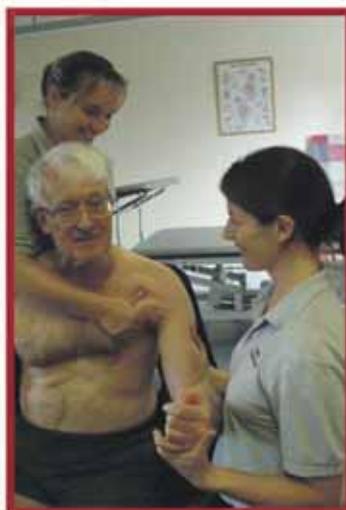
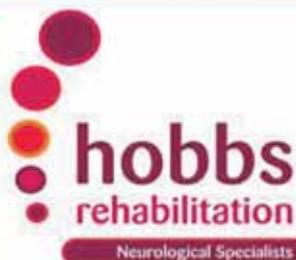
Across these centres, we provide, a comprehensive assessment, rehabilitation, therapy and community integration programme for people with physical and cognitive impairment and people with challenging behaviour following brain injury.

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NEWS

TIP

2

TAKE THE
TIME OUT

BLOOD PRESSURE TESTS SAVE LIVES

■ **Question:** What is the one step anyone can take to reduce their risk of stroke?

■ **Answer:** Know your blood pressure. It could well save your life, and your GP's surgery will happily take it for you

Of the many positive messages that surround stroke, perhaps the most poignant is that 40 per cent are estimated to be avoidable, if only people were to have their blood pressure taken.

As The Stroke Association's research liaison office Dr Sharlin Ahmed, points out that it's the biggest single step anyone can take to reducing their risk of stroke and simply involves picking up the phone.

"The greatest preventable factor in stroke is blood pressure, and it's very simple to get yourself checked, whatever age you are," she says. "A GP's office will be happy to check a person out and, although you can buy blood pressure machines in shops, we'd normally recommend people get a professional to get a reading. There's nothing wrong with machines you can buy but you have to make sure they're calibrated properly and you can't beat the experience of a trained healthcare professional in getting an accurate reading."

National campaign

The Stroke Association has been running free blood pressure checks up and down the country in the run up to National Stroke Awareness Day with the aid of the Rotary Club and the Ambulance Service.

Two of those to sign up and get tested were *Daybreak*

presenters Adrian Chiles and Christine Bleakley.

"Thousands of strokes could be prevented every year if more people took steps to reduce their blood pressure," comments Chiles. "Having witnessed myself the devastating effects that stroke can have on someone, I urge everyone to take the first step and get your blood pressure checked."

Christine Bleakley agrees that, despite the pace of modern life, taking a few minutes to get checked is very worthwhile.

"Living a hectic lifestyle often means that your health isn't one of your top priorities, and, if you're anything like me, getting your blood pressure checked seems like the last thing on your to-do list.

"However, what I didn't know was that over 40 per cent of all strokes could be prevented if we all took steps to control our blood pressure, so getting it monitored regularly is really important."

The Stroke Association is holding a number of blood pressure testing events across the country throughout the year. To locate your nearest event go to: www.stroke.org.uk

SEAN HARGRAVE

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Dr Sharlin Ahmed
The Stroke Association's Research Liaison Officer



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GETTING A CHECK UP
Daybreak presenters **Adrian Chiles** and **Christine Bleakley** agree it's worth taking time out of a hectic lifestyle to get your blood pressure checked
PHOTO: THE STROKE ASSOCIATION

Could stem cells aid stroke recovery?

Glasgow researchers are carrying out the first "in man" trials of a stem-cell therapy that it's hoped could encourage the brain to recover better after a stroke

Stem cells have long been acknowledged as the building blocks of the human body and many fields of medicine are hopeful they may one day help cure a variety of conditions.

At Glasgow University, scientists are seeking to test the promise of stem cells as a therapy for stroke patients by first establishing if they are safe to inject into a patient's brain. The researchers are working with a biotech company on a safety trial that is believed to be the first of its kind in the world.

Regenerating tissue

Two out of an eventual 12 patients have so far been injected with stem cells and their brain func-



Keith Muir
Professor of Clinical Imaging and Consultant Neurologist at University of Glasgow

tion investigated by sophisticated brain imaging techniques.

Keith Muir, professor of clinical imaging and consultant neurologist at the University of Glasgow believes the safety trial will help further our understanding of stem cells and how they interact with brain tissue.

"In tests, rats have recovered some motor function but, of course, you can't test their speech or other brain functions," he says.

"So we're hopeful. One of the things we have to watch out for is patients producing antibodies that would suggest their immune system is attacking the cells, although we believe stem cells may be less prone to such an attack.

"Ultimately, it may not matter too much because we expect few to survive anyway. Whereas we used to think the cells would hang around and turn into new brain tissue, we're now suspecting stem cells may simply be encouraging the body's own repair system to regenerate brain tissue. So they may be the messengers, rather than the building bricks themselves."

SEAN HARGRAVE
info.uk@mediaplanet.com



QUESTION & ANSWER



Professor Chris Mason
Chair of Regenerative Medicine Bioprocessing, UCL

■ What are stems cells and what promise might they hold for stroke patients?

! When cells are lost (stroke) or defective (sickle cell disease) the only cure is to replace them. Stem cells are found in humans at every stage of development, even in adults. They are capable of replicating in number and turning into all the different cell types that make up our bodies, including neurons. Taking advantage of these properties can be used as the starting material for cell-based therapies. Stroke is one potential application.

■ Could stem cells one day provide a cure for stroke?

! The three traditional pillars of healthcare therapy, small molecule drugs (eg., aspirin), biological drugs (insulin) and medical devices (heart valve) are unable to treat a wide range of serious medical conditions, including neurodegenerative and autoimmune diseases, heart failure, stroke and spinal cord injury. Cell therapies are a small but rapidly growing fourth and final pillar of healthcare that is promising to provide for these unmet medical needs.



ReNeuron

pioneering stem cell therapeutics

At ReNeuron, we are translating exciting stem cell science into biopharmaceutical products to treat serious disease conditions such as stroke, where the patient populations are large and where patients have few if any alternative treatments available to them.

A ground-breaking first-in-man clinical trial of ReN001, our stem cell therapy for the treatment of patients left disabled by the effects of a stroke, has recently commenced through the NHS in the UK. ReN001 has been shown to reverse the functional deficits associated with stroke disability in extensive pre-clinical testing. The results of these pre-clinical studies have been published in leading peer-reviewed journals.

ReNeuron - pioneering stem cell therapeutics

Visit us at www.reneuron.com

NEWS

TIP
3EMBRACE NEW
TECHNOLOGY

The robotic grip that helps build arm strength

■ **Question:** What can be done to improve arm movement in a limb left weak through stroke?

■ **Answer:** Physiotherapy can bring good results and could be supplemented by a "robot" device which helps patients exercise an arm

For far too long Dr Diane Playford believes people have ignored the issue of weak arms in patients recovering from stroke.

As a senior lecturer in Neurology at University College London, she felt more could be done to give better upper body mobility. So, with support from The Stroke Association, she has developed a "robot" controller device that allows patients to play a simple computer game and improve the reach, grasp and turn function of their arm.

Arm strength

"People just seem to have concentrated on recovery for other parts of the body because, I guess, patients are very quick at becoming one-handed," she says. "It's not the same with a leg or your speech. You have to keep persevering to walk and talk, but with an arm, you can always use the other one. It's a shame because it means



IMPROVEMENT IN TREATMENT A patient uses the robotic grip as part of his physiotherapy
PHOTO: THE STROKE ASSOCIATION

people often have that "arm-clenched-to-the-chest" posture that shows they've not recovered full use of the limb after a stroke."

FACTS

■ **Roughly two out** of every three people who have a stroke will survive. Half will go on to make a good recovery, while the other half of survivors may be left with some form of disability

■ **Common disabilities** include difficulty with speech and weakness in an arm or leg. If the stroke affected the part of the brain that processes

Feedback system

Dr Playford has worked with engineers at Imperial College to devise the REACH man device. It's the equivalent of a very sophisticated

vision, some patients may also lose sight in one eye

■ **The sooner treatment** can begin, the better the chance for the best recovery possible. The biggest strides in regaining strength in a weakened limb and improving speech are made in the first few months after a stroke, although recovery is normally expected to take a year

computer joystick that allows the patient to repeat the grasp, reach and turn functions required to give better movement that are the equivalent movements of opening a door.

The clever part is that the device is portable enough to sit on a table and can feel the strength of the movement the patient is putting in. This enables it to be set up to offer varying assistance of resistance.

"The device can feel the amount of effort the patient is able to put in and so can adjust itself to help or provide resistance," she says. "We're actually finding that even if it helps, people still find it tiring to use and so normally have had enough after half an hour. However, the big point is that we know if we can give people extra therapy soon after they've had a stroke it can help a great deal. On our 18-bed ward, though, it would be the equivalent of a full-time therapist for a day to provide half-an-hour-a-day extra treatment."

Ultimately, Playford hopes to be able to make the device cheap enough for it to be loaned to patients for use at home.

SEAN HARGRAVE

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Web trial improves reading speeds

Some people find that after a stroke their vision can be impaired by a condition called Hemianopic Alexia. This is typically caused by damage to the left, rear area of the brain and can cause loss of the right half of a patient's vision

The condition has nothing to do with the person's eyes, which are still functioning properly, but is caused by one side of the brain not interpreting what one of the eyes is seeing. This can cause problems with reading, requiring people living with HA to physically move their head to scan a line of text.

Hence, researchers at University College London, have started to use a website to help patients improve their reading speed by between 20 to 50 per cent.

"If you have HA, the only way you can increase your field of vision is to move your eye and your head," explains Dr Alex Leff, the lead researcher on the project. "We have the text from popular books moving across the top of the web page and this causes the eye to involuntarily scan the scrolling text. We're finding it doesn't just work when a patient is on the website, it's something that carries over when they read static text in a book."

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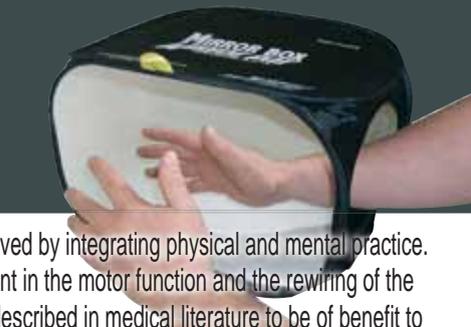
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Atrial fibrillation and the risk of stroke: the role of catheter ablation

Sabine Ernst, MD PhD FESC; Vias Markides, MD, FRCP
Cardiology Department, Royal Brompton and Harefield NHS Foundation Trust
& National Heart & Lung Institute, Imperial College, London

Atrial fibrillation as a cause for stroke

When the heart rhythm changes from the normal sinus rhythm to a very fast rhythm in the atria called atrial fibrillation (AF), the atria start quivering and stop pumping blood into the main heart chambers. The rapid rhythm in the atria is irregularly transmitted to the main chambers, which then start contracting irregularly and faster than normal. Pumping performance is reduced and patients often experience palpitations, breathlessness and reduced exercise capacity. Additionally, the lack of contraction and slow flow in the atria greatly increase the risk of blood clots in the heart. Clots from the left atrium can travel from the heart to the brain where they can block a brain artery and cause a stroke.

AF affects 1% of the population overall, but 5% of the population over the age of 65. Some 5 million people are thought to be affected by AF in the European Union. AF increases the risk of stroke six-fold and becomes increasingly important as a risk factor for stroke with increasing age, being responsible for a quarter of all strokes in the elderly.

How do I know if I have atrial fibrillation?

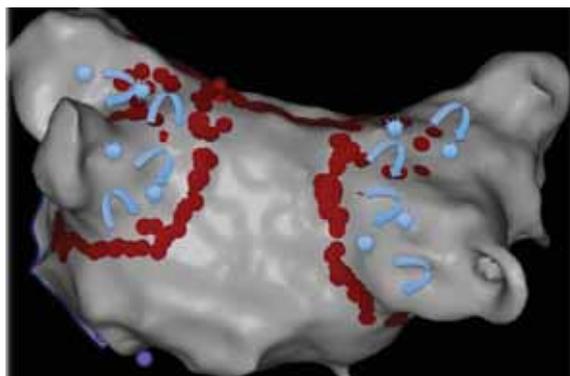
The diagnosis of AF is made with an electrocardiogram, which shows the irregular atrial activation and the resulting irregular activation of the main heart chambers. Typical complaints are highly variable and may include palpitations, light-headedness, breathlessness and fatigue, but AF in some patients can go unnoticed which can be particularly dangerous as the risk of stroke may go unnoticed. Patients with pre-existing heart conditions usually experience a worsening of the heart problems once they get atrial fibrillation.

What can be done to treat atrial fibrillation?

The standard treatment for AF is medication with drugs such as beta-blockers or other so-called "anti-arrhythmic" medication to either control the heart rate during AF or to stop it and prevent further AF episodes. To prevent a stroke, blood-thinning medication will be recommended for patients at risk. In recent years a novel, curatively-intended treatment called "catheter ablation" has been established. Ablation has been shown to be much more effective than drugs at controlling AF.

What is a catheter ablation of atrial fibrillation?

In a catheter ablation, the sources of abnormal electrical activity that trigger the AF, usually located in the pulmonary veins (veins that bring blood to the heart from the lungs) are electrically isolated from the heart by creating an electrical barrier that insulates the triggers from the heart such that AF can no longer start. In some patients, the millimetre-wide insulation line can be broken as the heart heals and small gaps can develop, necessitating a second ablation procedure to abolish the AF.



3D Carto Map of Left Atrium, the red ablation lines electrically insulate the sources of AF located in the pulmonary veins from the left atrium, allowing restoration and maintenance of normal rhythm.

Does catheter ablation work for every AF patient?

AF ablation works best in patients who suffer from episodic or "paroxysmal" AF and who are otherwise healthy and fit. In patients with existing heart disease or more long-lasting AF, catheter ablation is still possible, but may require more extensive ablation as well as PV isolation and is more likely to require a repeat procedure to successfully eliminate.

How dangerous is an AF procedure?

Although an AF ablation procedure is nowadays routine, it needs to be carried out by a trained heart rhythm specialist that ideally performs this type of procedure several times per week. The major risks of AF ablation include death (1:1000), bleeding into the sack around

the heart requiring drainage (1%), narrowing of pulmonary veins (<1%), and stroke (0.5-1%). It should be emphasised that these risks need to be weighed up against the risks of AF if left untreated, which generally carries an *annual* risk of stroke of around 1-1.5% even in "low risk" patients or patients receiving blood thinning medication with warfarin. A number of recent studies have suggested that ablation may reduce the risk of stroke and other complications overall, but confirmation from randomised studies is awaited.

Is an ablation procedure a type of heart surgery?

The vast majority of AF ablation procedures are done by cardiologists rather than cardiac surgeons through tiny (2-3mm) holes in the veins in the groin. However, if there is any other reason to undergo cardiac surgery (e.g. for a leaky heart valve), then the cardiac surgeons can perform a similar ablation procedure as part of the heart operation. Keyhole surgery is also possible.

How can a successful AF ablation procedure be confirmed?

Although it is mostly patients with severe symptoms during AF (who can tell the difference to being in normal sinus rhythm) that are usually accepted for an AF ablation procedure, absence of symptoms of AF is not enough to confirm that the catheter ablation has actually worked. While in the early months after an ablation procedure some patients stay on anti-arrhythmic medication, the full result can only be judged when all the rhythm supporting drugs have actually been stopped (which is usually done in a stepwise fashion) and once serial electrocardiograms over several days at several points in time after ablation demonstrate that there is no further trace of AF.

Is a patient after a successful AF ablation still at risk for a stroke?

Comparing retrospectively patients that had previously undergone catheter ablation of AF and their peers who had similar features (age, gender and AF type), the risk of stroke was significantly reduced in an 8 year follow-up period. However, large clinical trials are currently running (e.g. CABANA) to prospectively investigate if AF ablation does indeed improve the outcome of AF patients and protect them from events such as stroke.

Where can I get more information on catheter ablation of atrial fibrillation?

The Arrhythmia Alliance is a UK patient initiative that links with Atrial Fibrillation Association to inform patients about heart rhythm disorders. Other sources of information is the website of the British Heart Foundation and the cardiology departments of large NHS trusts/university hospitals. Specialist outpatient clinics link with patient support groups for upcoming patient information events (e.g. the Patient Information evening on the 6th of June 2011 as part of the national Arrhythmia Awareness Week, Royal Brompton Hospital, London).

Further references

1. "Guidelines for the management of atrial fibrillation: the Task Force for the Management of Atrial Fibrillation of the European Society of Cardiology (ESC). European Heart Rhythm Association; European Association for Cardio-Thoracic Surgery" Camm AJ, Kirchhof P, Lip GY, Schotten U, Savelieva I, Ernst S, Van Gelder IC, Al-Attar N, Hindricks G, Prendergast B, Heidbuchel H, Alfieri O, Angelini A, Atar D, Colonna P, De Caterina R, De Sutter J, Goette A, Gorenek B, Heldal M, Hohloser SH, Kolh P, Le Heuzey JY, Ponikowski P, Rutten FH. *Eur Heart J.* 2010 Oct;31(19):2369-429. Epub 2010 Aug 29
2. Bunch TJ, Crandall BG, Weiss JP, May HT, Bair TL, Osborn JS, Anderson JL, Muhlestein JB, Horne BD, Lappe DL, Day JD. *Patients Treated with Catheter Ablation for Atrial Fibrillation Have Long-Term Rates of Death, Stroke, and Dementia Similar to Patients Without Atrial Fibrillation.* *J Cardiovasc Electrophysiol.* 2011 Mar 15

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