

Saving Brains

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Saving brains in Scotland

An update on the situation with thrombectomy

July 2022

Stroke is an enormous problem for Scotland. The numbers are often not appreciated:

- More than 11 000ⁱ people have a stroke every year
- More than 128 000ⁱⁱ people are living with the effects of their stroke
- Total annual costs will reach £2.5billion by 2025ⁱⁱⁱ

A stroke happens when the blood supply to part of the brain is cut off, killing brain cells. Damage to the brain can affect how the body works. It can also change how you think and feel. The effects of a stroke depend on where it takes place in the brain, and how big the damaged area is.

Thrombectomy is an extraordinarily effective, medical intervention for stroke.

- Patients eligible for thrombectomy who do not receive one, have a very high likelihood of dying, or being left severely disabled
- For people who do receive one, the outcome can be utterly different

Alison's story

Alison Maclean from Dundee had her stroke at the age of 71, two years ago. At the time, Alison was about to go in to surgery to have her femur operated on. However, on the morning of the operation, she suddenly developed left-sided weakness, vision difficulties and problems speaking.

Alison doesn't remember much, but was told she'd been rushed into a room to get a brain scan, following which, she underwent a thrombectomy.

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"A nurse came up to me and told me that I'd had a stroke and had just received a procedure to remove a blood clot to help with my recovery. I was able to do everything – move, speak, see – I wouldn't hardly have known I'd had a stroke.

And now I feel great. I am back to doing all the things I did before my stroke: seeing friends and family, reading, watching telly, going on my exercise bike and for walks and I have started swimming now too."



How thrombectomy works. The majority of strokes are caused by a blood clot blocking an artery in the brain, depriving that part of the brain of blood. Some clots in large blood vessels are too big to be broken down by clot-busting drugs. This is where thrombectomy can be so powerful. A specialist inserts a tube with a tiny, wire cage into an artery near the groin. It is guided up through the body directly into the brain, closes around the clot, and is then pulled out. The blood can flow freely again. The patient can be awake throughout, or it may be performed under general anaesthetic. It is most effective when performed in the first six hours following a stroke.

- It is suitable for around 1 in 10 stroke patients - that's around 800 stroke patients a year in Scotland^{iv}
- Around one in every three people who receive a thrombectomy will be less disabled as a result^v
- Around one in five will be able to function completely independently afterwards^{vi}



Thrombectomy is extremely cost effective

Research shows thrombectomy leads to a 'significant reduction in disability and long-term costs to healthcare systems'^{vii}.

- On average, one patient receiving thrombectomy saves the NHS £47,000^{viii} over five years.

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Stroke Association research funding in Scotland played a key part in bringing this remarkable treatment to the NHS. In 2011, the Stroke Association funded the PISTE^{ix} clinical trial on thrombectomy at the University of Glasgow. The final results, presented at the International Stroke Conference in 2016 added new evidence for the effectiveness of thrombectomy treatment in the UK.

Thrombectomy saves brains, money and lives. It must be available 24/7 for everyone who needs it.

Scotland has been in the unacceptable position of not having a national thrombectomy service for too long.

This is now changing.

Stroke Policy



The Scottish Government in its Programme for Government 2019/20^x, made five commitments to improve stroke treatment, including: "We will ensure that a national planning framework is in place for a high quality and clinically safe thrombectomy service."

Moves towards establishing a national thrombectomy service are now well under way.

Humza Yousaf MSP, Cabinet Secretary for Health and Sport (23 March 2022):

"A Scotland-wide service is expected to be operational by 2023."^{xi}

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Our national thrombectomy service will have three main sites to deliver the procedure:

- Ninewells Hospital in Dundee for eligible patients from all NHS Boards in the North of Scotland
- The Royal Infirmary of Edinburgh for patients in the East of the country
- Queen Elizabeth University Hospital in Glasgow for eligible patients from NHS Boards in the West of Scotland



Following a 999 call, patients will be taken by ambulance to the nearest hospital which receives stroke patients. The patient will be assessed by a stroke specialist and if eligible for thrombectomy, transferred by Scottish Ambulance Service to either Dundee, Edinburgh or Glasgow for the procedure.

Afterwards, patients are transferred by ambulance back to the nearest supporting stroke facility to their home.



Ninewells Hospital in Dundee began its pilot service in November 2020 and has led the way in terms of learning and development for the national service. It now accepts local patients, as well as patients transferred from NHS Grampian and NHS Fife. To date, the pilot service has treated more than 35 people. A fully operational service is anticipated by 2023.

Royal Infirmary of Edinburgh began its pilot service in September 2021. To date, the team there has treated more than 25 patients.

QEUH in Glasgow began a test of change pilot in early 2022. Running within a limited timeframe, it is also successfully treating patients, with at least 16 patients having undergone the procedure.

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Away from the three main delivery sites, a great deal is also going on, including staff training at the other stroke hospitals, and significant input and support from the Scottish Ambulance Service.



Thrombectomy development has been backed by more than £9million of investment so far by the Scottish Government

The money is there, the plan is there, but there are real challenges including recruiting and retaining staff, and sharing complex information across differing Health Boards about individual patients.

It's also worth remembering that the pilots and test of change still leave evenings and weekends when patients are not being assessed for thrombectomies, and in some hospitals never at all.

We're not there yet, but the Stroke Association is satisfied that the Scottish Government is doing what is needed, the service delivery plan is on track, and things are moving as quickly as might reasonably be expected.

This progress must urgently continue until Scotland has a fully sustainable, 24/7 national service and everyone who is eligible for thrombectomy, receives one.



The big prize is thrombectomy as part of an improved, progressive stroke service for Scotland

Thrombectomy development is only one part of a systems-wide change to stroke care that is much-needed and also under way. Patients can only get to the point of potentially receiving thrombectomy if the pathway before and after is smooth-running and efficient. There has to be the infrastructure in place for all stroke patients. And this systems-wide change is now at a crucial stage.

Humza Yousaf MSP, Cabinet Secretary for Health and Sport (23 March 2022):

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"We are supporting the National Advisory Committee on Stroke to develop a progressive stroke pathway document which will set out the vision for what stroke services across Scotland should deliver across the whole patient pathway, including access to stroke rehabilitation, and access to support for people who have experienced a stroke.

Scottish Government will work closely with the Stroke Improvement Programme Team and stakeholders throughout 2022 to develop an implementation plan to deliver the vision set out in this document."^{xii}

The Scottish Government published its vision report in March 2022. It is called *A Progressive Stroke Pathway for Scotland*^{xiii}.



A revised Stroke Improvement Plan, based on the recommendations in the *Progressive Stroke Pathway* report is due by the end of 2022

It will then be down to Health Boards to deliver it. One clear and very welcome recommendation is for a single, named, member of the senior management team in each Health Board to be responsible for the delivery of stroke improvements in their area. This is across the entire pathway, not only in hospital.

Once the revised Plan is published, we will be looking to this person to bring real leadership to the task and drive forward improvements.

The Cross-Party Group on stroke at the Scottish Parliament has already written to every Health Board to ask for the name of the person leading the way in their area. We will then seek to meet.

We need politicians and people in every Health Board to follow developments with us, support progress and ask questions as required.

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ⁱ <https://publichealthscotland.scot/publications/scottish-stroke-improvement-programme/scottish-stroke-improvement-programme-2022-national-report/>

ⁱⁱ <https://publichealthscotland.scot/publications/scottish-stroke-improvement-programme/scottish-stroke-improvement-programme-2022-national-report/>

ⁱⁱⁱ [current future avoidable costs of strokesummary-report.pdf](#)

^{iv} <https://publichealthscotland.scot/publications/scottish-stroke-improvement-programme/scottish-stroke-improvement-programme-2022-national-report/>

^v [https://www.thelancet.com/journals/lancet/article/PIIS0140-6736\(16\)00163-X/fulltext](https://www.thelancet.com/journals/lancet/article/PIIS0140-6736(16)00163-X/fulltext)

^{vi} [https://www.thelancet.com/journals/lancet/article/PIIS0140-6736\(16\)00163-X/fulltext](https://www.thelancet.com/journals/lancet/article/PIIS0140-6736(16)00163-X/fulltext)

^{vii} Wolfe, C et al. (2020). *King's College London, Stroke pathway – Evidence Base Commissioning – An Evidence Review*. Available at: [https://kclpure.kcl.ac.uk/portal/en/publications/stroke-pathway--evidence-base-commissioning--an-evidence-review\(813067c2-1cc2-4cd1-9eaf-93eb0d72dd40\).html](https://kclpure.kcl.ac.uk/portal/en/publications/stroke-pathway--evidence-base-commissioning--an-evidence-review(813067c2-1cc2-4cd1-9eaf-93eb0d72dd40).html)

^{viii} Stroke Association, *Current, future and avoidable costs of stroke in the UK*, January 20.

Available: https://www.stroke.org.uk/sites/default/files/costs_of_stroke_in_the_uk_economic_case_interventions_that_work.pdf

^{ix} [PISTE trial provides new evidence for effectiveness of thrombectomy treatment in the UK | Stroke Association](#)

^x [Chapter 3: Improving Outcomes Through Our Public Services - Protecting Scotland's Future: the Government's Programme for Scotland 2019-2020 - gov.scot \(www.gov.scot\)](#)

^{xi} <https://www.parliament.scot/chamber-and-committees/written-questions-and-answers/question?ref=S6W-06871>

^{xii} <https://www.parliament.scot/chamber-and-committees/written-questions-and-answers/question?ref=S6W-06871>

^{xiii} [Strokes: progressive stroke pathway - gov.scot \(www.gov.scot\)](#)