What we think about:

Thrombectomy
Background

Thrombectomy is a relatively new procedure used to treat some ischaemic stroke patients. Ischaemic stroke is the most common type of stroke caused by a blood clot cutting off blood flow to part of the brain. Thrombectomy involves using a specially-designed clot removal device inserted through a catheter to pull out the clot to restore blood flow. When used with other medical treatments on a specialist unit, evidence suggests thrombectomy can significantly reduce the severity of disability a stroke can cause.

As with clot-busting drugs, thrombectomy is most effective the faster it is used following a stroke and it is normally only performed up to six hours after symptoms start. A clot doesn’t stay in the body long term after a stroke, so thrombectomy is an acute treatment which means it is only used in the very short term.

In April 2017, NHS England agreed to fund thrombectomy on the NHS but they estimate it will take 7 years before all eligible patients are able to receive it.
Thrombectomy is an exciting and effective new way of treating strokes caused by a clot. It involves inserting a catheter into an artery to access a clot, usually within five hours of someone having their stroke, which is then mechanically removed.

Although only a relatively small number of patients (around 1 in 10) are suitable for this treatment, for those that are, it is a very powerful intervention. It is able to remove clots which are too big to be broken down by clot-busting drugs and is therefore effective in preventing and reducing long-term disability in people with severe strokes. This also makes the treatment extremely cost-effective as without this treatment option, people with severe strokes are more likely to be dependent on others for their daily needs, requiring life-time care.

There are challenges to delivering thrombectomy in many parts of the country. There are currently not enough trained doctors – Interventional Neuro-Radiologists – to be able to provide a 24/7 service in all areas. Specialist neuroscience centres are also not evenly spread out across the UK. Also, in some areas, even the most basic stroke treatments are not being given to all stroke patients, let alone new cutting-edge procedures like thrombectomy.

We want all eligible patients to be able to access this game-changing treatment as quickly as possible. For this to happen we need more specially trained professionals. We also need all stroke services to be efficient and organised to assess patients quickly, and potentially transfer them to a regional centre to perform a thrombectomy.

Thrombectomy is potentially a powerful catalyst for change to drive improvements in stroke services across the UK, as well encouraging areas and regions to work together for the benefit of those affected by stroke.

In order to drive these changes, we will:

- Support commissioners in England to develop new services following NHS England’s decision to fund the procedure.
- Call for the routine funding of thrombectomy on the NHS in Wales, Scotland and Northern Ireland.
- Continue working with NHS England and Health Education England and devolved counterparts to increase the number of specially trained professionals who can carry out this procedure. This may include redesigning training pathways to include doctors from other specialties – such as cardiologists - being trained to perform thrombectomies.
- Ask NHS services across the UK to set out how they will be reorganising their acute stroke services to make them more efficient and better able to cope with new treatments such as thrombectomy.
- Call for new or continuing stroke-specific strategies or national plans in all four UK nations. Without them, we are concerned that progress in stroke treatment will stall or regress, meaning the benefits of thrombectomy will not be available to those who need it.
Why do we think this?

Thrombectomy is effective at reducing disability

Some trials have shown that eligible patients who receive thrombectomy are more likely to return to ‘functional independence’ (or have fewer problems with disability) within three months of their stroke, compared to those who didn’t get a thrombectomy. Others have found that compared to standard treatments, more of those patients who had received thrombectomy made a full neurological recovery. In one example, 49% of patients who received thrombectomy had a good outcome compared to only 13% who received standard medical treatment alone.

It’s as safe as other treatments

Thrombectomy is at least as safe as other treatments. Studies have shown that, on average, mechanical clot retrieval does not cause any greater risk of death, bleeding or secondary stroke, compared to other types of stroke treatment.

It can be performed over a slightly longer time frame than thrombolysis

While thrombolysis can only be given up to four and a half hours after a stroke, NHS England has approved thrombectomy for use up to six hours after stroke symptoms begin. There are some very specific and rare circumstances in which thrombectomy may be given up to 12 or even 24 hours after the onset of stroke. In addition, there is ongoing research to explore longer time windows in carefully selected patients.

It is also extremely cost-effective

While thrombectomy is quite an expensive treatment, its benefits in the long term outweigh the initial cost. Thrombectomy costs around £9-12,000 per patient but thrombectomy can give a stroke survivors a big boost in their quality of life compared to other treatments for a relatively small amount of investment. Over 10 years, the net monetary benefit of thrombectomy (based on 9000 eligible patients actually getting it) would be between £530m and £975m. That’s up to £100,000 per person and includes the savings resulting from improved quality of life.

In other words, you get a lot of extra quality of life for a relatively small amount of investment. This obviously saves money in longer term health, care and welfare costs further down the line.

While the body tends to break down clots naturally, any temporary blockage caused by a clot can cause serious disability or even death, which is why it’s so important to clear the blockage as soon as possible after the stroke happens.
The experts agree

NHS England has considered the evidence and decided that thrombectomy should be routinely funded on the NHS. In February 2016, the National Institute for Health and Care Excellence (NICE) updated its stroke treatment guidance to include mechanical clot retrieval. It is also recommended by the Royal College of Physicians.

But not enough patients currently have access to thrombectomy

Currently, only a fraction of those eligible for the treatment actually get it. It is estimated that around 9,000 patients a year could benefit from thrombectomy in the UK but it is thought that fewer than 10% of those eligible actually receive it. There are a few centres where thrombectomy is available in the UK but there are not enough trained professionals for the services to be rolled out across the country. This is because thrombectomy is a highly-skilled operation. But just 83 consultants in England, Wales and Northern Ireland said they could undertake the procedure as of 2016, far fewer than the 150 Interventional Neuro-Radiologists we estimate are needed to provide 24/7 coverage across the UK.

Patients are positive about their experience of thrombectomy

Our co-ordinators have spoken to stroke survivors in the North West and South Coast of England. In 2015, we also carried out one of the first ever surveys of stroke survivors who had experienced thrombectomy. Through this, we got the views of 39 people with direct experience of thrombectomy. Most of those who responded described their experience in a positive way, with 24% describing it in a neutral or negative way. When asked about the main benefits, half said the procedure had helped to avoid severe disability, with others saying that it had saved their life.

Some people reported negative experiences, including pain or discomfort during the procedure, or mental health problems associated with actually being discharged home so early (as the thrombectomy had been so successful).

All respondents who had experienced thrombectomy felt that the procedure should be made available on the NHS. Nearly half believed that any procedure which enables people to recover more quickly or prevent disability should always be available.
What do we want to see happen?

We want all eligible patients to be able to access this game-changing treatment as quickly as possible. For this to happen we need more specially trained professionals. We also need all stroke services to be efficient and organised to assess patients quickly, and potentially transfer them to a regional centre to perform a thrombectomy.

We believe thrombectomy could be a catalyst for improvements in stroke treatment and care more widely. Thrombectomy can only work within efficient and properly organised acute services, as well as a post-acute pathway, able to deal with the requirements of a highly specialised service such as thrombectomy.
What are we doing?

We will:

- Support commissioners in England to develop new services following NHS England’s decision to fund the procedure.
- Call for the funding of thrombectomy on the NHS in Wales, Scotland and Northern Ireland.
- Continue working with NHS England and Health Education England and devolved counterparts to increase the number of specially trained professionals who can carry out this procedure. This may include redesigning training pathways to include doctors from other specialities – such as cardiologists - being trained to perform thrombectomies.
- Ask NHS services across the UK to set out how they will be reorganising their acute stroke services to make them more efficient and better able to cope with new treatments such as thrombectomy.
- Call for new or continuing stroke-specific strategies or national plans in all four UK nations. Without them, we are concerned that progress in stroke treatment will stall or regress, meaning the benefits of thrombectomy will not be available to those who need it.
What, exactly, is thrombectomy and what happens during a thrombectomy procedure?
Thrombectomy, also known as mechanical clot retrieval, is the surgical removal of a blood clot in an artery. It is used to treat some strokes caused by a blood clot (ischaemic stroke) and it aims to restore blood flow to the brain.

During the procedure, a specially-designed clot removal device is inserted through a catheter – usually at the groin and up into the brain – into the blocked artery to remove the clot, which is then pulled out. Patients are usually sedated when the procedure happens and thrombectomy usually happens after thrombolysis has been unsuccessful.7

Who receives thrombectomy and why?
It is thought that up to 10% of stroke patients may be eligible for the treatment every year. That’s around 8,000 people in England and 9,000 people across the UK.8

Thrombectomy can currently only be used to treat patients with blood clots in the brain’s large central vessels. It cannot be used to treat haemorrhagic strokes (bleeds to the brain). It can benefit some patients whose clots are too big to be removed by thrombolysis (clot-busting drug treatment).

Patients also usually can’t be treated with thrombectomy over six hours after stroke symptoms begin.

Crucially, patients can only be treated if there is the infrastructure in place to do so. The appropriate specialists and equipment within specialist stroke units or in regional neuroscience centres need to be available.

How many patients have received thrombectomy so far?
Unfortunately, it’s not possible to say as data has not always been routinely collected. We do know that some areas have been delivering the procedure to small numbers of patients for the last two to three years. Now, about 600 people per year in the UK have access, so we would estimate that fewer than 2,000 have had a thrombectomy to date on the NHS. The seven clinical trials on the procedure included about 2,000 patients globally.

How much does it cost?
In England, estimated roll-out costs for thrombectomy are around £9 million. This would be recouped quickly after the first year of delivery thanks to annual savings of £6 million as a result of the treatment. Under NHS England’s policy, hospitals will receive around £12,000 for each thrombectomy they carry out to reflect the costs of delivering the procedure.

Can it be used to help with people’s recoveries after they leave hospital?
No. In the vast majority of cases, thrombectomy is only effective up to six hours after a stroke. It is a procedure carried out quickly when someone is in hospital. If thrombectomy or other treatments are not used to remove a clot, the body breaks it down and absorbs it naturally.

Does it save lives?
The evidence shows that the main benefit of thrombectomy is that it reduces the chances of a stroke survivor ending up with a significant disability, rather than reducing overall mortality. That said, one study found that, alongside a reduced risk of disability, mortality actually decreased too thanks to thrombectomy.9

Does this policy apply to the whole of the UK?
Yes
What we think about: Thrombectomy

You say it’s being funded in England – what about the rest of the UK?

In Northern Ireland, there were 56 thrombectomy procedures performed in 2015/16, with more likely to have been done in 2016/17. As a proportion of the population, this is more than in England. There are proposals to extend some thrombectomy services so that they are available 24 hours a day. A proposed programme to modernise stroke services will hopefully improve acute service infrastructure so it can better deliver thrombectomy more widely. In Northern Ireland, we will be making the case for reorganising acute services to improve outcomes and ensure that more eligible patients get the treatment they need, including thrombectomy.

In Scotland, thrombectomy is not routinely funded or delivered and only a small number of patients are being given the procedure (around 20 in 2016). There is not a widespread infrastructure in place to deliver thrombectomy and there are existing challenges delivering the Scottish Government’s basic Stroke Care Bundle (which does not cover thrombectomy) – the minimum standards hospitals should be meeting. For example, half of all eligible patients are not receiving potentially life-saving clot-busting drugs (thrombolysis) within an hour of arriving at hospital and no hospital meets the national standard of treating 80% of eligible patients within that timescale.

Until Scotland’s stroke treatment infrastructure improves and more hospitals start to deliver the Stroke Care Bundle, delivering thrombectomy on a wider scale to those who are eligible will be very difficult. That said, thrombectomy can and should be a catalyst for change. That’s why we are engaging with the Scottish Government and want to work with them to improve outcomes for stroke patients. As part of this, we have asked Ministers to consider the evidence of acute service reorganisation from elsewhere in the UK – areas which are now leading the way in delivering thrombectomy.

NHS England’s decision to routinely fund thrombectomy is positive news for stroke patients in Wales living close to the border with England as we know many are treated in English hospitals. There is currently a thrombectomy service at the University Hospital of Wales Cardiff. This is a non-commissioned service, and is provided on an ad hoc basis. For patients from North Wales, thrombectomies are delivered at the Walton hospital in Liverpool. This is a service commissioned by the Welsh Health Specialised Services Committee (WHSSC).

We would like to see a consistently commissioned thrombectomy service in Wales. The Welsh Government’s Stroke Implementation Group is discussing creating a commissioned service with WHSSCC. The Stoke Association in Wales supports this work, and wishes to see a long-term solution in place as soon as possible.

Additionally, the NHS in Wales is also considering options for developing Hyper Acute Stoke Units (HASUs) across Wales. Provision of thrombectomy would be integral in this work. Like elsewhere in the UK, thrombectomy should be used as a catalyst to improve services more widely across the stroke pathway.

Does thrombectomy take place in other countries?

Yes, thrombectomy is already well-developed in countries such as the United States, where there are around 10,000 procedures a year, Spain, Italy, France and Germany, where around 5,000 patients are treated with thrombectomy.

When will this policy be reviewed?

July 2018
References

10. Northern Ireland Health and Social Care Board
We are the Stroke Association

We believe in life after stroke. That’s why we support stroke survivors to make the best recovery they can. It’s why we campaign for better stroke care. And it’s why we fund research to develop new treatments and ways of preventing stroke.

We’re here for you. Together we can conquer stroke. If you’d like to know more please get in touch.

**Stroke Helpline:** 0303 303 3100  
**Website:** stroke.org.uk  
**Email:** info@stroke.org.uk  
**From a textphone:** 18001 0303 3033 100

We are a charity and we rely on your support to change the lives of people affected by stroke and reduce the number of people who are struck down by this devastating condition. Please help us to make a difference today.

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