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Understanding NICE guidance

Information for people who use NHS services

Treating symptomatic narrowed carotid arteries in the neck using stents

NICE 'HealthTech guidance' advises the NHS on when and how new procedures can be used in clinical practice.

This leaflet is about when and how stents can be used in the NHS to treat people with symptomatic narrowed carotid arteries. It explains guidance (advice) from NICE (the National Institute for Health and Clinical Excellence).

This HealthTech guidance makes recommendations on the safety of a procedure and how well it works. An interventional procedure is a test, treatment or surgery that involves a cut or puncture of the skin, or an endoscope to look inside the body, or energy sources such as X-rays, heat or ultrasound. The guidance does not cover whether or not the NHS should fund a procedure. Decisions about funding are taken by local NHS bodies (primary care trusts and hospital trusts) after considering how well the procedure works and whether it represents value for money for the NHS.

This leaflet is written to help people who have been offered this procedure to decide whether to agree (consent) to it or not. It does not describe the risks of narrowed carotid arteries or the procedure in detail – a member of your healthcare team should also give you full information and advice about these. The leaflet includes some questions you may want to ask your doctor to help you reach a decision. Some sources of further information and support are on page 7.

This procedure may not be the only possible treatment for symptomatic narrowed carotid arteries. Your healthcare team should talk to you about whether it is suitable for you and about any other treatment options available.

What has NICE said?

This procedure can be offered routinely as a treatment option for people with symptomatic narrowed carotid arteries provided that doctors are sure that:

- the patient understands what is involved and agrees to the treatment, and
- the results of the procedure are monitored.

If your surgeon offers you this procedure, you should be told about the risk of stroke and other complications. You should also be told why you are being offered this procedure in your particular case rather than carotid endarterectomy (open surgery to widen the artery).

A healthcare team including an interventional radiologist or a neuroradiologist, a vascular surgeon and a doctor with a special interest in stroke should decide which patients should have this procedure.

The procedure should only be performed by doctors with specialist training and expertise in this technique and who regularly perform complicated endovascular procedures that use blood vessels to access parts of the body. The Royal College of Radiologists has produced training standards.

Treating symptomatic narrowed carotid arteries in the neck using stents

The medical name for this procedure is ‘carotid artery stent placement for symptomatic extracranial carotid stenosis’. The procedure is not described in detail here – please talk to your specialist for a full description.

The main arteries in the neck (carotid arteries) can become narrowed by fatty deposits. This can cause ‘mini strokes’, also known as transient ischaemic attacks (TIAs), because fragments from the narrowed area pass to arteries in the brain, or loss of vision if fragments pass to the eye. Carotid stenosis increases the risk of stroke. This risk is small if carotid stenosis is asymptomatic (has caused no symptoms). It is higher in patients having heart operations that require heart–lung bypass.

Medical control of heart and blood vessel disease is very important for people with narrowed carotid arteries. However, some patients who have had a TIA or loss of vision will be advised to have a procedure to reduce the risk of a stroke. The standard treatment option for people with this condition is a procedure called carotid endarterectomy.

In this stenting procedure, a metal mesh (stent) is used to widen the carotid artery. With the patient under local anaesthetic a fine wire is inserted via an artery in the groin, up to the carotid artery in the neck. The wire usually has a device on it to stop fragments passing up to carotid artery to the brain during the procedure. The stent is inserted into the carotid artery with the help of the wire. Stenting is a less invasive procedure than endarterectomy that aims to avoid wound complications.

What does this mean for me?

NICE has said that this procedure is safe enough and works well enough for use in the NHS. If your doctor thinks stents are a suitable treatment option for you, he or she should still make sure you understand the benefits and risks before asking you to agree to it.

You may want to ask the questions below

- What does the procedure involve?
- What are the benefits I might get?
- How good are my chances of getting those benefits? Could having the procedure make me feel worse?
- Are there alternative procedures?
- What are the risks of the procedure?
- Are the risks minor or serious? How likely are they to happen?
- What care will I need after the procedure?
- What happens if something goes wrong?
- What may happen if I don't have the procedure?

You might decide to have this procedure, to have a different procedure, or not to have a procedure at all.

Summary of possible benefits and risks

Some of the benefits and risks seen in the studies considered by NICE are briefly described below. NICE looked at 17 studies on this procedure.

How well does the procedure work?

A large study involving 3433 symptomatic patients showed that there was no difference in the death rate between patients treated with stenting (32 out of 1725) and those treated with endarterectomy (22 out of 1708) after 120 days. A study of 2522 patients similarly showed no difference in death rates between patients after 2.5 years (11% for stenting and 13% for endarterectomy).

The same study reported that there was no difference in the rate of stroke or death following stenting (8%) and endarterectomy (6%) after 2.5 years. A study of 1713 patients also showed no difference in the rate of disabling stroke or death between the stenting group (5%; 43 out of 853) and the endarterectomy group (3%; 27 out of 857).

A study of 1214 patients treated by stenting or endarterectomy reported that both groups had a 2% stroke rate when assessed between 31 days and 2 years. A study including 1086 symptomatic patients reported a significant difference in the rate of stroke or death following carotid stenting (8%) and endarterectomy (5%).

A UK national register of 953 symptomatic patients treated by stenting reported that 5 years after surgery, the death rate was 19%, disabling stroke or death rate was 21%, and stroke rate was 7%.

As well as looking at these studies, NICE also asked expert advisers for their views. These advisers are clinical specialists in this field of

medicine. The advisers said that one of the key measures of how well the procedure works is prevention of stroke in the long term.

Risks and possible problems

In the study of 3433 patients there was no difference in death rate in patients treated by stenting (1%; 19 out of 1679) compared with patients treated by endarterectomy (less than 1%; 10 out of 1645) within 30 days.

In the UK national register of 953 patients, death rate in the 30 days following the procedure was 2%. Also, out of 829 patients, 8 (1%) had disabling stroke, 26 (3%) had non-disabling stroke and 32 (4%) had a mini stroke within 30 days.

In the study of 3433 patients the stroke rate was higher in patients treated by stenting (7%; 125 out of 1679) compared with endarterectomy (4%; 70 out of 1645). There were more patients older than 70 years in the stent group.

A study of 2522 patients showed that there was no difference in the heart attack rate during the hospital stay between patients treated by stenting (1%; 14 out of 1262) and those treated by endarterectomy (2%; 28 out of 1240).

As well as looking at these studies, NICE also asked expert advisers for their views. These advisers are clinical specialists in this field of medicine. They said that possible problems include groin wound site complications, blood vessels becoming blocked, carotid artery rupture, and reactions to the ‘dye’ used to show up the blood vessels. In theory, X-ray imaging used may cause tumour development.

More information about carotid stenosis

NHS Choices (www.nhs.uk) may be a good place to find out more. Your local patient advice and liaison service (usually known as PALS) may also be able to give you further information and support. For details of all NICE guidance on carotid stenosis, visit our website at www.nice.org.uk

About NICE

NICE produces guidance (advice) for the NHS about preventing, diagnosing and treating different medical conditions. The guidance is written by independent experts including healthcare professionals and people representing patients and carers. They consider how well an interventional procedure works and how safe it is, and ask the opinions of expert advisers. This guidance applies to the whole of the NHS in England, Wales, Scotland and Northern Ireland. Staff working in the NHS are expected to follow this guidance.

To find out more about NICE, its work and how it reaches decisions, see www.nice.org.uk/aboutguidance

This leaflet is about 'carotid artery stent placement for symptomatic extracranial carotid stenosis'. This leaflet and the full guidance aimed at healthcare professionals are available at www.nice.org.uk/guidance/HTG258

You can order printed copies of this leaflet from NICE publications (phone 0845 003 7783 or email publications@nice.org.uk and quote reference N2509). The NICE website has a screen reader service called Browsealoud, which allows you to listen to our guidance. Click on the Browsealoud logo on the NICE website to use this service.

We encourage voluntary organisations, NHS organisations and clinicians to use text from this booklet in their own information about this procedure.

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