

Issue date: December 2005

Electrosurgery (diathermy and coblation) for tonsillectomy

Understanding NICE guidance –
information for people considering
the procedure, and for the public



Ordering information

You can download the following documents from www.nice.org.uk/IPG150

- this booklet
- the full guidance on this procedure.

For printed copies of the full guidance or information for the public, phone the NHS Response Line on 0870 1555 455 and quote:

- N0953 (full guidance)
- N0954 (information for the public).

**National Institute for
Health and Clinical Excellence**

MidCity Place
71 High Holborn
London
WC1V 6NA

www.nice.org.uk

ISBN 978-1-4731-9105-1

© National Institute for Health and Clinical Excellence, December 2005. All rights reserved. This material may be freely reproduced for educational and not-for-profit purposes within the NHS. No reproduction by or for commercial organisations is allowed without the express written permission of the National Institute for Health and Clinical Excellence.

Contents

| | |
|---|-----------|
| About this information | 4 |
| About the procedure | 5 |
| How well the procedure works | 6 |
| Risks and possible problems with the procedure | 7 |
| What has NICE decided? | 8 |
| What the decision means for you | 9 |
| Further information | 10 |

About this information

The National Institute for Health and Clinical Excellence (NICE) is the independent organisation responsible for providing national guidance on the promotion of good health and the prevention and treatment of ill health. One of NICE's roles is to produce guidance (recommendations) on whether interventional procedures are safe enough and work well enough to be used routinely in the NHS in England, Wales and Scotland.

This information describes the guidance that NICE has issued on procedures to remove the tonsils called diathermy and coblation (which go under the general name of electrosurgery). It is not a complete description of what is involved in electrosurgery – the patient's healthcare team should describe it in detail.

NICE has looked at whether electrosurgery is safe enough and works well enough for it to be used routinely to remove the tonsils.

This guidance replaces the previous guidance on coblation tonsillectomy (which was interventional procedure guidance number 9) and interim guidance on diathermy for tonsillectomy. To produce this guidance, NICE commissioned a review of all the published studies on diathermy and coblation for tonsillectomy.

This guidance is part of NICE's work on 'interventional procedures' (see 'Further information' on page 10).

About the procedure

The tonsils are the fleshy pieces of tissue at the back of the throat. If they keep becoming infected, or if they become enlarged and cause problems, they may need to be removed in an operation called a tonsillectomy.

The standard operation involves cutting the tonsils out using a surgical blade and then stopping any bleeding by applying pressure to the area. Sometimes the blood vessels are tied to stop them bleeding, and sometimes the blood vessels are sealed using heat generated by diathermy (see below).

NICE has looked at two new ways of removing the tonsils. The first, which is called diathermy, uses heat from a high-frequency electric current to 'cut' away the tonsils. The heat can also be used to seal the blood vessels to stop any bleeding. There are two types of diathermy: monopolar and bipolar. In monopolar diathermy, the electric current passes between the tips of the diathermy instrument and a plate that's attached to the patient's skin. In bipolar diathermy, the current passes between the two tips of the diathermy forceps.

The second method is called coblation. Coblation uses radiofrequency energy to energise particles from a salty solution. The particles have enough energy to 'cut' through soft tissue such as the tissue attaching the tonsils. The energy can also seal up blood vessels to stop bleeding. The temperatures generated using coblation are relatively low and there's less heating of the surrounding area than with diathermy.

How well the procedure works

What the studies said

In the studies, the diathermy tonsillectomy was the quickest operation. It took nearly 17 minutes. The standard operation was the next quickest, taking 18 minutes. The coblation tonsillectomy took the longest time, 24 minutes.

Four studies looked at how long it took patients to get back to eating normally after either diathermy or the standard operation. Three of the four studies found that patients got back to normal more quickly after the standard operation (in 5–9 days after the standard operation compared with 7–11 days after diathermy). The fourth study found the opposite, with patients getting back to normal more quickly after diathermy.

Two studies made a similar comparison for patients who had diathermy and patients who had coblation. One study found patients got back to normal eating slightly quicker after diathermy (in just under 7 days after diathermy compared with just over 7 days after coblation). The second study found that the patients who had coblation were eating normally first (in just over 2 days after coblation compared with just under 8 days after diathermy).

Risks and possible problems with the procedure

What the studies said

One of the most common problems after tonsillectomy is bleeding (haemorrhage). This may mean that the person has to go back into hospital, and possibly have more surgery.

The studies provided information on two types of bleeding: bleeding that happened during the first 24 hours after the operation, and bleeding that happened after 24 hours.

Bleeding in the first 24 hours

The studies showed that the standard operation with blood vessels tied off was most likely to result in someone needing more surgery because of bleeding in the first 24 hours (about 1 person in 100 who had this operation needed more surgery because of bleeding).

A recent national audit (called the National Prospective Tonsillectomy Audit) collected information from surgeons carrying out tonsillectomies. It found that patients who had the standard operation with blood vessels sealed using heat from bipolar diathermy, and those who had bipolar diathermy to remove the tonsils, were the least likely to need further surgery (surgery was needed by around 3 people in every 1000). The most likely were those who had their tonsils removed using coblation or monopolar diathermy (about 1 in 100 people needed further surgery because of bleeding after both these operations).

The national audit also provided information about the numbers of people who had bleeding within 24 hours, regardless of whether they needed more surgery as a result. The most episodes of bleeding were in people who had coblation or monopolar diathermy. The fewest episodes of bleeding were in people who had bipolar diathermy or the standard operation with diathermy to seal the blood vessels.

Bleeding after 24 hours

The information from one of the studies seemed to show that the standard operation with blood vessels tied off was the least likely to result in someone needing more surgery after 24 hours. More surgery was most often required after the diathermy operation.

The national audit, which included information from 33,921 patients, had similar findings. The lowest numbers of people who needed surgery because of bleeding after 24 hours were in the group who had the standard operation with blood vessels tied off (about 2 people in every 1000 needed more surgery). The highest numbers were in the group who had coblation and the groups who had diathermy to remove the tonsils (about 7 people in every 1000 had to have more surgery after coblation or monopolar diathermy because of bleeding after 24 hours, and about 8 people in every 1000 needed surgery after bipolar diathermy).

Similar results were found for the numbers of people who had bleeding after 24 hours regardless of whether they had more surgery.

What has NICE decided?

NICE has considered the evidence on electrosurgery (coblation and diathermy). It has recommended that when doctors use coblation or diathermy to remove the tonsils, they should be sure that:

- the patient or their parents or carers understand what is involved and that there is a risk of bleeding after the procedure
- the patient or their parents or carers agree (consent) to the treatment, and
- the results of the procedure are monitored.

If diathermy is being used, surgeons should use it for as short a time as possible during the operation. And surgeons who use diathermy to remove the tonsils or to seal the blood vessels should have been fully trained to use it and should understand the possible problems that can happen.

Coblation is linked with a relatively high chance of bleeding afterwards. Surgeons who want to use coblation should have specific training.

Surgeons who use coblation or diathermy should monitor how many of their patients have bleeding afterwards, paying attention to any factors that might make bleeding more likely.

More studies would be useful, to find out whether things like a patient's age affect the likelihood of bleeding.

Other comments from NICE

The national audit recommended that all surgeons who carry out tonsillectomy should be trained to do the standard operation and to tie off blood vessels properly as well as being trained to do coblation and diathermy.

It would be helpful if the equipment used for diathermy recorded the total amount of energy used during each operation.

The Medicines and Healthcare products Regulatory Agency (MHRA) is looking into this.

What the decision means for you

Your doctor may have offered you a tonsillectomy using coblation or diathermy (which together are known as electrosurgery). NICE has considered these procedures because they are relatively new. NICE has decided that they are safe enough and work well enough for use in the NHS. Nonetheless, you should understand the benefits and risks of coblation or diathermy before you agree to it. In particular, you should understand that there's a risk of bleeding. And that if bleeding happens, you may need more surgery. Your doctor should discuss the benefits and risks with you. Some of these may be described above.

Further information

You have the right to be fully informed and to share in decision-making about the treatment you receive. You may want to discuss this guidance with the doctors and nurses looking after you.

The NICE website (www.nice.org.uk) has further information about NICE, the Interventional Procedures Programme and the full guidance on electrosurgery (diathermy and coblation) for tonsillectomy that has been issued to the NHS. The evidence that NICE considered in developing this guidance is also available from the NICE website.

The report from the National Prospective Tonsillectomy Audit was published in May 2005, and contains recommendations for tonsillectomy (go to www.tonsil-audit.org/ for more information).

If you have access to the internet, you can find more information on tonsils on the NHS Direct website (www.nhsdirect.nhs.uk).

You can also phone NHS Direct on 0845 46 47.

**National Institute for
Health and Clinical Excellence**

MidCity Place
71 High Holborn
London
WC1V 6NA

www.nice.org.uk

N0954 1P Dec 05

ISBN 978-1-4731-9105-1