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Information for the public

National Institute for Health and Clinical Excellence

Treating tendinopathy by injecting a patient's own blood into and around the painful tendon

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

This document is about when and how injecting a patient's own blood into and around the painful tendon can be used in the NHS to treat people with tendinopathy. It explains guidance (advice) from NICE (the National Institute for Health and Clinical Excellence).

Interventional procedures 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 document 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 tendinopathy or the procedure in detail – a member of your healthcare team should give you full information and advice about these. The document 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 8.

What has NICE said?

Although there is evidence to say that this procedure is safe, there are still uncertainties about how well it works. If a doctor wants to treat tendinopathy by injecting a patient's own blood into and around the painful tendon, they should make sure that extra steps are taken to explain the uncertainty about how well it works, as well as the potential risks of the procedure. This should happen before the patient agrees (or doesn't agree) to the procedure. The patient should be given this document and other written information as part of the discussion. There should also be special arrangements for monitoring what happens to the patient after the procedure.

NICE has encouraged doctors to consider asking patients to take part in a research study (called a clinical trial) looking at how well this procedure works compared with other non-surgical treatments that are already being used for tendinopathy. Research should describe which patients are offered the procedure, which tendons are affected, how long patients have had symptoms and any treatments they have already tried, and the technique used to inject the blood. The research should also look at how well the procedure reduces patients' pain and improves their use of the affected tendon. Quality of life, and whether patients need surgery afterwards, should be recorded.

Other comments from NICE

This procedure can be done using injections of either whole blood or part of the blood known as platelet-rich plasma. But because research has shown that the procedure works in a similar way with either type of injection, NICE decided to look at both types together.

The procedure may work differently on the Achilles tendon (in the heel) compared with other tendons. It may not be possible to use the results of procedures on the Achilles tendon to decide whether the procedure will work well for other tendons.

Treating tendinopathy by injecting a patient's own blood into and around the painful tendon

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

The medical name for this procedure is 'autologous blood injection for tendinopathy'.

The procedure is not described in detail here – please talk to your doctor for a full description.

Tendinopathy (also known as tendinosis or tendonitis) is the name for a range of conditions that affect the tendons – the tissue that connects muscle to bone. It is usually caused by overuse of the tendon and can result in pain, weakness and stiffness. The most common tendons affected are in the elbow, the heel (the Achilles tendon) and the knee. Tendinopathy usually gets better after several months, either on its own or with the help of rest, pain-relieving and anti-inflammatory medication, orthotics (support devices) and physiotherapy. If these don't work, other treatments may be tried, such as corticosteroid injections, extracorporeal shockwave therapy (in which shockwaves are passed through the skin to the affected area) and sometimes surgery.

In autologous blood injection, a small amount of blood is taken from the patient and 2–3 ml injected into and around the damaged tendon. Sometimes the blood is separated into red blood cells and platelets (cell fragments that produce substances called growth factors) before injecting 2–3 ml of the sample containing mainly platelets. The patient is usually given a local anaesthetic before the procedure. Ultrasound may be used to check the needle is put in the right place.

The aim of the procedure is to supply the tendon with growth factors that help the healing process. Sometimes another procedure called 'dry needling' is done first, in which a needle is passed repeatedly through

the tendon to disrupt the fibres and cause bleeding. The injection is sometimes carried out by ‘peppering’ (inserting the needle, injecting some of the blood, pulling the needle back but not all the way out of the skin, and then pushing the needle back in to inject more blood in a slightly different place). After the procedure patients should be advised not to over-use or put too much strain on the tendon for a few weeks, and then offered physiotherapy. The procedure may be repeated if needed.

What does this mean for me?

If your doctor has offered to treat your tendinopathy by injecting your own blood into and around the painful tendon, he or she should tell you that NICE has decided that although the procedure is safe there are uncertainties about how well it works. This does not mean that the procedure should not be done, but that your doctor should fully explain what is involved in having the procedure and discuss the possible benefits and risks with you. You should only be asked if you want to agree to this procedure after this discussion has taken place. You should be given written information, including this document, and have the opportunity to discuss it with your doctor before making your decision.

NICE has also decided that more information is needed about this procedure. Your doctor may ask you if details of your procedure can be used to help collect more information about this procedure. Your doctor will give you more information about this.

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 8 studies on this procedure.

How well does the procedure work?

Two studies, involving 250 patients with tennis elbow, looked at how well the autologous blood injection procedure worked. In one of the studies, 150 patients had either the whole-blood injection or the platelet-rich plasma injection. When asked 6 months after the procedure, these injections had worked well for 89 out of 130 patients followed up. In the other study, 100 patients had either the platelet-rich plasma injection or corticosteroid injection. After 2 years, the procedure had worked well in 39 of the 51 patients who had the platelet-rich plasma injection and 21 of the 49 patients who had the corticosteroid injection. However, 6 patients who had the procedure and 14 patients who had the corticosteroid injection needed more treatment within 2–14 months.

One study looked at how well the procedure worked in 54 patients with tendinopathy of the Achilles tendon in the heel. Half of the patients had the platelet-rich plasma injection and the other half had a dummy injection (meaning that they had an injection but no active treatment). When the patient's tendinopathy was assessed after 1 year, there was no difference in the improvement seen between the 2 techniques, including return to previous levels of sporting activity.

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 the main aims of treatment are to reduce pain and improve the use of the tendon.

Risks and possible problems

In a study of 28 patients who had the procedure for tennis elbow, most patients said it caused pain similar to the pain they had felt after previous corticosteroid injections into the tendon. Two patients needed pain relief with narcotics (strong painkillers such as morphine). In another study of 20 patients who had the procedure for tendinosis of the knee, all had moderate pain and stiffness for a few days afterwards. One of the patients had more severe pain afterwards which lasted for 3 weeks.

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 possible problems with the procedure are increased pain or a flare-up of previous pain, reduced ability to use the tendon and damage to surrounding tissues. Other theoretical problems are rupture (tearing or snapping) of the tendon, damage to the tendon and infection.

More information about tendinopathy

NHS Choices (www.nhs.uk) may be a good place to find out more.

For details of all NICE guidance on tendinopathy, 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. Interventional procedures 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 document is about 'autologous blood injection for tendinopathy'. This document and the full guidance aimed at healthcare professionals are available at guidance.nice.org.uk/IPG438

The NICE website has a screen reader service called Browsealoud, which allows you to listen to our guidance. Click on Accessibility at the bottom of the NICE homepage to use this service.

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

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