

Treating inflammatory skin conditions with low-energy X-rays (Grenz rays)

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

This leaflet is about when and how low-energy X-rays (Grenz rays) can be used in the NHS to treat people with inflammatory skin conditions, including some types of eczema and psoriasis. 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. The word 'procedure' means any surgery, test or treatment that involves entering the body through skin, muscle, a vein or artery, or body cavity. 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.

NICE has produced this guidance because there is not a lot of information about how well this procedure works, how safe it is and which patients will benefit most from it.

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 inflammatory skin conditions or the procedure in detail – a member of your healthcare team should also give you full information and advice about these. Some sources of further information and support are on page 6.



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What has NICE said?

There is not very much information about how well Grenz rays therapy works in the treatment of inflammatory skin conditions. The studies have only looked at small numbers of patients and patients with different conditions, making comparisons difficult. There are still uncertainties over the safety of this procedure, including the worry that it might cause skin cancer in the long term. For these reasons, NICE has said that this procedure should only be carried out as part of further research, involving carefully selected patients whose skin conditions have not improved with other treatments. NICE has also said that research studies should include information about the skin conditions being treated and the patients' quality of life.

NICE may look at this procedure again if more information becomes available.

Other comments from NICE

Many of the studies on Grenz rays therapy did not clearly say how the patients were chosen, or were carried out before newer treatments became available.

This procedure may not be the only possible treatment for inflammatory skin conditions.

Your healthcare team should talk to you about whether it is suitable for you and about any other treatment options available.

Treating inflammatory skin conditions with low-energy X-rays (Grenz rays)

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

Some skin conditions, such as eczema and psoriasis, cause the skin to become inflamed. There are many treatments for eczema and psoriasis, including lotions and creams, light therapy, tablets and injections. Superficial X-ray treatment has also been used to treat eczema. The treatment used depends on the type of condition, how bad it is and whereabouts on the body it is. Grenz rays therapy is used to treat some types of eczema, psoriasis and other inflammatory skin conditions that have not improved with other suitable treatments.

Grenz rays are a form of electromagnetic radiation, somewhere between ultraviolet radiation and X-rays in strength, that are able to penetrate the top layers of the skin. A Grenz rays machine is placed about 10–20 cm from the affected area of skin and used to direct the rays. A cone is used to block the rays from areas of skin that do not need treatment and to keep the correct distance between the machine and the skin. The treatment only lasts for a few minutes, and patients are treated over several short sessions as outpatients.

What does this mean for me?

NICE has said that there is not enough evidence about how safe this procedure is or about how well it works.

Your doctor should only offer you this procedure as part of a research study if your skin condition has not improved with any other suitable treatments. NICE has recommended that some details should be collected about every patient who has this procedure in the UK. These details will be held confidentially and will not include patients' names. The information will be used only to see how safe the procedure is and how well it works. If you decide to have the procedure, you will be asked to agree to your details being entered into an electronic database for this purpose. A doctor looking after you will fully explain the purpose of collecting the data and what details will be held (all information will be held according to the Data Protection Act). You will be asked to sign a consent form. If you do not agree to the details being entered into an electronic database, you can still 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 nine studies on this procedure.

How well does the procedure work?

Two studies looked at eczema of the hands. One study used Grenz rays to treat eczema on one hand and a sham procedure to ‘treat’ the other hand. A sham procedure means that the patients did not really have any treatment. Out of 18 patients, 10 thought that both of their hands had improved equally 18 weeks after the treatment, and people observing the treatment thought that 16 out of 18 patients had equal improvement to both hands. The second study compared Grenz rays treatment with superficial X-ray treatment in 25 patients. After 3 weeks, 13 patients could not see any difference between the two treatments, 11 patients thought the superficial X-ray treatment was better, and only 1 patient thought the Grenz rays treatment was better. After 18 weeks, 6 patients thought that superficial X-ray treatment was better and 1 patient thought that Grenz rays treatment was better.

Two studies looked at patients with scalp psoriasis. Patients were given Grenz rays treatment on one side of the head and a sham procedure on the other. In the first study, 14 out of 16 patients were completely healed on the side of the scalp that received Grenz rays. In the second study, 12 out of 18 patients reported a better result on the Grenz rays-treated side, although 6 patients reported no difference.

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 Grenz rays therapy was widely used in the past in the UK, but has been replaced by other types of treatment. They said there are uncertainties about the amount of treatment that should be given, the number of sessions and how far apart these should be.

Risks and possible problems

A study looking at cases of cancer in patients treated with Grenz rays therapy found a higher number of patients than expected had a type of skin cancer called non-melanoma skin cancer. Out of 14,140 patients followed up for an average of 15 years, 39 cases of non-melanoma skin cancer were recorded, which was 12 more than had been expected. However, some of these patients may have had other skin treatments that increased their risk of cancer.

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 safety concern is the possibility that it may cause skin cancer, although they noted that other treatments for these conditions may also cause cancer. Other potential concerns are redness (called erythema) and dark pigmentation (like an area of suntan). One also mentioned that long-term radiation damage to the skin is possible.

More information about eczema, psoriasis and other inflammatory skin conditions

NHS Direct online (www.nhsdirect.nhs.uk) may be a good starting point for finding out more. Your local Patient Advice and Liaison Service (PALS) may also be able to give you further advice and support.

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 leaflet is about 'Grenz rays therapy for inflammatory skin conditions'. This leaflet and the full guidance aimed at healthcare professionals are also available at www.nice.org.uk/IPG236

You can order printed copies of this leaflet from the NHS Response Line (phone 0870 1555 455 and quote reference N1407).

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