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Nicotine Replacement Therapy (NRT)

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What is nicotine addiction?

Nicotine is the substance that is inhaled when you smoke and it is this that makes smoking so addictive. If you smoke regularly, nicotine withdrawal symptoms start just a few hours after your last cigarette. [To find out how addicted you are and to read more about nicotine addiction, see the separate leaflet called Quit Smoking \(Smoking Cessation\).](#)

Most regular smokers are addicted to nicotine; nicotine addiction is strong and difficult to break. This is where NRT can help.

What is nicotine replacement therapy?

NRT is a way of getting nicotine into the bloodstream without smoking.

NRT comes in various forms:

- Nicotine gums
- Patches
- Inhalators
- Tablets
- Lozenges
- Sprays

You can buy most of these from pharmacies and other retail outlets. Most are also available on prescription in the UK.

How does nicotine replacement therapy work?

NRT stops or reduces the symptoms of nicotine withdrawal. This helps you to stop smoking but without having unpleasant withdrawal symptoms. NRT does not 'make' you stop smoking. You still need determination to succeed in breaking the smoking habit.

How do I use nicotine replacement therapy?

- Take advice from a GP, practice nurse, pharmacist or Stop Smoking Clinic.
- Decide on which type of NRT will suit you best (see below).
- Set a date to start. Some people prefer to stop smoking at the end of one day, and start NRT when they wake the following day. Others prefer to use NRT while they are still smoking, as a way of cutting down gradually.
- You should use NRT regularly at first and not 'now and then'.
- Use an adequate dose of NRT. The higher doses are used if you smoked more than 18-20 per day.
- Use NRT for at least 8-12 weeks for the best chance of stopping smoking in the long term.
- The dose of NRT is typically reduced in the later part of the course, and then stopped.
- You should not combine NRT with other medicines that help you stop smoking, such as [bupropion](#) or [varenicline](#).

You are more likely to stop smoking if you receive counselling or support whilst taking NRT. A doctor, nurse, pharmacist or Stop Smoking Clinic may give this support. Also, the manufacturers of NRT often offer support such as telephone counselling, audio and video material, internet sites, personalised written programmes, etc. The details come on the packets of the various NRT products. It is strongly advised that you take up any offer of support whilst going through the difficult time of giving up smoking.

How effective is nicotine replacement therapy?

NRT does increase the chance of quitting smoking. Various studies have looked at this issue. The studies compared NRT to a similar dummy (placebo) product in people who were keen to stop smoking. The results from the studies showed that, on average, about 17 in 100 people who took NRT stopped smoking successfully. This compared with about 10 in 100 who took the dummy product rather than NRT. In other words, it increased the rate of success by about 70%. A combination of NRT with support or counselling may give the best chance of success.

Which form of nicotine replacement therapy is best?

There is not much difference in how well the different types of NRT work. Personal preference usually determines which one to use. Below are listed some points about each form of NRT. Please note, this is just a brief overview. Read the manufacturer's instructions on the packet for detailed advice on each type of NRT, or seek advice from a pharmacist, doctor or nurse.

Nicotine gum

Two strengths are available - 2 mg and 4 mg. You should use the 4 mg strength if you smoke 18 or more cigarettes a day. You can chew up to 15 pieces a day to start with. To release the nicotine, chew the gum slowly until the taste is strong. Then rest it between the cheek and the gum to allow absorption of nicotine into the bloodstream. Chew the gum again when the taste fades, and rest it again when the taste is strong, etc. Use a fresh piece of gum after about an hour.

After 2-3 months you should use the gum less and less. For example, reduce the chewing time, cut the gum into smaller pieces, or alternate the nicotine gum with sugar-free gum. Gradually stop the gum completely.

The disadvantage of gum is that some people do not like the taste or always having something in their mouth. Gum is not suitable if you wear dentures.

Nicotine patches

A patch that is stuck on to the skin releases nicotine into the bloodstream. Some patches, which you wear only when you are awake, last 16 hours. Other types last 24 hours and you wear these the whole time. The 24-hour patch may disturb sleep but is thought to help with early morning craving for nicotine. Patches are discreet and easy to apply.

The patches come in different strengths. The manufacturers normally recommend that you gradually reduce the strength of the patch over time before stopping completely. However, some research studies suggest that stopping abruptly is probably just as good without the need to reduce the dose gradually.

The disadvantage of patches is that a steady amount of nicotine is delivered. This does not mimic the alternate high and low levels of nicotine when you smoke, or with chewing nicotine gum. Skin irritation beneath the patch occurs in some users.

Nicotine inhalator

This resembles a cigarette. Nicotine cartridges are inserted into it and inhaled in an action similar to smoking. You should use about 6-12 cartridges a day for eight weeks and then gradually reduce over four further weeks. It is particularly suitable if you miss the hand-to-mouth movements of smoking.

Nicotine tablets/lozenges

You dissolve these under the tongue (they are not swallowed). Nicotine is absorbed through the mouth into the bloodstream. They are easy to use.

Nicotine nasal spray

The nicotine in the spray is rapidly absorbed into the bloodstream from the nose. This form of NRT closely mimics the rapid increase in nicotine level that you get from smoking cigarettes. This may help to relieve sudden surges of craving. Side-effects such as nose and throat irritation, coughing, and watering eyes occur in about 1 in 3 users. As the nasal spray may cause sneezing and watering eyes for a short time after use, do not use it whilst driving.

Nicotine mouth spray

This acts in a similar way to the nasal spray, providing a very rapid increase in nicotine level. You can use 1 or 2 sprays whenever you get the urge to smoke. You should not use more than two sprays at a time, four sprays in an hour or more than 64 sprays over the whole day. You might notice irritation of the throat or nose.

Can different methods of nicotine replacement therapy be combined?

This is an option, especially if you have particularly bad withdrawal symptoms. The common combination is to use an NRT patch (which gives a regular background level of nicotine) with gum or spray (taken now and then to top up the level of nicotine to ease sudden cravings). Evidence from research studies suggests that this kind of combination provides a small but significant increase in success rates compared with a single product. It is also thought that it is safe to combine NRT in this way.

Nicotine replacement therapy and other diseases and situations

As a rule, getting nicotine from NRT is much safer than from cigarettes. (NRT does not contain the harmful chemicals that cigarettes have.) But the following points may be relevant to some people.

- **Pregnancy.** NRT is likely to be safer than continued smoking and so its use can be justified in pregnant women who are finding it difficult to stop smoking. NRT products that are taken intermittently (such as gum, lozenge, spray, inhalator) are preferred to patches. This is to minimise the exposure of nicotine to the unborn baby. Avoid liquorice-flavoured NRT products.

- **Breastfeeding.** The amount of nicotine that gets into breast milk is probably similar whether the mother smokes or uses NRT. Breastfeeding within one hour of smoking or taking an NRT product can significantly increase the levels of nicotine in breast milk. Therefore, NRT products that are taken intermittently are probably best if NRT is used by a breastfeeding woman. Avoid using the NRT for at least one hour before breastfeeding.

Some other points about nicotine replacement therapy

- Apart from causing addiction, nicotine is not thought to cause disease when taken for a few months. The health problems from cigarettes, such as lung and heart diseases, are due to the tar and other chemicals in cigarettes. So, taking NRT instead of smoking is one step towards a healthier life.
- The dose of nicotine in NRT is not as high as in cigarettes. Also, the nicotine from smoking is absorbed quickly, and has a quicker effect than NRT. So, NRT is not a perfect replacement. Withdrawal symptoms are reduced with NRT but may not go completely.
- Always read the product label before starting NRT for full instructions and cautions.
- Cost - a week's supply of NRT can vary, depending on the one you choose. NRT is also available on prescription. However, your doctor will follow guidelines when prescribing NRT. For example, a first prescription should only be issued if you are committed to giving up smoking, and further prescriptions should only be issued if you have stayed off cigarettes.
- The risk of becoming addicted to (dependent on) NRT is small. About 1 in 20 people who stop smoking with the help of NRT continue to use NRT in the longer term. The safety of NRT when used for a very long time is not yet known and the risks and benefits of doing this should be discussed with your doctor.

Reporting nicotine replacement therapy side-effects

How to use the Yellow Card Scheme

If you think you have had a side-effect to one of your medicines you can report this on the Yellow Card Scheme. You can do this online at www.mhra.gov.uk/yellowcard.

The Yellow Card Scheme is used to make pharmacists, doctors and nurses aware of any new side-effects that medicines or any other healthcare products may have caused. If you wish to report a side-effect, you will need to provide basic information about:

- The side-effect.
- The name of the medicine which you think caused it.
- The person who had the side-effect.
- Your contact details as the reporter of the side-effect.

It is helpful if you have your medication - and/or the leaflet that came with it - with you while you fill out the report.

Further reading & references

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