Glyceryl trinitrate for angina (GTN)

Tablets and sprays provide rapid relief from the chest pain associated with angina. Remember to carry them with you all the time.

Angina chest pain should ease within a few minutes after using glyceryl trinitrate (GTN); if the pain does not ease within 15 minutes, call for an ambulance.

The most common side-effect is a headache. This should soon pass.

About glyceryl trinitrate for angina

<table>
<thead>
<tr>
<th>Type of medicine</th>
<th>Nitrate</th>
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</thead>
<tbody>
<tr>
<td>Used for</td>
<td>Chest pain associated with angina</td>
</tr>
<tr>
<td>Also called</td>
<td>Nitroglycerin (in US); GTN; Coro-Nitro®; Deponit®; Glytim®; Minitran®; Nitro-Dur®; Nitrolingual®; Nitromin®; Percutol®; Transiderm-Nitro®</td>
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<tr>
<td>Available as</td>
<td>Spray, sublingual tablets (for under the tongue), ointment, and patches</td>
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Glyceryl trinitrate (GTN) is prescribed for chest pain associated with angina. Tablet and spray formulations are referred to as short-acting preparations. This is because the effect of the medicine lasts for around 20-30 minutes. They are used to provide rapid relief from the pain as and when it happens. They can also be used for when the pain is expected to happen, such as before exercise that is likely to cause chest pain (for example, before climbing stairs). Other formulations which contain GTN are skin patches and ointment. These are longer-acting nitrates, as the medicine in these preparations works for a longer period of time. They are often referred to as transdermal nitrates. They are prescribed to prevent the pain from developing.

Pain associated with angina develops if part of your heart muscle does not get as much blood and oxygen as it needs. It is usually caused by narrowing of your coronary arteries due to a build-up of a fatty substance called atheroma. The narrowing makes it more difficult for blood to flow to your heart muscle. GTN works in two ways. It relaxes blood vessels in your body (causing them to widen) and this reduces the strain on your heart, making it easier for your heart to pump blood around your body. It also relaxes and widens blood vessels in your heart (coronary arteries), which increases the flow of blood to your heart muscle.

(There is also a rectal ointment of GTN available but this is used for a completely different condition. If this has been prescribed for you, please see the separate medicine leaflet called Glyceryl trinitrate rectal ointment for more information.)

Before starting glyceryl trinitrate

Some medicines are not suitable for people with certain conditions, and sometimes a medicine may only be used if extra care is taken. For these reasons, before you start GTN it is important that your doctor or pharmacist knows:

- If you are pregnant or breast-feeding.
- If you have any problems with the way your liver works, or any problems with the way your kidneys work.
- If you have low blood pressure.
- If you have been told by a doctor you have low levels of iron in your blood (anaemia), or low levels of oxygen in your blood (hypoxaemia).
- If you have an underactive thyroid.
- If you have an eye condition called glaucoma.
- If you have recently had a head injury or a heart attack.
- If you have ever had an allergic reaction to a medicine.
- If you are taking other medicines, including those available to buy without a prescription, herbal or complementary medicines.

It is particularly important that you tell your doctor if you are using any medicines to help treat erectile dysfunction.

How to take/use glyceryl trinitrate
Before you start the treatment, read the manufacturer’s printed information leaflet from inside your pack. It will give you more information about the type of formulation you have been given, and it will also provide you with a full list of side-effects which you could experience.

Carefully follow the instructions your doctor gives to you. Your dose will be printed on the label of the pack to remind you about what the doctor said to you. The following information is for general guidance:

**Spray:** spray one or two sprays under your tongue when a pain develops. Close your mouth immediately after using the spray. Your pain should ease within a minute or so. If the first dose does not work, use the spray again after five minutes. If the pain continues for 15 minutes despite using the spray twice then call an ambulance straightaway.

**Sublingual tablets:** place one tablet under your tongue when a pain develops and allow it to dissolve. Your pain should ease within a minute or so. If the first tablet does not work, take another tablet after five minutes. If the pain continues for 15 minutes despite taking three tablets then call an ambulance straightaway.

**Patches:** apply one patch every 24 hours. It is usual to apply the patches to your chest or upper arm but this may vary depending upon which brand of patches you have been given. If you are in any doubt, check the manufacturer’s information leaflet from inside the pack. Use a different area of skin each time you apply a patch. When you use GTN all the time, your body can become used to it (called tolerance), and then it can have less of an effect. To overcome this tolerance, your doctor may advise you to remove the patch before you go to bed. This leaves your blood free of nitrate when you are asleep and not needing it, and helps you to get the full benefit from it when you do.

**Ointment:** using one of the paper measures provided in the pack, squeeze 1-2 inches of ointment on to the measure (your doctor will tell you exactly how much to use). Apply the ointment to your chest, arm or thigh, by gently pressing the ointment on the measure on to your skin and securing the paper measure using some surgical tape. Do not rub the ointment in. Apply the ointment every 3-4 hours as required. Use a different area of skin each time you apply it.

**Getting the most from your treatment**
- Carry your GTN spray or tablets with you at all times so that you can take a dose whenever any chest pain develops.
- GTN tablets go off after a few weeks so you need to get a fresh supply of tablets every **eight weeks** and return any unused tablets to your pharmacist. If you find this is inconvenient, please speak with your doctor about using a GTN spray. Many people prefer to use a spray, as they have a longer shelf life than the tablets.
- GTN sprays contain flammable ingredients. Please keep away from any fire or flames when using the spray.
- Using GTN tablets or sprays may make you feel dizzy or light-headed for a few minutes afterwards. Wearing a GTN patch may also make you feel dizzy. If affected, do not drive and do not use tools or machines until you feel better.
- It is best not to drink alcohol while you are on GTN. Alcohol will increase the risk of you experiencing side-effects such as feeling dizzy and light-headed.
- Try to keep your regular appointments with your doctor. This is so your doctor can check on your progress.
- If you are having an operation or dental treatment, please remember to tell the person carrying out the treatment which medicines you are taking. GTN patches may need to be removed before some treatments and procedures.
- If you buy any medicines, please ask a pharmacist if they are suitable for you to take with GTN.

**Can glyceryl trinitrate cause problems?**

Along with their useful effects, most medicines can cause unwanted side-effects although not everyone experiences them. The table below contains some of the most common ones associated with GTN. You will find a full list in the manufacturer’s information leaflet supplied with your medicine. The unwanted effects often improve as your body adjusts to the new medicine, but speak with your doctor or pharmacist if any of the following continue or become troublesome.

<table>
<thead>
<tr>
<th>Common glyceryl trinitrate side-effects</th>
<th>What can I do if I experience this?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Throbbing headache</td>
<td>Ask your doctor or pharmacist to recommend a suitable painkiller</td>
</tr>
<tr>
<td>Feeling dizzy</td>
<td>Do not drive or use tools or machines while affected</td>
</tr>
<tr>
<td>Fast heartbeat</td>
<td>If troublesome, speak with your doctor</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Less common glyceryl trinitrate side-effects</th>
<th>What can I do if I experience this?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Feeling sick</td>
<td>This should soon pass</td>
</tr>
<tr>
<td>Rushing; skin reactions (if using patches)</td>
<td>If troublesome, speak with your doctor</td>
</tr>
</tbody>
</table>

If you experience any other symptoms which you think may be due to the medicine, please speak with your doctor or pharmacist for further advice.
How to store glyceryl trinitrate

- Store GTN sublingual tablets in their original container. They can be used for up to eight weeks after the container has been opened. After this time, get a fresh supply.
- Keep all medicines out of the reach and sight of children.
- Store in a cool, dry place, away from direct heat and light.

Important information about all medicines

Never take more than the prescribed dose. If you suspect that you or someone else might have taken an overdose of this medicine, go to the accident and emergency department of your local hospital. Take the container with you, even if it is empty.

This medicine is for you. Never give it to other people even if their condition appears to be the same as yours.

Do not keep out-of-date or unwanted medicines. Take them to your local pharmacy which will dispose of them for you.

If you have any questions about this medicine ask your pharmacist.

Further reading & references

- Manufacturer's PIL, Glyceryl Trinitrate Tablets 500 micrograms, 600 micrograms; Actavis UK Ltd, The electronic Medicines Compendium. Dated August 2015.
- PIL, Minitran® 5 mg, 10 mg and 15 mg Transdermal Patches; Meda Pharmaceuticals Ltd, The electronic Medicines Compendium. Dated February 2017.

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