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## **PATIENT INFORMATION ON**

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*Medicine To Treat:  
Cardiac Diseases*

### **Anti-anginal Agents (I) NITRATES**

#### **About your Medicine**

Your doctor has just prescribed for you a nitrate, e.g. *Isosorbide dinitrate* (Isobin<sup>®</sup>, Isordil<sup>®</sup>, Sorbitrate<sup>®</sup>), *Isosorbide mononitrate* (Imdex CR<sup>®</sup>, Imdur<sup>®</sup>, Ismo 20<sup>®</sup>), *Glyceryl trinitrate (GTN)* (Angised<sup>®</sup>, Deponit<sup>®</sup>).

#### **What are Nitrates used for?**

Nitrates are used to prevent and treat the symptoms of angina (chest pain). Angina is usually caused by insufficient blood supply and oxygen to your heart. Nitrates work by relaxing the blood vessels to the heart, so that the blood and oxygen supply to the heart is increased.

Nitrates come in several forms, including regular, extended-release or sublingual tablets, transdermal (stick-on) patch and oral spray.

Depending on the type of dosage form and how it is taken, nitrates are used to treat angina in 3 ways:

- To relieve an attack that is occurring by using the medicine when the attack begins;
- To prevent attacks from occurring by using the medicine just before an attack is expected to occur; or
- To reduce the number of attacks that occur by using the medicine regularly on a long-term basis.

#### **How should I take the Medicine?**

##### ***Oral Tablets***

- Isosorbide dinitrate and mononitrate are the oral forms of nitrate.
- When taken orally by swallowing, nitrates are used to reduce the number of angina attacks that occur. They do not act fast enough to relieve the pain of an angina attack.

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- Nitrate tablets are usually taken on an empty stomach (at least 1 hour before or 2 hours after meals) with a full glass of water.
- The regular release tablet is usually taken every 6 to 8 hours.
- The extended-release tablet allows the medicine to be taken less frequently: 1 to 2 times a day is sufficient. Do not crush or chew the tablets.

***Sublingual tablet / Mouth spray***

- The sublingual form of nitrates are isosorbide dinitrate and glyceryl trinitrate (GTN). GTN is also used in the form of an oral spray, which is currently a non-formulary medicine.
- Isosorbide dinitrate or GTN sublingual tablet or GTN mouth spray is used either to relieve the pain of angina attacks or to prevent an expected angina attack, such as when you are about to exercise.
- The tablet or spray should be used at the first sign of an attack of angina. Do not wait until severe pain develops.
- This medicine usually gives relief in less than 5 minutes. However, if the pain is not relieved, use a second tablet or spray. If the pain continues for another 5 minutes, a third tablet or spray may be used. If you still have the chest pains after a total of 3 tablets or sprays in a 15-minute period, contact your doctor or go to the nearest hospital's Accident and Emergency Department.
- If you are using GTN to prevent an anticipated anginal attack, dissolve the tablet under your tongue or spray 5 to 10 minutes before engaging in the activities that you know will cause an attack.

❖ ***How to take sublingual tablets:***

Place a tablet under your tongue and allow it to dissolve completely. You may chew the tablet to small pieces to facilitate absorption.

❖ ***How to use GTN mouth spray:***

- Remove the plastic cover. Do not shake the container.
- Hold the container upright. With the container close to your mouth, press the button to spray onto or under your tongue. Do not inhale the spray.
- Release the button and close your mouth. Avoid swallowing immediately after using the spray.

***Topical (Transdermal Patches)***

- When applied to the skin, nitrates are used to reduce the number of angina attacks that can occur. The only nitrate product available for this purpose is topical glyceryl trinitrate patch.
- Do not try to trim or cut the adhesive patch to adjust the dosage. Check with your doctor if you think the medicine is not working as it should.
- Apply the patch to a clean, dry skin area with little or no hair and free of scars, cuts or irritation. Remove the previous patch before applying a new one.

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- Apply a new patch if the first one becomes loose or falls off.
- Apply each dose to a different area of skin to prevent skin irritation or other problems.
- The dose of GTN will be different for different patients. Follow your doctor's instructions for when to put on and take off the skin patch. The patch is usually left on for 12 to 18 hours a day and then taken off.

**What should I do if I forget a dose?**

Take the missed dose as soon as you remember it. However, if it is almost time for the next dose, skip the missed dose and continue your regular dosing schedule. Do not take a double dose to make up for a missed one.

**What side effects can this Medicine cause?**

Headache, flushing or redness of the skin, dizziness, weakness or fainting, rapid heart beat, nausea or vomiting are the common side effects. Usually the side-effects are temporary and will disappear by themselves. Contact your doctor or pharmacist if the medicine causes you discomfort or if the symptoms persist.

**What precautions should I follow?**

**Allergies** - Tell your doctor if you have ever had any unusual or allergic reactions to nitrates or nitrites. Also tell your doctor or pharmacist if you are allergic to any other substances, such as certain foods, preservatives or dyes.

**Pregnancy** – Inform your doctor and pharmacist if you are pregnant, plan to become pregnant or are breastfeeding. If you become pregnant while taking nitrates, inform your doctor.

**Older adults** – Dizziness or lightheadedness may be more likely to occur in the elderly, who may be more sensitive to the effects of nitrates.

**Other medicines** - Tell your doctor or pharmacist if you are taking any high blood pressure medicine, other heart medicine or sildenafil (Viagra®).

**How should I store this Medicine?**

Keep this medicine in the container it came in, tightly closed. Store it in a cool and dry place, away from excessive heat and moisture. Consult your pharmacist about the proper disposal of your medication.

**GTN tablets:** The active drug evaporates quickly from the tablet. Therefore, the following conditions should be observed to ensure continual potency of the tablets.

- Keep the tablets in the brown glass container and close tightly. Never transfer the tablets into other containers.

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- Store in a cool dry place. Do not store in the refrigerator. Carry them with you wherever you go but try not to carry them close to your body. Carry them in a purse or bag.
- Date the bottle once it is opened. If you do not use the tablets within 2 months of opening, obtain a fresh supply and discard the old tablets.

**What else should I know?**

- Do **NOT** take sildenafil (Viagra®) if you are taking this medicine. When sildenafil is taken with nitrates, blood pressure can lower drastically resulting in dizziness, lightheadedness or fainting. *In some cases, death has been reported when sildenafil was taken with nitrates.*
- *If you have been taking this medicine regularly for several weeks or more, do not suddenly stop using it.* Sudden discontinuation may bring on attacks of angina. Check with your doctor for the best way to reduce the amount gradually before stopping completely.
- *After taking a dose of this medicine you may get a headache that lasts for a short time. This is a common side effect, which should become less noticeable after you have taken the medicine for a while. Initially, you may want to use a painkiller, such as paracetamol, to relieve the symptom. If this effect continues, or if the headache is severe, check with your doctor.*
- *Dizziness, lightheadedness or faintness may occur, especially when you get up quickly from a lying or sitting position. Getting up slowly may help. If you feel dizzy, sit or lie down.*
- *The dizziness, lightheadedness or fainting is also more likely to occur if you drink alcohol, stand for a long period of time, exercise or if the weather is hot. While you are taking this medicine, be careful to limit the amount of alcohol you drink. Also, extra care has to be taken during exercise, hot weather or if you must stand for long periods of time.*

We are located in these polyclinics :

Ang Mo Kio	Tel : 6554 7462	Clementi	Tel: 6872 7137	Toa Payoh	Tel: 6354 7330
Bukit Batok	Tel : 6896 2271	Hougang	Tel : 6489 8078	Woodlands	Tel: 6369 7024
Choa Chu Kang	Tel : 6765 9647	Jurong	Tel: 6665 6467	Yishun	Tel: 6757 7794

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