

## **Glyceryl trinitrate (GTN) (Deponit 5) patches for use in tendinopathy**

### **Patient information leaflet**

- Your treating physiotherapist will have discussed with you the use of GTN patches to help with the treatment of your tendinopathy
- Recent evidence suggests that GTN patches can improve tendon pain and optimise rehabilitation.
- The GTN patch causes opening of the blood vessels under the skin and increases the amount of the hormone nitric oxide (NO).
- Nitrox oxide (NO) has been shown to induce positive effects on tendinopathy by increasing collagen production. Collagen is a key component of the structure of all tendons in the body and the production of collagen is an essential part of tendon healing.
- You must carefully read the instruction below and check the contra-indications and precautions before commencing with treatment
- Contact your treating physiotherapist if you have any questions or are unclear about any aspect of the treatment
- GTN patches are a safe and well tolerated treatment for most people however they can cause side effects and it's important that you are aware of these and how to manage them before starting treatment

**Directions for use of GTN patch in treatment of tendon pain:**

**IMPORTANT: YOU SHOULD DISCONTINUE TREATMENT IMMEDIATELY IF YOU ARE EXPERIENCING SIGNIFICANT SIDE EFFECTS (SEE SECTION BELOW)**

- Make sure the skin is completely dry, clean and cool before applying the patch. Do not apply a patch straight after a hot bath or shower. Do not apply creams, oil or talc to the area before applying the patch
- Patches should be cut in half and one half of the patch applied directly onto the most painful part of the tendon (the best location will be confirmed by your treating clinician).
- Safely dispose of the other half of the patch (unfortunately the other half of the patch **cannot be stored** to be used as the medication decays over 8-12 hours and therefore will not be effective).
- Ensure your hands are clean before applying the patch. Press the patch onto the skin for approx. 10-15 seconds to ensure it remains in place and wash your hands after applying.
- Do not apply to broken skin or over rashes or areas of skin which appear inflamed. Never apply any additional heat (such as hot packs) directly over the area of the patch.
- Patches should be applied in the morning and taken off at night before sleeping. Only use the patch through the day whilst awake. It is important that the patch is on while you are performing your rehabilitation program/exercises. Use one patch per day. At the end of the day safely dispose of the used patch.
- We suggest you use the patches regularly as described for a least four weeks in order to gain benefit. If the patches are giving benefit, then the treatment

period can be extended. We recommend you discuss continuing the treatment with your clinician at the end of the four weeks.

- As the medication is on for approximately 12 hours, the patch will be on when you exercise or play sport.
- The patch should stay on when you take a bath or shower – you can reinforce the patch with tape if required.

### **Side effects:**

- The most common side effect of GTN patches is a headache and/or rash. A recent review suggests approximately 1 in 5 patients develop a headache. Severe allergic actions are extremely rare. If you develop signs or symptoms of a severe allergic reaction immediately stop treatment and seek urgent medical attention.
- If you develop a headache, we advise you to consider some over the counter medication to relieve the headache symptoms. If this does not help then you can reduce the dose by cutting the patch into quarters and using one quarter on the painful area. If the headache does not stop or gets worse you should stop treatment immediately, you should seek medical advice – from your treating clinician or health professional such as your GP or pharmacist.
- Other side effects include dizziness, fast heartbeat, nausea and skin flushes. If any of these side effects occur then discontinue treatment (or reduce treatment dose – see below). Discuss with your treating physiotherapist before recommencing treatment.
- If you develop a rash, we would advise you to move the patch around the painful site within 1 to 2 cm of the sorest point. So, for example, place the patch directly on the sore spot on day 1, place the patch in the 12 o'clock position 1-2cm

above the sore spot on day 2, then 1-2cm away in the 3 o'clock position on day 3, then 1-2cm away in the 6 o'clock position on day 4, etc. Do not apply a patch to the area of irritated skin for several days until the skin has completely recovered.

- Alternatively reduce the dose of the patch by cutting it into quarters and using one quarter on the painful area (you must discard the rest of the patch as the medication decays within 8-12 hours). If the rash continues to spread or your skin breaks down, we advise you to stop use of the patch and contact your physiotherapist or health professional such as your GP or pharmacist.

### **Contra-indications**

**You should not commence with this treatment if any of the below statements apply to you (if unsure you must consult with your GP) :**

- If you have hypersensitivity/allergy to glyceryl trinitrate, and related organic nitrates?
- If you have hypersensitivity to any excipient of Percutol? e.g.: lanolin, lactose, white petroleum?
- If you are currently using phosphodiesterase type-5 inhibitors. Any of the following, sildenafil (Viagra®), tadalafil (Cialis), alprostadil or vardenafil (Levitra)?
- If you are currently using the soluble guanylate cyclase stimulator such as riociguat
- If you are anaemic (discuss with your GP if unsure)
- If you are hypotensive (have low blood pressure – discuss with your GP if unsure)
- If you have a history of cardiac disease or conditions (discuss with your GP if unsure)
- Suffer from conditions associated with elevated intracranial pressure, cerebral haemorrhage or head trauma

- If you have closed angle glaucoma
- If you have a history of hypovolemia
- If you have severe hepatic or renal impairment
- If you are pregnant or breastfeeding

If you have any questions or concerns, please contact your treating physiotherapist.