



**Pan Mersey**  
Area Prescribing Committee

## Prescribing Support Information

### **Glyceryl Trinitrate Transdermal Patch For Children**

This medicine has been categorised as Amber Initiated by the  
Pan-Mersey Area Prescribing Committee

Your patient has been identified as being suitable to receive GTN transdermal patch in accordance with the indication detailed below. He/she has been started on treatment and has been reviewed to assess the efficacy and adverse effects of the treatment by the specialist team.

This medicine has been considered as appropriate for prescribing in primary care and the information contained in this document has been provided to support you to prescribe the medicine for your patient in the community.

#### **Glyceryl trinitrate (Deponit®)**

Glyceryl trinitrate (GTN) (a nitrate) is a dilator of vascular smooth muscle, which not only reduces peripheral vascular resistance but also cause venous dilatation which results in dilatation of capacitance vessels and increase of venous pooling. GTN transdermal patch offers an alternative to oral calcium channel blockers for symptomatic relief of paediatric Raynaud's phenomenon. There is some evidence that nitrate derivatives administered transdermally may reduce the frequency and severity of Raynaud's phenomenon. The use of glyceryl trinitrate transdermal patch in children with Raynaud's phenomenon is 'off-label'. Informed patient consent on its off label use should be sought before prescribing. The specialist should clearly communicate that this discussion has taken place and the actual recommended dose in the letter to the GP.

The brand Deponit® GTN patches seem to adhere to the skin particularly well and not leak medication when cut into quarters; therefore this brand is recommended.

#### **Indication**

Raynaud's phenomenon in children

#### **Drug, Form and Dose**

Glyceryl trinitrate transdermal patch (Deponit®)

#### **Available Preparations**

Transdermal patch 5mg/24 hours, 10mg/24 hours

**Specialist initiation**

To be prescribed as one 5mg patch, cut into quarters, with one quarter of a patch to be placed on each hand +/- each foot once daily (remove overnight). This dose can be increased to half a patch on each hand and foot once daily if needed.

When the patient is stabilised on the optimum dose under the supervision of the specialist clinical team, the GP is requested to continue the prescribing of glyceryl trinitrate transdermal patch once the specialist has provided primary care with a diagnosis and treatment plan.

The specialist will review the patient after treatment is started to ensure that GTN offers therapeutic benefit.

The GP is asked to contact the specialist of any concerns or side effects associated with glyceryl trinitrate treatment. See contact details on page 3.

The dose may be altered by the specialist clinical team; this change will be communicated via letter to the GP.

If the GP does not feel it is appropriate to take on the prescribing, then the prescribing responsibilities will remain with the specialist. The GP should inform the specialist of the reason for declining.

**Monitoring recommendations**

No specific monitoring is necessary. Patients will be reviewed in the rheumatology specialist clinic to establish beneficial effect of the patches and any adverse effects. If the patches are not tolerated, treatment can be changed to nifedipine / amlodipine.

**How long the medicine should be prescribed for**

Treatment with glyceryl trinitrate should continue whilst the specialist or GP or patient / parent deems there to be benefit to the patient and the patient is not suffering undue adverse effects.

**Contra-indications**

Contraindications will be assessed by the specialist team. Please refer to the Summary of Product Characteristics (SPC) for the complete list.

**Adverse effects**

The commonest adverse effects include

Headache, light-headedness

Decreased blood pressure

Tachycardia

Nausea and vomiting

Facial flushing

Please note this list is not exhaustive – refer to SPC for complete list.

**Interaction with other medicines**

Phosphodiesterase inhibitors (e.g. sildenafil, tadalafil) potentiate the blood pressure-lowering effect – strictly contraindicated.

Calcium antagonists, ACE inhibitors, beta-blockers, diuretics, antihypertensives, tricyclic antidepressants and major tranquilisers may potentiate the blood pressure lowering effect of glyceryl trinitrate. Use with caution.

Please refer to SPC for full list of drug interactions.

Prescribing support information

**Further advice:**

In case of concerns or suspected adverse events, the paediatric rheumatology team can be contacted for advice. See contact details below.

**Contact details****Alder Hey Rheumatology Team**

Rheumatology Specialist Pharmacist Tel: 0151 228 4811 ext 2369

Paediatric Rheumatology Clinical Team: Tel: 0151 228 4811 ext 4521

**Reference:**

1. <https://www.uptodate.com/contents/treatment-of-the-raynaud-phenomenon-resistant-to-initial-therapy#H782864>
2. Gargh et al. A retrospective clinical analysis of pharmacological modalities used for symptomatic relief of Raynaud's phenomenon in children treated in a UK paediatric rheumatology centre. *Rheumatology* 2010; 49(1): 193-194
3. Coppock et al. Objective relief of vasospasm by glyceryl trinitrate in secondary Raynaud's phenomenon. *Postgraduate Medical Journal* 1986; 62: 15-18
4. Terri L Levien. Advances in the treatment of Raynaud's phenomenon. *Vascular Health and Risk Management* 2010; 6: 167-177
5. Generali et al. Off-label Drug Uses - Nitroglycerin (Transdermal): Raynaud Phenomenon. *Hosp Pharm* 2012; 47: 924-926
6. Sinnathurai et al. Treatment of Raynaud phenomenon in systemic sclerosis. *Internal Medicine Journal* 2013 doi:10.1111/imj.12082
7. Chung et al. MQX-503, a novel formulation of nitroglycerin, improves the severity of Raynaud's Phenomenon. A randomised, controlled trial. *Arthritis & Rheumatism* 2009; 60(3): 870-877
8. Anderson et al. Digital vascular response to topical glyceryl trinitrate, as measured by laser Doppler imaging, in primary Raynaud's phenomenon and systemic sclerosis. *Rheumatology* 2002; 41: 324-328
9. Teh et al. Sustained-release transdermal glyceryl trinitrate patches as a treatment for primary and secondary Raynaud's phenomenon. *British Journal of Rheumatology* 1995; 34: 636-641
10. Hummers et al. A multi-centre, blinded, randomised, placebo-controlled, laboratory-based study of MQX-503, a novel topical gel formulation of nitroglycerin, in patients with Raynaud's phenomenon. *Ann Rheum Dis* 2013; 72: 1962-1967
11. Nigrovic et al. Raynaud's phenomenon in children: A retrospective review of 123 patients. *Pediatrics* 2003; 111(4): 715-721