

# Glycerine Trinitrate for Retained Placenta (GOT-IT Trial)

<b>Submission date</b> 07/03/2014	<b>Recruitment status</b> No longer recruiting	<input checked="" type="checkbox"/> Prospectively registered <input type="checkbox"/> Protocol
<b>Registration date</b> 26/03/2014	<b>Overall study status</b> Completed	<input type="checkbox"/> Statistical analysis plan <input checked="" type="checkbox"/> Results
<b>Last Edited</b> 22/10/2020	<b>Condition category</b> Pregnancy and Childbirth	<input type="checkbox"/> Individual participant data

## Plain English summary of protocol

### Background and study aims

We want to find out whether glyceryl trinitrate (GTN) is effective in treating a stuck or retained placenta (RP) after a woman has had a vaginal delivery. RP occurs when the placenta is not delivered after a baby is born. If the placenta is not delivered, women can bleed heavily. In the UK, nearly 11,000 women every year experience RP after giving birth. The only treatment currently available for women with a RP is an operation called a Manual Removal of Placenta (MROP). This is an invasive procedure that requires an anaesthetic and skilled staff. The mother and newborn baby are also separated during the operation which could be traumatic and could delay mother-baby bonding. There is therefore a need for a new medical (non-surgical) treatment for RP. GTN relaxes muscles and when given sublingually (under the tongue) it is absorbed quickly and causes the womb and cervix to relax within 5 minutes. Small studies suggest that GTN may be very good at managing RP. However, these promising results have not been supported by a more recent larger study. It is also not clear whether women will be willing to take GTN and whether the costs of using GTN compare favourably (or not) with current surgical management. We are looking to see whether GTN reduces the need for women with a RP to have MROP. We plan to do this by comparing women who have GTN or a placebo (dummy drug that contains no treatment). The study will be carried out in two phases. The aim of the first phase is to test out and refine trial procedures in a small number of hospital sites. This first stage will help us see how many women are willing to take part in the research. Women who take part, those who decide not to take part and delivery suite staff who have worked on the trial will be invited to take part in in-depth interviews to talk about their experiences. This information will be used to improve the way we carry out the research if necessary. The second phase will be the main trial where recruitment will be extended to a larger number of hospitals (at least 20 delivery units in the UK) in order to determine whether GTN works (clinical effectiveness) and whether it reduces costs for the NHS (cost effectiveness).

### Who can participate?

Any woman aged 16 or over who has a vaginal delivery and then develops the complication of RP.

### What does the study involve?

After receiving information about the study and deciding to take part, women will be randomly allocated to receive either GTN spray or a placebo spray that looks and tastes the same as GTN.

The placebo spray will not contain any active drug and we would not expect a placebo to release a RP. We will randomly allocate women, meaning that study investigators cannot choose which spray to give to women, so that we can compare the two groups fairly. The woman will be asked to spray the study drug (either GTN or placebo) under her tongue. After 5 minutes, if her placenta has not delivered, the midwife (or doctor) looking after her will try and deliver the placenta by gently pulling on the umbilical cord. If the placenta remains undelivered 15 minutes after taking the study drug, we think that it is very unlikely that the placenta will deliver by itself. At that stage, the decision will be made to transfer the woman to theatre as soon as a theatre and skilled staff are available to perform the operation. Women who take part in the study will be asked to complete a questionnaire about their experience prior to discharge from hospital and then 6 weeks after taking part in the study. This information will be used to assess their satisfaction with treatment, potential side effects of treatment and their health resource use since they had their baby. Some women, including those who declined to take part in the study, will be invited to participate in an interview study to find out more about their experience of being approached about or being involved in the research.

What are the possible benefits and risks of participating?

All medications can sometimes cause side effects. GTN is a drug widely used for the treatment of angina (a heart condition). It is a drug which relaxes your blood vessels and muscles to help with blood flow. Common side effects include headache, dizziness, flushing/feeling hot, a drop in blood pressure and a rise in heart rate (pulse). This drug does not stay in the body for very long so any side effects are often very short lived and painkillers can be given for headache. The possible benefit in participating in this trial is the placenta may be delivered without the need for an anaesthetic, transfer to the operating theatre and an operation.

Where is the study run from?

The trial will be managed by the established Centre for Healthcare Randomised Trials Unit in Aberdeen and by an experienced Trial Manager and Administrator based in Edinburgh.

When is the study starting and how long is expected to run for?

The study is due to start in July 2014 and is expected to run for 42 months.

Who is funding the study?

NIHR Health Technology Assessment Programme - HTA (UK)

Who is the main contact?

Dr Fiona Denison

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## Contact information

### Type(s)

Scientific

### Contact name

Dr Kathryn Carruthers

### Contact details

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47 Little France Crescent

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United Kingdom  
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## Additional identifiers

**Clinical Trials Information System (CTIS)**  
2013-003810-42

**ClinicalTrials.gov (NCT)**  
NCT02085213

**Protocol serial number**  
HTA 12/29/01

## Study information

**Scientific Title**  
Glycerine Trinitrate for Retained Placenta (GOT-IT Trial)

**Acronym**  
Glycerine Trinitrate for Retained Placenta (GOT-IT Trial)

### Study objectives

This study will try to prove the clinical and cost effectiveness of a known treatment for angina, glyceryl trinitrate (GTN), used to treat retained placenta (RP). We will compare GTN against a placebo (dummy treatment) in a randomised controlled blinded trial (GOT-IT).

The GOT-IT Trial will be conducted in two phases. The first phase will involve an internal pilot study where the aim will be to test out and refine trial procedures in a small number of hospital sites. The second phase will be the main trial where recruitment will be extended to a larger number of hospitals in order to determine clinical and cost effectiveness.

More details can be found at: <http://www.nets.nihr.ac.uk/projects/hta/122901>  
Protocol can be found at: [http://www.nets.nihr.ac.uk/\\_\\_data/assets/pdf\\_file/0018/112464/PRO-12-29-01.pdf](http://www.nets.nihr.ac.uk/__data/assets/pdf_file/0018/112464/PRO-12-29-01.pdf)

**Ethics approval required**  
Old ethics approval format

**Ethics approval(s)**  
13/NE/0339; First MREC approval date 18/12/2013

**Study design**  
Randomised; Interventional; Design type: Treatment

**Primary study design**  
Interventional

**Study type(s)**

## Treatment

### Health condition(s) or problem(s) studied

Topic: Reproductive Health and Childbirth; Subtopic: Reproductive Health and Childbirth (all Subtopics); Disease: Reproductive Health & Childbirth

### Interventions

Participants will be randomly allocated to receive either two doses of sublingual GTN spray (800 mcg total) or a placebo spray (single time point of administration). There will be a 6-week postnatal follow-up.

### Intervention Type

Drug

### Phase

Not Applicable

### Drug/device/biological/vaccine name(s)

Glyceryl trinitrate

### Primary outcome(s)

Primary outcomes will be measured over four interrelated domains: clinical, safety, patient-sided and economic.

1. Clinical: need for MROP, defined as the placenta remaining undelivered 15 minutes post study treatment and/or being required within 15 minutes of treatment due to safety concerns
2. Safety: measured blood loss between administration of treatment and transfer to the postnatal ward or other clinical area (e.g., labour ward high dependency) - up to 24 hours
3. Patient-sided: satisfaction with treatment and side effect profile assessed by postal questionnaire at 6 weeks postnatal
4. Economic: net incremental costs (or cost savings) to the National Health Service of using GTN versus standard practice. Costs will include GTN (dose and time to administer drug, monitor woman and deliver the placenta if effective), MROP, and further health service resource use as measured by the 6-week postnatal questionnaire

### Key secondary outcome(s)

1. Clinical outcomes:
  - 1.1. Fall in haemoglobin of more than 15% between recruitment and the first postnatal day (approximately 24 hours since the birth)
  - 1.2. Time from randomisation to delivery of placenta (approximately 2 hours)
  - 1.3. MROP in theatre (approximately 2 hours)
  - 1.4. Need for earlier than planned MROP on the basis of the clinical condition (approximately 2 hours)
  - 1.5. Fall in systolic or diastolic blood pressure of more than 15 mmHg and/or increase in pulse of more than 20 beats/minute between baseline and 5 and 15 minutes post-administration of active/placebo treatment (up to 15 minutes post-treatment)
  - 1.6. Need for blood transfusion between time of delivery and discharge from hospital (up to 7 days)
  - 1.7. Need for general anaesthesia (approximately 2 hours)
  - 1.8. Maternal pyrexia (one or more temperature reading of more than 38°C (within 72 hours of delivery or discharge from hospital if discharge occurs sooner)
  - 1.9. Sustained uterine relaxation after removal of placenta requiring uterotronics (within 24

hours of the time of delivery of the placenta)

2. Costs: the mean costs will be summarised by treatment allocation group, and the incremental cost (cost saving) associated with the use of GTN will be estimated using an appropriately specified general linear model. The cost data will be presented alongside the primary and secondary outcome data in a cost-consequence balance sheet, indicating which strategy each outcome favours (6-week postnatal questionnaire)

### **Completion date**

01/10/2017

## **Eligibility**

### **Key inclusion criteria**

1. Women with retained placenta
2. Women aged 16 or over
3. Women with vaginal delivery (including women with a previous caesarean section)
4. Haemodynamically stable (systolic blood pressure more than 100mg Hg and pulse less than 110 beats per min).
5. > 14 weeks gestation

### **Participant type(s)**

Patient

### **Healthy volunteers allowed**

No

### **Age group**

Adult

### **Sex**

Female

### **Total final enrolment**

1107

### **Key exclusion criteria**

1. Unable to give informed consent
2. Suspected placenta accreta/increta/percreta
3. Multiple pregnancy
4. Women having an instrumental vaginal delivery in theatre
5. Allergy or hypersensitivity to nitrates or any other constituent of the formulation
6. Taken alcohol in the last 24 hours
7. Concomitant use with phosphodiesterase inhibitors (such as sildenafil, tadalafil, or vardenafil).
8. Contra-indication due to one of the following: Severe anaemia, constrictive pericarditis, extreme bradycardia, incipient glaucoma, Glucose-6-phosphatedehydrogenase-deficiency, cerebral haemorrhage and brain trauma, aortic and / or mitral stenosis and angina caused by hypertrophic obstructive cardiomyopathy. Circulatory collapse, cardiogenic shock and toxic pulmonary oedema
9. Currently participating in another CTIMP

**Date of first enrolment**

01/09/2014

**Date of final enrolment**

01/10/2017

## **Locations**

**Countries of recruitment**

United Kingdom

Scotland

**Study participating centre**

**The Queen's Medical Research Institute**

Room W1.14

47 Little France Crescent

Edinburgh

United Kingdom

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## **Sponsor information**

**Organisation**

University of Edinburgh (UK)

**ROR**

<https://ror.org/01nrxf90>

## **Funder(s)**

**Funder type**

Government

**Funder Name**

Health Technology Assessment Programme

**Alternative Name(s)**

NIHR Health Technology Assessment Programme, Health Technology Assessment (HTA), HTA

**Funding Body Type**

Government organisation

## Funding Body Subtype

National government

## Location

United Kingdom

# Results and Publications

## Individual participant data (IPD) sharing plan

### IPD sharing plan summary

#### Study outputs

Output type	Details	Date created	Date added	Peer reviewed?	Patient-facing?
<a href="#">Results article</a>	results	11/04/2016		Yes	No
<a href="#">Results article</a>	results	01/06/2016		Yes	No
<a href="#">Results article</a>	qualitative study results	24/05/2017		Yes	No
<a href="#">Results article</a>	results	30/12/2019	31/12/2019	Yes	No
<a href="#">Results article</a>	HTA report in	01/12/2019	09/01/2020	Yes	No
<a href="#">Results article</a>	results	01/12/2019	22/10/2020	Yes	No
<a href="#">HRA research summary</a>			28/06/2023	No	No
<a href="#">Participant information sheet</a>	Participant information sheet	11/11/2025	11/11/2025	No	Yes