

# Anchored muscle cells for incontinence

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<b>Registration date</b> 22/09/2025	<b>Overall study status</b> Ongoing	<input type="checkbox"/> Statistical analysis plan <input type="checkbox"/> Results
<b>Last Edited</b> 02/12/2025	<b>Condition category</b> Digestive System	<input type="checkbox"/> Individual participant data <input checked="" type="checkbox"/> Record updated in last year

## Plain English summary of protocol

### Background and study aims

Faecal incontinence (FI) is a public health problem with a big impact on people's quality of life. Women who have given birth form a significant proportion of this patient group, as tears to the perineum during childbirth can lead to faecal incontinence. This study will test the safety of a cell-based therapy in women with post-obstetric faecal incontinence.

### Who can participate?

Female patients aged 18 years and over with chronic faecal incontinence and a history of obstetric anal sphincter injury.

### What does the study involve?

Surgeons will take a muscle biopsy from the patient's chest. This biopsy will be processed to grow muscle cells, which are combined with small porous carrier particles called microcarriers. The combination cell-microcarrier product will be injected into the patient's external anal sphincter, leading to muscle regeneration.

All the patients will receive the same treatment and all the patients and their doctors are aware of the treatment. The researchers will assess the number of FI episodes, safety and other patient-reported outcomes. Data collected during the patient's initial visits will be compared with data collected 12 months after treatment to assess how effective treatment is.

Patients will take part in 11 visits.

### What are the possible benefits and risks of participating?

The treatment used is an experimental product so it has not yet been authorised/ marketed for use by the general public. As this study is a 'first-in-human' usage, there is no data to show its safety.

The researchers have reviewed all previous studies of ASMDC (cells without microcarriers). In these studies, which involved a total of 615 patients (in 14 studies), the risks of treatment with cells alone were small. The risks were almost entirely related to the biopsy and injection procedures:

Pain or skin irritation: approx. 1 in 10 (10%)

Minor bruising: approx. 1 in 20 (5%)

Superficial infection: <1 in 20 (<5%)

Muscle weakness at biopsy site: <1 in 100 (<1%)

Bleeding requiring surgical intervention: 1 reported in 615

Complications of routine anaesthesia: No occurrences. Typical risk is <1 in 1000.

Since PLGA microcarriers are a newer treatment, we don't have studies like this on their safety in treating faecal incontinence. The study team has also done tests in laboratories to check the risks of treatment, and the results have been acceptable. There are also several commercially available products which have been approved for clinical use which use microcarriers in products that are injected into the body.

Muscle biopsy: It is inevitable that some pain will be experienced during the procedure due to the injection of the local anaesthetic and possibly the biopsy itself. There may also be some pain after the procedure. Potential risks include bruising, haematoma (a clot of blood), infection, delayed wound healing and a small amount of scarring. Participants may be provided with simple analgesics as needed.

Product injection: Potential side effects include bleeding, infection, inflammatory response or irritation, pain or discomfort, worsening incontinence, diarrhoea, constipation, blockage of the intestine or faecal retention. There is also a small risk of allergic response to the contents of the product (cells or components of the final formulation), and infection. This is expected to be minimal because the product is made from the participant's own cells.

Because this study involves an experimental treatment, not all risks and outcomes can be predicted. There may be some risks that the study doctors are not currently aware of. It is possible that some of these unknown risks could be permanent, serious, or life-threatening. Participant safety will be monitored throughout the trial. Oversight committees (and where appropriate, regulators) will be kept informed of trial safety. Stopping rules will trigger study stop if accruing data indicates a safety concern.

Patients will be provided with a safety card containing contact details of the study team, which they can use to ask questions about the study, or if they are experiencing pain or discomfort and want advice.

There is a chance of product delivery failure. This could happen for a number of reasons, including but not limited to delays to the courier, problems with temperature control, or issues when making the product, which could mean the trial treatment isn't safe to use. Should the risk occur, where time and resources allow, participants will be offered a second round of muscle biopsy and treatment.

Participants may find trial involvement or questionnaire/ diary completion burdensome. Clinical trial involvement could affect participants' insurance cover.

This research study may have unknown risks for a pregnancy, and nursing infants. People who are breastfeeding/ pregnant/ planning to become pregnant cannot participate in the study. Pregnancy testing will be performed, and the use of effective contraception methods will be required for people of child-bearing potential. Should patients become pregnant during the trial, they will be withdrawn from the trial or monitored (according to whether the treatment has yet been administered).

Administered drugs: A small chance of reaction or allergy to antibiotics and other drugs used.

Endoanal ultrasound, anorectal manometry, sigmoidoscopy: Small chance of soreness or minor bleeding afterwards and a negligible (<1/10,000) possibility of perforation or damage of the intestinal wall.

Blood testing: Risk of bleeding, discomfort, light-headedness, pain, bruising, and rarely, an infection at the puncture site.

Where is the study run from?

University College London (UK)

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

September 2025 to August 2027

Who is funding the study?  
Horizon 2020

Who is the main contact?  
Dr Rumana Jalil-Rahman, cctu.amelie@ucl.ac.uk

## Contact information

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## Additional identifiers

**Clinical Trials Information System (CTIS)**  
Nil known

**Integrated Research Application System (IRAS)**  
1007874

**ClinicalTrials.gov (NCT)**  
Nil known

**Protocol serial number**  
CTU/2018/324, CPMS 58948

# Study information

## Scientific Title

AMELIE: European, multicentre, single-arm (Phase I) trial of autologous skeletal muscle-derived cell microcarrier combination for the treatment of faecal incontinence in women with obstetric anal sphincter injury

## Acronym

AMELIE

## Study objectives

Co-primary objectives of the trial are:

1. To determine the safety of the autologous skeletal muscle-derived cell (ASMDC)-PLGA microcarrier treatment within the 6 months post-treatment.
2. To determine whether treatment with ASMDC-PLGA microcarriers leads to a clinically relevant reduction in how often patients experience episodes of faecal incontinence.

The two secondary objectives of the trial are:

1. To determine treatment impact on quality of life.
2. To determine the cost-benefit profile of the treatment.

## Ethics approval required

Ethics approval required

## Ethics approval(s)

approved 05/02/2025, South Central - Berkshire B Research Ethics Committee (2 Redman Place, Stratford, London, E20 1JQ, United Kingdom; +44 (0)207 104 8276; berkshireb.rec@hra.nhs.uk), ref: 24/SC/0387

## Study design

Single-arm trial first in human

## Primary study design

Interventional

## Study type(s)

Safety

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

Faecal incontinence (FI) in women with obstetric anal sphincter injury

## Interventions

Advanced therapy medicinal product – cell-based  
ASMDC-PLGA microcarriers [Poly(DL-lactide-co-glycolide) (PLGA) microcarriers combined with autologous skeletal muscle cells (ASMDC), derived from the skeletal muscle biopsy

All participants will undergo surgery to obtain a muscle biopsy from the pectoralis major muscle. Following successful product preparation, all will receive a one-off injection of autologous

skeletal muscle derived cell (ASMDC) PLGA microcarrier combination treatment into the external anal sphincter. After injection, the patient will be followed up with safety checks, which will continue for 12 months after treatment.

## **Intervention Type**

Biological/Vaccine

## **Phase**

Phase I

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

ASMDC-PLGA microcarriers [Poly(DL-lactide-co-glycolide) (PLGA) microcarriers combined with autologous skeletal muscle cells (ASMDC), derived from the skeletal muscle biopsy

## **Primary outcome(s)**

1. The incidence of ATIMP-related or ATIMP administration procedure-related adverse events associated with the use of ASMDC-PLGA microcarriers within 12 months post-treatment (safety endpoint of primary hypothesis and outcome is reported at 12 months)
2. Estimate of a minimum clinically relevant reduction in the frequency of total FI episodes measured using participant bowel diaries at 12 months compared to baseline levels

## **Key secondary outcome(s)**

1. Quality of life assessed using patient questionnaires: Resource Use Measure, EQ-5D-5L, mean cost of healthcare resource use per patient
2. Additional clinical efficacy outcomes will be assessed using patient questionnaires: St Mark's Incontinence Score; Likert scale of patient's global impression of treatment success; Short-Form Bowel Symptom Importance Questionnaire (SF-BSIQ); Measure Yourself Medical Outcome Profile

All secondary outcome measures are evaluated at baseline (visit 3), and 3 and 6 months after treatment (visit 9 and 10). Where patients take part in extended follow-up, data collection will take place at visits 11 and 12 (12 and 18 months after treatment).

Exceptions:

Likert scale not evaluated at visit 3

EQ-5D-5L collected at visit 6 (day of treatment).

Resource Use Measure not collected at visit 9 (3 months)

## **Completion date**

31/08/2027

# **Eligibility**

## **Key inclusion criteria**

1. Female patients aged  $\geq 18$  years
2. Chronic faecal incontinence
3. History of obstetric external anal sphincter injury
4. Non-surgical treatments for faecal incontinence have been attempted to applicable national standards
5. Minimum severity: 8 faecal incontinence or urgency episodes in 4-week screening period, with a minimum of 4 episodes of faecal incontinence

**Participant type(s)**

Patient

**Healthy volunteers allowed**

No

**Age group**

Mixed

**Lower age limit**

18 years

**Upper age limit**

100 years

**Sex**

Female

**Total final enrolment**

0

**Key exclusion criteria**

1. Patients within 1 year of acute sphincter injury
2. Patients who have undergone previous anal reconstructive surgery
3. Other gastro-intestinal diseases (see protocol for details)
4. Pregnancy or intent to become pregnant during trial
5. Morbid obesity (BMI  $\geq 35$  kg/m<sup>2</sup>)
6. Certain comorbidities (recent history of cancer, systemic neuromuscular and connective tissue diseases, transmissible viral infection)
7. Patient currently using sacral neuromodulation (SNM) or has failed SNM implant for faecal incontinence; failed test stimulation phase is permitted
8. Patient has positive virology or parasitology results (Hepatitis B, C & E, HIV 1 & 2, syphilis, human T-lymphotropic virus I or II, Epstein-Barr virus, Cytomegalovirus, Toxoplasma gondii, Trypanosoma cruzi, West Nile Virus or malaria) confirmed, where appropriate, using local testing policies. Note T. cruzi, malaria and West Nile Virus tests only required if relevant participant history criteria met.

**Date of first enrolment**

01/09/2025

**Date of final enrolment**

31/03/2026

**Locations****Countries of recruitment**

United Kingdom

**Study participating centre**

-  
-  
-  
England  
-

## Sponsor information

### Organisation

University College London

### ROR

<https://ror.org/02jx3x895>

## Funder(s)

### Funder type

Government

### Funder Name

Horizon 2020

### Alternative Name(s)

EU Framework Programme for Research and Innovation, Horizon 2020 - Research and Innovation Framework Programme, European Union Framework Programme for Research and Innovation

### Funding Body Type

Government organisation

### Funding Body Subtype

National government

### Location

## Results and Publications

### Individual participant data (IPD) sharing plan

The data that support the findings of this study are not openly available and anonymised data could be requested and would require approval in writing where appropriate, after formal application to the TMG and CCTU.

### IPD sharing plan summary

Available on request

