

# Evaluation of the caesarean section scar during pregnancies after uterine scar repair in comparison to controls without scar repair

<b>Submission date</b> 22/06/2021	<b>Recruitment status</b> No longer recruiting	<input type="checkbox"/> Prospectively registered <input checked="" type="checkbox"/> Protocol
<b>Registration date</b> 28/07/2021	<b>Overall study status</b> Completed	<input type="checkbox"/> Statistical analysis plan <input checked="" type="checkbox"/> Results
<b>Last Edited</b> 25/08/2022	<b>Condition category</b> Pregnancy and Childbirth	<input type="checkbox"/> Individual participant data

## Plain English summary of protocol

### Background and study aims

A niche is a defect at the site of the caesarean section scar in the uterine wall, and is associated with gynaecological, obstetric and fertility problems. Laparoscopic niche repair has been reported to reduce gynaecological symptoms and increase the thickness of the uterine wall at the side of the caesarean section scar (the residual myometrium thickness [RMT]) at 6 months after surgery. The RMT seems to have an important role in determining the risk of rupture/dehiscence of the uterine caesarean section scar in a later pregnancy. Although no exact cut-off point has been determined yet, a RMT of less than 3 mm before and during subsequent pregnancy was associated with uterine rupture or dehiscence after vaginal birth after caesarean section. The influence of laparoscopic niche repair before pregnancy on the RMT in pregnancy and its associated risk of uterine rupture or dehiscence is unknown. The aim of this study is to evaluate the effect of laparoscopic niche repair on the RMT and niche size before and after surgery and in a later pregnancy compared to patients without previous niche surgery.

### Who can participate?

Pregnant women aged 18 years and over who participated in the Dutch Lapniche study or Niche Cohort study

### What does the study involve?

A transvaginal ultrasound scan will be performed in the first, second and third trimester of pregnancy for RMT and niche measurements. Obstetric outcomes are obtained from participants' medical files from the time of delivery.

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

Participants do not benefit from participating in this study. Participation can contribute to more knowledge about RMT and niche changes during pregnancy. A disadvantage of participating in the study can be the extra time that it will take.

### Where is the study run from?

VU University Medical Center (Netherlands)

When is the study starting and how long is it expected to run for?  
February 2010 to December 2019

Who is funding the study?  
Vrije Universiteit Amsterdam (Netherlands)

Who is the main contact?  
Prof. Dr J.A.F. Huirne  
j.huirne@amsterdamumc.nl

## Contact information

**Type(s)**  
Scientific

**Contact name**  
Prof J.A.F. Huirne

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## Additional identifiers

**EudraCT/CTIS number**  
Nil known

**IRAS number**

**ClinicalTrials.gov number**  
Nil known

**Secondary identifying numbers**  
ABR: NL37922.029.11

## Study information

**Scientific Title**  
Changes of the uterine niche during pregnancies after laparoscopic niche resection in comparison to controls without niche surgery

**Study objectives**

It is hypothesized that the residual myometrium thickness (RMT) in women with previous laparoscopic niche resection is larger and niche size is smaller during pregnancy than in women with a niche, without niche repair prior to the pregnancy.

**Ethics approval required**

Old ethics approval format

**Ethics approval(s)**

Approved 02/10/2011, Ethical Board VU University Medical Center (Amsterdam UMC, location VUmc, BS7 room H-565, Postbus 7057, 1007 MB Amsterdam, Netherlands; +44 (0)20 4445585; metc@vumc.nl), ref: 2011/297

**Study design**

Observational prospective cohort study

**Primary study design**

Observational

**Secondary study design**

Cohort study

**Study setting(s)**

Hospital

**Study type(s)**

Treatment

**Participant information sheet**

Not available in web format, please use contact details to request a participant information sheet

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

Subsequent pregnancy after previous niche resection

**Interventions**

An observational study of women with a niche after previous caesarean section, diagnosed before pregnancy, and followed up during subsequent pregnancy. There are two arms: women with a previous laparoscopic niche resection (intervention) and women without niche resection (expectant group).

The participants receive a TVUS before pregnancy and at 12, 20 and 30 weeks' of gestational age (GA).

**Intervention Type**

Procedure/Surgery

**Primary outcome measure**

RMT obtained from the data of the Lapniche study and Niche cohort study before pregnancy and measured using transvaginal ultrasound (TVUS) in the first, second and third trimester of pregnancy

## **Secondary outcome measures**

1. Niche presence and niche measurements obtained from the data of the Lapniche study and Niche cohort study before pregnancy and determined using TVUS in the first, second and third trimester of pregnancy
2. Obstetric outcomes (gestational age (GA) at time of delivery, obtained from medical files from time of delivery
3. Mode of delivery, obtained from medical files from time of delivery
4. Uterine dehiscence and rupture, obtained from medical files from time of delivery
5. Blood loss, obtained from medical files from time of delivery
6. Birth weight, obtained from medical files from time of delivery
7. Apgar score, obtained from medical files from time of delivery
8. Admission to neonatal care unit, obtained from medical files from time of delivery

## **Overall study start date**

25/02/2010

## **Completion date**

31/12/2019

# **Eligibility**

## **Key inclusion criteria**

Lapniche group: participants of the LapNiche trial (CCMO - NL37922.029.11)

Expectant group: participants of the Niche Cohort study (<https://www.trialregister.nl/>, trial number NL6844)

## **Participant type(s)**

Patient

## **Age group**

Adult

## **Sex**

Female

## **Target number of participants**

100

## **Total final enrolment**

101

## **Key exclusion criteria**

Age <18 years or not able to understand Dutch

## **Date of first enrolment**

01/02/2012

## **Date of final enrolment**

01/08/2019

# Locations

## Countries of recruitment

Netherlands

## Study participating centre

**Amsterdam UMC, location VUmc**

Department Obstetrics and Gynecology

Amsterdam

Netherlands

1007 MB

# Sponsor information

## Organisation

VU University Medical Center

## Sponsor details

C/O Prof. Dr. J.A.F. Huirne

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## Sponsor type

Hospital/treatment centre

## Website

<http://www.vumc.nl/>

## ROR

<https://ror.org/00q6h8f30>

# Funder(s)

## Funder type

University/education

## Funder Name

Vrije Universiteit Amsterdam

**Alternative Name(s)**

VU University Amsterdam, VU University, VU

**Funding Body Type**

Private sector organisation

**Funding Body Subtype**

Universities (academic only)

**Location**

Netherlands

## Results and Publications

**Publication and dissemination plan**

Planned publication in a high-impact peer-reviewed journal.

**Intention to publish date**

15/02/2022

**Individual participant data (IPD) sharing plan**

The dataset generated during and/or analysed during the current study are/will be available upon request from Prof. Dr J.A.F. Huirne (j.huirne@amsterdamumc.nl). Datasets include RMT and niche measurements and obstetric outcomes. These will become available after the publication of the results. The dataset is anonymized.

**IPD sharing plan summary**

Available on request

**Study outputs**

Output type	Details	Date created	Date added	Peer reviewed?	Patient-facing?
<a href="#">Protocol file</a>			26/07/2021	No	No
<a href="#">Protocol file</a>			26/07/2021	No	No
<a href="#">Results article</a>		14/07/2022	25/08/2022	Yes	No