

Procedure for the collection and handling of myometrial biopsies prior to the measurement of uterine contractility at the University of Liverpool

For centres (Liverpool Womens, Arrowe park and Whiston hospitals) that will be collecting myometrial biopsies for *in-vitro* measurement of uterine contractility as well as measurement of glycogen.

This document should be read in association with EMPOWaR WPD6 the collection and handling of myometrial biopsies, Version 1.0.

Elective Caesarean Sections

Please contact members of the research team at the University of Liverpool as soon as a date for the CS has been arranged.

Surgeons

Excise a **1 - 2cm³** of myometrium and cut into two pieces (**biopsy A** and **Biopsy B**; each around 1cm³ of myometrium) from the uterine incision (**muscle only, not full thickness**).

Surgeon/scrub nurse

Biopsy A (fresh biopsy)

Place into Hanks Balanced Salt Solution (pink HBSS; this will be provided by the University of Liverpool) and place in the fridge until collection by a member of the University of Liverpool research team.

*****NB, DO NOT FREEZE THIS PORTION OF THE BIOPSY*****

Biopsy B (frozen biopsy; see EMPOWaR WPD6 The collection and handling of myometrial biopsies, Version 1.0.

In brief

Immediately (i.e. within 30 seconds), drop the **biopsy B** into:-

- a) Liquid nitrogen or isopentane cooled in dry ice (flash freezing)

or, if this is not available in theatre,

- b) 100ml Modified Hanks' Balanced Salt Solution (clear) or physiological saline previously **cooled to 4°C**. This biopsy should then be frozen (dry not in solution) ASAP and stored as detailed in EMPOWAR WPD6

Emergency Caesarean Sections

- If possible (e.g. during the day) proceed as for Elective CS
- During out of hours cover it is unlikely that myometrial samples will be frozen within a few minutes of collection. The following protocol is therefore designed to maximise availability of **fresh** samples for the contractility experiments. Please contact members of the research team at the University of Liverpool as soon as it is known that a caesarean will be performed.

Surgeons

Excise a single biopsy of **1 - 2cm³** of myometrium) from the uterine incision (**muscle only, not full thickness**).

Surgeon/scrub nurse

Place biopsy into Hanks Balanced Salt Solution (This HBSS is pink and will be provided by the University of Liverpool) and store in the fridge until collection by a member of the University of Liverpool research team,

LABELLING

The sample container should be clearly labelled with:

Date and time of collection

EMPOWAR study ID

BIOPSY STORAGE

Biopsy samples for the contractility experiments at the University of Liverpool can be stored in the **Hanks' Balanced Salt Solution** at the local site at 4°C . If it has not been possible for a member of the University of Liverpool research team to collect the sample within 36 hours of the surgery then the sample should be disposed of in accordance with local procedures for disposal of human clinical waste.

EQUIPMENT

- **Hanks' Balanced Salt Solution (pink) for biopsy samples for contractility experiments.** This can be purchased Sigma Aldrich, catalogue number H9269 or will be provided by the University of Liverpool Research Team.
- **Sample containers,** for fresh biopsies. A wide variety of 20 – 50ml universal containers would be suitable e.g. Sigma catalogue no Z645362

Contact details for the University of Liverpool Research Team

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