

# Swaddling and problems with the way a baby's hip joint forms

<b>Submission date</b> 04/11/2020	<b>Recruitment status</b> No longer recruiting	<input type="checkbox"/> Prospectively registered <input checked="" type="checkbox"/> Protocol
<b>Registration date</b> 10/11/2020	<b>Overall study status</b> Completed	<input type="checkbox"/> Statistical analysis plan <input checked="" type="checkbox"/> Results
<b>Last Edited</b> 10/03/2022	<b>Condition category</b> Musculoskeletal Diseases	<input type="checkbox"/> Individual participant data

## Plain English Summary

### Background and study aims

Developmental dysplasia of the hip (DDH) is a problem with the way a baby's hip joint forms. Sometimes the condition starts before the baby is born, and sometimes it happens after birth, as the child grows. It can affect one hip or both. DDH is a major health problem that can lead to lifelong disability if the diagnosis is missed in the first weeks of life. Mongolia is the first Asian country that launched a universal ultrasound hip screening for DDH in newborns. All DDH cases are followed up on monthly basis by hip ultrasound and treated with a simple splint if necessary. In the country, swaddling is an ancient practice and nowadays it still remains common child care in the first months of life. The Mongolian traditional way of swaddling technique involves tight, prolonged wrapping from the head or neck down in two to three layers of thin cotton cloth, covered by layers of thick blankets and binding with 2-3 ties. This practice requires a tight wrapping with stretched legs and the hips are held in an adducted position, which may play a role in the development of DDH. This hypothesis is going to be tested in this study.

### Who can participate?

All newborns with physiologically immature hip

### What does the study involve?

The term newborns with Graf Type 2a hip (physiologically immature) are randomly allocated to one of two groups. The intervention/non-swaddling group are instructed not to swaddle at all. The control/swaddling group are swaddled in the common traditional Mongolian method. Both groups are followed up by Graf's method of hip ultrasound at 4-6 week intervals until healing according to Mongolian national guideline. All infants in need of therapy (Graf type 2a-, 2c or worse) are treated with a Tübingen splint. At around 12 months of age, all children are re-checked by Graf's method of hip ultrasound.

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

There are no risks for the participants. All babies will be examined and controlled until healing by an experienced pediatricians' team regularly for free.

### Where is the study run from?

National Center for Maternal Child Health (Mongolia)

When is the study starting and how long is it expected to run for?  
March 2018 to March 2022

Who is funding the study?  
Swiss-Mongolian Pediatric Project (SMOPP)

Who is the main contact?  
Dr Munkhtulga Ulziibat, umunhtulga@gmail.com

## Contact information

### Type(s)

Public

### Contact name

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## Additional identifiers

**EudraCT/CTIS number**

Nil known

**IRAS number****ClinicalTrials.gov number**

Nil known

**Secondary identifying numbers**

05/SMOPP

## Study information

**Scientific Title**

Traditional Mongolian swaddling and developmental dysplasia of the hip: a randomized controlled trial

**Study hypothesis**

Mongolian traditional prolonged swaddling where arms and legs are extended and hips are in adduction position increases the risk for DDH.

**Ethics approval required**

Old ethics approval format

**Ethics approval(s)**

1. Approved 29/01/2019, Institutional Review Board at the National Center for Maternal and Child Health (Khuvissgalchdyn Street, Bayangol District, Ulaanbaatar, 16060, Mongolia; +976-11-362886; baylag.m@gmail.com), ref: 04/2019
2. Approved 26/01/2019, Ethical Review Committee of Ministry of Health, Mongolia (Ulaanbaatar city 14210, Sukhbaatar District, Olympic Street 2, Governmental building VIII, Mongolia; +976-11-263695; moh@moh.gov.mn), ref: 133/2019

**Study design**

Interventional randomized controlled trial

**Primary study design**

Interventional

**Secondary study design**

Randomised controlled trial

**Study setting(s)**

Hospital

**Study type(s)**

Prevention

**Participant information sheet**

See additional file ISRCTN11228572\_PIS (added 02/12/2020)

## Condition

Developmental dysplasia of the hip

## Interventions

The “swaddling” group are swaddled in the common traditional Mongolian technique while the “non-swaddling” group are instructed not to swaddle at all.

Traditional swaddling in Mongolia is as follows: swaddling is a tightly wrapping (2 adult fingers pass under the cloth) of a baby in several layers of cloth, covered by one warmer blanket from head and neck to toe in a straight position after birth for day and night time. Two or three ropes are used across a baby's body for binding to avoid unwrapping. Since the non-swaddling group have to be provided with alternatives to the readily available swaddling clothes and blankets, the control group are given a blanket and several cotton sheets at the time of recruitment. All enrollees are followed up on monthly basis for 12 months until healing (Graf Type 1) by hip ultrasound and treated with an extension and abduction Tubingen splint if necessary.

Randomization: On the first days after birth, all eligible newborns are screened using Graf's method of ultrasound according to Mongolian National Guideline. After the screening all newborns, a list of all newborns with Graf Type 2a hips are generated on a daily basis. All term newborns with Graf Type 2a cases (physiologically immature) of the data collector /neonatologist are eligible for the study.

Randomization sequence is created using Excel 2007 (Microsoft, Redmond, WA, USA) with a 1:1 allocation using random block sizes of 4 by an independent researcher with no clinical involvement in the trial. After the consent obtaining, details of the allocated group are given on colored cards contained in sequentially numbered and sealed envelopes. These are prepared by the principal investigator and kept in an agreed location on the post-delivery ward.

Randomization takes place before discharge when the data collector/neonatologist gives detailed consultation on usual postnatal care of newborns. Corresponding envelopes are opened after the enrolled newborns completed all baseline assessments and it is time to allocate the intervention. Whereas parents allocated to the swaddling group and the research assistants are aware of the allocated arm, the outcome assessor/radiologist are kept blinded to the allocation.

## Intervention Type

Other

## Primary outcome measure

Graf's alpha angle measured by ultrasound at baseline, 4-6 weeks, 8-10 weeks, 12-14 weeks, 16-18 weeks, 50-54 weeks

## Secondary outcome measures

There are no secondary outcome measures

## Overall study start date

21/03/2018

## Overall study end date

25/03/2022

## Eligibility

### **Participant inclusion criteria**

1. Term newborns with confirmed Type 2a hips
2. Parents who are able to return for the scheduled follow-up ultrasound examination during the study period
3. Willing to give informed consent
4. Newborns without any symptoms and complaints

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

Patient

### **Age group**

Neonate

### **Sex**

Both

### **Target number of participants**

80

### **Total final enrolment**

80

### **Participant exclusion criteria**

1. Newborns with obvious congenital abnormalities (with clear medical consequences)
2. Newborns with needs for intensive care treatment
3. Newborns with low (2499g or less) weight

### **Recruitment start date**

02/08/2019

### **Recruitment end date**

25/03/2021

## **Locations**

### **Countries of recruitment**

Mongolia

### **Study participating centre**

**National Center for Maternal and Child Health**

Khuvisgalchdyn Street

Bayangol District

Ulaanbaatar

Mongolia

16060

## **Sponsor information**

**Organisation**

National Center for Maternal and Child Health

**Sponsor details**

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ehemut\_mongolia@yahoo.com

**Sponsor type**

Government

**Website**

<http://www.ehemut.mn>

**ROR**

<https://ror.org/05d2zbe90>

**Funder(s)****Funder type**

Government

**Funder Name**

Swiss Mongolian Pediatric Project (SMOPP)

**Results and Publications****Publication and dissemination plan**

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

**Intention to publish date**

01/09/2021

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

The datasets generated during and/or analysed during the current study are available from the corresponding author on reasonable request.

Will individual participant data be available (including data dictionaries)? yes

What data in particular will be shared? All of the individual participant data collected during the trial, after deidentification

What other documents will be available? Study Protocol

When will data be available (start and end dates)? End of recruitment and Immediately following publication.

With whom? Researchers who provide a methodologically sound proposal.

For what types of analyses? To achieve aims in the approved proposal

By what mechanism will data be made available? Proposals should be directed to [umunhtulga@yahoo.com](mailto:umunhtulga@yahoo.com). To gain access, data requestors will need to sign a data access agreement. Data are available for 5 years at a third party website ([www.ehemut.mn](http://www.ehemut.mn))

## IPD sharing plan summary

Available on request

## Study outputs

Output type	Details	Date created	Date added	Peer reviewed?	Patient-facing?
<a href="#">Participant information sheet</a>			02/12/2020	No	Yes
<a href="#">Protocol file</a>	version v1	29/06/2019	02/12/2020	No	No
<a href="#">Results article</a>		13/10/2021	10/03/2022	Yes	No