The International Fetal and Newborn Growth Standards for the 21st Century

INTERBIO-21st FETAL & INFANT GROWTH STUDY

PATIENT INFORMATION SHEET

We would like to invite you to take part in the INTERBIO-21st Fetal & Infant Growth Study, which aims to investigate the effects of nutrition on fetal growth and development.

Before you decide, we would like you to understand why the research is being done and what it would involve for you and your baby.

Please read this information sheet carefully.
One of our team will go through it with you and answer any questions you have.
We suggest this should take about 15 minutes.

Talk to others about the study if you wish.

Part 1 tells you the purpose of this study and what will happen if you take part.

Part 2 gives you more detailed information about the conduct of the study.

Please ask us if anything is not clear.

Oxford Maternal & Perinatal Health Institute
Green Templeton College
Woodstock Road
Oxford OX2 6HG

Nuffield Department of Obstetrics & Gynaecology
University of Oxford
Women's Centre, John Radcliffe Hospital
Oxford OX3 9DU

PART 1: The purpose of the study and what will happen to you if you take part

What is the purpose of the study?

We plan to investigate the effects of nutrition on fetal growth and development until infants have reached the age of 2. To do so, we would like to collect from mothers and babies:

- information about newborn and pregnancy outcomes, and infant measurements up to 2 years of age
- biological samples to study how maternal nutrition and the control of genes (epigenetics) influence the growth of babies

The overall aim is to use the information and samples we collect to make pregnancy even safer and develop effective treatments for problems in pregnancy and early childhood.

This study is taking place in seven countries and we hope to recruit around 4000 volunteers, 700 of whom will come from Oxford. This study is unique in its size and in assessing mothers and babies from all over the world.

Why have I been invited?

We are inviting all women planning to deliver at the John Radcliffe Hospital who are over 18 years old and less than 14 weeks' pregnant. The pregnancy must have been conceived naturally; we are not recruiting women with twins or triplets.

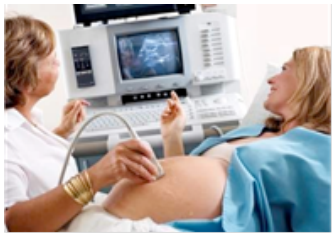
Do I have to take part?

It is up to you to decide whether or not you wish to take part. Your decision will not affect the care you receive in any way. We will describe the study and go through this information sheet with you. If you agree to take part, we will then ask you to sign a consent form. If you have any questions or concerns after reading this leaflet, our research midwife will be happy to answer them. You can also call her on the number on the back of this information leaflet.

What will happen if I don't want to carry on with the study?

You are free to withdraw from the study at any time, without giving a reason. This would not affect the care you or your baby receives in any way. We will be sending you a card which will allow you to notify us of any changes in your circumstances. You will receive this card when your child is 3 months which is the first time we will contact you after you deliver. If you decide to withdraw from the study, we would ask your permission to retain any data and samples already collected. If you are not happy with this, all the data and samples that identify you and your baby will be destroyed.

What will happen to me if I take part?



If you agree to take part in the study, you would be offered 6 ultrasound scans at 4-6 weekly intervals. At each scan visit, we would measure your baby, and the blood flow to the placenta and the baby.

In addition, we would ask you to donate biological samples:

- At the first visit to the antenatal clinic, we would ask you to donate a small blood sample of 12ml (3 teaspoons) in addition to the blood sample taken as part of your routine care.
- At each scan visit we would ask you to donate a 5ml urine sample (1 teaspoon).
- At delivery, we would ask to take a 12ml (3 teaspoons) blood sample from the umbilical cord, and 9 small pieces (the size of a 5 pence coin) of your placenta after your baby has been delivered.
- Lastly, we would also like to collect a very small sample (the size of a 2 pence coin) of faeces, only if you have opened your bowels during the delivery.

We would like to weigh your baby when he/she is born and measure your baby's length and head circumference, as well as take measurements around your baby's mid-arm, leg and tummy if possible, to help us understand how babies grow.

We would also like to find out the relative amount of fat and other tissues (body composition) in your baby's body after birth. This is done using a 'PEA POD', which is a computerised weighing scale and measuring machine. Your baby would be undressed, weighed and then placed in a cot for 2-3 minutes. The cot has a window (see picture) so that you can see your baby and he/she can see you.

Baby and PEA POD

These techniques have been used thousands of times and babies are usually calm when being measured. In the unlikely event that your baby became distressed for any reason then we would stop straight away and would only continue if you were happy. The whole procedure should take no longer than 30 minutes. This includes time to undress and re-dress your baby, prepare the PEA POD, and perform repeated measurements to ensure they are as accurate as possible.

We would then like to follow-up all children at the time of their 1st and 2nd birthdays (although we can see them up to 2 weeks either side of these dates) and record through the e-Redbook website (www.eredbook.org.uk), which has been endorsed by the Royal College of Paediatrics & Child Health, some of your baby's milestones listed in the Child Health Record "Red Book". At these appointments we would also like to measure your weight. We would contact you, and your GP, by letter about these appointments nearer the time, to invite you to attend. The two

follow-up appointments would be with our follow-up Measurement Team at the Women's Centre, John Radcliffe Hospital. With your permission we will send you a card when your child is 3 months old with our contact details so if your circumstances change or you do not wish to be contacted you can let us know. If you are happy to continue with the study we will contact you by phone and letter nearer to your child's birthday to arrange a follow up appointment.

At the follow-up appointment around the time of your child's 1st birthday, we would ask to collect a buccal swab from your child for the same type of studies carried out on the samples collected at birth. This is a painless process, which involves a swab being gently rubbed against the inside of the child's cheek. We would also repeat the measurements taken at birth, except for the PEA POD measurements as these are only carried out in younger babies. In addition to the measurements already taken, we would also like to measure the thickness of your child's arm and shoulder blade, which involves gently squeezing the skin to measure the amount of fat present. This will not hurt your child nor should cause distress. This appointment should last no longer than 30 minutes.

At the follow-up appointment around the time of your child's 2nd birthday, we would repeat the measurements taken at the 1 year follow-up and take another buccal swab from your child. We would also like to take some additional measurements to see how your child is developing, including tests of vision, hearing and sleep.

Development would be assessed by a short test involving some play-related tasks: for example, stacking blocks and making a simple puzzle, and a simple 16 item questionnaire filled out by you. Vision would be tested by presenting a few picture cards to your child and observing how he/she looks at them. Hearing would be tested by placing a soft cap on your child's head and playing a series of everyday sounds to him/her through headphones for 8 minutes, and measuring how he/she responds. Sleep would be measured by leaving a small watch on your child's wrist for 5 days. This watch is non-intrusive and water-proof and will not interfere with his/her activity. All these tests are painless and non-invasive, and will not cause you or your child any discomfort. This appointment should last no longer than 60 minutes, and will be carried out by our Development Team at the Women's Centre, John Radcliffe Hospital.

With your permission, we would like to share your totally anonymised data, which include ultrasound images, your and your baby's clinical and laboratory results, and your baby's measurements, with academic collaborators around the world, including the Bill & Melinda Gates Foundation who funded the study, and possibly commercial companies.

Expenses and payments

You may claim back travel expenses for the additional ultrasound and follow-up appointments. There is no payment for donating samples to our study.

What are the possible disadvantages and risks of taking part?

To minimise inconvenience and unnecessary discomfort, the blood sample for research purposes would be taken at the same time as blood is taken as part of your routine care.

The ultrasound measurements themselves are safe and carry no risk to your baby. If our measurements showed any problems with your baby's growth then we would report these to your doctors who would arrange appropriate monitoring of your baby.

The baby and infant measurements themselves are safe and carry no risk. Babies/infants do occasionally become upset during measurements, as explained above. In the unlikely event that your baby/infant became distressed for any reason then we would stop straight away.

We expect most of the babies we follow up to be entirely healthy and to have normal growth and development. If, however, our measurements showed any problems with your baby's growth and/or development then we would report these to your GP who would arrange appropriate monitoring of your baby.

What are the possible benefits of taking part?

Taking part in this study would not usually benefit you or your baby directly. The only situation where there might be direct benefit would be if we detected growth and/or developmental problems, which might allow earlier monitoring and/or investigations by your doctors. Taking growth and developmental measures from your baby would help us to develop new standards of growth and development to monitor babies better. Donating samples for research is not important for your care, so that if you prefer not to donate you should feel free to say so. The rest of your care would be entirely unaffected. However, if you do take part you will be helping us to learn more about pregnancy and newborn outcomes, which will benefit others in the future.

What if there is a problem?

Any complaint about your involvement in the study or any possible harm you might suffer will be addressed. The detailed information on this is given in Part 2.

Will my taking part in the study be kept confidential?

Yes. We will follow ethical and legal practice and all information about you will be handled in confidence. The details are included in Part 2.

This completes Part 1.
If the information in Part 1 has interested you and you are considering participation, please read the additional information in Part 2 (next pages) before making any decision.

PART 2: More detailed information about the conduct of the study

What will happen if I don't want to carry on with the study?

You may withdraw from the study at any time. It would not affect the care you or your baby receives in any way. If you decide to withdraw from the study, we would ask your permission to retain any data and samples already collected. If you are not happy with this, all the data and samples that identify you and your baby will be destroyed.

What if there is a problem?

If you have concerns about the way you have been approached or treated during the course of the study, you can contact Professor Stephen Kennedy, Divisional Director, Children's & Women's Services, Oxford University Hospitals NHS Trust and Head of the University Department of Obstetrics & Gynaecology, on 01865 221003. If you wish to complain about any aspect of the way in which you have been approached or treated, you should contact the University of Oxford Clinical Trials and Research Governance office on 01865 743005. If you remain unhappy and wish to complain formally, you may also follow the normal NHS complaints procedure. Please see: www.nhsdirect.nhs.uk/articles/article.aspx?articleId=569 for more information.

In the event that something does go wrong and you are harmed during the research and this is due to someone's negligence then you may have grounds for a legal action for compensation against University of Oxford but you may have to pay your legal costs. Compensation for harm arising from an accidental injury and occurring as a consequence of your participation in the study will be covered by the Oxford University Hospitals NHS Trust.

Will my taking part in this study be kept confidential?

Any information that is collected about you and your baby during the course of the research will be kept strictly confidential. Our data manager, who has a duty of confidentiality to you and your baby as research participants, is the only person able to identify you and your baby. If you choose to continue with the study, your and your baby's results and pictures will be held anonymously in a secure database. We would like your permission to share your totally anonymised data, which include ultrasound images, your and your baby's clinical and laboratory results, and your baby's measurements, with academic collaborators around the world, including the Bill & Melinda Gates Foundation who funded the study, and possibly commercial companies.

Authorised representatives of the University of Oxford may look at the anonymised results to check that the study is being performed correctly. No individual participants will be identified when the results of the study are published. Any information that leaves the hospital will have your name removed so that you cannot be identified.

The data will be retained for 20 years after the end of the study in the event that future discussions about pregnancy and newborn outcomes require the data to be reanalysed. After 20 years, the data will be disposed of securely. You have the right to check the accuracy of data held about you and your baby, and to correct any errors.

What will happen to any samples I give?

For confidentiality reasons, your name will be removed by the Research Midwife from all biological samples and replaced by a number. The samples will either be used as soon as possible to study how nutrition and genes influence the growth of the fetus or stored for future, approved research. The results from any tests carried out on these samples will have no bearing on your current or future clinical care.

Involvement of hospital doctors and General Practitioner (GP)

In clinical research such as this, it is our responsibility to inform your hospital doctors and GP that you have agreed to take part in this study. This is to ensure that your baby is healthy at the time of participation and remains well during the course of the study. If the study did show any problems with your baby's growth and development we would also inform your hospital doctors and GP of this so that they could monitor and/or investigate this as appropriate.

What will happen to the results of the research study?

The results will be prepared for publication in scientific journals and presentation at international meetings. We can provide you with a copy of the papers after publication if you wish. Your name will not appear in any report or publication. Some of the data from the study may be included in the PhD thesis of one or more of the researchers. Your identity will be protected at all times.

Who is organising and funding the research?

The research is being carried out by the Nuffield Department of Obstetrics & Gynaecology at the University of Oxford, and is being funded by the Bill & Melinda Gates Foundation. The doctors involved in the research are not being paid to include you in the study and have no conflicts of interest with regards to the study.

Who has reviewed the study?

Research is reviewed by an independent group of people called a Research Ethics Committee to protect your interests, safety, rights, well-being and dignity. This study has been reviewed and given favourable opinion by the South Central – Oxford C Research Ethics Committee.

This completes Part 2.

You may keep this information leaflet for your records.

If you have any questions, please contact us as above.

If you wish to take part in the study we will ask you to sign a consent form.

We will give you a signed copy to keep for your records

Further information and contact details

If you have any questions, please do not hesitate to contact Fenella Roseman, our Research Midwife by:

Telephone: 07837846234
Email: fenella.roseman@obs-gyn.ox.ac.uk
Post: NDOG, University of Oxford, John Radcliffe Hospital, Women's Centre, Level 3, Headington, Oxford OX3 9DU

You can find our website at www.INTERGROWTH21.org.uk