MRC Epidemiology Unit
UNIVERSITY OF CAMBRIDGE
Department of Paediatrics
No.11 Autumn/Winter 2010

Cambridge Baby Growth Study Newsletter

Supported by Mothercare Group Foundation

Welcome to the latest edition of our newsletter.

The University of Cambridge wishes to express its sincere gratitude to the Mothercare Group Foundation for their ongoing generous support for the Cambridge Baby Growth Study (CBGS).

Parents Evening Seminar Postponed

Unfortunately we had to postpone our evening meeting with parents scheduled for Wednesday 17th November. The response was lower than we had hoped for and we possibly misjudged the difficulties young families would have in getting to an evening meeting, mid-week.

We are now planning a revised meeting next year to celebrate the 10th anniversary of CBGS. This will take place on a Saturday in April-May 2011 and will involve parents and their children. We are currently taking soundings from the parents to get their views on the best options.

Please contact us with your suggestions!

Links found between baby's genes and mother's blood glucose Levels

We have been funded by the Evelyn Trust to investigate how common DNA variations in a couple of genes that are involved in how well a baby grows in the womb may also influence mother's blood glucose concentrations in pregnancy. To do this we are using the DNA samples from the Cambridge Baby Growth Study and relating these to the mother's plasma glucose concentrations from their pregnancy oral glucose tolerance tests.

So far the results have been promising: we have found that variation in one of the baby's genes that is passed down to it from its Dad seems to track maternal glucose concentrations. This gene is interesting because it is a type of "imprinted" gene where the baby's copy that is passed down to it from its Mum is naturally switched off, so in this case it is definitely the copy from the Dad that appears to influence glucose concentrations in the Mum! We are now trying to find the mechanism of how this works. To do this we are using the placentas and blood samples collected by the Baby Growth Study. Ultimately we hope that this work will help women who are at risk of developing gestational diabetes in pregnancy.

Dr Clive Petry, Dept of Paediatrics

Anogenital distance in boys with hypospadias or cryptorchidism: prospective observation study

A new study is being carried out at Addenbrookes hospital involving the Departments of Paediatrics and Department of Paediatric Surgery. We will be measuring the anogenital distance in boys with hypospadias or undescended testes aged 0-2 years and comparing the results in healthy boys in the Cambridge Baby Growth Study.

The study will be performed at Addenbrookes Hospital's Out patient Department and Operating Theatres and also at Hinchingbrooke Hospital.

We are aiming to recruit 100 boys with undescended testes and 30 with hypospadias

The boys will be listed and attend the Paediatric Urology Surgery clinics in both the hospitals for orchidopexy and hypospadias repair procedures. Informed written consent will be obtained from parents.

At the pre-operation assessment clinic, our research Nurses will measure the anoscrotal distance, along with penile length, the position of the testes and urethral opening and the appearance of the scrotum.

In the anaesthetic room prior to surgery, we will measure the anoscrotal distance of the patients under general anaesthesia, before surgery is carried out.

Proformas will be completed for each patient to collect the clinical information and ASD centile will be derived and plotted using the published normative chart from the Cambridge Baby Growth Study.

Food Diary Update

Many of you who have filled in the diaries so carefully may wonder how we use the information.

After we have entered all the food your child has eaten into our database, we can calculate the quantity of the macronutrients (i.e. the fat, protein and carbohydrate) and the micronutrients including many vitamins and minerals.

Here is an example of a typical day's food intake:

Breakfast: 08:15
5 tablespoons of pureed porridge made with 150ml milk, 15g porridge oats, 6 dried apricots and 1 peeled pear
200ml full fat milk

Mid-morning: 10:30
14g sultanas. ½ red apple, peeled & cored

continued.....

Lunch: 12:30
1 mini white pitta bread (Tesco). 1 slice ham. 1 mini Babybel cheese (original flavour), ½ peeled/cored apple
30ml water

Tea: 16.00
nothing

Evening meal: 18:15
4 tablespoons chicken & couscous. ¾ baby avocado, mashed, crust of garlic bread
40 ml water
Chicken & couscous recipe: 15g butter, 25g chopped onion, 50g frozen peas, 175ml chicken stock, 65g couscous, 75g diced chicken breast.
Sauté the onion & chicken in the butter. Stir in the peas & stock. Boil for 5 minutes. Add the couscous. Remove from the heat. Cover & leave to stand for 6 minutes before serving.

Later evening: 19:45
200ml milk

This table shows the nutrients consumed for that day

	Energy kJ (kcal)	4385 (1045)
These are the macronutrients	Protein (g)	44.5
	Fat (g)	46.0
	Carbohydrate (g)	120.4
	Of which sugars (g)	72.2
	Of which starch, Dextrins (g)	46.2
These are the micronutrients	Calcium (mg)	771
	Iron (mg)	5.4
	Vitamin A (retinol equivalents) (μg)	296
	Folate (μg)	
	Vitamin C (mg)	25.2
	Total NSP (g) (fibre)	14.1
	Total weight g	992.1

The database will also tell us which foods are providing a lot or a little of each nutrient.

In this example, as a variety of foods has been consumed energy came from a number of sources, protein came mainly from milk & meat, fat was mainly from milk, avocado, butter & cheese, carbohydrate from couscous, milk, bread & dried fruit & pears. Apricots, milk, pears & sultanas were the source of sugars. The main source of calcium was dairy products – cheese & milk. Iron was mainly from apricots & bread (which is fortified with iron). Vitamin A came from apricots, butter & milk. The pears were the highest source of vitamin C.

With 3 days of diet diary information we assess the typical nutrient intake profile of that individual allowing for variability from day to day. We have now gathered information on a large number of children, each with 3 days of food intake. We are now using this information to study how different nutrient profiles match different patterns of infant growth, weight gain and body fatness. We aim to understand how changing trends in nutrition in the early years' could potentially influence health in later life.

Jenny Winston, Cambridge
MRC Human Nutrition Research Centre

Play and Activities Assessment Study

We are currently inviting around 300 parents with children from the Baby Growth Study who are now aged 3 to 4 years old to take part in a behavioural assessment study, which we are conducting in collaboration with Professor Melissa Hines from the University of Cambridge, Dept of Social and Developmental Psychology.

You may receive a letter form us asking you to complete two short questionnaires about your child's play and activities. This should take you about 15-20 minutes to complete and will not involve any further visits.

If you get a letter about this we would appreciate you taking the time to consider this research study. Please do not hesitate to contact us if you have any queries. Alternatively please let us know if you would prefer not to be contacted again with regard to further studies.

Please remember to inform us if your contact details have altered. SEND US AN EMAIL if you would like to receive the next newsletter electronically

MRC Epidemiology Unit
Institute of Metabolic Science
Box 285
Addenbrooke's Hospital
Hills Road
Cambridge
CB2 0QQ
Tel: 01223 336888
Email: babygrowthstudy@medschl.cam.ac.uk
Website: www.medschl.cam.ac.uk/paediatrics/pages/growthstudy.htm

Thank you to all those who are taking part or have completed the Study