



FOOD-CT-2005-007036

EARNest

EARly Nutrition programming- long term follow up of Efficacy and Safety Trials and integrated epidemiological, genetic, animal, consumer and economic research

Instrument: Integrated Project

Thematic Priority 5.4.3.1: Food Quality and Safety

Final public report on activity 2.2.1:

Preparation of draft manual for collection of data on body composition and measurement of blood pressure

Period covered from 15.04.2005 to 14.10.2010

Start date of project: 15.04.2005

Duration: 5,5 Years

Organisation Name of Lead Contractor for this report: University of Bristol

Avon Longitudinal Study of Parents and Children

The Avon Longitudinal Study of Parents and Children (ALSPAC) is a geographically-based birth cohort investigating the health and development of children, which is described in detail elsewhere (Golding J, Pembrey M, Jones R, 'ALSPAC--the Avon Longitudinal Study of Parents and Children. I. Study methodology.', Paediatric and Perinatal Epidemiol 2001; 15 (1): 74-87) and on the study website (www.alspac.bris.ac.uk). Briefly, all pregnant women living in three health districts of Bristol (formerly known as the Avon Health Area), England with expected delivery dates between April 1st 1991 and December 31st 1992 were eligible to take part in the study. A total of 14,541 were enrolled, and 13,678 had a singleton, live born child. Detailed data have been collected by self-completed questionnaires (relating to the mother, her partner, and her offspring) from pregnancy onwards. From the age of seven, all children have been invited to regular research clinics. Ethical approval was obtained from the ALSPAC Law and Ethics Committee and the three Local Research Ethics Committees.

Aim of Activity 2.2.1

The aim of activity 2.2.1 was to prepare a draft manual for the collection of data on both blood pressure and body composition. This manual would then be used at the 15 year clinic to collect data (for Activity 2.2.2) to be used for exploration of associations with early life factors (Activity 2.2.3).

Manual

The following are the sections of the manual relevant to body composition and blood pressure data collection:

WHOLE BODY DXA

Every morning run the Quality Assurance on the Prodigy. If the system does not pass repeat the process and if a 'pass' is not obtained do not use the equipment and contact 'Lunar support' Store the printout in the relevant folder. The radiation protection supervisor (or deputy) will do the spine phantom weekly and likewise store the printout in the relevant folder. It is the responsibility of the radiation protection supervisor (or deputy) to monitor / change the dosimeters thus ensuring the safety of staff and visiting families.

It is the responsibility of the measurer on duty to make sure that all personnel in the room are situated at least a metre away from the machine when it is in use.

Using the Lunar Prodigy narrow fan beam densitometer.

1. Explain the procedure and get written parental and young person consent before proceeding.
2. Discreetly ascertain from all the girls 'if there is any possibility that they may be pregnant'. If the answer is YES - DO NOT PROCEED WITH THE SCAN.
3. Enter the young person's number, height, weight, date of birth, gender and ethnicity into the computer. Select Total Body option.
4. Ask the young person, dressed in light clothing without any attenuating materials (belts, metal buttons etc:), to lie on the scanner table. Position the young person in the centre of the of the scanner table – use the centreline on the table as reference to align the young person make sure the hands are flat with the palms down on the scanner table and arms are alongside the young person's body, fasten the ankles together. Explain what is going to happen. Ensure the parent is sitting at least a metre away. Select **Position** on the tool bar and then **Start**. Encourage the young person to keep still.
5. When the process is complete select 'Home' when the arm is at the top of the scanner help the young person off the scanner.
6. Look at the scans, save the data and print the report. Cut out the picture of the young person's total body and give them a copy to take home.
7. If the young person has moved or you notice that he/she has some metal about their person which is visible on the scan or in the unlikely event you notice an unusual unexplained feature on the DXA scan then print out a second copy and file in the artefacts folder and if you are sufficiently concerned send a further copy to Jon Tobias at the BRI (via Hazel). Do not rescan. He will then contact the family if he feels it is necessary. If the parent/carer picks up on the fact that there appears to be an abnormality on the scan reassure them that we do see artefacts from time to time, and that the scanner cannot be used to diagnose bone diseases.
8. Initial the Data sheet when you have looked at the scan.

BLOOD PRESSURE

When doing parental blood pressures ask the young person 'Is there any reason why the blood pressure shouldn't be done? Blood pressure should not be done if the person has injured their arm as a result of Repetitive Strain Injury (RSI) or an accident.

Tester fits the Cycle stress blood pressure *Orbit-K cuff* to the young person's right arm, unless left arm needs to be used, see above. Choose the right cuff size for the young person's arm, (small adult 18-27 cm, Adult 25-35 cm, Adult plus 27-40cm). Locate the sensor on the cuff and slide the cuff over the young person's arm as indicated by the label on the cuff. Slide the cuff onto the arm with the sensor marker over the brachial artery.

Take the resting blood pressure 1st, whilst child is sitting quietly. To do this, press the start/stop button. Write the result down and repeat. If the blood pressure of the young person is twice, above or at 140/90 refer them. This means if the blood pressure was 140 systolic twice but the diastolic measurement was below 90, refer. Likewise if systolic is below 140 twice but diastolic is greater than or the same as 90 twice, refer. If one of the readings has either systolic or diastolic as greater or the same as the borderline and the second reading as lower take an average. Refer if average fits the criteria.

WHILST CYCLING

Carefully allow young person to mount the bike, make sure the leads are held out of the way of handlebars. Taking the blood pressure whilst the young person is cycling they must not grip the handlebars. Ask the young person to relax his/her arm, or to turn the palm face up when you are to take BP. The manual reading can be taking by pressing the start/stop button. Write down the results.