

# STUDY PROCEDURES

The study procedures for the entire cohort, approved to date, are shown in Table 1.

*Table 1 Study Schedule of Events*

INFANT AGE	FIELDWORK PROCEDURE	BIOLOGICAL SAMPLES
10-28 wks gestation	Recruitment & enrolment period	NIL
28-38 wks gestation	Interview/Questionnaire, EDS & PSS	<ul style="list-style-type: none"> <li>Maternal faeces</li> <li>Maternal urine</li> </ul> As close as possible to 36 <sup>th</sup> week – ask mothers to freeze faeces as close to this date – if do not have time to drop off earlier
Birth	NIL	<ul style="list-style-type: none"> <li>Cord blood</li> <li>Cord tissue sample</li> <li>Placenta sample</li> <li>Meconium</li> <li>Infant nasal swab</li> </ul>
Prior to discharge following delivery (0-5 days of life)	Interview/questionnaire, clinical examination, infant growth measurements. Up to 5 days of life, past this point considered "missed"	NIL
Eligible babies born >37 wks gestation with birth weight of <2.5kgs	<b>10/24 S4 IUGR sub study ONLY:</b> Recruitment & enrolment, clinical examination including infant growth measurements. Up to 5 days of life, past this point considered "missed"	NIL
2 weeks	Telephone conversation with BIS paediatrician regarding Monthly Infant Health Diaries	NIL
4 weeks	1 <sup>st</sup> clinic visit to CHRU (full term infants) <ul style="list-style-type: none"> <li>Interview/questionnaire EDP &amp; PSS</li> <li>Infant growth measurements</li> <li>Anthropometric measurement of biological parents (weight, height &amp; head circumference)</li> <li>Eczema assessment</li> </ul> <b>*optional extras*</b> <ul style="list-style-type: none"> <li>MBW</li> </ul> As close to 4 weeks of age – acceptable up to 12 weeks of age but must be 3 weeks after having an URTI/LRTI or other respiratory illness <ul style="list-style-type: none"> <li>Abdominal ultrasound</li> </ul>	<ul style="list-style-type: none"> <li>Maternal hair</li> <li>Infant hair</li> <li>Infant faeces</li> <li>Infant urine</li> <li>Breast milk</li> <li>Infant nasal swab</li> </ul> As close to 4 weeks of age- ask mothers to freeze faeces as close to this date if they have no time to drop off earlier
4 weeks (IUGR sub study participants)	10/24 S4 IUGR sub study ONLY: <ul style="list-style-type: none"> <li>Interview/questionnaire EDP &amp; PSS</li> <li>Infant growth measurements</li> <li>Abdominal Ultrasound (optional) as close to 4 weeks of age – acceptable up to 6</li> </ul>	NIL
3 months	Telephone interview/questionnaire (full term infants)	NIL (full term infants)
6 months	2 <sup>nd</sup> clinic visit to CHRU (all infants) <ul style="list-style-type: none"> <li>Infant growth measurements</li> <li>Eczema assessment</li> </ul>	<ul style="list-style-type: none"> <li>Infant faeces (only infants born between 31wks-7days and 36wks-6days gestation)</li> <li>Infant blood</li> <li>Infant faeces</li> </ul> As close to 6 mths of age – ask mothers to freeze faeces as close to this date if do not have time to drop off <ul style="list-style-type: none"> <li>Breast milk</li> <li>Infant nasal swab</li> <li>Infant saliva swab</li> <li>Mother/primary carer saliva swab</li> </ul>
9 months	Telephone interview/questionnaire	
12 months	Home visit (10/24 S3) <ul style="list-style-type: none"> <li>Home environment questionnaire</li> <li>Developmental assessment</li> <li>Environmental sample collection</li> </ul>	Home visit (10/24 S3) <ul style="list-style-type: none"> <li>Urine</li> <li>Dust</li> <li>Hair</li> </ul>
12 months	3 <sup>rd</sup> clinic visit to CHRU (all infants) <ul style="list-style-type: none"> <li>Interview/questionnaire &amp; PSS</li> <li>Infant growth measurements</li> <li>Eczema assessment</li> <li>Skin prick testing</li> </ul> Medications with antihistamine-like actions should not be taken for 7 days before testing <ul style="list-style-type: none"> <li>Abdominal Ultrasound (only for infants who had the 4 week abdominal ultrasound)</li> <li>Oral food challenge (only for infants demonstrating allergic sensitization to peanut, cashew, egg, cow's milk or sesame on SPT. Oral food challenge to be held within 2 wks of positive SPT)</li> </ul>	<ul style="list-style-type: none"> <li>Infant blood</li> <li>Infant urine</li> <li>Infant faeces</li> </ul> As close to 12 mths of age – ask mothers to freeze faeces as close to this age if unable to drop off <ul style="list-style-type: none"> <li>Breast milk</li> <li>Infant nasal swab</li> <li>Infant saliva sample</li> </ul>
18 months	Telephone interview/questionnaire (verbal consent)	NIL
2 years	4 <sup>th</sup> clinic visit to CHRU <ul style="list-style-type: none"> <li>2yr RA admin questionnaire</li> <li>2yr self-admin questionnaire</li> <li>Home environment past and present questionnaire</li> <li>EDS &amp; PSS</li> <li>The Child Behaviour Checklist (CBCL)</li> <li>Height and weight assessment</li> <li>Developmental Assessment</li> </ul> -Bayley scales of infant development -Parent report of child's abilities -Free-Play	<ul style="list-style-type: none"> <li>Child faeces</li> <li>Child urine</li> <li>Child hair</li> </ul>
Preschool age (average age of 4 years)	5 <sup>th</sup> clinic visit to CHRU <b>Interview/questionnaires:</b> <ul style="list-style-type: none"> <li>Preschool questionnaire</li> </ul>	<ul style="list-style-type: none"> <li>Child urine</li> <li>Child faeces</li> <li>Child nasal swab</li> <li>Child buccal swab</li> </ul>

- Food frequency questionnaire
  - EDS & PSS
  - Home environment questionnaire
  - Physical activity data collection form
- Child blood (optional)
- Cardiovascular components:**
- Abdominal & carotid ultrasound
  - Measure blood pressure
  - Pulse wave velocity
- Respiratory components:**
- Multiple breath washout
  - Forced oscillation test
- Neurodevelopmental components:**
- Executive function
  - Picture vocabulary test
- Clinical examination & other measures:**
- Eczema assessment (SCORAD)
  - Skin prick test
  - Physical activity measured via use of accelerometer worn by child during waking hours (7 day period)
  - Infant anthropometrics:
    - Height (standing and sitting)
    - Weight, body fat %, TBW
    - Waist, thigh, head and upper arm circumference
    - Skinfolds (triceps & subscapular)
  - Parents anthropometrics:
    - Current weight, body fat %, waist circumference (mother/father)

**Interview/questionnaires:**

- Primary school questionnaire
- Food Frequency questionnaire
- 24 hour food recall
- Edinburgh Depression Scale & Perceived Stress Scale
- Home Environment Questionnaire
- Academic Rating Scale (teacher completed)
- ADHD Rating Scale 5
- Social Communication Questionnaire
- Spence Children's Anxiety Scale

**Neurodevelopment components:**

- WASI-II
- NIH Toolbox
  - PVT Child
  - Processing Speed
  - DCCS
  - Flanker
- Working Memory
  - Digits/Blocks
- Beery VMI
- CASL-2
- WISC-V (COVID Change)

**Cardiovascular components:**

- Abdominal & carotid ultrasound
- Measure blood pressure
- Pulse wave velocity
- Cardiac vagal tone
- Retinal Microvascular imaging

**Dental Components**

- Dental clinical examination
- Intra-oral 3D image scanner

**Respiratory components:**

- Multiple breath washout
- Forced oscillation test
- Spirometry
- Post-Bronchodilator Response

**Physical Activity Components:**

- Physical activity measured via use of accelerometer worn by child during waking hours (7 day period)
- Physical assessment- muscle function and aerobic capacity
  - Jump test
  - Grip Strength
  - Cardiovascular test

**Clinical examination & other measures:**

- Infant anthropometrics:
- Height (standing and sitting)
- Weight and body composition analysis
- Waist, thigh, head and upper arm circumference
- Skinfolds (triceps & subscapular)
- Eczema assessment (SCORAD)
- Skin prick test
- Heel Ultrasound

**Parental measures (mother/father)**

- Parents anthropometrics:
  - Current weight,
  - Body composition analysis
  - Waist circumference
- Maternal Spirometry
- Maternal cIMT, blood pressure/PWA
- Maternal heel ultrasound
- Maternal physical assessment- muscle function and aerobic capacity
  - Jump test
  - Grip Strength
  - Cardiovascular test

- Child urine
- Child faeces
- Child nasal swab
- Child buccal swab
- Child saliva sample
- Child dental plaque swab
- Child blood (optional)
- Child deciduous teeth

- Maternal blood
- Maternal stool
- Maternal urine