phenotype was not stable, unlike asthma, neutrophilic was the
most common inflammatory phenotype in infants with wheezing,
and it was no business of eosinophilia.

O-167b INFLUENCE OF MONTELUKAST ON THE RELIABILITY OF
SKIN PRICK TESTING WITH INHALANT ALLERGENS
1D Stamatovic, 1K Staninaric, 2M Vujosevic, 2Z Vujovic Zekovic, 1General Pediatric, Private
Practice “Primum Vivere”, Krucevac, Serbia; 2Pediatric Department, General Hospital, Bar,
Montenegro; 3Pediatric Department, Medical Faculty, Kosovo Mitrovica, Serbia
10.1136/archdischild-2014-307384.235

Background and aims There is no much data in the literature
about the effects of montelukast on the skin reactivity to inhaled
allergens. We analysed whether the skin reactivity to allergens
significantly changed after 30 days of daily application of
montelukast.

Methods Thirty children with asthma (7–14 y) and with skin
reactivity to inhaled allergens were receiving 5 mg of montelu-
vakast daily for 30 days. Skin prick testing was done before and
after therapy. Size of the papule was measured at twentieth
minute after allergen application as quantitative (mean of the
largest and normally set diameter on it) and qualitative-bimodal:
positive/negative (cut-point: 3 mm). The control group consisted
of children of the same age (n = 30) with positive skin reactivity
who did not receive any medication and had been tested in the
same way. The size of the papule, and the number of positive/ negative tests for both groups were compared before and after
therapy. The frequency of test conversion in both directions
(crossing of positive to negative and vice versa) in the experi-
mental group was compared to the control group.

Results After thirty days of montelukast therapy the size of the
papule in both groups was not significantly changed (p > 0.05).
Compared to the control group, in the experimental group,
there was no significant difference in the change of skin reactiv-
ity to allergens, either quantitatively (p > 0.05), or qualitatively
(p > 0.05) evaluated.

Child Protection

O-168 RISK AND RESILIENCE FACTORS FOR EARLY CHILD
DEVELOPMENT: A COMMUNITY-BASED COHORT
STUDY IN ALBERTA, CANADA
SW McDonald, H Kehler, S Tough, Pediatrics, University of Calgary, Calgary, Canada
10.1136/archdischild-2014-307384.236

Background and aims One in six children experience developmen-
tal problems at school entry. Early intervention is more effective
than later remediation; however, to date, we lack a comprehensive
understanding of risk and protective factors. The objectives of this
study were to describe the key risk factors for poor child develop-
ment at age 12 months and to identify factors that reduce the poten-
tially adverse influence of poor maternal mental health and low
socioeconomic status on child development.

Methods We used data from the All Our Babies (AOB) study, a
prospective pregnancy cohort in Calgary, Alberta. Five domains
of child development at age 12 months were assessed via parent
report using the Ages and Stages Questionnaire (ASQ) from
approximately 1500 mothers. The associations between putative
risk factors and poor child development were examined in bivariate
and multivariable analyses. A bivariate resilience analysis
was also conducted to identify factors related to positive child
development in the presence of maternal mental health or socio-
demographic risk.

Results Key risk factors for poor child development at age 12
months included poor maternal mental health during pregnancy,
and low community resource use and lack of adult interaction in
the first postpartum year. In addition to parenting efficacy,
uptake of community resources and increased adult interaction
were protective of poor child development among children most
at risk for this outcome.

Conclusions As many of the identified risk and protective fac-
tors are modifiable, these results can inform community based
strategies to optimise early childhood development.

Abstract O-168a Table 1 Engagement of young people and
family members in Enpr-EMA networks

<table>
<thead>
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<th>Young people/family members engagement</th>
<th>Total</th>
<th>Yes</th>
<th>No</th>
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<tr>
<td>Involvement/consultation with young people/family</td>
<td>17</td>
<td>8</td>
<td>9</td>
</tr>
<tr>
<td>Dedicated staff for young people/family involvement</td>
<td>17</td>
<td>7</td>
<td>10</td>
</tr>
<tr>
<td>Specific budget for young people/family involvement</td>
<td>17</td>
<td>3</td>
<td>14</td>
</tr>
<tr>
<td>Specific strategies for young people/family involvement</td>
<td>17</td>
<td>3</td>
<td>14</td>
</tr>
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</table>
Abstract O-168a Table 2: Specific activities undertaken with young people and family members in Enpr-EMA networks

<table>
<thead>
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<th>Network activities with young people/family members</th>
<th>Total</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Writing/commenting on participant information leaflets</td>
<td>17</td>
<td>8</td>
<td>9</td>
</tr>
<tr>
<td>Developing the protocol</td>
<td>17</td>
<td>7</td>
<td>10</td>
</tr>
<tr>
<td>Disseminating the results</td>
<td>17</td>
<td>6</td>
<td>11</td>
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<tr>
<td>Promoting the trial to encourage recruitment</td>
<td>17</td>
<td>8</td>
<td>9</td>
</tr>
<tr>
<td>Membership of a management/steering/advisory group</td>
<td>17</td>
<td>6</td>
<td>11</td>
</tr>
<tr>
<td>Priority setting</td>
<td>17</td>
<td>4</td>
<td>13</td>
</tr>
<tr>
<td>Identifying topics for research</td>
<td>17</td>
<td>3</td>
<td>14</td>
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<tr>
<td>Reviewing/interpreting research results</td>
<td>17</td>
<td>2</td>
<td>15</td>
</tr>
</tbody>
</table>

REFERENCES


2. Enpr-EMA webpages: http://www.ema.europa.eu/ema/index.jsp?curl=pages/partners_and_networks/general/general_content_000303.jsp and mid=WC0b01ac05801df74a


Exercise Related Problems in Children

**O-169 EARLY PROGRAMMING OF PHYSICAL ACTIVITY AND SEDENTARY BEHAVIOUR AT PRIMARY SCHOOL AGE. THE ABCD-STUDY**

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**Background and aims** Energy balance may be affected by developmental (re)programming of physical activity and sedentary behaviour, hence predispose for cardiovascular disease in later life. We hypothesise that low birth weight and accelerated growth in infancy corresponds with lower physical activity levels and more sedentary behaviour at 8–9 years of age, thereby predisposing for obesity.

**Methods** Physical activity and sedentary behaviour were measured in 183 children (100 boys) of a prospective birth cohort at mean age 8.7 years using accelerometry. Outcomes were minutes per day above moderate activity (>3000 counts/min) and minutes sedentary per day.

**Results** On average (±SD), children participated in 37 (±14) minutes of physical activity and 412 (±45) minutes of sedentary behaviour per day. Low birth weight was not associated with either physical activity or sedentary time. The average standardised growth velocity, however, was positively associated with sedentary time, with an average increase of 7.8 min in daily sedentary time per SD weight gain in infancy. Growth velocity was not significantly associated with physical activity.

**Conclusions** Infant growth may program sedentary behaviour, but not physical activity levels at age 8–9. Birth weight was not related to either physical activity or sedentary behaviour. Hence developmental effects of growth on childhood energy balance correspond with variations in sedentary behaviour rather than physical activity.

**O-170 GESTATIONAL AGE IS ASSOCIATED WITH PHYSICAL ACTIVITY AND FITNESS IN ADOLESCENCE – NORTHERN FINLAND BIRTH COHORT 1986**

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**Background and aims** Severely preterm birth is associated with low physical activity and cardiorespiratory fitness. We studied the association of gestational age across its full range with physical activity (self-reported) and cardiorespiratory fitness in adolescence.

**Methods** Of the 16-year-old members of the population-based Northern Finland Birth Cohort 1986, 6675 singletons with no major physical disability reported the amount of light, brisk and commuting physical activity outside school hours and 4706 completed a submaximal cycle ergometer test for the assessment of cardiorespiratory fitness. Physical activity was summarised as metabolic equivalent hours (MET-hours) per week and peak oxygen uptake (ml/kg/min) calculated by heart rate responses. To assess the effect of gestational age on the outcomes, the adequate data were analysed by multiple linear regression.

**Results** There was an inverse U-shaped association between gestational age and physical activity such that adolescents born at both ends of the full range of gestational age undertook less physical activity than others (Figure). These adolescents also seemed to have low cardiorespiratory fitness; however only the linear inverse trend was statistically significant (Figure), suggesting low fitness in those born later gestational ages.

**Conclusion** Our results are consistent with previous findings of low levels of physical activity in adolescents born severely preterm. We found no evidence of low physical activity and fitness among adolescents born less preterm. Our results also suggest lower physical activity and fitness among adolescents born at later gestational ages; this was post hoc and requires replication.

Gastroenterology II

**O-171 THE COMBINED ROLE OF NORMAL BIRTH AND BREASTFEEDING IN ACUTE EARLY CHILDHOOD GASTROENTERITIS**

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**Background** Clinical studies have shown prematurity, birth via caesarean section (CS) and exposure to breastmilk impact the establishment of gut microbiota and immune system in early life and increase susceptibility to acute gut infections. This study aims to investigate the combined association of mode, timing of birth and breastfeeding with acute gastroenteritis (AGE) in early childhood.

**Method** We conducted a population-based cohort study of 893,360 infants born in New South Wales, Australia, 2001–2011. Data was ascertained via record-linkage of administrative birth, hospital and death data. Follow-up was based on time between discharge at birth to first admission of AGE, sixth birth-day, death or study end-date (30/06/2012). Multivariable Cox regression was used to estimate risk of AGE admission adjusted for maternal, obstetric and birth factors.

**Results** In 2001–2011, there were 41,274 (4.6%) hospital admissions for AGE in childhood; two-thirds admitted.