Title: Occurrence of Wheezing and Being Overweight in the First Three Years of Life in a Birth Cohort at High Risk for the Development of Asthma/Allergy

Rationale: Recent studies have shown positive associations between asthma and obesity in adults and adolescents; however, these relationships are not defined in young children. Since diet is a common risk factor for both being overweight and having asthma, the objective of this study is to identify the interrelationships among feeding practices, rapid weight-gain and the development of becoming overweight and wheezing in a cohort of children at high risk for asthma from birth to age 3y.

Methods: 275 children enrolled in the Childhood O rigin of A sthma (COAST) project were examined using serial questionnaires completed at study visits.

Results: Proportionately more children who wheezed in the first year of life were overweight at age 3y compared to those who did not (28.9% vs. 17.5%, p=0.03). In addition to wheezing in the first year (OR=2.5, p=0.03), birth weight > 75th percentile (OR=4.0, p<0.0001) and rapid weight-gain at 0-6 months (OR=5.1, p=0.001) increased risk of being overweight at age 3y. Exclusive breastfeeding > 2 months was marginally protective for being overweight at age 1y (p=0.06), but not for being overweight at age 3y (p=0.81). Significant risk factors for wheezing in the third year included male gender (OR=2.1, p=0.02), wheezing in the first year (OR=5.2, p<0.0001), exclusive breastfeeding greater than 2 months (OR=2.2, p=0.02) and birth weight < 15th percentile (OR=2.3, p=0.04).

Conclusions: Wheezing during the first year of life increased the risk of being overweight at age 3 years. Exclusive breastfeeding increased the risk of wheezing at age 3 years.