

## The Childhood Asthma Prevention Study (CAPS)

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### Abstract

The Childhood Asthma Prevention Study is a randomized controlled trial to measure whether the incidence of atopy and asthma can be reduced by house dust mite allergen reduction, a diet supplemented with omega-3 fatty acids, or a combination of both interventions. Six hundred and sixteen pregnant women whose unborn children were at high risk of developing asthma because of a family history were randomized prenatally. Study groups are as follows: Group A (placebo diet intervention, no house dust mite reduction), Group B (placebo diet intervention, active house dust mite reduction), Group C (active diet intervention, no house dust mite reduction), and Group D (active diet intervention, active house dust mite reduction). The house dust mite reduction intervention comprises use of physical and chemical methods to reduce allergen contact. The dietary intervention comprises use of a daily oil supplement from 6 months or at onset of bottle-feeding, and use of margarine and cooking oils based on sunflower or canola oils to increase omega-3 dietary intake. Data is collected quarterly until the infant is 1 year old and then half yearly until age 5 years. Questionnaires are used to collect respiratory illness history and information about diet and home environment. Dust is collected from the child's bed and bedroom and playroom floors. Blinded assessments are conducted at 18 months, 3 years, and 5 years. Skin prick tests to common allergens, blood tests, and detailed illness, medication use, and vaccination histories are collected. Primary outcomes will be the development of allergic sensitization and the presence and severity of asthma. This study is designed to measure the effectiveness of allergen reduction and dietary supplementation, both separately and in combination, for the primary prevention of atopy and asthma. The results of this study may have important implications for public health policies to reduce the incidence of childhood asthma. *Control Clin Trials* 2001;22:333-354