in cytokine response in the probiotic treatment group was independent of the development of allergy.

CONCLUSIONS. Infants given the probiotic supplement *L. reuteri* have decreased allergen responsiveness and possibly greater capacity for immunoregulation during infancy.

REVIEWER COMMENTS. There is growing interest in the use of probiotic supplementation to prevent or modulate atopic disease. The authors had previously shown that prenatal and postnatal probiotic supplementation with *L. reuteri* reduced both allergic sensitization and prevalence of IgE-associated atopic dermatitis at 2 years of age. This study further demonstrated a general reduction in production of both T helper cells 1 and 2 cytokines in the subjects treated with *Lactobacillus*, prompting the authors to suggest a possible mechanism for their previous findings. A weaknesses of this study is the failure to correlate allergen and mitogen cytokine responses with probiotic treatment and clinical outcomes in this patient group. In addition, the study cannot account for the variation in size or timing of exposures to eggs, birch, or cat that certainly affects the likelihood of sensitization and peripheral mononuclear cell responsiveness. Various effects on the immune system have been demonstrated after probiotic treatment; this study would seem to add support for the immunomodulating effect of *Lactobacillus* supplementation in pregnancy and early childhood, although more research is needed to elucidate the mechanisms involved.


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**ALLERGENS AND ENVIRONMENTAL EXPOSURES**

**Can f 1 Levels in Hair and Homes of Different Dog Breeds: Lack of Evidence to Describe Any Dog Breed as Hypoallergenic**


PURPOSE OF THE STUDY. To compare levels of, and determine the relationships between, the major dog allergen (Can f 1) from the hair and coat of various breeds of dogs and in the homes in which the dogs live.

**STUDY POPULATION.** A total of 356 dogs (Labradoodles, Labrador retrievers, poodles, Spanish waterdogs, airedales, and a heterogeneous control group) were recruited from breeders, breeder associations, and a veterinary hospital in the Netherlands. In addition, 168 homes with 1 dog had floor and airborne dust samples collected and a survey of their 502 owners was conducted.

**RESULTS.** Hair samples were obtained from 151 dogs. The vacuumed coat and the hair of so-called “hypoallergenic” dogs had significantly more Can f 1 as compared with the nonhypoallergenic dogs (geometric mean: coat: 27.04 vs 0.12.98 μg/g; hair: 2.26 vs 0.77 μg/g; *P* < .001 for both). Airedales had the highest level of Can f 1 from the coat without differences between other breeds. There were significant differences between breeds in the Can f 1 level of hair (lowest: Labrador retrievers, highest: poodles) and high variability among dogs of the same breed in levels of both the coat and hair. Sixty-two percent of the “hypoallergenic” dogs were selected for that marketed reputation. Can f 1 levels from rugs/carpets were higher than from smooth floors. Can f 1 levels in settled floor dust and in sampled air did not differ between homes with hypoallergenic and nonhypoallergenic dogs, although floor dust levels were lowest in homes with Labradoodles; however, there were no breed-to-breed differences in sampled air.

CONCLUSIONS. So-called “hypoallergenic” dogs had higher Can f 1 levels in hair and coat samples than did control breeds. There was no difference in Can f 1 levels in homes between types of dogs. There is no evidence to classify certain dog breeds as hypoallergenic.

REVIEWER COMMENTS. To paraphrase Shakespeare, “A dog by any other name...is still a dog.” At this time, there is no evidence to recommend one breed over another to dog-allergic patients. Nonetheless, patients frequently claim they do worse with one breed than another. We are not aware that a definitive study has been done, for example by evaluating for immune responses to any genetic polymorphisms in Can f 1 between breeds or evaluating allergen extracts from the dander of various breeds.

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**Allergens in Urban Schools and Homes of Children With Asthma**


PURPOSE OF THE STUDY. To compare school allergen exposure to home allergen exposure in a cohort of children with asthma.
### Can f1 Levels in Hair and Homes of Different Dog Breeds: Lack of Evidence to Describe Any Dog Breed as Hypoallergenic

Mitchell R. Lester

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