

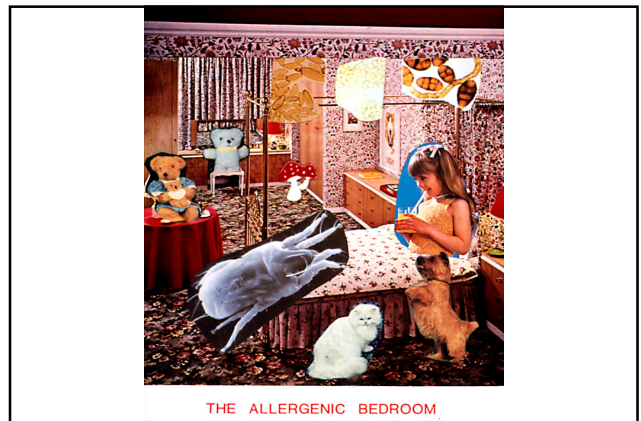
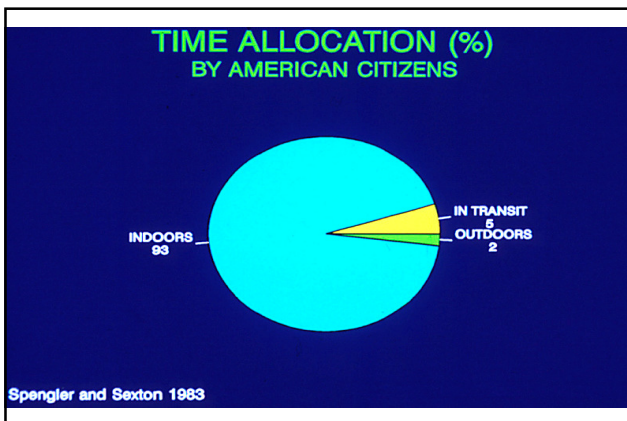
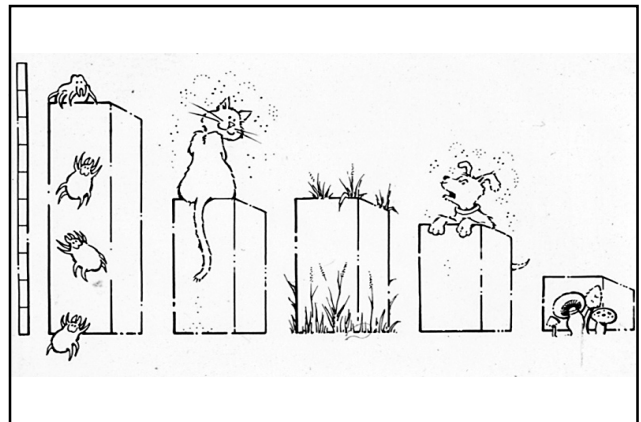
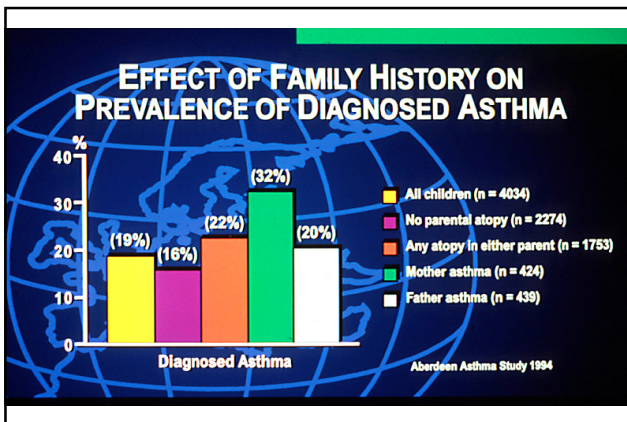
Lecture Slides

Allergen Avoidance in Primary, Secondary and Tertiary Prevention

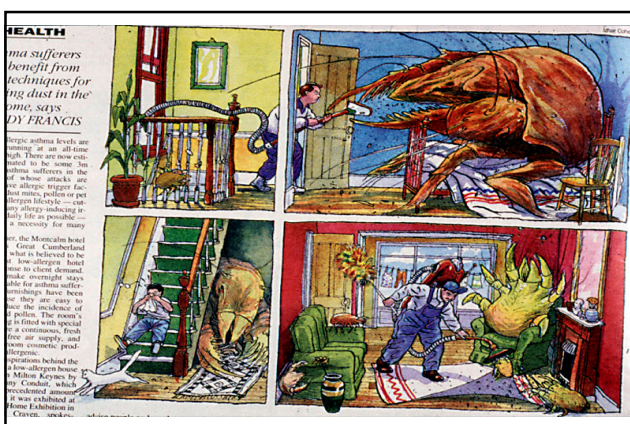
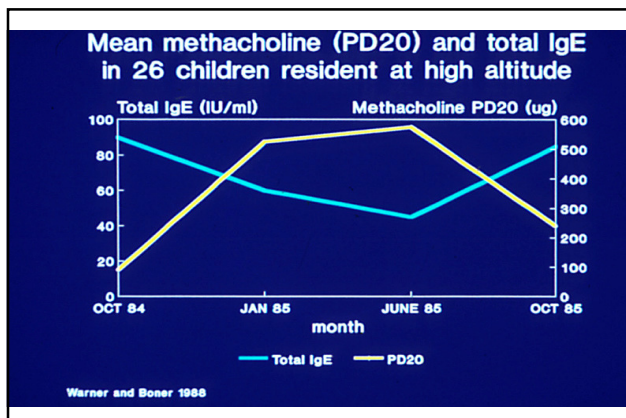
Jill A Warner PhD
Reader in Allergy and Immunology
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Prevention of Allergy

- **Primary Prevention** – before sensitisation occurs
- **Secondary Prevention** – after sensitisation, but before symptoms
- **Tertiary Prevention** – treatment of symptoms



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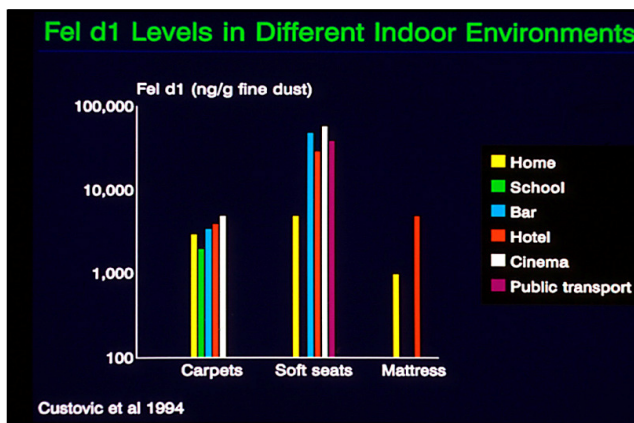


RELATIONSHIPS BETWEEN HOUSE DUST MITES AND HUMANS

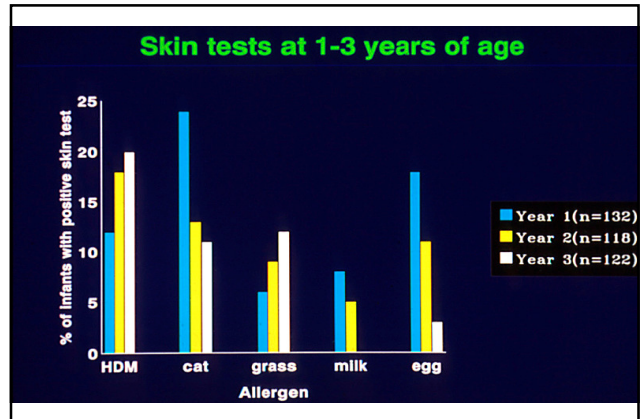
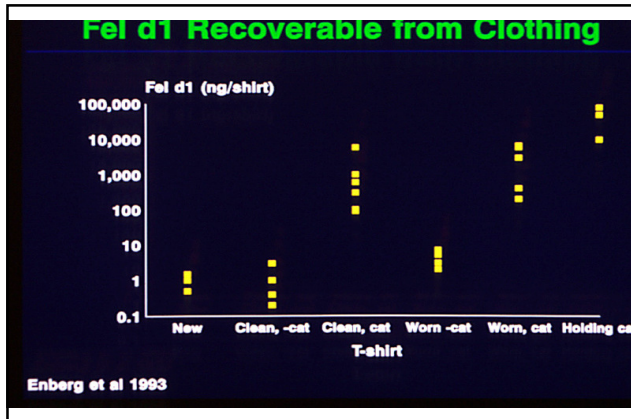
- House dust mites thrive at 75-80% relative humidity
- They reproduce fastest at 25-30 degrees centigrade
- They eat human skin scales colonised with fungi
- Humans shed 1g of skin scales every day
- Humans produce 500ml of sweat in their beds every night

Fel d1 Characteristics

- Present in sebaceous gland secretions and saliva
- Carried on particles of .25 - >10um
- 3 to 7ug produced by a single cat per day
- Under hormonal control
- Detectable in houses with and without cats



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- ### Techniques to Reduce Inhalant Allergens in Homes
- Bedcovers
 - High efficiency vacuum cleaners
 - Steam cleaners
 - Dehumidification and ventilation
 - Acaricides and detergents
 - HEPA filters
 - Freezing (liquid nitrogen) or heating
 - Ionisers

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[Review] House dust mite control measures for asthma

PL Goshalski, DR Anderson
Cochrane Database of Systematic Reviews 2008 Issue 2 (Spring). New searchable studies compiled continuously.
 Copyright © 2008 The Cochrane Collaboration. Published by John Wiley & Sons, Ltd.
 DOI: 10.1002/14651402.cd007187 This review first published online in April 2008, abstract 2, 2008.
 This review should be cited as: Goshalski PL, Anderson DR. House dust mite control measures for asthma. *Cochrane Database of Systematic Reviews* 2008, Issue 2, Art. No. CD007187. DOI: 10.1002/14651402.cd007187.

Abstract

Background
 The main allergen in house dust comes from mites. Chemical, physical and combined methods of reducing mite allergen levels are intended to reduce asthma symptoms in people who are sensitive to house dust mites.

Objectives
 To assess the effects of reducing exposure to house dust mite antigens in the homes of people with asthma/sensitive asthma.

Search strategy
 PubMed and The Cochrane Library (last searched Nov 2007), reference lists.

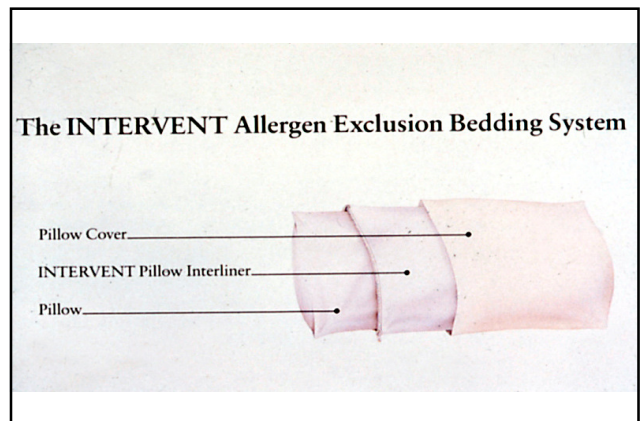
Selection criteria
 Randomised trials of mite control measures vs placebo or no treatment in people with asthma. Trials to be sensitive to house dust mites.

Data collection and analysis
 Two authors applied the trial inclusion criteria and evaluated the data. Trial authors were contacted for any missing information.

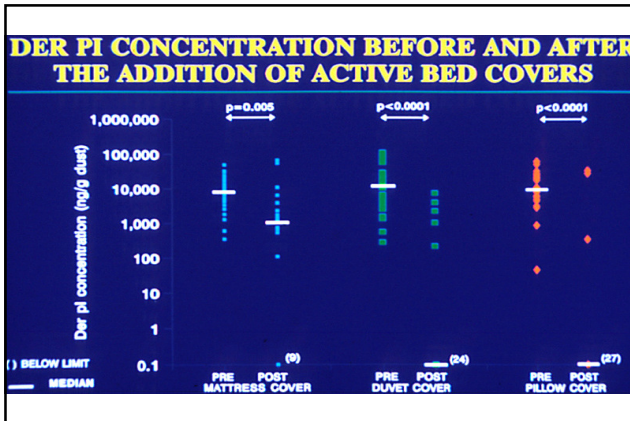
Main results
 Fifty-four trials (5962 patients) were included. Thirty-six trials assessed physical methods (26 mite-proof encasings, 14 thermal methods), and 18 a combination of chemical and physical methods. Despite the fact that many trials were of poor quality and would be expected to exaggerate the reported effects, we did not find an effect of the interventions. For the most frequently reported outcome, peak flow in the morning, 156 patients, the standardised mean difference was 0.00 (95% confidence interval (CI) 0.11 to 0.10). There were no statistically significant differences either in number of patients improved (relative risk 1.01 (95% CI 0.96 to 1.07), or in symptoms (symptom scores standardised mean difference -0.04, 95% CI -0.12 to 0.03), or in medication usage (standardised mean difference -0.06, 95% CI -0.18 to 0.07).

Authors' conclusions
 Chemical and physical methods aimed at reducing exposure to house dust mite allergens cannot be recommended. It is doubtful whether further studies, similar to the ones in our review, are worthwhile. Further types of studies are recommended, they should be methodologically rigorous and use other methods than those used so far, with careful monitoring of mite exposure and relevant clinical outcomes.

<http://www.mri-journals.wiley.com/abstracts/doi/10.1002/14651402.cd007187/abstract> - 10/07/2008



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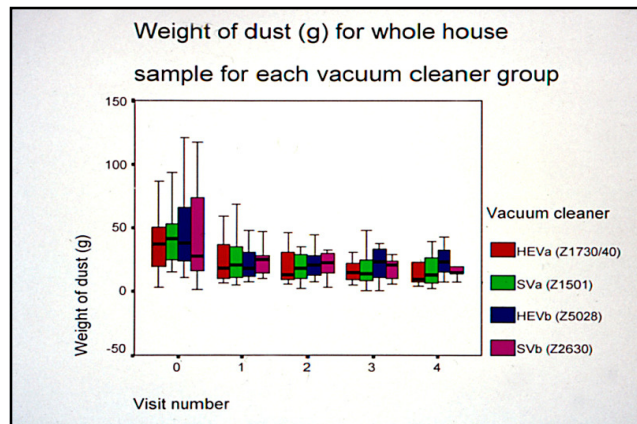
Intervent Clinical Results Diary Card

ACTIVE COVERS- Daytime Wheeze
 Decrease after 1 month $p = 0.04$
 Decrease after 2 months $p = 0.05$

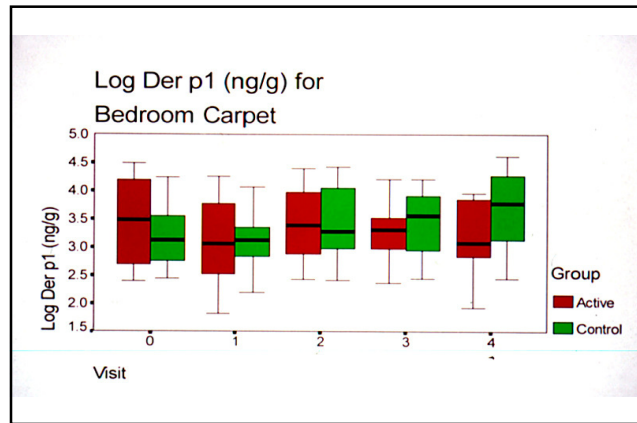
ACTIVE COVERS - Exercise Tolerance
 Increase after 1 month $p = 0.03$
 Increase after 2 months $p = 0.03$

*

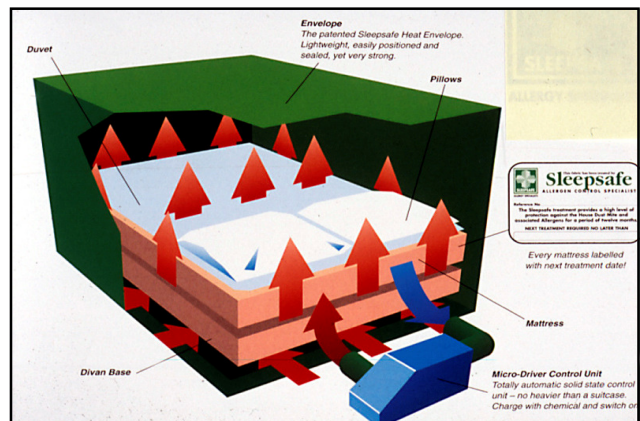
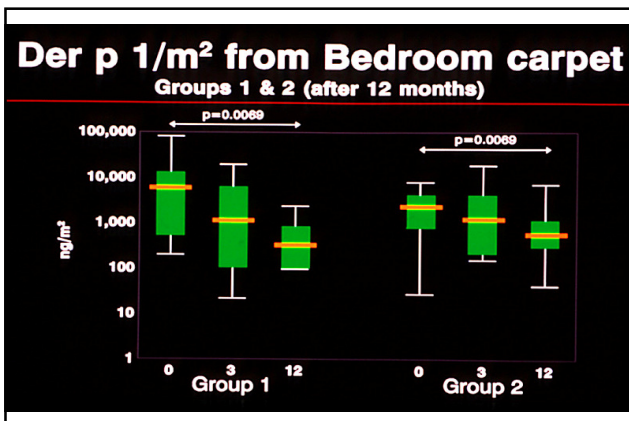
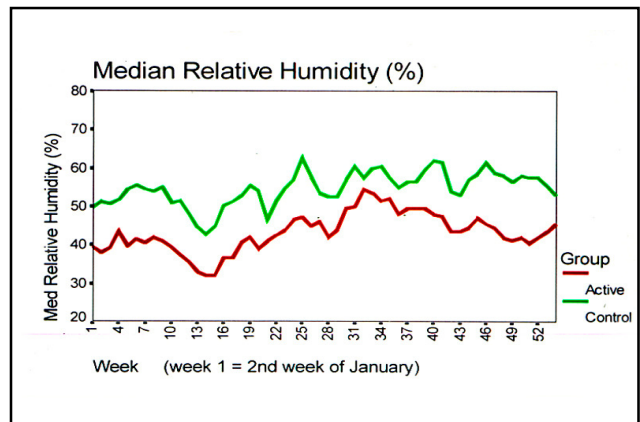
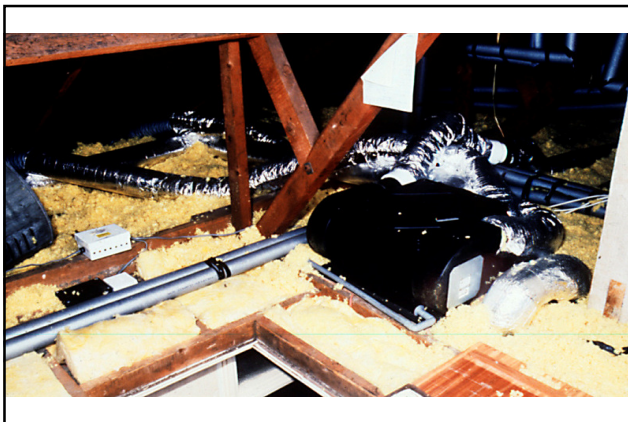
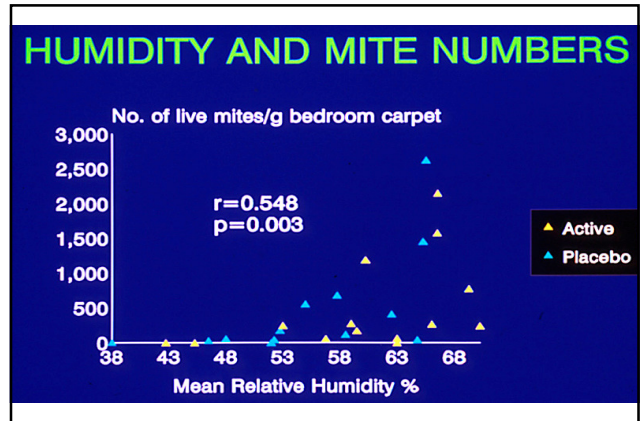
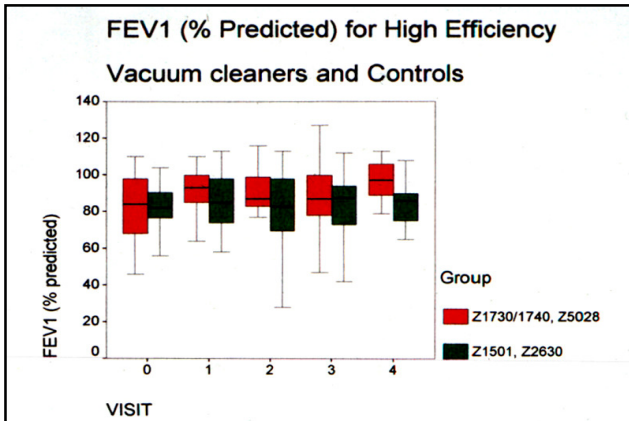
PLACEBO COVERS - no significant changes in symptoms



Remember the first law of cleaning:
all vacuums suck



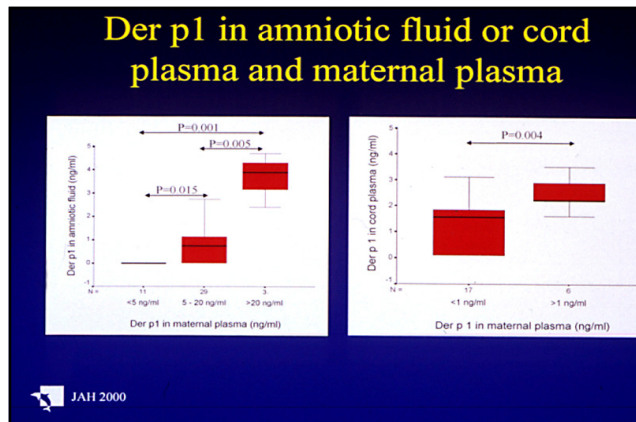
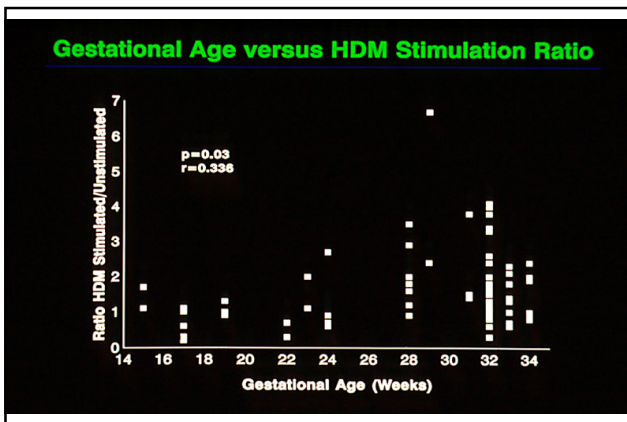
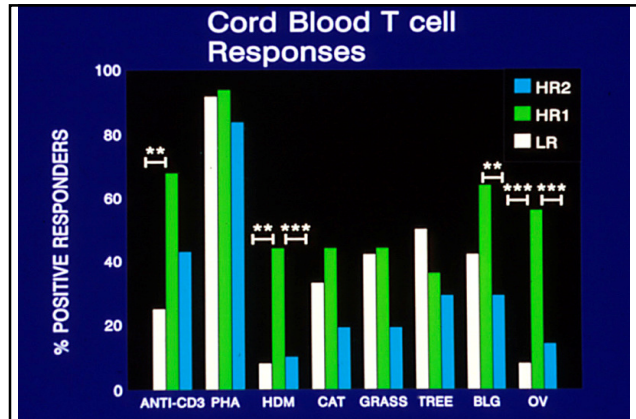
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Can we reduce inhalant allergens sufficiently to prevent primary sensitisation?

When should avoidance start?

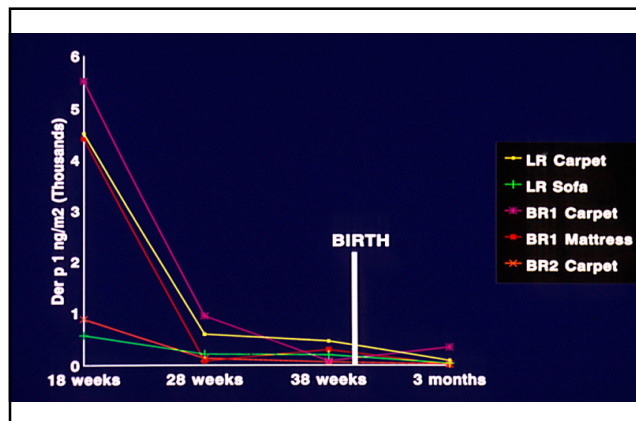


SCHEDULE OF ALLERGEN AVOIDANCE

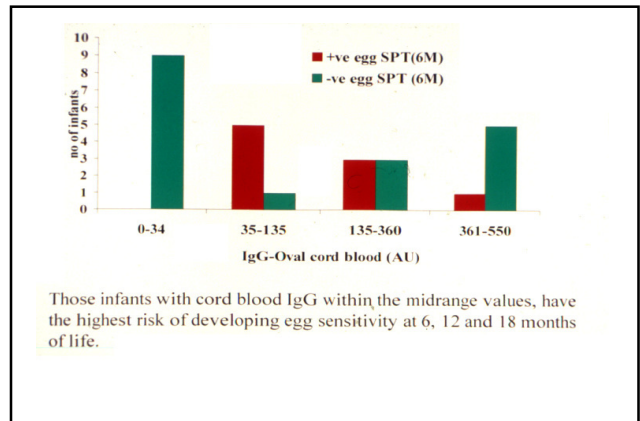
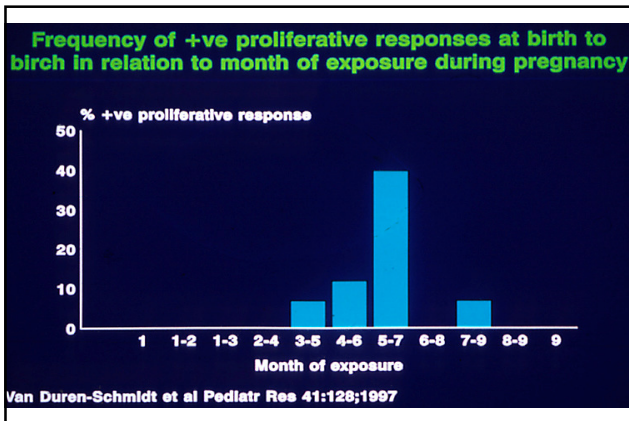
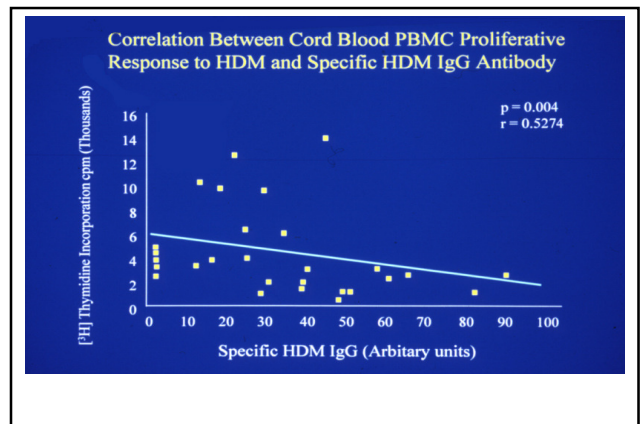
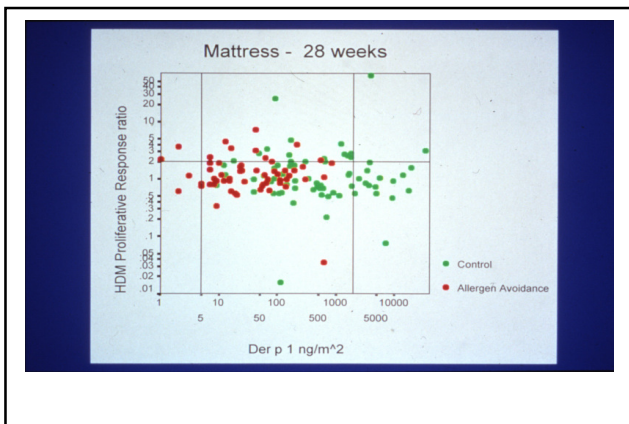
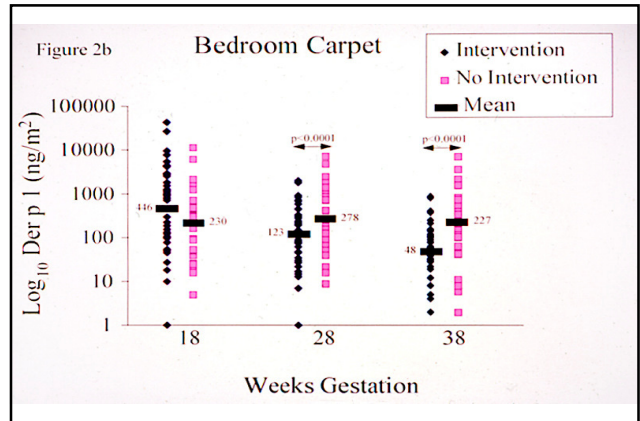
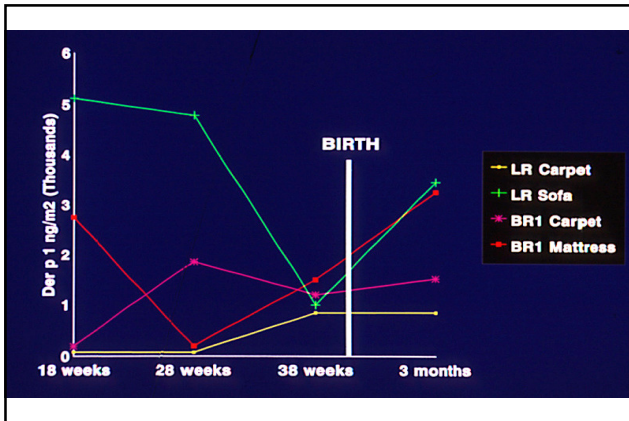
GROUP	2ND AND 3RD TRIMESTER OF PREGNANCY	1ST YEAR OF LIFE
1	AVOIDANCE SCHEDULE	AVOIDANCE SCHEDULE
2	NO AVOIDANCE	NO AVOIDANCE

AVOIDANCE

- 1) No cats and dogs
- 2) 3 monthly treatments with acaricide/liquid nitrogen
- 3) All bedding covered with intervent covers
- 4) Frequent vacuuming with designated vacuum cleaner
- 5) Ventilation /dehumidification systems installed



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Summary

- Effective allergen avoidance for secondary and tertiary prevention is likely to comprise a multi-source approach
- However well allergens are reduced in the home they will still be encountered elsewhere
- Sometimes complying with the alterations to lifestyle required is harder than coping with the disease
- Techniques that are used in secondary and tertiary prevention may not be universally helpful in primary prevention
- Primary prevention will probably be most successful if immune modulation can be promoted to induce tolerance