

Health Nuts

Nuts About Health



The HealthNuts study
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HealthNuts news

Thank you for participating in the HealthNuts study! As you may recall, HealthNuts is a study of food allergy in children. HealthNuts began in 2007 and involves around 5,300 children and their parents from all across Melbourne.

We first met you at your local immunisation centre when your child was 12 months old. Our nurses tested all infants for food allergy and around 1,000 came to the HealthNuts clinic at The Royal Children's Hospital for further allergy testing.

We're now re-contacting families as children turn 4 years old and are asking parents to complete a questionnaire. To date, we've received responses from nearly 80% of those we've contacted. Thank you to parents who have already returned their questionnaire, we really appreciate it! **If you've received a questionnaire for your 4 year old and haven't yet returned it, it's not too late to send it back to us.** Even if your child doesn't have a food allergy we'd like to hear from you. Your responses will help us understand the reasons why children do or do not develop a food allergy. If your child has already turned 4 and you haven't heard from us, please let us know on **(03) 8341 6266** or health.nuts@mcri.edu.au and we'll mail you an information letter and questionnaire.

We're now busily planning for the third stage of Healthnuts. We'll be inviting all HealthNuts children to The Royal Children's Hospital for free allergy testing as they turn 6 years old! We're very excited about this stage as it will tell us more about food allergy as children grow older and how we can help. While you're at the new hospital, why not visit the cheeky meerkats and the tropical aquarium! We'll be in touch around your child's 6th birthday to organise this.



Some of the HealthNuts team at the new Royal Children's Hospital.

We're Searching for Answers – and You're Helping Us Find Them!

Thanks to your continued participation in HealthNuts, we've created a world-class health resource of childhood food allergy. HealthNuts is unique because it's the first study of its kind anywhere in the world and the results are leading the way in the understanding of food allergy.

We've presented results at prestigious scientific conferences around the world and have published in local and international scientific journals. You may have even seen our researchers talking about HealthNuts results in the media. We've appeared on TV programs like Today Tonight. We've

also been on radio programs including 3AW and the ABC. Our results have also been in the Herald -Sun and The Age newspapers.

Some of our key findings so far include:

- Up to 10% of 12 month old infants have a food allergy. This result is very important because it's much higher than previously thought and it's changing the way scientists and doctors view food allergy.
- Infants first given egg at 4-6 months were less likely to have an egg allergy than those not

given egg until after 6 months. This important finding has contributed to policy change - the advice to delay the introduction of egg has now been removed from Australian infant feeding guidelines.

In this issue of the HealthNuts newsletter, you'll find more on our latest research results. All this wouldn't be possible without your involvement! We greatly appreciate your effort and input into this very valuable research. Thank you!

- the HealthNuts team

Ways to Reduce the Risk of Developing Food Allergy in Children

1. Breastfeed for at least 6 months

If you're able to breastfeed, try to do so for the first 6 months. Breastfeeding has many health benefits for you and your baby. Introducing foods while your baby is still breastfeeding may help prevent food allergy.

2. Introduce solids at around 6 months

Introduce a wide variety of foods early on (at around 5 to 6 months of age). Don't avoid foods with the hope of preventing an allergy.

3. Let babies get down & dirty

Exposing children to a range of 'good bugs' can help to protect against food allergy. Let your child muck about in the dirt (but make sure they wash their hands before eating). Avoid cleaning your kitchen bench tops and surfaces with anti-bacterial cleaners. Instead, use soap and water.

4. Get some sunshine in your life

Emerging evidence suggests that children without enough vitamin D are at increased risk of food allergy. Vitamin D is made in your skin when you're exposed to sunlight and it is also found in foods like eggs and fish. Try to optimise your child's exposure to sunlight - just a few minutes each day (before 10am or after 2pm in summer) is sufficient for most people. Try to also increase vitamin D intake through the diet.

*Taken from the book:
"Kids' Food Allergy for Dummies"
by HealthNuts Investigators
Prof Katie Allen &
A/Prof Mimi Tang.*

Food Allergy and Genetics

Our research has found that changes in the eczema gene Filaggrin (*FLG*) increases the risk of being sensitised to a food (measured by positive skin-prick test) but not being food allergic (measured by eating a small amount of the food during a test called a food challenge).

The *FLG* gene functions to protect the skin from water loss. Changes in the *FLG* gene are known to be associated with eczema. We examined DNA from 700 participants who gave a blood sample at the HealthNuts clinic. We looked at the relationship between changes in the *FLG* gene and the risk of developing a food allergy.

We found that infants who were

sensitised to at least one of the common allergenic foods were more likely to have changes in the *FLG* gene than infants who were neither sensitised nor allergic to a food. This result was regardless of whether the infant had eczema or not. The results suggest that sensitisation to a food may occur through the skin.

However, changes in the *FLG* gene did not increase the risk of having food allergy, which suggests other environmental factors are involved. Our focus now is to identify these other environmental factors that, in combination with the changed gene, lead to food allergy.

These results were published in the Journal of Allergy and Clinical Immunology (by T. Tan et al., 2012).

SchoolNuts Has Started!

SchoolNuts is an exciting new study conducted by our research team. It's a study of food allergy in school-aged children which was recently funded by the National Health and Medical Research Council of Australia.



We want to understand the prevalence of food allergy (how common it is) and also the risk factors for repeated or severe reactions in children and adolescents who have a food allergy. We aim to recruit around 10,000 children aged 10-14 years through their school. If you have a child in Year 5, 6, 7 or 8, look out for our SchoolNuts team. We may visit your school soon!

Test Will Improve Peanut Allergy Diagnosis

Our research identified a new way to test for peanut allergy that is more cost-effective and convenient than existing methods. It also improves the accuracy of diagnosing peanut allergy.

Using blood samples from 100 peanut allergic children and 100 non-peanut allergic children in the HealthNuts study, we were able to develop a new 'two-step' method to test for food allergy.

In the first step, a blood sample is tested for IgE level, an indicator of immune system activity. In the second step, the blood sample is tested to measure levels of a peanut protein called 'Ara h 2'. People with a food allergy often

react to the protein part of the food. There are a number of different types of peanut protein and, in Australia, most people with a peanut allergy react to Ara h 2.

We found that adding the Ara h 2 test to serum (blood sample), peanut testing was more accurate and had a higher prediction of food allergy than just having the IgE test or skin-prick test alone. It also reduced the need for further allergy testing to diagnose food allergy by almost two-thirds. Use of the new test may help to reduce long waiting lists for allergy patients.

These results were published in the Journal of Allergy and Clinical Immunology (by T. Dang et al., 2012).

The Benefits of Siblings and Pets



Using answers you provided for the HealthNuts study, we found that having older siblings and having a dog that lives inside the home reduces the likelihood of infants developing egg allergy.

Almost 11% of 12 month old infants with no siblings were allergic to egg. As the number of siblings increased, the incidence of egg allergy decreased. The rate of egg allergy in infants who had three or more siblings was almost three times lower than infants with no siblings.

We also found a link to dog ownership. Infants in families without a dog were almost twice as likely to have an egg allergy compared to those who did have a dog that was allowed inside the house. Having cats, however, did not reduce the risk of egg allergy.

Other research has shown that children who have siblings have more infections early in life, which might help to train the developing immune system. Having a pet dog may act in a similar way to prevent allergy. Environments with pets tend to have more endotoxins (toxins which are found in some bacteria), and these are very effective at stimulating the immune system.

Interestingly, although we know that childcare also increases exposure to infections, this did not seem to reduce the likelihood of developing a food allergy. This might be because infants generally did not attend childcare in the first few months of life. Perhaps only exposures that take place very early on are protective.

These results were published in the journal Allergy (by J. Koplin et al., 2012).

What are the most popular names of children in the HealthNuts study?

BOYS		GIRLS	
1. Thomas (65)	6. Joshua (42)	1. Chloe (44)	6. Charlotte (35)
2. William (64)	7. Benjamin (40)	2. Olivia (41)	7. Emily (35)
3. Jack (46)	8. Ryan (37)	3. Grace (39)	8. Sophie (33)
4. James (45)	9. Lachlan (36)	4. Ava (36)	9. Isabella (33)
5. Oliver (44)	10. Samuel (33)	5. Zoe (36)	10. Mia (32)

Vitamin D and Food Allergy

Vitamin D is made by your skin in response to sunlight and is also found in foods like eggs and fish.

We want to look at whether or not the level of vitamin D at birth contributes to food allergy risk. As you may recall, we asked you for consent to access your child's Newborn Screening Card. This card contains spots of blood that were taken from a heel prick performed on your child in their first few days of life. The cards are stored securely at Genetic Health Services Victoria (GHSV). Using new technology, we intend to measure the amount of vitamin D in the blood spots on this card. If you didn't receive a consent form or haven't returned it, we'll be in touch.



Baked Egg Allergy

We found that up to 9% of 12 month old infants have an allergy to raw egg. This is one of the highest rates in the world! Research suggests that most children with a raw egg allergy can safely eat baked egg products, like cake and biscuits. We decided to look at this in HealthNuts. We also wanted to examine whether regularly eating baked egg helps those with a raw egg allergy to grow out of it.

Around 180 infants who reacted to raw egg at the HealthNuts clinic were also tested for baked egg allergy. To do this test, our nurses baked cakes and fed them to the infants. Those infants who could safely eat cake were then asked to eat baked egg products at home. We invited these participants back to the HealthNuts clinic when they were 2 years old and tested them again for raw egg allergy. We're just wrapping up testing for this part of HealthNuts and we'll be looking at the results very soon. It will be very interesting to see if the children have grown out of their raw egg allergy.

Allergy Friendly Chocolate Crackles

These delicious chocolate crackles are made without nuts, eggs, dairy, soy, gluten, wheat, fish, shellfish and sesame seeds.

Ingredients:

- 250g Cofa, chopped
- 1 cup pure gluten-free icing sugar
- 1/3 cup cocoa powder
- 4 cups gluten-free puffed rice
- 2/3 cup desiccated coconut

Method:

1. Place the Cofa in a small saucepan and stir over low heat until just melted.
2. Cool to room temperature. Do not allow to set again.
3. Sift the icing sugar and cocoa into a large bowl. Stir in the puffed rice and coconut. Then stir in the melted Cofa and mix well.
4. Drop rounded tablespoons of the mixture into paper patty cases. Refrigerate until firm.

* Reproduced with permission from Suzanna Paxton, author of "Allergy Safe Family Food"



Have your details changed since we last contacted you?

If you've moved homes, are planning to move or if you have changed your phone/mobile number or email address, please let us know so we can keep in touch:

- phone: (03) 8341 6266
- email: health.nuts@mcri.edu.au

If you've received a questionnaire for your 4 year old and haven't yet returned it, please do so as soon as you can. Even if your child doesn't have a food allergy, we'd like to hear from you.

And don't forget we'll be inviting you and your child to the HealthNuts clinic at The Royal Children's Hospital for free allergy testing when your child turns 6 years old. So keep an eye out for an invitation letter and questionnaire in the mail around your child's 6th birthday.

Sudoku

Have you finished today's newspaper Sudoku and want more?
Try our HealthNuts Sudoku!

Simply fill every column, row and 3x3 box so they contain every number between 1 and 9.

Easy

	7	3		6		1	2	
5			7	1				
8	1		4		3	5		
	2	1			8	4		7
		9					3	6
3	5			7	6		8	
				9		8	4	
2		7		8			1	
				5	2		9	

Challenging

	4	5	8	2				
8								
	1	2			5			4
1	6		9			4		
		4						
5	3						1	6
			4			8		3
			5	8			2	9
			1	9				5



Thank you once again for participating in the HealthNuts study!

We wish you all the best for the festive season. Have a lovely Summer and a very Happy New Year!



The Children's
Excellence in
clinical care,
research and
education



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