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Allergy & Asthma News

CONNECTING CANADIANS WITH ANAPHYLAXIS, ALLERGIES AND ASTHMA

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IN THIS ISSUE:

Allergy/Asthma Information Association Mission Statement

The AAIA creates safer environments and improves quality of life for Canadians affected by allergy, asthma, and anaphylaxis by empowering individuals and providing education, leadership, and a national voice.

Bugging out: Study Shows Promise for the Use of Probiotics in Peanut Allergy Treatment

By: Rozlyn C.T. Boutin, BSc., Year 3 UBC MD/PhD Student

As the leaves on the trees outside begin to change colour and another school year is once again upon us, many parents, students, teachers, and school staff will be thinking about the daily task of packing or providing nutritional lunches and after-school snacks. Previously a relatively simple chore, skyrocketing rates of food allergies and intolerances in school-aged and younger children have meant that this is becoming an increasingly challenging task each year. Canadian self-reported food allergy rates are at an all-time high of 6-8% [1,2], and other industrialized countries have observed similarly alarming trends. Anecdotally, it is now almost more surprising to hear that a classroom does not have at least one child with some sort of food allergy or intolerance, as opposed to the historically true reverse situation.

Peanut allergies are one of the most common types of food allergy plaguing young children today. Unfortunately also among the few forms of allergy likely to persist into adulthood, peanut allergies are often severe and can even be fatal. Moreover, there is currently no consistently effective cure or preventative treatment option available for those affected other than peanut avoidance. An exciting article published in August in *The Lancet Child & Adolescent Health* suggests, however, that research into the use of probiotics may hold promise for the effective treatment of peanut allergies in the near future.

The World Health Organization defines probiotics as "live microorganisms which, when administered in adequate amounts, confer a health benefit on the host". Several potential probiotics being actively studied for their beneficial effects have been identified through studies investigating what is known as the 'gut microbiota'; a diverse community of bacteria and other microorganisms that inhabits the human gastrointestinal tract and is essential to human health. This microbial community helps us to digest our food, provides us with important vitamins, and prevents harmful bacteria from causing disease. Additionally, there is now strong evidence to suggest that these microbes play an important role in training the immune system to react appropriately to stimuli, including food. Therefore, a reduced presence or exposure to these 'beneficial' bacteria in the gut may lead to improper immune responses such as allergies. Similarly, increased exposure to these bacteria may help prevent allergic responses. Indeed, studies have found that early life antibiotic exposure is associated with the later development of allergic conditions, and the recent rise in allergic diseases has coincided with increasing rates of antibiotic use in industrialized countries.

In light of this evidence, Dr. Mimi Tang and her team at the Royal Children's Hospital in Melbourne, Australia, conducted a study wherein 62 peanut-allergic children aged 1-10 were randomly assigned to treatment groups receiving either a daily dose of the probiotic *Lactobacillus rhamnosus* AND peanut protein (a treatment known as oral immunotherapy when peanut protein is given alone) or a placebo formulation (no bacteria or protein) for 18 months[3]. Participants in the probiotic AND peanut protein (PPOIT) group received a dose of bacteria equivalent to eating "20 tubs of yogurt" a day, and all participants were instructed to not consume any other probiotic supplements during the study period. *Lactobacillus rhamnosus* was chosen as the probiotic for this study on account of its previously demonstrated beneficial effects on the

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Thank you to Dr. Antony Ham Pong, MB, BS, FRCP(C), a member of the CSACI, for reviewing this edition of the Allergy & Asthma News for medical accuracy.

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Wishing everyone all the best in 2018!

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- **Milk Allergy - The Facts**
- **Peanut and Nut Allergies - The Facts**
- **Asthma - The Facts**
- **Dust brochure**

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immune system. By administering this bacterium concurrently with traditional oral immunotherapy, the researchers wanted to determine whether its presence at the time of allergen exposure could essentially help to 'educate' the immune system and promote a tolerant rather than inflammatory immune reaction to the peanut protein. At the end of this study four years ago, over 89% of the children receiving the PPOIT treatment were desensitized to peanuts and 82.1% were able to tolerate peanut exposure even 2-5 weeks following treatment cessation, compared to only 7.1% and 3.6%, respectively, of the children receiving the placebo therapy.

Although these initial findings supported a role for probiotic use in short-term peanut allergy treatment, it is well-known that the effects of oral immunotherapy regimens can often wear off over time. In other words, children may re-develop allergic responses to peanuts days to years after the treatment stops. Thus, four years following their initial study, Dr. Tang and her colleagues reassessed 48 of the children included in the original study for their sustained ability to tolerate peanuts[4]. Remarkably, 67% of the follow-up children included in the original PPOIT group (16/24 children) were still eating peanuts four years after stopping treatment, whereas this was true for only 4% of follow-up children in the original placebo group (1/24 children). Moreover, children who received the PPOIT therapy four years prior were significantly more likely than children in the placebo group to pass the 'gold standard' of food allergy testing, known as a double-blind placebo-controlled food challenge (DBPCFD), at the follow-up assessment.

Research findings and guidelines surrounding peanut allergy prevention are constantly evolving, as evidenced by the recent change in the Canadian Pediatric Society guidelines reneging advice to delay peanut introduction to most infants' diets until after six months of age due to evidence suggesting that delayed introduction may actually increase the risk of peanut allergy development in otherwise healthy children. Thus, while the findings of the PPOIT Study provide hope for the future and may eventually lead to dramatic changes in the peanut allergy treatment landscape, it is important to recognize that further studies in additional, larger cohorts will be needed to replicate these findings and to interpret the findings of Dr. Tang's study within the scope of the study limitations. Several of the limitations of the PPOIT Study were recently highlighted by Drs. Chu, Jordana, and Waserman of McMaster University in a statement released by AllerGen, an organization that funds Canadian allergy-related research (http://allergen-nce.ca/canadian-allergistsimmunologists-comment-on-recent-australian-oral-immunotherapy-study/). This statement highlights the importance of avoiding over-interpretation of the PPOIT Study's findings. For instance, while more children in the PPOIT group than in the placebo group passed the DBPCFD four years after treatment cessation (7/12 vs 1/15 children), anaphylactic reactions were still observed in two children in the PPOIT group and four children in the placebo group during this test. Moreover, there were no significant differences between these groups in the number of allergic reactions the participants reported over the four-year follow-up period or in certain serological measures of allergen reactivity at the four-year follow-up assessment. Finally, no children in the initial study were given either the probiotic or traditional oral immunotherapy (peanut protein) therapies alone. Thus, conclusions regarding the independent contributions of each of these components to the observed reduction in peanut sensitization cannot be drawn and it is possible that the observed desensitization would have occurred independently of probiotic exposure or with probiotic exposure alone. A study including groups of peanut-allergic children who will receive either the PPOIT treatment, oral immunotherapy alone, or a placebo is now ongoing in Australia to address this question.

Food is intricately tied to important social and cultural norms, and food allergies can significantly impair the quality of life of those affected. This is especially true in the case of young and school-aged children, as lunch time is often when important friendships are cultivated and healthy eating habits are established. The development and establishment of inclusive food allergy-friendly menus and environments is improving in Canada, but accidental exposures are still a concern and parents, teachers, and children must remain constantly vigilant. Thus, the development of effective food allergy treatments is becoming an increasingly urgent public health issue affecting all Canadians, and continued research in this area is critical to this end.

1. Soller L, Ben-Shoshan M, Harrington DW, et al. Overall prevalence of self-reported food allergy in Canada. *J Allergy Clin Immunol*. 2012;130(4):986-988.
2. Soller L, Ben-Shoshan M, Harrington DW, et al. Adjusting for nonresponse bias corrects overestimates of food allergy prevalence. *J Allergy Clin Immunol Pract*. 2015;3(2):291-293.
3. Tang MLK, Ponsonby AL, Orsini F, et al. Administration of a probiotic with peanut oral immunotherapy: A randomized trial. *J Allergy Clin Immunol*. 2015;135(3):737-744.
4. Hsiao K-C, Ponsonby A-L, Axelrad C, et al. Long-term clinical and immunological effects of probiotic and peanut oral immunotherapy after treatment cessation: 4-year follow-up of a randomised, double-blind, placebo-controlled trial. *Lancet Child Adolesc Heal*. 2017;4642(17):1-9.

http://allergen-nce.ca/wp-content/uploads/Chu-Jordana-Waserman-OIT-statement.pdf.

Health on the Net

By Lorraine Gosselin

Peanut allergy could be cured with probiotics combined with peanut oral immunotheraphy

"A new study shows that a treatment for peanut allergy in children that was trialed and proven successful 4 years ago continues to protect children from allergic reactions to peanuts years later.**"** The initial trial as well as the new research comes from the University of Melbourne, in Australia. Food allergies have become more common, and, as the researchers say "unlike allergies to egg, milk, or soy, nut allergies tend to persist in adulthood." **www.medicalnewstoday.com/articles/319038.php?iacp**

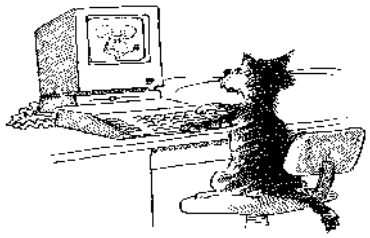
Also see detailed information in our featured article as well as Canadian allergists' comments on the studies at **allergence.ca/canadian-allergistsimmunologists-comment-on-recent-australian-oral-immunotherapy-study/**

Allergy Medications and Restless Leg Syndrome

From *Health after 50*—While the reasons for restless leg syndrome are generally unknown, "some allergy medications, some first-generation antihistamines like Benadryl, Chlor-Trimeton, and Robitussin can contribute or aggravate the problem." See this article for other medications that might also impact this problem, as well as suggestions for relief. **http://tinyurl.com/yb5p9cwh**

Skin products and common allergens

From Mayo newsletter: to find out if a skin product you use contains common allergens, search for it on **www.skinsafeproducts.com**—this website was developed in connection with the Mayo Clinic—products are scored on how allergen-free they are.



Asthma blog

Asth.ma is a blog from the view of asthma researcher, doctor, and mom Ann Chen Wu. She is a researcher at Harvard Medical School and at Harvard Pilgrim Health Care Institute, both in Boston, MA, and a pediatrician at Children's Hospital Boston, also in Massachusetts.

Holiday tips for people with allergies—and their families and friends

"From Christmas trees and poinsettias to the flickering fireplace, the ambiance of the season can mean trouble for sensitive individuals."

You and your family might be aware of all this, but think of the family and friends you will visit over the holidays. Are they aware? Or are they like one of my aunts who knows I'm allergic to cats, so believes hiding her cat during my visit will solve my problems! You might wish to extract some specific items and send them on before the holidays, as a gentle reminder. **www.mnallergyclinic.com/education/winter-allergies/**

Thanks to Yvonne Rousseau for her help.

Disclaimer: *although these sites have been reviewed, the AAIA does not guarantee the medical accuracy of their contents.*

Holiday Survival Tips

The holidays are a time for celebration with friends and family that largely revolve around food. It can be a particularly stressful time for someone with food allergies, or for parents of children with food allergies. By following a few simple steps, you should be able to participate in the joys of the season while taking care of your health and avoiding common allergy and asthma triggers.

- Communication: talk to the host about your food safety concerns, including cross-contamination issues. Ask them to save ingredient labels of the foods being served, or to provide recipes for homemade items. Offer to help in the kitchen.
- Bring your own safe food, or eat at home before the event.
- Always carry your medication with you – epinephrine auto-injectors, asthma inhalers, antihistamines. If travelling by plane, keep these in your carry-on luggage.
- Wash hands often: before and after eating or handling food. Wet wipes can be used while travelling, but avoid hand sanitizer as it does not remove the allergenic food particles.

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Holiday Survival Tips

- Prepare and cook safe meals first, then unsafe foods if necessary. Keep safe foods away from unsafe foods while preparing, serving and storing.
- Use separate serving utensils for each dish.
- With buffet-style meals, allow food allergic guests to serve themselves first, before cross-contamination occurs.
- Recognize early signs and symptoms of an allergic/asthmatic reaction. Watch for hives, swelling, itching, coughing, wheezing, chest tightness, nausea, vomiting, dizziness, anxiety, anaphylactic shock. Use epinephrine auto-injector immediately and call 911.
- Recognize airborne allergens such as pets, scented candles, fireplace/wood smoke, real or artificial trees, and avoid close contact. Pre-medicate with antihistamines if necessary.
- Consider non-alcoholic beverages as alcohol may cause faster absorption of food allergens, speeding up allergic reactions.

Take control of this holiday season, stay safe and healthy, and enjoy your time with friends and family!

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To mail your donation, send it to AAIA at 5409 Eglinton Avenue West, Suite 200, Toronto, ON, M9C 5K6 or by fax to 416-621-5034 or go to www.aaia.ca for online donation.

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2017 EpiPen® Take Action Event Calgary, AB – Summary by Lilly Byrtus, Regional Coordinator, Prairies/NWT/Nunavut Region

Calgary's fourth EpiPen® Take Action Event was held on Saturday, June 3rd, 2017. The weather was perfect – sunny and warm, and the location at Arbour Lake Park was beautiful. The event was a fun family event that also included a timed run for participants wishing to do this. The route was a 2.5 km loop which some participants chose to do twice to get in a 5 km workout! Fun activities for the children and young-at-heart included a bouncy castle and inflatable ball stations. Snacks, water, juice, and fruit were provided. Several door prizes were drawn, and some lucky winners went home a little happier because of this.

Overall a great day with many opportunities for families to connect and share stories about coping with their own and their children's allergies.

A special thank you goes to Ivana Pitonak and her family for organizing the event. Also, thanks to Tara Porcu and the Arbour Lake Resident's Association for allowing us to hold the EpiPen® Take Action Event at this site, and for assisting with planning and organizing both before and on June 3rd. Thanks also to the volunteers for helping us provide a safe and fun experience. Assistance at the registration table, at the water stations, and along the route was very much appreciated.

Thanks to our primary sponsor Pfizer, for allowing us to host the EpiPen® Take Action Event in Calgary, AB this year, and to Brewsters Crowfoot in Calgary NW for providing a basket of goodies for one of the door prizes, and generously providing $10 gift cards to all adult participants. Thanks also to Butterfield Acres Fun Farm and to Co-op for providing door prizes.

In summary, Calgary's EpiPen® Take Action Event was well-organized and enthusiastically embraced by young and old alike. Although attendance was down from previous years, those who joined us had a great family fun experience. 2017 marks the thirteenth year of AAIA's fundraising run/walk events across Canada, helping to further our goal of supporting the allergic community by raising awareness and providing much-needed funds for education and research. Thanks to all who participated.

On behalf of everyone at AAIA, we would like to wish you a very Happy Holiday Season and best wishes for 2018! May you enjoy good health and happiness, now and throughout the coming year.

New Research

New Genetic Clue to Peanut Allergy

A new gene associated with peanut allergy has been identified by Canadian AllerGen researchers. This may lead to further research, improved diagnostics and new treatment.

The gene, called c11orf30/EMSY (EMSY) is known to have a role in other allergy conditions, i.e. eczema, asthma, and allergic rhinitis. However, this is the first study to link EMSY with food allergy and also general allergic predisposition. Researchers discovered that EMSY was associated with an increased risk of both peanut allergy and food allergy, as well as five other gene locations which are also thought to be involved.

Food allergy is the result of both genetic and environmental factors but there is little data regarding the genetic basis of this condition. The discovery of this genetic link gives a fuller picture of the causes of food allergies and this may eventually help doctors identify children at risk.

In order to develop new treatment for food allergies, researchers need to know the specific genes and pathways involved. The results of this study suggest that EMSY could be useful for predicting and managing food allergy treatments in the future.

The **full press release** can be found at http://allergen-nce.ca/wp-content/uploads/Daley-new-genetic-clue-peanut-allergy.pdf
The research findings have been published in the Journal of Allergy and Clinical Immunology
http://www.jacionline.org/article/S0091-6749(17)31574-9/pdf

AAIA Restaurant and Food Services Presentation

Supporting the restaurant and food service sector

The Allergy/Asthma Information Association (AAIA) wishes to remind you of their AAIA Restaurant and Food Services Presentation in support of the restaurant and food service sector. This is a PowerPoint slide presentation consisting of 36 slides which provide allergy awareness and training for management and staff in the restaurant and food service industry. Here is an example of one of our PowerPoint slides from this presentation.

Alcoholic Beverages (Slide 27)

- **Alcohol with nuts:** eg. Amaretto (almond); Bombay Sapphire Gin (almond); Frangelico (hazelnut); Kahana Royale (macadamia); Nocino (walnut); Southern Comfort (nut derivative); some vodkas mixed with nut ingredients…
- **Alcohol with eggs:** Bols Advokat, some wines*…
- **Alcohol with milk:** creamy liqueurs, Baileys…
- **Alcohol with wheat/gluten:** beer, whiskey, gin…
- **Alcohol with sulphites:** beer, wine, cider…

Note: Ingredients can change and this is not a complete list!

For more information or to purchase this PowerPoint presentation contact AAIA at admin@aaia.ca . Cost $150.

Recipes

Chocolate Snowballs (wheat-free, egg-free, nut-free)
¼ cup margarine or butter
½ cup evaporated milk
1 tsp. vanilla
2 cups granulated white sugar
2 tbsp. cocoa or carob powder
2 cups coconut
Boil margarine or butter, milk, sugar and cocoa or carob together for 5 minutes. Cool mixture and add vanilla and coconut. Shape in balls and roll in more coconut. Place on serving plate and chill in fridge.

Festive Fruit Cake (contains gluten, wheat-free, egg-free, milk-free, nut-free)
1 cup brown sugar
1 cup water
2 cups raisins
1/3 cup margarine
1 tsp. cinnamon
¼ tsp. nutmeg
2 cups rye flour
1 tsp. baking soda
½ tsp. baking powder

Combine sugar, water, raisins, margarine, cinnamon and nutmeg in saucepan. Boil for 3 minutes, then cool for 10 minutes. Add flour, baking soda and baking powder. Blend well and pour into greased 8-inch square pan. Bake at 325 degrees F for 40 minutes.

Rice Flour Shortbread (wheat-free, egg-free, nut-free)
¾ cup butter or margarine
½ cup icing sugar
2 cups rice flour
¼ tsp. baking powder
¼ tsp salt
¼ tsp. cream of tartar
Using electric mixer, cream butter or margarine with icing sugar. Gradually add in flour, baking powder, salt, and cream of tartar. Chill dough in fridge for one hour. Roll out on lightly floured board to ¼ inch thickness. Cut with cookie cutter, and place on ungreased baking sheet. Bake at 325 degrees F until golden and crisp, but not brown. Bake for 10 minutes, but watch closely, as oven temperature varies.

Homemade Orange Jello
2 packages unflavored gelatin
3 cups orange juice
3 tbsp. honey
3 oranges

In saucepan, sprinkle gelatin over ½ cup orange juice. Let stand for a minute to soften. Stir in honey. Heat over low heat, stirring until gelatin dissolves, about 1 minute. Stir in remaining juice. Pour into serving bowl. Refrigerate until partially set, about 45 minutes to 1 hour. Peel and cut oranges into mixture. Stir gently until evenly distributed. Refrigerate again until set, about 2 hours.