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# May is Food Allergy Awareness Month

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Food allergies appear to be on the rise in industrialised countries. They have been dubbed "the second wave of the allergy epidemic".<sup>1</sup> Food allergies lessen quality of life and can be life-threatening.<sup>2,3</sup>

## **Food Allergy Vs Intolerance**

Food allergies are due to an immune response to food or food components and may be IgE- or non-IgE-mediated.<sup>3,4</sup> Food allergies can present as anaphylaxis. However, food allergy can present with a wide range of signs and symptoms involving the gastrointestinal, cutaneous, and respiratory systems or a combination. Food intolerances, on the other hand, are mainly non-immune mediated reactions and include lactose intolerance, glutamate and aspartame sensitivity, or reactions to preformed toxins or vasoactive amines in foods.

## **Food Allergies And Medications**

There are more than 170 foods known to cause IgE reactions,<sup>4</sup> but most food allergies are caused by peanuts, tree nuts, seafood (fish and shellfish), eggs, milk, sesame, soy, and wheat.<sup>5</sup> Medications may contain some of these potential allergens (Table 1). Some medications can worsen allergic reactions to food (Table 2).

Table 1: Potential food allergens found in some medications\*

Peanut oil, soybean oil, sesame oil (in capsules, depot injections, lipid emulsions, nasal and topical products)	Refined peanut and soybean oils have low allergen content and may suggest that ingestion is safe, but since there is no threshold for a known allergy, avoidance is still recommended. <sup>3,6,7</sup> Data on administration is lacking and severe allergy to lipid emulsion has been reported. <sup>8</sup> Most sesame oils are not refined enough to be safe.
Soy lecithin (in capsules, tablets, oral liquids) and egg lecithin (in lipid emulsions)	Although some soy-allergic patients can eat soy lecithin, and egg seems to be safe in cooked foods, intravenous administration can cause serious reactions. <sup>10</sup>
Egg protein (in vaccines)	MMR vaccine and Imovax® rabies vaccine are generally safe for egg-allergic patients. <sup>11</sup> Influenza vaccine is not contraindicated in egg-allergic patients with administration with trained resuscitation personnel and equipment recommended. <sup>12</sup> Avoid yellow fever and RabAvert® rabies vaccine.
Wheat	Wheat allergy is different from celiac disease. <sup>13</sup> Most medications are wheat-free. Wheat starch is found in some tablets (e.g. Imunovir®, Tardan® shampoo contains hydrolyzed wheat protein).
Seafood	Protamine (NPH insulin, heparin antidote) is isolated from salmon and may be contaminated with fish proteins. Patients with fish allergy should avoid it. Iodine-containing drugs like amiodarone, contrast dyes, or povidone-iodine are not contraindicated in patients with fish or shellfish allergy. Shellfish allergy is a misnomer. <sup>15</sup>
Tree nuts	Medications do not contain tree nuts, but paclitaxel is found in some formulations. A patient with hazelnut allergy developed hives, itching and dyspnea after a paclitaxel infusion was started. <sup>16</sup>
Miscellaneous (non-immune reactions)	Salicylates are found in fruits, vegetables, herbs and spices but are tolerated by most patients with ASA sensitivity. <sup>17</sup> Carmine red was the cause of anaphylaxis purported to be due to azithromycin. <sup>18</sup> Sulfite sensitivity is the same as sulphonamide allergy.

\*Not a comprehensive list. Consult specific product information.

Table 2: Medications that can exacerbate food allergies

ASA and NSAIDs	May predispose to bronchoconstriction. <sup>19</sup> ASA increases food allergy symptoms and exercise-induced anaphylaxis (possibly by increasing GI uptake). <sup>20</sup>
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Beta blockers and alpha blockers	Do not worsen allergies <i>per se</i> but may blunt the therapeutic epinephrine. <sup>3</sup>
ACE inhibitors	May interfere with production of endogenous vasoconstrictors in allergic reactions. <sup>3</sup>
Tacrolimus	Tacrolimus immunosuppression is associated with increased

## Prevention Of Food Allergies

For patients with known food allergies avoiding the allergen is the goal. Thus, if a patient is suspected of having a food allergy, they must have the diagnosis confirmed and the specific allergen determined. Probiotics have been shown to reduce eczema, but there is insufficient evidence that probiotics prevent or treat food allergies.<sup>22,23</sup>

## Treatment Of Anaphylaxis

Details on treatment are beyond the scope of this article - see **Additional Resources**.

First-line: epinephrine. Guidelines and local experts recommend a 0.3 mg dose for children weighing more than 20 to 25 kg.<sup>3,24</sup> Optimally, patients should have a back-up dose available, and all patients with a severe reaction should be sent immediately to the hospital.<sup>25</sup>

Accidental injection of epinephrine into an extremity such as a finger can cause tissue ischemia. However, such accidents can sometimes be managed at home - contact the Poison Control Centre immediately.

Adjunctive treatments: Bronchodilators can help relieve bronchospasm not responding to epinephrine, but they do not relieve laryngeal edema and **EPINEPHRINE MUST BE GIVEN**. Antihistamines relieve itching and urticaria but do not relieve shortness of breath, wheezing or shock and **EPINEPHRINE MUST BE GIVEN**. Corticosteroids take several hours to work and are not useful for immediate treatment and **EPINEPHRINE MUST BE GIVEN**.<sup>3</sup>

## Additional Resources

- Learn more about food allergies and anaphylaxis, and print out a personalised emergency treatment plan at [www.allergysafecommunities.ca](http://www.allergysafecommunities.ca)

- Health Canada food allergies and intolerances: <http://www.hc-sc.gc.ca/fn-an/securit/allerg/index-eng.php>
- Guidelines for the diagnosis and management of food allergy in the United States (2010) <http://www.niaid.nih.gov/topics/foodallergy>
- Patients can call 811 and speak to a HealthLinkBC allergy dietician.

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We are grateful to all the First Nations who have cared for and nurtured the lands and waters around us for all time, including the xʷməkʷəy̓əm (Musqueam), Skwxwú7mesh Uxwumixw (Squamish Nation), and sʔilwətaʔ (Tsleil-Waututh Nation) on whose unceded and ancestral territory our centre is located.

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