- Allergy

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HEALTH

# Yes, Adults Can Develop Food Allergies

*Here are four types you need to know about*

BY *Professor Clare Collins*
FROM **THE CONVERSATION**

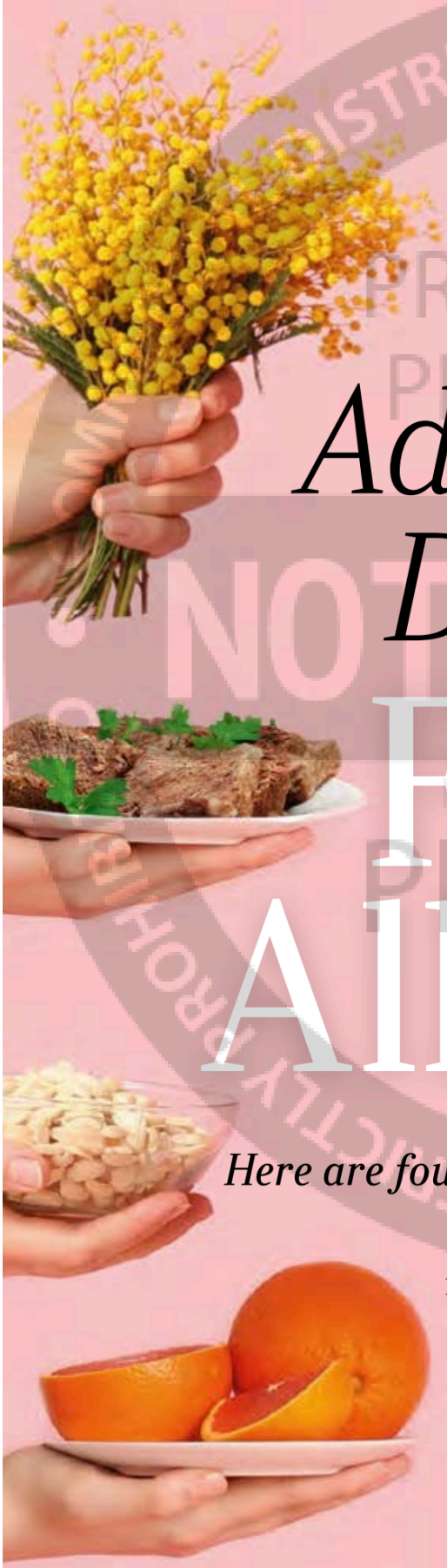
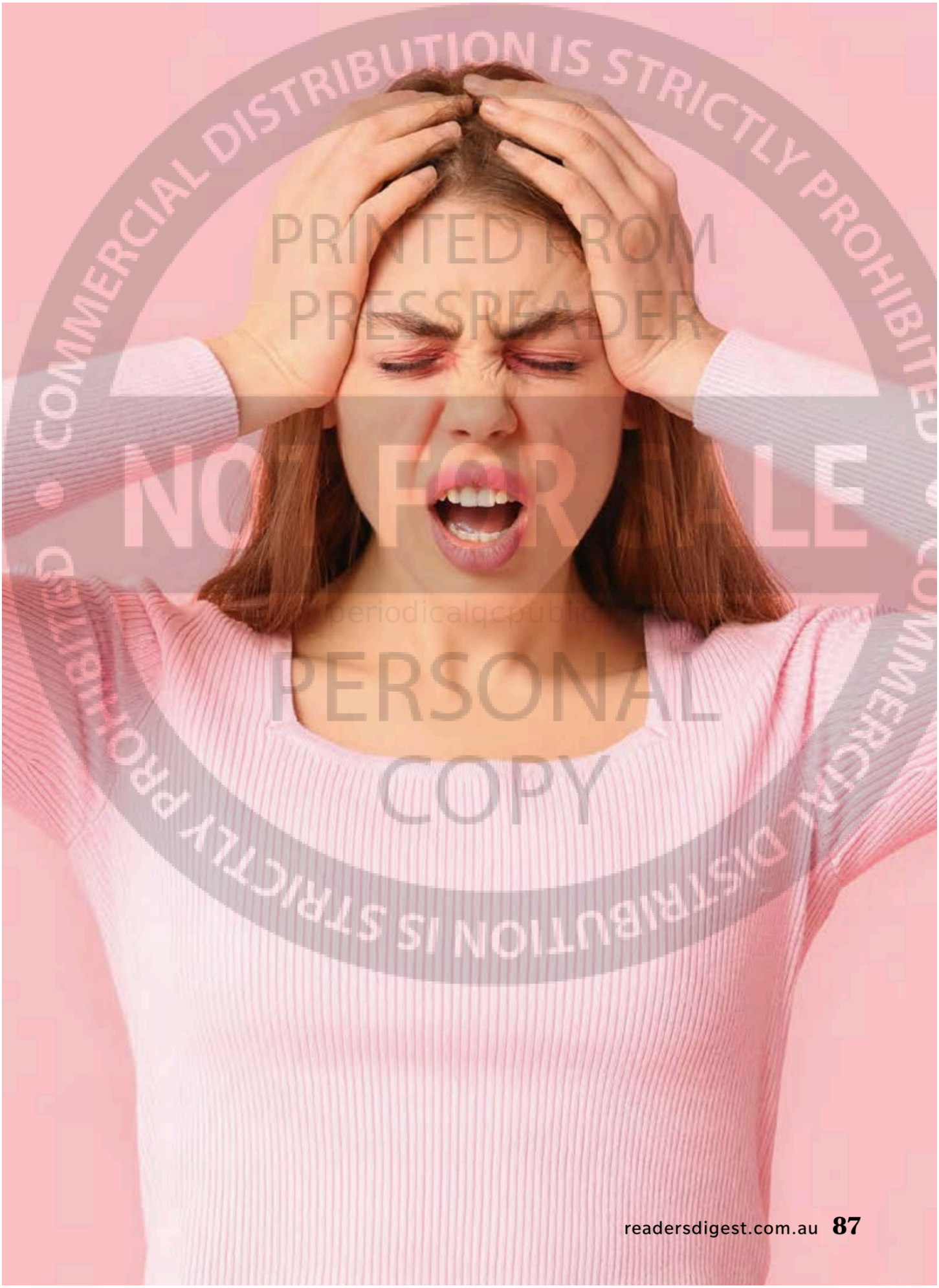


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If you didn't have food allergies as a child, is it possible to develop them as an adult? The short answer is yes. But the reasons why are complicated.

Preschoolers are about four times more likely to have a food allergy than adults and are more likely to grow out of it as they get older.

It's hard to get accurate figures on adult food allergy prevalence. The Australian National Allergy Council reports one in 50 adults have food allergies. But a US survey suggested as many as one in ten adults were allergic to at least one food, with some developing allergies in adulthood.

## What Is A Food Allergy?

Food allergies are immune reactions involving immunoglobulin E (IgE) – an antibody that's central to triggering allergic responses. These are known as 'IgE-mediated food allergies'.

Food allergy symptoms that are not mediated by IgE are usually delayed reactions and called food intolerances or hypersensitivity.

Food allergy symptoms can include hives, swelling, difficulty swallowing, vomiting, chest or throat tightening, trouble breathing, chest pain, rapid heart rate, dizziness, low blood pressure or anaphylaxis.

IgE-mediated food allergies can be life threatening, so all adults need an action management plan developed in consultation with their medical team.

Here are four IgE-mediated food allergies that can occur in adults – from relatively common ones to rare allergies you've probably never heard of.

### 1 SINGLE FOOD ALLERGIES

The most common IgE-mediated food allergies in adults in a US survey were to:

- **shellfish (2.9 per cent)**
- **cow's milk (1.9 per cent)**
- **peanuts (1.8 per cent)**
- **tree nuts (1.2 per cent)**
- **fin fish (0.9 per cent) like barramundi, snapper, salmon, cod and perch.**

In these adults, about 45 per cent reported reacting to multiple foods.

This compares to most common childhood food allergies: cow's milk, egg, peanut and soy.

Overall, adult food allergy prevalence appears to be increasing. Compared to older surveys published in 2003 and 2004, peanut allergy prevalence has increased about three-fold (from 0.6 per cent), while tree nuts and fin fish roughly doubled (from 0.5 per cent each), with shellfish similar (2.5 per cent).

While new adult-onset food allergies are increasing, childhood-onset food allergies are also more likely to be retained into adulthood. Possible reasons for both include low vitamin D status, lack of immune system challenges due to being overly 'clean', heightened sensitisation due to allergen avoidance, and more frequent antibiotic use.



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## 2 TICK-MEAT ALLERGY

Tick-meat allergy, also called α-Gal syndrome or mammalian meat allergy, is an allergic reaction to galactose-alpha-1,3-galactose, or α-Gal for short.

Australian immunologists first reported links between α-Gal syndrome and tick bites in 2009, with cases also reported in the US, Japan, Europe and South Africa. The US Centers for Disease Control estimates about 450,000 Americans could be affected.

The α-Gal contains a carbohydrate molecule that is bound to a protein molecule in mammals.

The IgE-mediated allergy is triggered after repeated bites from ticks or chigger mites that have bitten those mammals. When tick saliva crosses into your body through the bite, antibodies to α-Gal are produced.

**SYMPTOMS INCLUDE HIVES, SWELLING AND DIFFICULTY SWALLOWING OR BREATHING**

When you subsequently eat foods that contain α-Gal, the allergy is triggered. These triggering foods include meat (lamb, beef, pork, rabbit, kangaroo), dairy products (yoghurt, cheese, ice-cream, cream), animal-origin gelatin added to gummy foods (jelly, lollies, marshmallow), prescription medications and over-the-counter supplements containing gelatin (some antibiotics, vitamins and supplements).

Tick-meat allergy reactions can be hard to recognise because they're usually delayed, and they can be severe and include anaphylaxis. Allergy organisations produce management guidelines, so always discuss management with your doctor.

## 3 FRUIT-POLLEN ALLERGY

Fruit-pollen allergy, called pollen food allergy syndrome, is an IgE-medicated allergic reaction.

In susceptible adults, pollen in the air provokes the production of IgE antibodies to antigens in the pollen, but these antigens are similar to ones found in some fruit, vegetables and herbs. The problem is that eating those plants triggers an allergic reaction.

The most allergenic pollens are from birch, cypress, Japanese cedar, latex, grass and ragweed. Their pollen can cross-react with fruit and vegetables, including kiwi, banana, mango, avocado, oranges, grapes, celery, carrot and potato, and some herbs such as caraway, coriander, fennel, pepper and paprika.

Fruit-pollen allergy is not very common. Prevalence estimates are between 0.03 per cent and 8 per cent depending on the country, but it can be life-threatening. Reactions range from itching or tingling of lips, mouth, tongue and



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throat, called oral allergy syndrome, to mild hives, to anaphylaxis.

### 4 FOOD-DEPENDENT EXERCISE-INDUCED FOOD ALLERGY

During heavy exercise, the stomach produces less acid than usual and gut permeability increases, meaning small molecules in your gut are more likely to escape across the membrane into your blood. These include food molecules that trigger an IgE reaction.

If the person already has IgE antibodies to the foods eaten before exercise, then the risk of triggering food allergy reactions is increased. This allergy is called food-dependent exercise-induced allergy, with symptoms ranging from hives and swelling, to difficulty breathing and anaphylaxis.

Common trigger foods include wheat, seafood, meat, poultry, egg, milk, nuts, grapes, celery and other foods, which could have been eaten many hours before exercising.

To complicate things even further, allergic reactions can occur at lower levels of trigger-food exposure, and be more severe if the person is simultaneously taking non-steroidal inflammatory medications like aspirin, drinking alcohol or is sleep-deprived.

Food-dependent exercise-induced allergy is extremely rare. Surveys have estimated prevalence as between one to 17 cases per 1000 people worldwide with the highest prevalence between the teenage years to age 35. People who are affected often have other allergic conditions such as hay fever, asthma, and dermatitis.

## A Growing Burden

The burden on physical health, psychological health and health costs due to food allergy is increasing. In the US, this financial burden was estimated as $24 billion per year.

**ADULTS NEED A MANAGEMENT PLAN DEVELOPED IN CONSULTATION WITH THEIR DOCTOR**

Adult food allergy needs to be taken seriously and people who have severe symptoms should wear a medical information bracelet or chain and carry an adrenaline autoinjector pen (EpiPen). Concerningly, surveys suggest only about one in four adults with food allergy have an adrenaline pen.

If you have an IgE-mediated food allergy, discuss your management plan with your doctor. You can also find more information at Allergy and Anaphylaxis Australia (https://allergyfacts.org.au). R

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