

## Coconut allergy

**Allergic reactions to eating coconut have been reported, but are relatively rare. By contrast, contact allergic dermatitis to coconut products is more common. Sensitisation to coconut pollen has been reported.**

### Coconut is a useful food

The coconut palm tree is a native of the tropics. The fruit (seed) of the palm is known as the coconut. The coconut has great economic value, as the outer fibrous husk can be used to make ropes and mats, the white inner flesh can be eaten, and the milk drunk. Coconut derived products are also added to many foods including cakes, some chocolates and lollies, and are used in some infant formulae. They are also an ingredient of some cosmetics, shampoos and soaps.

### Allergies occur to peanut, tree nuts and coconut

Allergic reactions to peanut or tree nuts are relatively common. By contrast, allergic reactions to coconut are relatively rare. Few cases of allergic reactions from eating coconut products have been reported, including one case of severe stomach upset in a baby fed coconut containing infant formula. The other cases reported have been those of severe allergic reactions (anaphylaxis). Of these cases, some have been found to be allergic to tree nuts like walnut and hazelnut as well as coconut, and allergic responses have been found to similar proteins present in both types of foods, a concept known as cross-reactivity. Others have been allergic to coconut only.

### Food proteins trigger food allergy

The substances triggering allergic reactions to food are proteins. If a person is allergic to *one* protein present in *one* food only (such as coconut, dairy products, hen's egg) then an allergic reaction can only occur if they eat that *one* food.

### Allergies may occur to one or many foods

The proteins that trigger allergies to egg, dairy products or peanuts are very different. A person allergic to proteins in dairy products may have problems with dairy products, but not necessarily other foods. People allergic to dairy (cow's milk) products *and* egg are considered to be unlucky enough to be allergic to multiple proteins within different foods, not the same protein in different foods.

### Cross-reactivity is hard to predict

Cross-reactivity means that a similar protein is present in a range of different foods. If the same protein is present in several foods, then that person may have allergic reactions to *any* food containing that protein. Examples of cross-reactivity include people allergic to similar proteins present in hen's egg and duck eggs; or cow's milk and goat's milk; or cashew nut and pistachio nut.

In the same way that different animals have hearts, lungs and muscles, very different looking foods may have similar structures and proteins. Unfortunately, it is sometimes difficult to predict whether a person will be

allergic to *one* unique protein allergen present in one food *only*, or *several* similar cross-reactive proteins present in *multiple* foods, simply based on whether foods have a similar appearance.

For example, peanut and tree nuts (like almond, brazil nut or cashew) make look and taste much the same, yet the proteins present in peanuts are generally considered to be very different to those in tree nuts like almonds, cashews and so on. That means that one can be allergic to peanut only, tree nuts only, or any combination of peanut, a few tree nuts, or anything that looks or tastes like a peanut or tree nut.

### Coconut allergy is relatively rare

Coconut is a very different plant from peanut or tree nuts. The presence of the letters "nut" does not mean that coco-"nut" will trigger an allergic reaction in people allergic to peanut or tree nuts. The relative frequency of allergy to peanut and tree nuts (relatively common) compared to those allergic to coconut (very rare) would suggest that the risk of coconut allergy in an individual known to be allergic to peanut or tree nuts is very low, so much so that allergy testing to coconut is not considered as routine. At the present time there are no published studies examining how often people allergic to peanut or tree nuts are *also* allergic to coconut. The limited knowledge that we have would suggest that the risk is very low. So what to do if you are worried?

### Allergy testing to coconut

If you have concerns about the risk of allergic reactions to coconut ask your clinical immunology/allergy specialist about skin prick allergy testing or blood allergen specific IgE testing to coconut.

### Contact dermatitis to coconut is more common than food allergy

Coconut-derived products (such as coconut diethanolamide, cocamide sulphate, cocamide DEA, CDEA) can cause contact allergic dermatitis, present in cosmetics including some hair shampoos, moisturisers, soaps, cleansers and hand washing liquids. As with any contact dermatitis, an itchy blistering rash may arise a day or two after contact with the allergen, and take several days to resolve. If contact dermatitis to coconut products is suspected, then patch testing is an appropriate method for diagnosis.

### References

1. Wittczak T, Pas-Wyroslak A, Palczynski C. Occupational allergic conjunctivitis due to coconut fibre dust. *Allergy*. 2005 Jul;60(7):970-1.
2. Dejobert Y, Delaporte E, Piette F, Thomas P. Eyelid dermatitis with positive patch test to coconut diethanolamide. *Contact Dermatitis*. 2005 Mar;52(3):173.
3. Nguyen SA, More DR, Whisman BA, Hagan LL. Cross-reactivity between coconut and hazelnut proteins in a patient with coconut anaphylaxis. *Ann Allergy Asthma Immunol*. 2004 Feb;92(2):281-4.
4. Roux KH, Teuber SS, Sathe SK. Tree nut allergens. *Int Arch Allergy Immunol*. 2003 Aug;131(4):234-44.
5. Tella R, Gaig P, Lombardero M, Paniagua MJ, Garcia-Ortega P, Richart C. A case of coconut allergy. *Allergy*. 2003 Aug;58(8):825-6.
6. Rosado A, Fernandez-Rivas M, Gonzalez-Mancebo E, Leon F, Campos C, Tejedor MA. Anaphylaxis to coconut. *Allergy*. 2002 Feb;57(2):182-3.
7. Chowdhury I, Chakraborty P, Gupta-Bhattacharya S, Chanda S. Antigenic relationship between four airborne palm pollen grains from Calcutta, India. *Ann Agric Environ Med*. 1999;6(1):53-6.
8. Teuber SS, Peterson WR. Systemic allergic reaction to coconut (*Cocos nucifera*) in 2 subjects with hypersensitivity to tree nut and demonstration of cross-reactivity to legumin-like seed storage proteins: new coconut and walnut food allergens. *J Allergy Clin Immunol*. 1999 Jun;103(6):1180-5.

9. Pumhirun P, Towiwat P, Mahakit P. Aeroallergen sensitivity of Thai patients with allergic rhinitis. *Asian Pac J Allergy Immunol*. 1997 Dec;15(4):183-5.
10. Fowler JF Jr. Allergy to cocamide DEA. *Am J Contact Dermat*. 1998 Mar;9(1):40-1.
11. Couturier P, Basset-Stheme D, Navette N, Sainte-Laudy J. A case of coconut oil allergy in an infant: responsibility of "maternalized" infant formulas. *Allerg Immunol (Paris)*. 1994 Dec;26(10):386-7
12. Pinola A, Estlander T, Jolanki R, Tarvainen K, Kanerva L. Occupational allergic contact dermatitis due to coconut diethanolamide (cocamide DEA). *Contact Dermatitis*. 1993 Nov;29(5):262-5.
13. Kanerva L, Jolanki R, Estlander T. Dentist's occupational allergic contact dermatitis caused by coconut diethanolamide, N-ethyl-4-toluene sulfonamide and 4-tolyldiethanolamine. *Acta Derm Venereol*. 1993 Apr;73(2):126-9.
14. de Groot AC, de Wit FS, Bos JD, Weyland JW. Contact allergy to cocamide DEA and lauramide DEA in shampoos. *Contact Dermatitis*. 1987 Feb;16(2):117-8.
15. Andersen KE, Roed-Petersen J, Kamp P. Contact allergy related to TEA-PEG-3 cocamide sulfate and cocamidopropyl betaine in a shampoo. *Contact Dermatitis*. 1984 Sep;11(3):192-3.
16. Fries JH, Fries MW. Coconut: a review of its uses as they relate to the allergic individual. *Ann Allergy*. 1983 Oct;51(4):472-81.
17. Nurse DS. Sensitivity to coconut diethanolamide. *Contact Dermatitis*. 1980 Dec;6(7):502.

**© ASCIA 2015**

ASCIA is the peak professional body of clinical immunology/allergy specialists in Australia and New Zealand

Website: [www.allergy.org.au](http://www.allergy.org.au)

Email: [info@allergy.org.au](mailto:info@allergy.org.au)

Postal address: PO Box 450 Balgowlah NSW 2093 Australia

**Disclaimer**

This document has been developed and peer reviewed by ASCIA members and is based on expert opinion and the available published literature at the time of review. Information contained in this document is not intended to replace medical advice and any questions regarding a medical diagnosis or treatment should be directed to a medical practitioner. Development of this document is not funded by any commercial sources and is not influenced by commercial organisations.

Content updated 2015