

# Prescribing...

- ✦ Medicinal products contain not only active drugs but also other ingredients included for a variety of purposes.
- ✦ Because of the increasing prevalence of allergies in the community, requests for information and alternative products are likely to increase.
- ✦ This third bulletin looks at egg allergies and "E" numbers.

### Dietary intolerances and pharmaceutical considerations

#### Egg allergy and vaccines

Egg is a common cause of allergic reactions in infants and young children. It often begins in the child's first year of life and, in some cases, lasts into the teenage years or even into adulthood for a few people. The prevalence of egg allergy has been estimated at 1.6% at 2.5 years and 0.1% in the adult population.

There are three vaccines that are cultured on derivatives of hen's eggs:

1. The MMR vaccine is cultured in fibroblasts derived from chick embryos and not on egg and, therefore, the amount of egg protein is negligible. Studies on large numbers of egg-allergic children show there is no increased risk of severe allergic reactions to the vaccines. *Immunisation against Infectious Diseases* ('The Green Book') advises that all children with egg allergy should receive the MMR vaccination as a routine procedure in primary care. It notes that anaphylactic reactions to MMR vaccine are not associated with hypersensitivity to egg antigens but to other components of the vaccine (such as gelatin), and children who have had documented anaphylaxis to the vaccine itself should be assessed by an allergist.
2. Yellow fever vaccine is cultured in chick embryos and contains measurable amounts of egg protein, so individuals with a confirmed anaphylactic reaction to egg should not receive it.
3. Most influenza vaccines are cultured in chick embryos and contain measurable amounts of egg protein. According to The Green Book, people with an egg allergy may be at increased risk of reaction to some influenza vaccines. The Joint Committee on Vaccination and Immunisation has advised that, except for those with severe anaphylaxis to egg, which has previously required intensive care, children with an egg allergy can be safely vaccinated with the live attenuated influenza vaccine (▼Fluenz Tetra); those with clinical risk factors that contraindicate Fluenz Tetra should be offered an inactivated influenza vaccine with a very low ovalbumin content (<0.12µg/mL). In adults, the ovalbumin-free influenza vaccine (Optaflu), if available,

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can be used in any setting, regardless of the severity of the egg allergy. Adult patients can also be immunised in any setting using an inactivated influenza vaccine with an ovalbumin content  $<0.12\mu\text{g/mL}$ , excepting those with severe anaphylaxis to egg that has previously required intensive care.

### E-numbers

E-numbers are additives that have been approved for use in food across the EU. Blocks of numbers refer to specific groups of additives, for example, colours are in E100 series, preservatives in E200 series and antioxidants in E300 series. They may be present in some medicines and are generally listed by their chemical name. Some colourants used in foods may have an adverse effect on activity and attention in children and since they are still used to formulate medicines (e.g. tartrazine), some parents may ask to avoid them. Adverse reactions have been associated with many pharmaceutical preservatives, including benzalkonium chloride, sodium benzoate, chlorocresol, hydroxybenzoates and benzyl alcohol. Sweeteners (e.g. aspartame, sorbitol) are used to formulate oral liquid medicines but can pose problems for certain patients. Patients who react adversely to additives in foods might need to avoid medicines that contain them.

### Conclusion

People with dietary intolerances or allergies may understandably request a medicine that is free of a particular excipient. However, this may not be necessary in all cases.

- Patients with lactose intolerance should be reassured that it is highly unlikely that severe GI symptoms can be attributed to lactose in an oral solid-dosage form, especially if they have not previously been diagnosed as severely lactose-intolerant.
- The vast majority of prescribed medicines in the UK are gluten free and can be taken safely by coeliacs.
- Refined pharmaceutical grade arachis oil should not contain allergenic peanut proteins, and is not considered likely to cause a reaction in those with peanut allergy. However pharmaceutical products containing arachis oil are C/I in people with peanut allergy due to concerns that tiny amounts of peanut protein may remain in refined peanut oil.
- Of the three vaccines that are cultured on derivatives of chicken's eggs, the MMR vaccine is safe to use in children with egg allergy. Individuals with a confirmed anaphylactic reaction to egg should not receive yellow fever vaccine. Inactivated influenza vaccines that are egg-free or have a very low ovalbumin content are available and studies show they may be used safely in individuals with egg allergy, except for those with severe anaphylaxis to egg that has previously required intensive care.

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