

# PATIENT INFORMATION BROCHURE

## WHEAT ALLERGY

### WHAT IS WHEAT ALLERGY?

- Wheat allergy refers specifically to an immune-mediated reaction to one or more protein fractions of wheat, including albumin, globulin, gliadin and glutenin (gluten). The immune system treats one or more of these proteins as a danger to the body and starts an allergic reaction when the proteins are eaten, touched or in some cases inhaled (baker's asthma).
- The vast majority of people who experience adverse reactions to wheat are not actually wheat-allergic – they are either wheat intolerant or may have coeliac disease. Wheat intolerance is not triggered by the immune system and cannot be diagnosed with the use of standard allergy tests (such as blood or skin tests). It affects the digestion; common symptoms include digestive discomfort, diarrhoea and bloating after eating too much wheat.
- Coeliac disease is a response by the immune system but is not an allergic response; it is a condition where some gluteins (proteins found in wheat and some other cereals) damage the small bowel lining and the gut.
- This document is confined to wheat allergy.

### HOW COMMON IS WHEAT ALLERGY?

- There are no accurate figures for the prevalence of wheat allergy. Clinical experience suggests that wheat allergy is relatively uncommon, and much less common than for example milk, egg and peanut allergy. Wheat intolerance is much more common than true allergy.
- Wheat allergy may occur in adults, but is usually outgrown in early childhood.
- It may be more common in certain subgroups e.g. wheat allergy is responsible for occupational asthma in up to 30% of individuals in the baking industry.

## **SYMPTOMS OF WHEAT ALLERGY**

- Allergic reactions to wheat are commonly IgE-antibody mediated, and usually begin within minutes or a few hours after eating or inhaling wheat.
- The more common symptoms involve the skin (urticaria, atopic eczema, angioedema), gastrointestinal tract (oral allergy syndrome, abdominal cramps, nausea and vomiting) and the respiratory tract (asthma or allergic rhinitis).
- IgE-mediated reactions to wheat can cause urticaria, angioedema or life-threatening anaphylaxis in association with exercise. Other gluten-containing cereals (rye, oats and barley) may also cause these symptoms due to cross-reactivity of the allergens.
- Less commonly, wheat allergies may be of the delayed (non IgE-mediated) variety, with abdominal symptoms (diarrhoea, bloating, cramps) or eczema hours to days after the intake of wheat.

## **HOW IS WHEAT-ALLERGY DIAGNOSED?**

- The diagnosis may be easy if a person always has the same reaction after eating wheat-containing food or eats wheat infrequently.
- More often the diagnosis is difficult because wheat is a staple food and often a “hidden” ingredient in food.
- Diagnosis usually entails clinical evaluation (medical history, family history, food history) supported by appropriate laboratory tests (skin prick-testing and blood tests for specific IgE).
- Remember that a positive skin or blood test alone is not enough evidence for a wheat allergy and can be misleading.
- Many people with allergy to grass pollen have a positive skin-prick test to wheat, due to common allergenic properties in wheat and grass pollen. This might suggest they are allergic to wheat, but they do not actually react to it.
- Wheat allergy tests should be interpreted by a specialist taking into account the clinical history and the test results.
- Today we have more specialised blood tests available looking at the components (fractions) of wheat protein which are more likely to be associated with a true wheat allergy, for example the component called omega-5 gliadin.

- In some cases in which the diagnosis of wheat allergy is uncertain, an oral food challenge may be needed, in which initially tiny and then increasing amounts of wheat are given under medical supervision in a controlled environment.
- For non-IgE mediated (delayed type) allergies to wheat, the diagnosis is made by improvement of symptoms on elimination of wheat from the diet, and worsening of symptoms on reintroduction thereof (elimination-challenge test).

### **HOW IS WHEAT ALLERGY TESTED?**

- Avoidance of wheat and wheat-containing foods is the first step in the treatment of wheat allergy.
- Because wheat is a staple food product, wheat elimination diets are particularly difficult for a patient and his/her family to maintain.
- Children on wheat-restricted diets are severely limited in their selection of foods. Treatment must be supervised by a dietician, who provides wheat-free recipes and ensures a nutritionally adequate diet.
- Wheat allergic patients who have sensitivity to gluten (or gliadin) should avoid other gluten containing cereals such as oats, rye and barley.
- Wheat allergic patients should look out for the label “wheat free” and not just “gluten free” (as gluten is only one of many wheat proteins)

### **WHICH FOODS CONTAIN WHEAT?**

- Wheat is a main ingredient of many foods such as:
- Breads, chapattis and naan breads, breakfast cereals, biscuits, crackers, crumpets, scones, pancakes, wafers, cakes, pizza, pasta, pastries and yorkshire puddings.
- It is also found in many convenience foods such as soups, sauces, spices, malted drinks, processed meats and ready- made meals.

### **Table 1: Label ingredients that indicate the presence of wheat proteins**

- Bread crumbs
- Rusk
- Bran or wheat bran
- Cereal extract
- Couscous
- Bulgar wheat
- Cracker meal
- Enriched flour , flour or unbleached flour
- Gluten
- High-gluten flour, high-protein flour
- Semolina wheat
- Spelt
- Kamut
- Triticale
- Vital gluten
- Wheat bran, wheat germ, wheat gluten, wheat malt, wheat starch
- Durum wheat
- Whole wheat flour

### **Table 2: Label ingredients that may indicate the presence of wheat protein**

- Gelatinized starch
- Hydrolyzed vegetable protein
- Modified food starch, modified starch
- Natural flavouring
- Soy sauce
- Starch
- Vegetable gum, vegetable starch

### **Table 3: Some alternatives which may be used instead of wheat include:**

- Rice grains/flakes/flour
- Potato flour
- Sago
- Buckwheat flakes or flour
- Corn, corn flour, Maize, Polenta
- Millet grains/flakes/flour
- Quinoa
- Soy flakes or flour