The Royal College of Pathologists
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Best practice recommendations

Guidelines for the use of laboratory allergy testing in primary care

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Foreword

Best practice recommendations (BPRs) published by the Royal College of Pathologists should assist pathologists in providing a high standard of care for patients. BPRs are systematically developed statements intended to assist the decisions and approach of practitioners and patients about appropriate actions for specific clinical circumstances. They are based on the best available evidence at the time the document was prepared. It may be necessary or even desirable to depart from the advice in the interests of specific patients and special circumstances. The clinical risk of departing from the BPR should be assessed and documented.

A formal revision cycle for all BPRs takes place every 5 years. The College will ask the authors of the BPR to consider whether the recommendations need to be revised. A review may be required sooner if new developments arise or changes in practice necessitate an update. A full consultation process will be undertaken if major revisions are required. If minor revisions or changes are required, a short note of the proposed changes will be placed on the College website for 2 weeks for members' attention. If members do not object to the changes, a short notice of change will be incorporated into the document and the full revised version will replace the previous version on the College website.

This BPR has been reviewed by the Professional Guidelines team. It has been placed on the College website for consultation with the membership from 12 September to 10 October 2024. All comments received from the membership were addressed by the authors to the satisfaction of the Clinical Director of Quality and Safety.

This BPR was developed without external funding to the writing group. The College requires the authors of BPRs to provide a list of potential conflicts of interest. These are monitored by the College's Professional Guidelines team and are available on request. The authors of this document have declared that there are no conflicts of interest.

1 Introduction

This guidance covers IgE mediated (immediate / type I) hypersensitivity, as allergen specific IgE (ASIgE) testing is only validated in this context. For this guidance, the word "allergy" is defined as IgE mediated hypersensitivity.

1.1 Principles

Allergy is a clinical diagnosis that can be supported by testing. Testing aims to confirm or exclude the presence of ASIgE either by skin prick testing or blood testing. Skin prick testing is generally performed in specialist clinics, but IgE blood testing is more broadly available to non-specialists. Testing should be strictly guided by the clinical history and ASIgE blood testing should only be requested when there is a compatible clinical history. There is no role for "screening" with multiple ASIgE tests. Measurement of total IgE is not helpful in the routine investigation of allergic disease but may be useful in interpreting ASIgE results.

1.2 Background

Allergy can be caused by foods, inhalants, drugs and bee/wasp venoms. Allergy is an acquired condition, and a sensitising event is necessary for B lymphocytes to produce ASIgE, therefore prior tolerance does not exclude allergy (key point 1). Once sensitised to an allergen, ASIgE can be detected in blood and bound to receptors on mast cells. In the absence of re-exposure to the allergen the ASIgE does not result in harm. On re-exposure to the allergen the mast cell bound ASIgE is cross linked, leading to release of mast cell mediators such as histamine and mast cell tryptase.

2 Clinical features

Key points

1	Prior tolerance does **not** exclude allergy
2	Symptoms occur within minutes to an hour of exposure to the trigger
3	The symptoms are reproducible and occur with every subsequent exposure
4	The symptoms do not occur without exposure to the allergen

The clinical features of allergy include rash (usually urticaria or erythema), angioedema, wheeze, vomiting, diarrhoea, and hypotension, usually occurring within minutes to an hour of exposure to the trigger (key point 2). Repeated exposure to the allergen results in recurrence of the symptoms (key point 3). The symptoms do not occur without exposure to the allergen (key point 4).

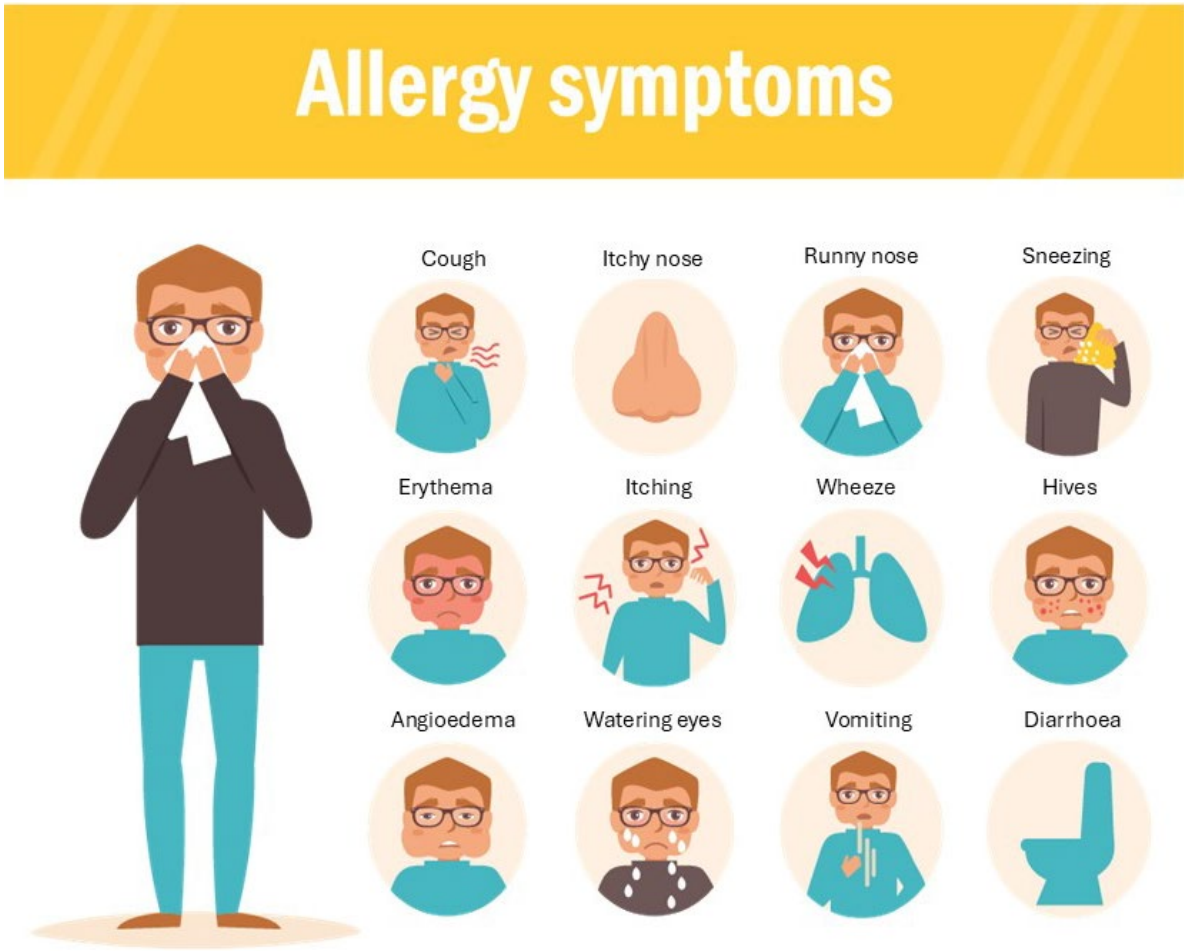
When taking an allergy history therefore the key features to consider are **S**ymptoms, **T**iming, **A**llergen, **R**eproducibility (**STAR**):

- Are the **S**ymptoms consistent with an IgE mediated mechanism?

- Is the **T**iming consistent with an IgE mediated mechanism?
- Can symptoms be attributed to a likely **A**llergen?
- Are the symptoms **R**eproducible?

2.1 Allergy symptoms

Figure 1: Common allergy symptoms.



3 Testing recommendations

3.1 Food allergy

Follow the STAR approach and only test ASIgE if the answer is yes to all questions, and limit testing to the relevant trigger food. Specific IgE to food mixes (e.g. common food mix) are not helpful in the investigation of food allergy. Any suspected food that has been consumed and tolerated after the event can be excluded without testing due to the reproducible nature of allergy. Isolated delayed (>1hr) gastrointestinal features are generally not consistent with allergy and patients should not be tested for ASIgE or referred to

allergy or immunology services but may benefit from gastroenterology or dietetic input. The only exceptions to this are a history of delayed but reproducible allergic symptoms following mammalian meat ingestion, which could represent alpha-gal syndrome, or delayed reaction following wheat consumption and exercise in the context of wheat dependent exercise induced allergy. Patients with such a history should be referred for allergy assessment. By following the STAR approach it is rarely necessary to test for more than 5 individual ASIgEs.

3.2 Inhalant allergy

Seasonal and perennial rhinitis/conjunctivitis causes nasal discharge, sneezing and/or watery, itchy eyes and nasal congestion.[1] There are many other (non-allergic) causes of respiratory disease and these should always be considered prior to assuming the cause is allergic. The timing and duration of symptoms in the year may help to identify the allergen (see allergen patterns table below). It is not always helpful to identify the allergen if it cannot easily be avoided (for example, pollen). Therefore ASIgE testing is only advised in primary care if management will be directly affected by the result (e.g. testing for dog dander leading to avoidance) or if testing is required prior to referral (e.g. referral is to ear, nose and throat (ENT) services if results are negative and to allergy or immunology if positive). Patients should be managed in line with the NICE clinical knowledge summary including allergen avoidance, antihistamines and intranasal corticosteroids based on severity.[1] Patients refractory to conventional therapy should be referred to ENT, allergy or immunology. In some areas allergy and immunology will only accept patients that have confirmed positive ASIgE so check with your local centres. All patients with rhinitis should also be assessed for asthma.

Allergen patterns

All year	House dust mite Animal dander
Seasonal	Mainly pollens[2] (see Allergy UK infographic for calendar: www.allergyuk.org/wp-content/uploads/2022/03/Pollen-Calendar.jpg)

3.3 Drug allergy

Do not test ASIgE in the context of drug allergy but refer to the NICE guidance regarding management and appropriate referral to specialist allergy services.[3]

3.4 Bee and wasp venom allergy

Do not test ASIgE in the context of large local reactions or mild local reactions to wasp or bee stings. In the context of systemic reactions to wasp or bee venom, patients should be referred to allergy or immunology services. Blood tests for baseline mast cell tryptase and ASIgE to wasp and bee venom can be sent for analysis at the time of referral.

4 Expected information in referral

To assess patients in the allergy clinic the referral information, as a minimum, should address the **STAR** questions. Please also check your local allergy or immunology service requirements.

Additional details to include where available: **E**xamination, **T**reatment, **R**esponse, **M**ast cell tryptase results (**ETRM**):

Examination findings at the time of the acute event:

- cutaneous manifestations
- respiratory rate and oxygen saturation
- pulse rate
- blood pressure.

Any necessary **T**reatment and **R**esponse to treatment.

Mast cell tryptase results.

5 Urticaria is not allergy

Isolated randomly occurring urticaria with or without angioedema is extremely common. Most cases of urticaria are not caused by allergy but are spontaneous in onset. The lack of a clear and consistent trigger excludes allergy on clinical grounds in these cases and allergy testing is **not** indicated. Spontaneous urticaria is a benign condition that can be autoimmune. The management follows recognised national and international guidance.[4] Many cases are precipitated by stress, trauma, infection, and some medications (particularly non-steroidal anti-inflammatory drugs or ACE inhibitors).

Angioedema is a recognised pharmacological side effect of ACE inhibitor therapy and can arise after many years of ACE inhibitor tolerance. It is not an allergy. Patients with

angioedema should not take ACE inhibitors. Angioedema can also be seen with angiotensin II receptor blockers, although less frequently than with the ACE inhibitor class. At most 2−10% of patients having angioedema with ACE inhibitor therapy will also develop angioedema with angiotensin II receptor blockers.[5]

1 References

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