The Royal Children's Hospital Melbourne

Allergy & Immunology

50 Flemington Road. Parkville
Victoria 3052. Australia

T. +61 3 9345 5701
F. +61 3 9345 4848

www.rch.org.au/allergy

Food allergies

The following pre-referral guideline covers recommended pre-referral treatment and investigations for children of all ages with a suspected food allergy.

The most common food allergens in children are egg, cow's milk, peanut, tree nuts (e.g. cashews), wheat, soy, fish, shellfish and sesame. Reactions to other foods do occur, but are less common (e.g. rice).

Food allergy (caused by an immune mechanism) is different to **food intolerance** (not caused by an immune mechanism). Examples of intolerance include lactose intolerance due to absence of lactase enzyme in GI tract, MSG, skin reactions from strawberries, citrus or tomatoes.

Most food allergies are not life-threatening.

These pre-referral guidelines will cover:

1. Initial Diagnosis of Food Allergy
2. When to Refer
3. Ongoing Management and Community Based Care of Food Allergy

1. Initial Diagnosis of Food Allergy

Symptoms

An allergic reaction may involve one or more of the following signs and symptoms:

Mild to moderate allergic reaction:

- Swelling of lips, face or eyes.
- Hives or welts.
- Abdominal pain, vomiting.

Severe systemic allergic reaction (anaphylaxis):

- Difficulty breathing.
- Swelling of the tongue and/or throat.
- Difficulty talking.
- Hoarse voice, wheezing or persistent coughing.
- Loss of consciousness and/or collapse.
- Infants and young children appearing pale and floppy.

Severe allergic reaction (anaphylaxis) will typically involve multiple organ systems (ie. hives and respiratory symptoms).

Taking a history

History of allergic reaction -

- Food - food type, amount, form ingested in (cooked or raw), time to reaction.
- Has the food been taken without reaction in the past? Has it been taken since?
- Specific details of nature of reaction.

Also consider whether -

- IgE mediated (hives, angioedema, respiratory, CVS symptoms).
- Non IgE mediated (predominantly GIT symptoms or eczema).
- History of atopy (eg. eczema/asthma).
- Family history of allergies.
- Also read notes below for specific allergies.

Diagnostics

- Detection of allergen-specific IgE by RAST test or Skin Prick Test (SPT). NB. RAST test is recommended.
- **Specific allergen of interest will be indicated by history.**
- Only RAST test for food allergy if suspect an IgE mediated allergy (not useful for non IgE mediated).
- Skin Prick Test should **only** be performed by those with appropriate training as there is a small chance of a systemic reaction and interpretation is complex.

Interpretation of RAST test / SPT (Skin Prick Test)

RAST test should be performed to investigate a positive history of reaction to a food, and should be limited to the antigen (Ag) of specific interest.

RAST/SPT to foods that a patient has already eaten and tolerated OR that the patient has not yet been exposed to is not recommended.

Detection of allergen specific IgE by RAST/SPT does NOT necessarily indicate clinical allergy. Test results should be interpreted together with history.

- Positive allergen-specific IgE (RAST/SPT) AND clear history of allergic reaction confirms clinical allergy.
  - Recommend strict avoidance of specified allergen, provide education on management of allergic reactions and supply 'action plan'.
  - Refer to an Allergy Specialist if anaphylaxis or multiple food allergies or other significant co-existing allergic disease (eg significant eczema and food allergy).
  - Simple allergy to a single food, refer to an Allergy Specialist or to a Paediatrician with a special interest in allergy for simple allergy to a single food
- Negative RAST/SPT and positive history of reaction may indicate non-IgE mediated allergy.
  - Refer to Allergy Specialist for further management and instruct patient to avoid the specified allergen.
- If a food has been eaten without reaction, RAST test is not required as allergy excluded (ie performing a RAST in setting of no history is discouraged).
- If RAST/SPT and history do not correspond refer for further evaluation.

Pre-referral treatment

Severe systemic reaction (anaphylaxis)

Emergency management

- Intramuscular Adrenaline (0.01mg/kg up to a max of 0.5mg) or Epi-pen.
  - Children under 20kg - 0.15mg adrenaline (Epi-pen Junior).
  - Children and adults over 20kg - 0.3mg adrenaline (Epi-pen).
  - Oxygen.
  - Consider Steroids - 1mg/kg.

  Lie child in supine position.
  - Left lateral if vomiting; 45 degrees if difficulty breathing.

  Call ambulance

  Antihistamine has not been demonstrated to be of benefit in acute management of anaphylaxis. It can be given after emergency management.

  Consider oral prednisolone as this may reduce the risk of a biphasic response.

  Even if the patient responds, they need monitoring in a suitable environment (ie. hospital for up to four hours post episode).

  Always refer to the RCH Department of Allergy and Immunology or a paediatric allergist / immunologist.

Follow-up management

- Prescribe Epi-Pen/ Epi-Pen junior.
- To access authority funding for an epi-pen, discuss with an allergist, paediatrician or ED Consultant (by phone via RCH switchboard).
- Educate on correct use of Epi-Pen.
- Provide Anaphylaxis Action Plan (www.allergy.org.au)
- Ensure any asthma is well controlled.
- Educate on strict avoidance of allergen.
- Support parent in school/ day care communication.
- Do not attempt to perform a challenge to the allergen. This should only be done in a specialist allergy unit.

Mild-moderate reactions (including contact reactions)

- Antihistamine will alleviate symptoms of hives and itches but will not treat anaphylaxis.
- Loratidine (Claratyne) and Certirizine (Zyrtec) are suitable for children under 2 years of age and are available in syrup form.
- Ensure any asthma is well controlled.
- Educate on strict avoidance of allergen.
- Support parent in school/ day care communication.
- Do not attempt to perform a challenge to the allergen. This should only be done in a specialist allergy unit.
- Provide 'Allergic reaction action plan'.

Other management

- Emphasise that the majority of food allergies are not dangerous.
- Avoidance of allergenic foods for the purposes of preventing food allergy is not recommended if the child has never been exposed or never had a reaction to the food. Parents should introduce small amounts of food and observe.

When to refer for initial diagnosis of food allergy

- Failure to thrive - **Priority referral**.
- Anaphylaxis - **Priority referral**.
- Multiple food allergies or suspected non-IgE mediated food allergy.
- Other significant co-existent allergic disease (eg child with significant eczema and food allergy, or troublesome asthma and food allergy)
- Dysphagia
- Reflux/ GI symptoms.
- History and RAST/ SPT do not correspond (eg Positive Hx but Negative test) as further specialised testing (ie. challenge) may be needed.
- **ALWAYS refer confirmed or suspected anaphylaxis to the RCH Department of Allergy & Immunology. This is an URGENT REFERRAL.**
- Simple allergy to a single food, refer to an Allergy Specialist or to a Paediatrician with a special interest in allergy.
- Please also see under 'Interpretation of RAST as above.

Do not refer

- For allergy screening if there is no clear history of allergic reaction - such referrals will be rejected.
- Family history of allergy, in a healthy patient who does not have an allergic condition.

Referral information needed

The GP at first consultation is in the best position to get the most comprehensive information from parents on the details of an allergic reaction. Please collect and include in your referral as much detail as possible. It is increasingly difficult to collect this information later.

Information needed:

- *CLEARLY INDICATE if child has confirmed or suspected ANAPHYLAXIS. The referral will be triaged as urgent.*
- Date reaction(s) occurred.
- Allergic reaction symptoms experienced -
    - Severe systemic reaction (anaphylaxis).
    - Difficulty breathing.
    - Swelling of the tongue or throat.
    - Difficulty talking.
    - Hoarse voice, wheezing or persistent coughing.
    - Loss of consciousness and/or collapse.
    - Young children appearing pale and floppy.

  Moderate systemic reaction -
    - Abdominal pain, vomiting.

  Mild-Moderate local reaction -
    - Swelling of lips, face or eyes.
    - Hives or welts.

  Potential causes of reaction(s):
    - Food - What food/s?

  When, where and how did the reaction(s) happen?
  RAST results.
  Treatment given and patient response.
  Previous or subsequent exposure to allergen.
  Please send RAST or other results together with your referral

2. Ongoing Management and Community Based Care of Food Allergy

Patients who have been evaluated by our department and who have been diagnosed with IgE mediated food allergy require ongoing management of their known food allergy, and this ongoing care is ideally provided by their General Practitioner or Paediatrician.

Community Based Care of simple food allergy would involve the following:

- Annual update of the patient's ASCIA Action Plan http://www.allergy.org.au/content/view/10/3/ – An Anaphylaxis Plan is provided to those patients who have been prescribed an adrenaline auto injector and an Allergy Plan is provided to those patients who do not require an adrenaline auto injector
- Review of the ASCIA Action Plan with the parents (and patient) to ensure that the family are familiar with the emergency management of allergic reactions
- Assessment of whether the patient requires further allergen testing – serum RAST test to the patient's known food allergen(s) can be performed every 1-2 years to monitor for development of tolerance. A new referral to the Department may be considered as the RAST test approaches negative. Assessment by an allergy specialist can determine the need for formal food challenge to clarify the status of food allergy.
- Review of the dietary management of a patient's known food allergy – referral to a dietician specialising in food allergy may be considered.

When to refer during ongoing management of food allergy

Referral back to the Department of Allergy and Immunology can be initiated:

- when it is considered appropriate to assess for resolution of food allergy by formal food challenge (eg when RAST testing approaches negative)
- around the time of entry into high school for those children with persistent food allergy as adolescence represents a period of high risk,
- poorly controlled or difficult to control asthma or eczema
- patient develops new food reaction