Using the care pathway

The Royal College of Paediatrics and Child Health (RCPCH) care pathway for food allergy is presented in two parts: an algorithm with the stages of ideal care and a set of competences required to diagnose, treat and optimally manage food allergy. The algorithm has numbers which correspond to the competences outlined within the body of the document. These competences have not been assigned to specific health professionals or settings in order to encourage flexibility in service delivery. Each pathway has a set of core knowledge documents. These documents are the key clinical guidance that of which health professionals should be aware of.

We recommend that this pathway is implemented locally by a multidisciplinary team with a focus on creating networks between staff in primary and community health care, social care, education and hospital based practice to improve services for children with allergic conditions. All specialists should have paediatric training in line with the principles outlined in the Department of Health Children's National Service Framework, particularly standard 3 which states that staff training should reflect the common core of skills, knowledge and competences that apply to staff who work with children and young people.

For the purposes of the RCPCH care pathways children is an inclusive term that refers to children and young people between the ages of 0-18 years. It is important to recognise that while the RCPCH food allergy pathway is linear entry can occur at any part in the pathway.

Further information regarding the RCPCH allergy care pathways can be downloaded at: www.rcpch.ac.uk/allergy.

Royal College of General Practitioners

Royal College of Nursing

The College of Emergency Medicine

Royal College of Physicians

The Royal College of Pathologists
Pathology: the science behind the cure

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Paediatrics and Child Health
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Entry points

Acute Presentation
Anaphylaxis

Non Acute Presentations
cutaneous, gastrointestinal symptoms, upper or lower respiratory symptoms, faltering growth, severe aversive feeding, parental suspicion of food allergy

Acute Presentation
(non anaphylactic acute reaction)

Anaphylaxis Pathway

Initial recognition/ suspected adverse reactions (1)

- **i.** Recognition of possible role of foods in a broad spectrum of presentations
- **ii.** Understanding of major categories of adverse reactions to food including toxic reactions, food allergy, food intolerance and food aversion and their differentiating features
- **iii.** Recognition of risk factors for allergic aetiology to presenting features
- **iv.** Refer onwards, as appropriate

Confirmed Diagnosis

- **i.** History is paramount - allergy focused clinical history and examination (2)
- **ii.** Investigations tailored to suspected underlying mechanism (3-5)
  Immediate/acute reactions: skin prick/specific IgE testing
  Delayed/non acute reactions: elimination/challenge
  Other investigations dependant on specific concern: e.g endoscopy, biopsy, other immunological studies

Adverse reactions to food with no underlying allergic component
e.g. lactose intolerance → **Definitive management or refer to appropriate services**

Consider → **Eczema and/or Urticaria Pathway**

Management

Self care (6)
- **i.** Recognise that the child has food allergy
- **ii.** Careful allergen avoidance
- **iii.** Adherence to personal management plan
- **iv.** Seek appropriate professional advise

Standard management
- **i.** Allergy specific advice (7)
- **ii.** Optimisation of prevention and treatment of further reactions - written personal management plan/training (8)
- **iii.** Minimising impact on quality of life (9)
- **iv.** Nutritional support and monitoring by registered dietitian (10)
- **v.** Management of co-morbidities (11)
- **vi.** Additional patient/carer support (12)
- **vii.** Communication with other agencies (13)
- **viii.** Onward referral and liaison, if required (14)
- **ix.** Further care, as detailed below (see 8, 9, 16-20)

Complex Management (MDT setting) (15)
- **i.** Involvement of clinical nurse specialist in paediatric allergy (15)
- **ii.** Involvement/referral to allied healthcare professionals, ideally in joint allergy clinics e.g. specialist paediatric allergy dietitian (15)
- **iii.** Expert psychosocial support (15)
- **iv.** Further care, as detailed below (see 8, 9, 16-20)

Ongoing Management

- **i.** Optimisation of the prevention, recognition and treatment of further reactions (8)
- **ii.** Minimising impact on quality of life (9)
- **iii.** Regular appropriate monitoring of growth and nutrition (16)
- **iv.** Recognise the resolution of food allergy (tolerance) supported by allergy test and, if indicated rechallenge (17)
- **v.** Identification and management of emerging co-morbidities (18)
- **vi.** Revision of personal management plan (19)
- **vii.** Communication and managed transition (20)

Notes:
1. The colours on the pathway and competence table correspond to the modified Scottish Intercollegiate Guidelines Network SIGN grade:
   GRADE A GRADE B GRADE C GRADE D CLINICAL PRACTICE GUIDELINE GOOD PRACTICE POINT
2. The numbers on the pathway correspond to the competences required to provide care - these are on the following pages
3. Links to the references can be found within the competence statements

Food allergy definition

Food Allergy is defined as an immune-mediated hypersensitivity reaction to food and may be divided into Immunoglobulin E (IgE) mediated (immediate-onset) reactions and non IgE-mediated (delayed-onset) reactions (21).

Core knowledge document

The core knowledge document for the food allergy pathways is:

- NICE guideline for the diagnosis and assessment of food allergy in children and young people in primary care and community settings (22)

Competence

Ref	Pathway stage	Competence
1	Initial recognition/ suspected adverse reactions to food	Know ▪ the major categories include adverse reactions to food including toxic reactions (food poisoning), food allergy (IgE and non IgE), food intolerance (enzymatic, pharmacological and other) and food aversion ▪ that food allergy may present in a variety of ways ranging from immediate allergic reactions to more chronic presentations such as eczema or gastrointestinal (GI) symptoms (22) ▪ that many common childhood conditions such as eczema, gastro oesophageal reflux (GOR), diarrhoea, constipation, faltering growth may have an allergic aetiology (22) ▪ that food allergy is more common in children with early onset, moderate/severe eczema (23) ▪ that oral pharyngeal reactions to food may be the result of cross-reactivity with pollen allergens (pollen-fruit syndrome) or latex (latex-fruit syndrome) Be able to ▪ recognise that food allergy may present in a variety of ways ranging from immediate allergic reactions to more chronic presentations such as eczema or GI symptoms (22) ▪ recognise the risk factors for allergic aetiology of presenting features such as family or personal history of atopy ▪ differentiate different types of adverse reactions to food based on findings from history and examination ▪ refer onwards, as appropriate

2	**Confirmed diagnosis** – history is paramount – allergy focused clinical history and examination	Know ▪ the common foods which are responsible for most food allergies, their relative prevalence in different presentations (e.g. mechanism, age, ethnicity) and their relevant cross and co-reactivities Be able to ▪ take and interpret an allergy focused clinical history (22, 24-28) and perform relevant examination(s) ▪ differentiate different types of adverse reactions to food based on findings from history and examination ▪ recognise and distinguish the features of anaphylaxis from less severe allergic reactions to food ▪ recognise the clinical features of conditions which masquerade as adverse reactions to food (e.g. viral urticaria, infectious gastroenteritis) ▪ gather information on relevant exposures to other potential food allergens and take a dietary history including the interpretation of a food and symptom diary ▪ recognise the possible role of co-factors to allergic reactions to food e.g. exercise, infection and alcohol ▪ take a full history relating to important co-morbidities (e.g. asthma, eczema, allergic rhinitis) and psychosocial issues and interpret the findings ▪ examine and interpret findings in relevant body systems including accurate anthropometry, GI, chest, ENT and skin ▪ to use a clinical history, followed by appropriate investigations ▪ to identify oral allergy syndrome and differentiate primary food allergies from those caused by cross reactivity with pollens

3	**Confirmed diagnosis** – Investigations tailored to suspected underlying mechanism – **for suspected IgE mediated allergies**	Have ▪ access to appropriate facilities, practical skill and knowledge to undertake and interpret investigations including – skin prick testing (SPT) (22) – serum specific IgE testing (22) – medically supervised oral challenges in a safe and controlled environment with facility for paediatric resuscitation (27, 29, 30) and advanced life support ▪ appropriate quality control through guidelines and standard operating procedures to ensure the clinical competence of staff conducting SPT and oral food challenges ▪ access to an appropriately accredited laboratory for specific IgE testing Know ▪ which oral challenges may be done as open rather than double blind, placebo controlled, which require medical supervision and which are suitable for home (with appropriate guidance) ▪ which allergies may occur together in the same individual (24, 29) (e.g. peanut and sesame allergies) and therefore which additional tests to consider ▪ that the level of specific IgE varies and should not be used in place of oral food challenges to determine allergy (e.g. cows milk allergy) (31) ▪ that complementary and alternative medicine (CAM) allergy tests, including kinesiology, serum specific IgG and Vega tests have no place in the diagnosis and/or management of food allergy (22) Understand the ▪ difference between sensitisation to food allergens and clinical allergy ▪ performance (sensitivity and specificity) of tests for sensitisation to foods allergens Be able to ▪ Perform an appropriate panel of tests, including – skin prick testing (SPT) (24, 30, 32-36) – serum specific IgE testing (24, 27, 30, 35) ▪ interpret the results of investigations in the context of the clinical history (24, 34)

4	**Confirmed diagnosis** – investigations tailored to suspected underlying mechanism – **for suspected non IgE mediated allergies**	Have ▪ access to appropriate facilities, practical skill and knowledge to undertake and interpret food exclusions and reintroductions (29) (with adequate dietetic supervision) ▪ access to tests for IgE mediated allergy for purposes of exclusion, if appropriate Know ▪ that SPT and serum specific IgE test have a poor predictive value for non IgE mediated allergies ▪ that atopy patch tests are available but that their role in the diagnosis of food allergy remains unclear (24, 36) ▪ that complementary and alternative medicine (CAM) allergy tests, including kinesiology, serum specific IgG and Vega tests have no place in the diagnosis and/or management of food allergy (22)
5	**Confirmed diagnosis** – Investigations tailored to suspected underlying mechanism – **other**	Have ▪ access or pathway for referral to a centre with appropriate facilities, practical skill and knowledge to undertake and interpret diagnostic GI endoscopies and biopsies. Know ▪ that complementary and alternative medicine (CAM) allergy tests, including kinesiology, serum specific IgG and Vega tests have no place in the diagnosis and/or management of food allergy (22) Be able to ▪ recognise where further tests may be required in order to confirm diagnosis
6	**Management – self care**	Know ▪ when to seek health professional advice ▪ which foods and/or allergens to avoid Be able to ▪ recognise that the child has food allergy ▪ follow an agreed personal management plan
7	**Management – standard management:** allergy specific advice	Know ▪ what foods (including catering, manufactured ingredients and manufactured foods) are likely to contain trigger foods ▪ clinically relevant cross-reactivities (29) and co-reactivities Be able to ▪ advise on appropriate dietary exclusion and alternatives including practical, individualised advice (29, 31, 35, 37, 38) (e.g cultural and age appropriate advice) ▪ advise on appropriate avoidance of non food triggers (e.g. cosmetics and toiletries)

8	**Management – standard management:** optimisation of prevention and treatment of further reactions, including personal management plan	Know ▪ common situations when allergen exposure is most likely to occur (e.g. eating out) ▪ risk factors for severe allergic reactions (e.g. poorly controlled asthma, adolescence) ▪ which children require which emergency medications (29, 39-42) e.g. antihistamines, adrenaline injectors ▪ the EAACI position statement with regards to the absolute and relative indications for the prescription of injectable adrenaline (41) ▪ the risks inherent to specific situations (e.g. home, school, eating out and hospital settings) Be able to ▪ train/educate patients, parents and carers (23, 29, 39, 41, 43-48) about effective food allergen avoidance, recognition and treatment of reactions and their prevention ▪ advise patients, parents and carers with regards to risk assessment, to allow them to minimise the impact of allergen avoidance on day to day activities ▪ advise patients, parents and carers of the issues relating to risk in specific situations such (e.g. school and hospital catering) ▪ educate patients, parents and carers about high risk situations (e.g. eating out) and effective risk assessment, particularly for young persons ▪ provide emergency medication (including training) and an agreed written personal management plan (40-43, 47-50), as appropriate and according to a risk assessment strategy
9	**Management – standard management:** minimising impact on quality of life (51, 52)	Know ▪ how food allergy may impact on different aspects of daily life of the patient and family (46, 48, 53) ▪ what resources are available locally and nationally to support patients and their families Be able to ▪ provide support to patients and their families to help minimise the impact of food allergy on quality of life through education, ongoing access for patient queries ▪ provide details of resources including patient charities, websites and local support groups as well as psychosocial support if required
10	**Management – standard management:** nutritional support and monitoring (28, 29, 35, 38)	Know ▪ appropriate nutritional requirements for children at different ages Be able to ▪ ensure nutritional sufficiency in the context of dietary restrictions during different stages of childhood

11	**Management – standard management:** management of co-morbidities (23, 25, 35)	Know ▪ the patterns of disease progression in children with food allergy ▪ the signs and symptoms of co-morbid conditions ▪ the impact of different allergic co-morbidities on each other (e.g. asthma on food allergy, food allergy on eczema) Be able to ▪ identify and treat co-morbidities as part of an holistic, individualised approach
12	**Management – standard management:** additional patient/ carer support	Know ▪ the different routes available for patient support e.g. Anaphylaxis Campaign (54), National Eczema Society (55), The Eosinophilic Disease Society (56), Latex Allergy Support Group (57), Living with Reflux (58), Food Standards Agency (59) Be able to ▪ provide written information about food allergy ▪ provide details of how to contact patient support groups
13	**Management – standard management:** communication with other agencies	Be able to ▪ communicate effectively with patients, parents and carers, primary care, other health care professionals, schools and early years settings (SEYS) (29) and where necessary social services ▪ share appropriate information to support other health care professionals in performing a risk assessment
14	**Management – standard management:** onward referral and liaison	Know ▪ when to refer to other agencies, e.g. CAMHS as required Be able ▪ to refer onwards if there is not adequate access to the appropriate range of diagnostic techniques (refer to boxes 3-5. Investigation) or knowledge of their indications, limitations and interpretation or facilities for management
15	**Management – complex management**	Know ▪ that complex management of patients is best provided by a multidisciplinary team (35, 43, 48) including paediatric-trained, allergy specialist doctor(s), nurse(s) and dietitian(s) with appropriate school nurse/health visitor liaison for the further management of children with food allergy ▪ that complex management occurs in addition to standard management Have access to: ▪ a clinical nurse specialist in paediatric allergy ▪ to allied healthcare professionals (e.g. specialist paediatric allergy dietitian), ideally within joint allergy clinics ▪ expert psychosocial support

16	**Ongoing Management –** regular monitoring of growth and nutrition	Know ▪ signs and symptoms of faltering growth Be able to ▪ monitor growth accurately and assess nutritional intake ▪ revise dietary care plan to ensure that optimal growth and nutrition are maintained
17	**Ongoing Management –** recognition of the resolution of food allergy (tolerance) (29)	Know ▪ the natural history of different food allergies ▪ which allergies require challenge testing and when it is the appropriate time ▪ the indications, contra-indications and risks for food challenges including home reintroduction of foods where appropriate which oral challenges may be done as open rather than double blind, placebo controlled, which require medical supervision and which are suitable for home (with appropriate guidance) Be able to ▪ use measurements of skin prick and specific IgE test results to optimise the timing of food challenges (32, 34) ▪ supervise food challenge procedures with appropriate safety precautions (27, 30) ▪ advise about the safe re-introduction of food following a negative food challenge ▪ interpret sequential allergy tests on the same patient ▪ organise regular follow up at time intervals appropriate for the specific food allergen, age of patient, likelihood of tolerance developing and allergic co-morbidities
18	**Ongoing Management –** identification of emerging co-morbidities (23, 25, 28, 35)	Know ▪ patterns of disease progression in children with food allergy ▪ signs and symptoms of co-morbid conditions ▪ the impact of different allergic co-morbidities on each other e.g. asthma on food allergy Be able to ▪ identify and treat co-morbidities as part of an holistic, individualised approach through regular, ongoing follow up
19	**Ongoing Management –** revision of individualised management plan (49)	Know ▪ which children are at risk of IgE mediated allergic reactions ▪ which children require emergency medication prescriptions e.g. antihistamine, adrenaline injector Be able to ▪ regularly reassess patients with regard to risk of anaphylaxis and alter individual management plans as appropriate e.g. newly diagnosed asthma

20	**Ongoing Management –** communication and managed transition (60)	Know ▪ the importance of effective communication with the entire network of agencies and individuals involved in the child's care including primary care, community paediatrics, SEYS ▪ the pitfalls and barriers to effective transition of care from paediatric to adult services ▪ which children require ongoing follow-up in adult services Be able to ▪ offer managed transitional care in partnership with local adult services where appropriate ▪ adjust the individualised management plan depending on the geography, age, anxiety and travel plans of patient an family

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4. Care Pathway: Confirmed Diagnosis – Investigations for Suspected Non Ige Mediated Reactions.
5. Care Pathway: Confirmed Diagnosis – Other Investigations.
6. Care Pathway: Management – Self Care.
7. Care Pathway: Management – Allergy Specific Advice.
8. Care Pathway: Management – Optimisation of Prevention and Treatment of Further Reactions, Including Personal Management Plan.
9. Care Pathway: Management – Minimising Impact on Quality of Life
10. Care Pathway: Management – Nutritional Support and Monitoring
11. Care Pathway: Management – Management of Co-Morbidities.
12. Care Pathway: Management – Additional Patient/Carer Support.
13. Care Pathway: Standard Management – Communication with Other Agencies.
14. Care Pathway: Management – Onward Referral and Liaison.
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