

## Using the care pathway

The Royal College of Paediatrics and Child Health (RCPCH) care pathway for asthma and/or rhinitis 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 asthma and/or rhinitis. 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 of which health professionals should be aware. These documents are the key clinical guidance that inform the pathways.

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 <u>Children's National Service Framework</u> - 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 asthma and/or rhinitis pathway is linear, entry can occur at any part in the pathway. The entry points may comprise the home and public places including social events, schools and early years settings, further and higher education, primary care clinics, NHS Direct, NHS 24 and pharmacies.

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









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







## **Pathway overview**

A key aim of this pathway is to demonstrate the role of allergy as a cause of airways disease. Atopy underpins the majority of asthma and rhinitis in childhood. Also, as asthma and rhinitis frequently coexist, the pathway seeks to reinforce the concept of a whole airway approach for effective patient diagnosis, management and education, e.g. shared allergic triggers, inter-related symptoms and treatments. However, as acute severe/life threatening exacerbations of asthma & rhinitis may have presentation-specific treatment, the emergency care of these conditions has been addressed separately.

All treatment and management plans should be achieved in partnership between allergic patients, their carers and health professionals. Concordance, or the agreement between the patient/family and health professional to follow a particular strategy, should be clearly established. The health professional should subsequently assess adherence to the joint agreed plan.

# Definitions

#### Asthma

In the absence of an agreed gold standard definition the ARWG are defining asthma to be:

A condition that is characterised by the presence of one or more of the following symptoms - chest tightness, wheeze (<u>+</u> cough), breathlessness, and in the absence of an alternative diagnosis. Asthma is associated typically with chronic inflammation and hyper-responsiveness of the lower airway leading to airway narrowing that is variable and reversible (by treatment or spontaneously).

#### Rhinitis

A condition that is characterised by the presence of two or more of the following symptoms, for more than one hour per day on a recurrent or persistent basis: rhinorrhoea (watery, runny nose), sneezing, bilateral nasal obstruction (congestion), itching (<u>+</u> conjunctivitis). Rhinitis may be accompanied by symptoms affecting the eyes, ears, sinuses, throat and chest.

The scope of this pathway does not extend to acute severe rhinosinusitis and the management of this condition is not considered. Acute severe rhinosinusitis is an acute condition that can be life threatening. It is characterised by the sudden onset of two or more symptoms, one of which should be either nasal blockage/obstruction/congestion or thick nasal discharge. Additional symptoms may include facial pain/pressure, reduction or loss of smell and/or headache. If high fever and displaced globe are present urgent secondary care referral is warranted.

# Core knowledge documents

The core knowledge documents relating to this pathway are the:

- British Thoracic Society/Scottish Intercollegiate Guidelines Network (BTS/SIGN) guideline on the management of asthma (26)
- NICE guidance on inhaled corticosteroids and inhaler devices (27-29)
- British Society for Allergy and Clinical Immunology (BSACI) guidelines for the management of allergic and non-allergic rhinitis (30)
- BSACI guidelines for the management of rhinosinusitis and nasal polyposis (31)
- European position (EPOS) paper on rhinosinusitis and nasal polyps (32)

## Competence

Ref	Pathway stage	Competence
1	ASTHMA emergency care (community) - self care/public places/pharmacy/ school	<ul> <li>Know</li> <li>the clinical indications for administering a bronchodilator</li> <li>the correct technique for administering a bronchodilator via a pMDI and age-appropriate spacer device</li> <li>factors in the home that can contribute to symptoms e.g. house dust mite (33-39), pets (34, 38)</li> <li>the role that environmental tobacco smoke has in provoking symptoms and impairing response to treatments (26, 37, 40-43)</li> <li>when to call for help</li> <li>Be able to</li> <li>follow a personal management plan, if available</li> <li>early call for help (e.g. 999 call)</li> <li>recognise the signs and symptoms of acute life threatening asthma</li> <li>administer a bronchodilator, if available and by the appropriate route (26)</li> <li>liaise directly with primary care (e.g. GP, asthma nurse) if the patient is not transferred to hospital</li> </ul>
2	ASTHMA emergency care (community) - ambulance/ primary care/walk in centre	<ul> <li>Know</li> <li>that acutely unwell children should be transferred to the emergency department (ED) (26) for assessment, observation and treatment</li> <li>the correct technique for administering a bronchodilator via a pMDI and age-appropriate spacer</li> <li>Be able to</li> <li>make an initial assessment based on the Airway, Breathing, Circulation, Disability, Exposure (ABCDE) approach</li> <li>make an assessment of asthma severity</li> <li>recognise the signs and symptoms of acute life threatening asthma</li> <li>recognise the signs and symptoms of acute anaphylaxis presenting as asthma (refer to <u>RCPCH anaphylaxis care pathway</u>)</li> <li>provide management based on the <ul> <li><u>BTS/SIGN guideline on the management of asthma</u> (26)</li> <li>NICE guidance on inhaled corticosteroids (29) and inhaler devices (27, 28)</li> </ul> </li> <li>administer oxygen (26) and bronchodilator (26, 43) <ul> <li>pMDI ± age appropriate spacer preferred for mild to moderate acute asthma (26)</li> <li>nebulised bronchodilator driven by oxygen if symptoms are severe (26)</li> <li>discuss additional treatment directly with the GP if the patient is not transferred to hospital</li> </ul></li></ul>

Ref	Pathway stage	Competence
3	ASTHMA	Know
	emergency care (hospital) – <b>initial</b> <b>care</b>	<ul> <li>the appropriate route of administration of a bronchodilator according to severity (26)</li> </ul>
		<ul> <li>the correct technique for administering a bronchodilator via a pMDI and age-appropriate spacer</li> </ul>
		Be able to
		provide management based on the
		– <u>BTS/SIGN guideline on the management of asthma</u> (26)
		<ul> <li>– NICE guidance on <u>inhaled corticosteroids</u> (29) and <u>inhaler</u> <u>devices</u> (27, 28)</li> </ul>
		<ul> <li>make an initial assessment based on the ABCDE approach</li> </ul>
		<ul> <li>recognise the signs and symptoms of acute life threatening asthma and make an assessment of severity</li> </ul>
		<ul> <li>recognise the signs and symptoms of acute anaphylaxis presenting as asthma (refer to Anaphylaxis Pathway)</li> </ul>
		<ul> <li>administer a bronchodilator <u>+</u> oxygen via an appropriate route (26), taking into account condition severity and child tolerance</li> </ul>
4	ASTHMA further	Have
	emergency	• the facilities to observe and monitor the patient until recovered
	- treatment,	
	observation,	Know
	precipitating	with allergy in inducing acute wheezing exacerbations
fact trig	factor(s) / trigger(s), allergic	<ul> <li>common comorbid allergic conditions that are associated with asthma (e.g. rhinitis, eczema, food allergy)</li> </ul>
	co-morbidities	• that the risk of asthma fatality is increased during the pollen and fungal spore seasons, particularly June to October
		Be able to:
		<ul> <li>provide management based on the</li> </ul>
		– <u>BTS/SIGN guideline on the management of asthma</u> (26)
		<ul> <li>NICE guidance on <u>inhaled corticosteroids</u> (29) and <u>inhaler</u> <u>devices</u> (27, 28)</li> </ul>
		<ul> <li>administer oxygen and a bronchodilator (pMDI + age appropriate spacer preferred) (26), taking into account condition severity and child tolerance</li> </ul>
		• take an ENT (32, 34), respiratory (32, 34, 44, 45) and allergy focused clinical history and examination (32, 34, 44, 46, 47)
		<ul> <li>enquire about and record any suspected triggers (40)</li> </ul>
		• advise about the removal or avoidance of allergenic triggers (33-39, 46)
		<ul> <li>identify common co-morbid allergic conditions that are associated with asthma</li> </ul>

Ref	Pathway stage	Competence
5	ASTHMA further emergency care (hospital) – <b>inhaler</b> <b>technique and</b> <b>adherence</b>	<ul> <li>Know</li> <li>NICE guidance on <u>inhaled corticosteroids</u> (29) and <u>inhaler</u> <u>devices</u> (27, 28)</li> <li>the correct technique for administering a bronchodilator via a pMDI and age-appropriate spacer</li> <li>Be able to</li> <li>prescribe inhaler devices appropriately (26) (type, dose, route)</li> <li>assess inhaler technique (26, 48)</li> </ul>
6	ASTHMA further emergency care (hospital) - ongoing management, consider referral, community liaison	<ul> <li>Know</li> <li>factors in the home that can contribute to symptoms e.g. house dust mite (33, 35-39), pets (34, 38)</li> <li>Be able to</li> <li>identify common co-morbid conditions that are associated with asthma and make assessment of severity</li> <li>make an assessment of ongoing asthma and/or rhinitis severity and symptom control</li> <li>provide or review a personal management plan (26, 49)</li> <li>inform GP of hospital management and treatment recommendations, including the personal management plan</li> <li>refer for follow up appropriately (26, 34, 45), including arranging clinical follow up</li> <li>within 48 hours of discharge (26) (e.g. primary care or paediatric rapid access clinic)</li> <li>in a specialised clinic within 1-2 months (26) (e.g. paediatric asthma clinic)</li> </ul>
7	RHINITIS emergency care (community) - self care/public places/pharmacy/ school	<ul> <li>Know</li> <li>the clinical indications for administering an intranasal steroid</li> <li>that second generation oral antihistamines and intranasal steroids are preferred over first generation treatments (34, 46, 50)</li> <li>factors in the home that can contribute to symptoms e.g. house dust mite (33, 35-39), pets (34, 38)</li> <li>the role that environmental pollen exposure has in provoking symptoms</li> <li>when to call for help (e.g. immediate medical attention for children with severe eye discomfort, photophobia, eye swelling)</li> <li>Be able to</li> <li>recognise the signs and symptoms of acute rhinoconjunctivitis</li> <li>administer an antihistamine and/or intranasal steroid (30, 31, 34, 46) if available and indicated</li> <li>to remove the child immediately from any environmental situation which may be causing acute symptoms</li> <li>seek health professional help</li> </ul>

Ref	Pathway stage	Competence
8	RHINITIS emergency care (community) - ambulance/ primary care/walk in centre	<ul> <li>Know</li> <li>the clinical indications for administering an antihistamine (30, 31, 46)</li> <li>the optimal delivery of an intranasal steroid (30)</li> <li>that second generation oral antihistamines and intranasal corticosteroids are preferred over first generation (34, 46, 50)</li> <li>that acutely unwell children should be considered for immediate medical attention (e.g. emergency department) for assessment, treatment and observation</li> <li>that patients with severe ocular discomfort, photophobia and eye swelling should be seen by an ophthalmologist particularly if they have eczema, asthma or wear contact lenses</li> <li>Be able to</li> <li>provide management based upon the <ul> <li>BSACI guidelines for the management of allergic and non-allergic rhinitis (30)</li> <li>BSACI guidelines for the management of rhinosinusitis and nasal polyposis (31)</li> <li>EPOS paper on rhinosinusitis and nasal polyps (32)</li> <li>recognise the signs and symptoms of acute severe rhinoconjunctivitis and make an assessment of severity</li> <li>administer an antihistamine and/or intranasal steroid, if indicated</li> <li>to remove the child immediately from any environmental situation which may be causing acute symptoms</li> </ul> </li> </ul>
9	RHINITIS emergency care (hospital) – <b>initial</b> care	<ul> <li>Know</li> <li>the optimal delivery of an intranasal steroid (30)</li> <li>that patients with severe ocular discomfort, photophobia and eye swelling should be seen by an ophthalmologist particularly if they have eczema, asthma or wear contact lenses</li> <li>Be able to</li> <li>provide management based upon the <ul> <li>BSACI guidelines for the management of allergic and non-allergic rhinitis (30)</li> <li>BSACI guidelines for the management of rhinosinusitis and nasal polyposis (31)</li> <li>EPOS paper on rhinosinusitis and nasal polyps (32)</li> <li>recognise the signs and symptoms of severe rhinoconjunctivitis and make an assessment of severity</li> </ul> </li> </ul>

Ref	Pathway stage	Competence
10	RHINITIS further emergency care (hospital)	<ul><li>Have</li><li>the facilities to observe and monitor the patient until recovered</li></ul>
		<ul> <li>Know</li> <li>common comorbid allergic conditions that are associated with rhinitis (e.g. asthma, eczema, food allergy)</li> </ul>
		<ul> <li>the indications for onward referral (e.g. younger child, atypical or severe symptoms)</li> </ul>
		Be able to
		<ul> <li>initiate and/or modify treatment based upon the</li> </ul>
		<ul> <li>BSACI guidelines for the management of allergic and non- allergic rhinitis (30)</li> </ul>
		<ul> <li>BSACI guidelines for the management of rhinosinusitis and nasal polyposis (31)</li> </ul>
		– EPOS paper on rhinosinusitis and nasal polyps (32)
		focused clinical history and examination (32, 34, 44, 45) and allergy
		enquire about and record any suspected triggers     make an assessment of angoing rhinitis and (ar asthma soverity)
		and symptom control
		• advise about the removal or avoidance of allergenic triggers (33-39, 46)
		prescribe intranasal steroids, appropriately
		assess technique for application of topical medications (30)     assess adherence to treatments prescribed
		<ul> <li>identify common co-morbid allergic conditions that are associated with rhinitis</li> </ul>
		<ul> <li>provide or review a personal management plan (26, 49)</li> </ul>
		<ul> <li>refer for follow up in a specialised clinic, as relevant to the symptoms</li> </ul>
		<ul> <li>inform GP of hospital management and treatment recommendations</li> </ul>
11	Initial recognition -	Know
	self care	<ul> <li>the symptoms and signs of asthma and rhinitis (rhinoconjunctivitis/rhinosinusitis)</li> </ul>
		<ul> <li>factors in the home that can contribute to symptoms e.g. e.g. environmental tobacco smoke (26, 37, 40-43), house dust mite (33, 35-39), pets (34, 38)</li> </ul>
		Be able to
		<ul> <li>recognise that the child has significant upper and/or lower airway symptoms</li> </ul>
		<ul> <li>administer a bronchodilator by the appropriate route (26), and/ or an antihistamine and/or intranasal steroid, if available and indicated</li> </ul>
		<ul> <li>seek appropriate health professional advice</li> </ul>

Ref	Pathway stage	Competence
<b>Ref</b> 12	Pathway stage Initial recognition - health professional care	<ul> <li>Competence</li> <li>Know <ul> <li>the</li> <li>BTS/SIGN guideline on the management of asthma (26)</li> <li>NICE guidance on inhaled corticosteroids (29) and inhaler devices (27, 28)</li> <li>the</li> <li>BSACI guidelines for the management of allergic and non-allergic rhinitis (30)</li> <li>BSACI guidelines for the management of rhinosinusitis and nasal polyposis (31)</li> <li>EPOS paper on rhinosinusitis and nasal polyps (32)</li> <li>the indications for onward referral (e.g. younger child; atypical or severe symptoms)</li> </ul> </li> <li>Be able to <ul> <li>recognise the typical patterns of asthma and rhinitis (rhinoconjunctivitis/rhinosinusitis)</li> <li>assess the severity of the condition(s)</li> <li>identify associated atopic factors (e.g. eczema, egg allergy) for asthma risk</li> <li>administer a bronchodilator (26, 43), pMDI + age appropriate spacer preferred</li> <li>administer an antihistamine and/or intranasal steroid (30, 31, 34, 46) if available and indicated</li> </ul> </li> </ul>
13	Management – <b>self</b> care	<ul> <li>Know</li> <li>the symptoms and signs of asthma and rhinitis (rhinoconjunctivitis/rhinosinusitis)</li> <li>factors in the home that can contribute to symptoms e.g. environmental tobacco smoke (26, 37, 40-43), house dust mite (33, 35-39), pets (34, 38)</li> <li>Be able to</li> <li>recognise that the child has significant upper and/or lower airway symptoms</li> <li>administer a bronchodilator (26), antihistamine and/or intranasal steroid (30, 31, 34, 46), if available and as relevant to the symptoms</li> <li>seek health professional advice</li> <li>follow a personal management plan, if available and as relevant to the symptoms</li> </ul>

Ref	Pathway stage	Competence
14	Standard	Know
	Management - allergy and airway	<ul> <li>the role of allergic trigger(s) in the pathogenesis and management of allergic airway disease</li> </ul>
	focused clinical history	<ul> <li>the role of other medical (47), environmental (26, 33, 35- 43) and psychosocial factors (51) in the onset and pattern of respiratory symptoms</li> </ul>
		<ul> <li>the differential diagnoses of asthma (26, 44, 47), episodic wheeze (42), rhinitis (34, 46), conjunctivitis</li> </ul>
		Be able to
		<ul> <li>provide management based on the</li> </ul>
		<ul> <li>BTS/SIGN guideline on the management of asthma (26)</li> <li>NICE guidance on <u>inhaled corticosteroids</u> (29) and <u>inhaler</u> dovices (27, 28)</li> </ul>
		<ul> <li>BSACI guidelines for the management of allergic and non- allergic rhinitis (30)</li> </ul>
		<ul> <li>BSACI guidelines for the management of rhinosinusitis and nasal polyposis (31)</li> </ul>
		- <u>EPOS paper on rhinosinusitis and nasal polyps</u> (32)
		<ul> <li>take an ENT (32, 34), respiratory (32, 34, 44, 45) and allergy focused clinical history and examination (32, 34, 44, 46, 47) including important atopic co-morbidities, treatment history and psychosocial issues and interpret the findings</li> </ul>
		<ul> <li>recognise the typical features of asthma and/or rhinitis and assess severity</li> </ul>
		<ul> <li>assess exposure to potential environmental triggers e.g. environmental tobacco smoke (26, 37, 40-43), house dust mite (33, 35-39), pets (34, 38), intercurrent viral infection (47)</li> </ul>
		<ul> <li>examine and interpret findings in relevant body systems including chest, ENT and skin</li> </ul>
15	Standard	Наve
	Management - <b>basic</b>	<ul> <li>access to spirometry (41, 45, 52) and/or serial peak expiratory flow rate (PEFR) (44, 45, 47, 52)</li> </ul>
	investigations	<ul> <li>access to allergy testing (41, 45, 47), including SPT (34, 40, 46), measurement of slgE) (40, 46)</li> </ul>
		access to chest radiology
		and standard operating procedures to ensure the clinical competence of staff conducting spirometry, PEFR and SPT
		Know
		<ul> <li>the utility of sIgE and SPT measurements in the diagnosis of asthma and/or rhinitis</li> </ul>
		<ul> <li>Be able to</li> <li>interpret the results of spirometry (47) and serial PEFR</li> <li>interpret the results of SPT and sIgE in light of the clinical history and examination</li> <li>interpret a chest radiograph</li> <li>refer onwards (26, 34, 45), as appropriate e.g. psychosocial support (53)</li> </ul>

Ref	Pathway stage	Competence
16	Standard Management - <b>definitive</b>	<ul> <li>Know</li> <li>the role of allergic trigger(s) in the pathogenesis and management of allergic/infective airway disease</li> </ul>
	diagnosis, trigger avoidance advice, medication trial and/or review, risk assessment.	<ul> <li>the role of other medical (47), environmental (26, 33, 35- 43) and psychosocial factors (51) in the onset and pattern of respiratory symptoms</li> <li>the acute and long term side effects of medications used to</li> </ul>
	management of	treat asthma and rhinitis
	co-morbidities, sel management plan, communication, onward referral	<ul> <li>the factors predisposing children to acute life threatening events</li> <li>that there is no good evidence for most complementary and alternative medicine (CAM) treatments (46, 54-57)</li> <li>the services offered by a multidisciplinary (MDT) clinic</li> <li>the indications for onward referral (e.g. atypical, severe or</li> </ul>
		refractory symptoms)
		Be able to
		<ul> <li>confirm and/or review the diagnosis in the light of the history, examination and investigations</li> </ul>
		<ul> <li>manage co-morbidities associated with allergic disease (e.g. asthma and undiagnosed rhinitis within the airway (58-60))</li> </ul>
		<ul> <li>advise about relevant allergen avoidance (34-38, 40, 41, 46, 47, 61), including cost implications (62)</li> </ul>
		prescribe medication according to the
		- <u>BTS/SIGN guideline on the management of asthma</u> (26)
		<u>devices</u> (27, 28)
		<ul> <li><u>BSACI guidelines for the management of allergic and non-</u> <u>allergic rhinitis</u> (30)</li> </ul>
		<ul> <li>BSACI guidelines for the management of rhinosinusitis and nasal polyposis (31)</li> </ul>
		<ul> <li>– EPOS paper on rhinosinusitis and nasal polyps (32)</li> </ul>
		<ul> <li>trial or review age appropriate medication and delivery devices</li> </ul>
		<ul> <li>recognise and minimise treatment-associated side effects of medications used to treat asthma and rhinitis</li> </ul>
		<ul> <li>assess inhaler technique and select appropriate device (26, 43, 47, 48)</li> </ul>
		<ul> <li>assess technique for application of topical medications (30)</li> </ul>
		<ul> <li>identify children with severe/complex/atypical conditions (e.g. risk of acute life threatening event) and refer to an appropriate specialist clinic (26, 34, 45), ideally within a multidisciplinary team (MDT)</li> </ul>
		• provide an age (63) and culturally appropriate written personal management plan (26, 47, 49, 64, 65) developed in partnership with patients/parents/carers (44)
		<ul> <li>provide education sessions for patients and their families</li> <li>(30, 34, 41, 43, 44, 47, 66-68)</li> </ul>
		<ul> <li>provide written communication to patients, parents and carers, primary care, other health care professionals (including school nurses), schools and early years settings (SEYS) and, where necessary, social services</li> </ul>
		<ul> <li>provide information about support groups appropriate to diagnosis (e.g. <u>Asthma UK</u> (69))</li> </ul>
		<ul> <li>share relevant information to support other health care professionals</li> </ul>

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17	Complex Management – <b>MDT</b>	This is best provided by a multidisciplinary team including paediatric consultants (e.g. respiratory, allergy), ENT surgeons, dermatologists, psychologists, specialist nurse(s), dietitians and pharmacists with appropriate liaison with other levels of care, including school nurses.
18	Complex Management – review of diagnosis and management of co-morbidities	<ul> <li>Know</li> <li>that complex management occurs in addition to standard management</li> <li>the common allergic co-morbidities that coexist with asthma and rhinitis (rhinoconjunctivitis/rhinosinusitis)</li> <li>to consider the other <u>RCPCH Allergy Care Pathways</u> (e.g. Eczema, Food Allergy and Anaphylaxis Care Pathways)</li> <li>Be able to <ul> <li>review and reconfirm diagnosis</li> <li>manage allergic comorbidities appropriately (refer to Eczema,</li> </ul> </li> </ul>
		<ul> <li>Food Allergy and Anaphylaxis Pathways)</li> <li>recognise psychosocial factors and conditions that masquerade as asthma, or coexist with asthma</li> <li>recognise the complexity of social issues and how they contribute to asthma triggers and adherence</li> </ul>
19	Complex Management - <b>specialised</b> investigations	<ul> <li>Know</li> <li>the indications for relevant investigations to exclude alternative diagnoses</li> <li>the value of and when to instigate community care home visits (70) (e.g. nurse led home visits (33))</li> <li>Be able to</li> <li>order and/or perform investigations and procedures, as required (e.g. rhinoscopy, bronchoscopy, imaging, biopsy)</li> </ul>
20	Complex Management - immunomodulatory therapies	<ul> <li>Have</li> <li>quality control through guidelines and standard operating procedures to ensure the clinical competence of staff conducting immunomodulatory therapies</li> <li>Know</li> <li>the indications for use (30, 34, 40, 41, 46, 71-76) efficacy and risk:benefit ratio for specific allergen immunotherapy, immunosuppression and anti-IgE (omalizumab) treatments</li> <li>Be able to</li> <li>administer and appropriately supervise treatments using immunomodulatory products in an appropriate environment</li> <li>review clinical response and adjust immunomodulatory therapy accordingly</li> </ul>

Ref	Pathway stage	Competence
21	Complex Management – communication with other agencies	<ul> <li>Know</li> <li>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</li> <li>Be able to</li> <li>identify safeguarding issues in relation to asthma/rhinitis</li> </ul>
22	Ongoing Management - optimisation of prevention, recognition and management of condition , and ongoing review	<ul> <li>Know</li> <li>the <ul> <li>BTS/SIGN guideline on the management of asthma (26)</li> <li>NICE guidance on inhaled corticosteroids (29) and inhaler devices (27, 28)</li> <li>BSACI guidelines for the management of allergic and nonallergic rhinitis (30)</li> <li>BSACI guidelines for the management of rhinosinusitis and nasal polyposis (31)</li> <li>EPOS paper on rhinosinusitis and nasal polyps (32)</li> <li>the natural history of allergic disease</li> <li>the complications of long term medication use (50)</li> <li>to consider the other <u>RCPCH Allergy Care Pathways</u> (e.g. Eczema, Food Allergy and Anaphylaxis Care Pathways)</li> </ul> </li> <li>Be able to <ul> <li>optimise the recognition, prevention and management of future exacerbations of asthma and rhinitis</li> <li>regularly review the personal management plan (44)</li> <li>regularly review the treatment devices (age and ability appropriate), doses and technique (stepping up and stepping down appropriately according to symptoms)</li> <li>assess adherence to treatments (47)</li> <li>identify new sensitisations and recognise changes in clinical patterns</li> <li>monitor growth accurately (41, 43, 47, 50)</li> <li>advise on and minimise the complications of long term medication use</li> <li>recognise and treat allergic comorbidities (refer to <u>RCPCH Eczema, Food Allergy and Anaphylaxis Care Pathways</u>)</li> </ul> </li> </ul>

Ref	Pathway stage	Competence
23	Ongoing Management – <b>minimising impact</b> on quality of life	<ul> <li>Know</li> <li>how asthma and/or rhinitis may impact on different aspects of daily life, including schooling (77), quality of life of the patient and family (34, 51, 78-80)</li> </ul>
		<ul> <li>what resources are available locally and nationally to support patients and their families</li> </ul>
		Be able to
		<ul> <li>explore and manage child/young person's expectations and concerns about conditions and relevant treatments to support independent self-management</li> </ul>
		<ul> <li>ensure age and culturally appropriate education at each contact point</li> </ul>
		<ul> <li>identify when asthma and rhinitis play a role in impaired school attendance and/or performance (77)</li> </ul>
		<ul> <li>provide support to patients to help minimise the impact of asthma and rhinitis on quality of life</li> </ul>
		<ul> <li>provide details of different types of resources, including patient charities, websites and local support groups, as well as psychosocial support, if required</li> </ul>
		<ul> <li>refer for psychological support, where appropriate (26)</li> </ul>
24	Ongoing Management – appropriate school and early years (SEYS) liaison	Have • adequate liaison with SEYS Be able to
		<ul> <li>provide a written personal management plan to the relevant school or early years organisation</li> </ul>
		advise SEYS on the provision of rescue treatment
		<ul> <li>train SEYS personnel (81) (e.g. <u>Be AllergyWise - Training for</u> <u>school nurses</u> (82))</li> </ul>
		- in recognition of acute severe symptoms
		<ul> <li>– on avoidance of identified trigger(s)</li> <li>– to be able to use emergency medication when appropriate</li> </ul>
		<ul> <li>repeat training annually</li> </ul>
25	Ongoing	Know
	Management – transitional care	<ul> <li>the pitfalls and barriers to effective transition of care from paediatric to adult services</li> </ul>
		<ul> <li>which children require ongoing follow-up in adult services</li> </ul>
		Be able to
		<ul> <li>explore and manage young person's expectations and concerns about conditions and relevant interventions to support independent self-management</li> </ul>
		<ul> <li>offer managed transitional care in partnership with local adult services where appropriate</li> </ul>
		<ul> <li>support the young person in the transition to adult services</li> <li>provide nurse specialist continuity of care during the transition phase</li> </ul>

### References

- 1. Care Pathway: Asthma Emergency Care (Community) Self Care/Public Places/Pharmacy/School.
- 2. Care Pathway: Asthma Emergency Care (Community) Ambulance/Primary Care/Walk in Centre.
- 3. Care Pathway: Asthma Emergency Care (Hospital) Initial Care.
- 4. Care Pathway: Asthma Further Emergency Care (Hospital) Treatment, Observation, History, Precipitating Factor(S) / Trigger(S), Allergic Co-Morbidities.
- 5. Care Pathway: Asthma Further Emergency Care (Hospital) Inhaler Technique and Adherence.
- 6. Care Pathway: Asthma Further Emergency Care (Hospital) Ongoing Management, Consider Referral, Community Liaison.
- 7. Care Pathway: Rhinitis Emergency Care (Community) Self Care/Public Places/Pharmacy/School.
- 8. Care Pathway: Rhinitis Emergency Care (Community) Ambulance/Primary Care/Walk in Centre.
- 9. Care Pathway: Rhinitis Emergency Care (Hospital) Initial Care.
- 10. Care Pathway: Rhinitis Further Emergency Care (Hospital)
- 11. Care Pathway: Initial Recognition Self Care.
- 12. Care Pathway: Initial Recognition Health Professional Care.
- 13. Care Pathway: Management Self Care.
- 14. Care Pathway: Standard Management Allergy and Respiratory Focused Clinical History.
- 15. Care Pathway: Standard Management Basic Investigations.
- Care Pathway: Standard Management Definitive Diagnosis, Trigger Avoidance Advice, Medication Trial and/ or Review, Risk Assessment, Management of Co-Morbidities, Self Management Plan, Communication, Onward Referral.
- 17. Care Pathway: Complex Management Mdt.
- Care Pathway: Complex Management Review of Diagnosis and Management of Co-Morbidities, Nurse Led Home Visit.
- 19. Care Pathway: Complex Management Specialised Investigations.
- 20. Care Pathway: Complex Management Immunomodulatory Therapies.
- 21. Care Pathway: Complex Management Communication with Other Agencies.
- 22. Care Pathway: Ongoing Management Optimisation of Prevention, Recognition and Management of Condition , and Ongoing Review.
- 23. Care Pathway: Ongoing Management Minimising Impact on Quality of Life.
- 24. Care Pathway: Ongoing Management Appropriate School and Early Years (Seys) Liaison.
- 25. Care Pathway: Ongoing Management Transitional Care.
- 26. BTS, SIGN.British Guideline on the Management of Asthma: A National Clinical Guideline.2009.
- 27. NICE.Guidance on the Use of Inhaler Systems (Devices) in Children under the Age of 5 Years with Chronic Asthma -Technology Appraisal Guidance - No. 10 National Institute for Health and Clinical Excellence.;London; 2000.
- 28. NICE.Inhaler Devices for Routine Treatment of Chronic Asthma in Older Children (Aged 5–15 Years) Technology Appraisal Guidance No. 38.National Institute for Health and Clinical Excellence.;London; 2002.
- 29. NICE.Corticosteroids for the Treatment of Chronic Asthma in Children under the Age of 12 Years Technology Appraisal Guidance No. 131.National Institute for Health and Clinical Excellence.;London; 2007.
- 30. Scadding GK, Durham, SR, Mirakian, R, et al.Bsaci Guidelines for the Management of Allergic and Non-Allergic Rhinitis.Clin Exp Allergy. 2008;38(1):19-42.doi:10.1111/j.1365-2222.2007.02888.x
- 31. Scadding GK, Durham, SR, Mirakian, R, et al.Bsaci Guidelines for the Management of Rhinosinusitis and Nasal Polyposis.Clin Exp Allergy. 2008;38(2):260-75.doi:10.1111/j.1365-2222.2007.02889.x
- 32. Fokkens W, Lund, V, Mullol, J.European Position Paper on Rhinosinusitis and Nasal Polyps 2007.Rhinol Suppl. 2007(20):1-136
- 33. Bracken M, Fleming, L, Hall, P, et al.The Importance of Nurse-Led Home Visits in the Assessment of Children with Problematic Asthma.Arch Dis Child. 2009;94(10):780-4.doi:10.1136/adc.2008.152140
- 34. Wallace DV, Dykewicz, MS, Bernstein, DI, et al.The Diagnosis and Management of Rhinitis: An Updated Practice Parameter.J Allergy Clin Immunol. 2008;122(2 Suppl):S1-84.doi:10.1016/j.jaci.2008.06.003
- 35. Gotzsche PC, Johansen, HK.House Dust Mite Control Measures for Asthma: Systematic Review.Allergy. 2008;63(6):646-59.doi:10.1111/j.1398-9995.2008.01690.x

- Macdonald C, Sternberg, A, Hunter, P.A Systematic Review and Meta-Analysis of Interventions Used to Reduce Exposure to House Dust and Their Effect on the Development and Severity of Asthma. Cien Saude Colet. 2008;13(6):1907-15.doi:S1413-81232008000600026 [pii]
- 37. Morgan WJ, Crain, EF, Gruchalla, RS, et al.Results of a Home-Based Environmental Intervention among Urban Children with Asthma.N Engl J Med. 2004;351(11):1068-80.doi:10.1056/NEJMoa032097
- Murray CS, Poletti, G, Kebadze, T, et al.Study of Modifiable Risk Factors for Asthma Exacerbations: Virus Infection and Allergen Exposure Increase the Risk of Asthma Hospital Admissions in Children.Thorax. 2006;61(5):376-82. doi:10.1136/thx.2005.042523
- 39. Sheikh A, Hurwitz, B, Shehata, Y.House Dust Mite Avoidance Measures for Perennial Allergic Rhinitis.Cochrane Database Syst Rev. 2007(1):CD001563.doi:10.1002/14651858.CD001563.pub2
- Expert Panel Report 3 (Epr-3): Guidelines for the Diagnosis and Management of Asthma: Section 3: Control of Environmental Factors and Comorbid Conditions That Affect Asthma: National Heart, Lung, and Blood Institute; 2007 [cited CPG. Available from: http://www.nhlbi.nih.gov/guidelines/asthma/asthgdln.pdf.
- 41. Bacharier LB, Boner, A, Carlsen, KH, et al.Diagnosis and Treatment of Asthma in Childhood: A Practall Consensus Report.Allergy. 2008;63(1):5-34.doi:10.1111/j.1398-9995.2007.01586.x
- 42. Brand PL, Baraldi, E, Bisgaard, H, et al.Definition, Assessment and Treatment of Wheezing Disorders in Preschool Children: An Evidence-Based Approach.Eur Respir J. 2008;32(4):1096-110.doi:10.1183/09031936.00002108
- 43. van der Molen T, Ostrem, A, Stallberg, B, et al.International Primary Care Respiratory Group (Ipcrg) Guidelines: Management of Asthma.Prim Care Respir J. 2006;15(1):35-47.doi:10.1016/j.pcrj.2005.11.001
- 44. Von Mutius E.Presentation of New Gina Guidelines for Paediatrics. The Global Initiative on Asthma.Clin Exp Allergy. 2000;30 Suppl 1:6-10.doi:cea89 [pii]
- 45. Halbert RJ, Isonaka, S.International Primary Care Respiratory Group (Ipcrg) Guidelines: Integrating Diagnostic Guidelines for Managing Chronic Respiratory Diseases in Primary Care.Prim Care Respir J. 2006;15(1):13-9. doi:10.1016/j.pcrj.2005.12.001
- Bousquet J, Khaltaev, N, Cruz, AA, et al.Allergic Rhinitis and Its Impact on Asthma (Aria) 2008 Update (in Collaboration with the World Health Organization, Ga(2)Len and Allergen). Allergy. 2008;63 Suppl 86:8-160. doi:10.1111/j.1398-9995.2007.01620.x
- 47. Watts B.Outpatient Management of Asthma in Children Age 5-11 Years: Guidelines for Practice.J Am Acad Nurse Pract. 2009;21(5):261-9.doi:10.1111/j.1745-7599.2009.00403.x
- 48. Welch MJ, Martin, ML, Williams, PV, et al. Evaluation of Inhaler Device Technique in Caregivers of Young Children with Asthma.Pediatric. 2010;23(2):113-20
- 49. Deis JN, Spiro, DM, Jenkins, CA, et al.Parental Knowledge and Use of Preventive Asthma Care Measures in Two Pediatric Emergency Departments.J Asthma. 2010;47(5):551-6
- 50. Baena-Cagnani CE.Safety and Tolerability of Treatments for Allergic Rhinitis in Children.Drug Saf. 2004;27(12):883-98.doi:27125 [pii]
- 51. Richardson LP, Lozano, P, Russo, J, et al.Asthma Symptom Burden: Relationship to Asthma Severity and Anxiety and Depression Symptoms.Pediatrics. 2006;118(3):1042-51.doi:10.1542/peds.2006-0249
- 52. Moth G, Schiotz, PO, Parner, E, et al.Use of Lung Function Tests in Asthmatic Children Is Associated with Lower Risk of Hospitalization a Danish Population-Based Follow-up Study.J Asthma. 2010;47(9):1022-30
- 53. McQuaid EL, Kopel, SJ, Nassau, JH.Behavioral Adjustment in Children with Asthma: A Meta-Analysis.J Dev Behav Pediatr. 2001;22(6):430-9
- 54. Huntley A, Ernst, E.Herbal Medicines for Asthma: A Systematic Review.Thorax. 2000;55(11):925-9
- 55. Martin J, Donaldson, AN, Villarroel, R, et al.Efficacy of Acupuncture in Asthma: Systematic Review and Meta-Analysis of Published Data from 11 Randomised Controlled Trials.Eur Respir J. 2002;20(4):846-52
- 56. Slader CA, Reddel, HK, Jenkins, CR, et al.Complementary and Alternative Medicine Use in Asthma: Who Is Using What?Respirology. 2006;11(4):373-87.doi:10.1111/j.1440-1843.2006.00861.x
- Clark CE, Arnold, E, Lasserson, TJ, et al.Herbal Interventions for Chronic Asthma in Adults and Children: A Systematic Review and Meta-Analysis.Primary care respiratory journal : journal of the General PracticeAirways Group. 2010;19(4):307-14
- 58. Ciprandi G, Capasso, M.Association of Childhood Perennial Allergic Rhinitis with Subclinical Airflow Limitation.Clin Exp Allergy. 2010;40(3):398-402.doi:10.1111/j.1365-2222.2009.03399.x
- 59. Ruokonen M, Kaila, M, Haataja, R, et al.Allergic Rhinitis in School-Aged Children with Asthma Still under-Diagnosed and under-Treated? A Retrospective Study in a Children's Hospital.Pediatric allergy and immunology : official publication of theEuropean Society of Pediatric Allergy and Immunology. 2010;21(1):e149-54.doi:<http:// dx.doi.org/10.1111/j.1399-3038.2009.00891.x>

- 60. Chiron R, Vachier, I, Khanbabaee, G, et al.Impact of Rhinitis on Asthma Control in Children: Association with Fe No.J Asthma. 2010;47(6):604-8
- 61. Shields MD, Bush, A, Everard, ML, et al.Bts Guidelines: Recommendations for the Assessment and Management of Cough in Children.Thorax. 2008;63 Suppl 3:iii1-iii15.doi:10.1136/thx.2007.077370
- 62. Sheikh A, Hurwitz, B.House Dust Mite Avoidance Measures for Perennial Allergic Rhinitis: A Systematic Review of Efficacy.Br J Gen Pract. 2003;53(489):318-22
- 63. Orrell-Valente JK, Jarlsberg, LG, Hill, LG, et al.At What Age Do Children Start Taking Daily Asthma Medicines on Their Own?Pediatrics. 2008;122(6):e1186-92.doi:10.1542/peds.2008-0292
- 64. Zemek RL, Bhogal, SK, Ducharme, FM.Systematic Review of Randomized Controlled Trials Examining Written Action Plans in Children: What Is the Plan?Arch Pediatr Adolesc Med. 2008;162(2):157-63.doi:10.1001/ archpediatrics.2007.34
- 65. Bhogal S, Zemek, R, Ducharme, FM.Written Action Plans for Asthma in Children.Cochrane Database Syst Rev. 2006;3:CD005306.doi:10.1002/14651858.CD005306.pub2
- Boyd M, Lasserson, TJ, McKean, MC, et al.Interventions for Educating Children Who Are at Risk of Asthma-Related Emergency Department Attendance.Cochrane Database Syst Rev. 2009(2):CD001290.doi:10.1002/14651858. CD001290.pub2
- 67. Coffman JM, Cabana, MD, Halpin, HA, et al.Effects of Asthma Education on Children's Use of Acute Care Services: A Meta-Analysis.Pediatrics. 2008;121(3):575-86.doi:10.1542/peds.2007-0113
- 68. Guevara JP.Self-Management Education of Children with Asthma: A Meta-Analysis.LDI Issue Brief. 2003;9(3):1-4
- 69. Asthma.org.uk.Asthma Uk.Kent.2010. [Access date: 17/02/2010]. Available from: http://www.asthma.org.uk.
- 70. Primomo J, Johnston, S, DiBiase, F, et al.Evaluation of a Community-Based Outreach Worker Program for Children with Asthma.Public Health Nurs. 2006;23(3):234-41.doi:10.1111/j.1525-1446.2006.230306.x
- 71. Penagos M, Passalacqua, G, Compalati, E, et al.Metaanalysis of the Efficacy of Sublingual Immunotherapy in the Treatment of Allergic Asthma in Pediatric Patients, 3 to 18 Years of Age.Chest. 2008;133(3):599-609.doi:10.1378/ chest.06-1425
- 72. Scadding G.Optimal Management of Nasal Congestion Caused by Allergic Rhinitis in Children: Safety and Efficacy of Medical Treatments.Paediatr Drugs. 2008;10(3):151-62
- 73. Sopo SM, Macchiaiolo, M, Zorzi, G, et al.Sublingual Immunotherapy in Asthma and Rhinoconjunctivitis; Systematic Review of Paediatric Literature.Arch Dis Child. 2004;89(7):620-4.doi:10.1136/adc.2003.030411
- 74. Wilson DR, Torres, LI, Durham, SR.Sublingual Immunotherapy for Allergic Rhinitis.Cochrane database of systematic reviews. 2003(2):CD002893.doi:10.1002/14651858.CD002893
- 75. Radulovic S, Calderon, MA, Wilson, D, et al.Sublingual Immunotherapy for Allergic Rhinitis.Cochrane Database Syst Rev. [Meta-Analysis

Review]. 2010;12:CD002893.doi:10.1002/14651858.CD002893

- 76. Mösges R, Graute, V, Christ, H, et al.Safety of Ultra-Rush Titration of Sublingual Immunotherapy in Asthmatic Children with Tree-Pollen Allergy.Pediatric allergy and immunology : official publication of theEuropean Society of Pediatric Allergy and Immunology. 2010;21(8):1135-8
- Walker S, Khan-Wasti, S, Fletcher, M, et al.Seasonal Allergic Rhinitis Is Associated with a Detrimental Effect on Examination Performance in United Kingdom Teenagers: Case-Control Study.J Allergy Clin Immunol. 2007;120(2):381-7.doi:10.1016/j.jaci.2007.03.034
- 78. Alvim CG, Picinin, IM, Camargos, PM, et al.Quality of Life in Asthmatic Adolescents: An Overall Evaluation of Disease Control.Journal of Asthma. 2009;46(2):186-90
- 79. Nogueira KT, Silva, JRL, Lopes, CS.Quality of Life of Asthmatic Adolescents: Assessment of Asthma Severity, Comorbidity, and Life Style.Jornal de pediatria. 2009;85(6):523-30
- 80. Dean BB, Calimlim, BC, Sacco, P, et al.Uncontrolled Asthma: Assessing Quality of Life and Productivity of Children and Their Caregivers Using a Cross-Sectional Internet-Based Survey.Health and quality of life outcomes. 2010;8:96
- 81. Murphy KR, Hopp, RJ, Kittelson, EB, et al.Life-Threatening Asthma and Anaphylaxis in Schools: A Treatment Model for School-Based Programs.Ann Allergy Asthma Immunol. 2006;96(3):398-405
- 82. Anaphylaxis Campaign.Be Allergy Wise Training for School Nurses.Farnborough. [Access date: 05/10/2009]. Available from: http://www.anaphylaxis.org.uk/allergywise.aspx.