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DEPARTMENT OF HEALTH

# DoH Guidelines for the Initial Diagnosis and Management of Asthma in adults ( $\geq 18$ yrs) by Primary Healthcare Providers

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<b>Applies To</b>	All primary Healthcare Providers licensed by DoH engaged in the management of Asthma Adults (≥18yrs) in the Emirate of Abu Dhabi		
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# Contents

1. INTRODUCTION.....	5
2. ABOUT THESE GUIDELINES .....	5
3. PURPOSE .....	5
3.1. Avoidance of premature deaths related to asthma. ....	5
3.2. Provision of an evidence base rational for the referral of asthma patients. ....	5
3.3. Provision of quality and safe care to asthma patients in primary healthcare settings. ....	5
3.4. Enhancing the quality of life for people with asthma. ....	5
3.5. Embedding ongoing education on Asthma management. ....	5
3.6. Promote efficient use of resources for managing and treating asthma patients. ....	5
4. SCOPE .....	5
4.1. All primary Healthcare Providers who are engaged in the diagnosis and management of adult asthma in the Emirate of Abu Dhabi. ....	5
4.2. All adults $\geq$ 18 yrs with asthma. ....	5
5. ABBREVIATIONS.....	6
6. RECOMMENDATIONS FOR THE DIAGNOSIS AND MANAGEMENT OF ADULT ASTHMA PATIENTS.....	7
6.1. Recommendation 1: Diagnosis of adult asthma.....	7
The following may be considered in the diagnosis of adult asthma: .....	7
6.2. Recommendation 2: Initial treatment and referral .....	8
6.3. Recommendation 3: Assessment and monitoring.....	8
6.4. Recommendation 4: Pharmacological management: .....	10
6.5. Recommendation 5: Asthma Education for patients/caregivers:.....	10
6.6. Recommendation 6: Management of asthma exacerbations.....	11
6.7. Recommendation 7: Management of asthma in special circumstances .....	11
7. Appendices.....	14
7.1. Appendix 1: Recommended management of asthma in adults $18\geq$ yrs .....	14
7.2. Appendix 2: Pulmonary specialist referral .....	15
7.3. Appendix 3: Assessment of asthma severity in exacerbation .....	16
7.4. Appendix 4: Assessment of Asthma Control.....	17
7.5. Appendix 5: A. Asthma self-management plan for adults/guardians (EN).....	19
Cont. B. Asthma self-management plan for adults/guardians (AR) .....	20
7.6. Appendix 6: Environmental control measure.....	21
7.7. Appendix 7: Management of asthma exacerbation .....	22

7.8. Appendix 8: Reviewers..... 23

7.9. Appendix 9: Bibliography ..... 24

## 1. INTRODUCTION

Asthma is one of the top public health priorities at Department of Health (DoH). The goal of DoH's Asthma program is to reduce the emergency department visits, hospitalization absenteeism from school and work and death of patients due to asthma. This can be achieved by improving the diagnosis and management of asthma at primary care settings. The goals of asthma treatment for asthma control includes the following:

- Prevent symptoms.
- Maintain normal daily living activities.
- Maintain normal lung function.
- Prevent disease complications and medication side effects.

## 2. ABOUT THESE GUIDELINES

These Guidelines have been developed based on review of evidence from the Global Initiative for Asthma (GINA) and the National Asthma Education and Prevention (NAEPP) and the Canadian Thoracic Society Guidelines. In addition, they take into account Abu Dhabi's healthcare delivery system, the local cultural and social aspects and context of the Emirate.

## 3. PURPOSE

The purpose of these guidelines is to improve the diagnosis and management of adult asthma  $\geq 18$  yrs by primary health care physicians. In doing so, the Guidelines will contribute toward the following:

- 3.1. Avoidance of premature deaths related to asthma.
- 3.2. Provision of an evidence base rational for the referral of asthma patients.
- 3.3. Provision of quality and safe care to asthma patients in primary healthcare settings.
- 3.4. Enhancing the quality of life for people with asthma.
- 3.5. Embedding ongoing education on asthma management.
- 3.6. Promote efficient use of resources for managing and treating asthma patients.

## 4. SCOPE

These Guidelines apply to:

- 4.1. All primary Healthcare Providers who are engaged in the diagnosis and management of adult asthma in the Emirate of Abu Dhabi.
- 4.2. All adults  $\geq 18$  years with asthma.

## 5. ABBREVIATIONS

Category	Definition
CFC	Chlorofluorocarbon
CME	Continuing medical education
CPD	Continuing professional development
DOH	Department of Health
DPI	Dry powder inhaler
GINA	Global Initiative for Asthma
HFA	Hydrofluoralkane
ICS <sup>1</sup>	Inhaled corticosteroids
LABA	Long Acting Beta2 Agonist
LTR	leukotriene receptor antagonist
MDT	Multi-disciplinary team
mmHg	Millimeter(s) of mercury
NAEPP	National Asthma Education and Prevention Program
OCS	Oral Corticosteroid
pMDI	Pressurized Metered Dose Inhaler
PRN	Patient Reader Necessary "as necessary"
SABA	Short Acting Beta2 Agonist

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<sup>1</sup> Are considered the most potent and consistent anti-inflammatory agents for long-term asthma management therapy.

## 6. RECOMMENDATIONS FOR THE DIAGNOSIS AND MANAGEMENT OF ADULT ASTHMA PATIENTS

The following recommendations have been set out to assist primary healthcare practitioners, patients and/or their guardians to make decisions about the appropriate healthcare for adult asthma management. They are designed to support the decision-making processes in adult asthma patient care. However, these Guidelines are not and cannot be exhaustive, they are not intended to override the responsibility of healthcare professionals to make decisions appropriate to the circumstances of the individual patient, in consultation with the patient and/or guardian. Therefore, primary healthcare providers should use their own clinical judgement to address specific case scenarios.

### 6.1. Recommendation 1: Diagnosis of adult asthma

The following may be considered in the diagnosis of adult asthma:

- 6.1.1. Detailed clinical history and assessment physical findings that increase the probability of a diagnosis of asthma:
  - 6.1.1.1. Frequent wheeze , breathlessness, chest tightness and cough, particularly if:
    - 6.1.1.1.1. Symptoms worse at night and in the early morning.
    - 6.1.1.1.2. Symptoms in response to exercise, allergen exposure, cold air, respiratory viral infection and strong emotional expression.
    - 6.1.1.1.3. Symptoms after taking aspirin or beta blockers.
  - 6.1.1.2. History of atopy.
  - 6.1.1.3. Family history of asthma, hay fever or atopy.
  - 6.1.1.4. Widespread wheeze heard on auscultation of the chest (a normal chest examination does not exclude asthma).
  - 6.1.1.5. Otherwise unexplained low FEV<sub>1</sub> or PEF (historical or serial readings).
  - 6.1.1.6. Otherwise unexplained peripheral blood eosinophilia.
- 6.1.2. Observation of clinical findings that lower the probability of a diagnosis of asthma:
  - 6.1.2.1. Prominent dizziness, light-headedness, peripheral tingling.
  - 6.1.2.2. Chronic productive cough in the absence of wheeze or breathlessness.
  - 6.1.2.3. Repeatedly normal physical examination of chest when symptomatic.
  - 6.1.2.4. Voice disturbance.
  - 6.1.2.5. Symptoms with colds only.
  - 6.1.2.6. Significant smoking history (i.e. >20pack- years).
  - 6.1.2.7. Cardiac disease.
  - 6.1.2.8. Normal PEF or spirometry when symptomatic (A normal spirogram/ spirometry when not symptomatic does not exclude the diagnosis of asthma. Repeated longitudinal measurement of the lung function or PEF are often more informative than a single assessment).
- 6.1.3. Spirometry (pre & post-bronchodilator assessment) is the preferred initial test to diagnose and to detect the presence and the severity of airflow obstruction.

- 6.1.4. Clinical diagnosis (without spirometric testing) can be sufficient for diagnosis of asthma in patients who cannot perform spirometry. For example, in a severe exacerbation, elderly or patient with disabilities.
- 6.1.5. Patients with inconclusive spirometric test but with a clinical probability of asthma may be offered a reversibility challenge test and/or a trial of treatment in accordance with the GINA guidelines.
- 6.1.6. Patients presenting atypically or with additional symptoms or signs can be offered further evaluations in accordance with the clinical probability of other or coexisting conditions and may be referred to specialized services.
- 6.1.7. Patients whose diagnosis is uncertain and no evidence of airflow obstruction is identified on initial assessment should be referred to a specialist or consultant for further diagnostic testing.

## **6.2. Recommendation 2: Initial treatment and referral**

- 6.2.1. Initial treatment Guidelines for adults is reported in Appendix 1.
- 6.2.2. Patients' Referral Guidelines to appropriately qualified and trained Healthcare Professionals are reported in Appendices 1 & 2.
- 6.2.3. If occupational asthma is suspected consideration should be given to patient referral to asthma/pulmonary specialist or consultant.
- 6.2.4. Comorbid and associated conditions are best managed by appropriately qualified, trained and privileged licensed Healthcare Professionals.
- 6.2.5. Detection of individual asthma triggers (this may require referral to allergy immunology specialist to perform sensitivity testing) and appropriate management of triggers.

## **6.3. Recommendation 3: Assessment and monitoring<sup>2</sup>**

- 6.3.1. The initial assessment of patients with asthma may identify:
  - 6.3.1.1. Possible precipitating factor(s) of asthma exacerbation.
  - 6.3.1.2. Existing conditions that may contribute to asthma (for example allergic rhinitis).
  - 6.3.1.3. Classification of asthma severity by reference to criteria (Appendix 3 and
  - 6.3.1.4. Ability of the patient to self-manage (using an asthma control test) (Appendix 4) and an action plan<sup>3</sup> designed for the patient, including but not limited to plan elements (Appendix 5).
- 6.3.2. Patients with asthma or suspected asthma need to be reviewed regularly.
- 6.3.3. Factors to be reviewed and monitored may include, but are not limited to:
  - 6.3.3.1. Symptomatic asthma control measures (e.g. ACT) or similar questionnaire (i.e. Asthma Control Questionnaire (ACQ)).
  - 6.3.3.2. Lung function, assessed by spirometry or by Peak Expiratory Flow (PEF).

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<sup>2</sup> The goals of asthma assessment are to determine the severity of the disease, its impact on patient health and the risk of future exacerbation, hospital admissions or death.

<sup>3</sup> The goal of asthma self-management plan is to enable patient with asthma to gain knowledge, confidence and skills to assume a major role in the management of their asthma. This will help to achieve good control of symptoms, maintain normal activity levels and minimize future exacerbations.



- 6.3.3.3. Exacerbations, oral corticosteroid use and any sick leave since last assessment.
- 6.3.3.4. Inhaler technique.
- 6.3.3.5. Compliance with treatment.
- 6.3.3.6. Patient awareness on when to use or restart medication (for exacerbation or increase in symptoms).
- 6.3.3.7. Bronchodilator reliance. and
- 6.3.3.8. Use and value of self-management /personal action plan (Appendix 5).

## **6.4. Recommendation 4: Pharmacological management:**

- 6.4.1. The pharmacological management includes the following elements:
  - 6.4.1.1. Relief therapy: defined as therapy taken by the patient for immediate relief of symptoms. and
  - 6.4.1.2. Control therapy: defined as therapy that has the potential to control the disease.
- 6.4.2. All medications should be explained to the patient by a licensed Healthcare Professional (pharmacist and physician), including through providing information on:
  - 6.4.2.1. The name(s) of the medication.
  - 6.4.2.2. The method of action of the medication.
  - 6.4.2.3. The route of delivery.
  - 6.4.2.4. The frequency of administration.
  - 6.4.2.5. The technique to administer the medication (including the need to use any specific devices for its administration).
  - 6.4.2.6. The possible side effects or interaction with other medication or substances. and
  - 6.4.2.7. Other signs and symptoms that may coincide with medication administration.
- 6.4.3. Information is best given in writing and verbally to the patient in clear and understandable language.
- 6.4.4. Current level of asthma control and current treatment should ideally determine the selection of pharmacologic treatment.
- 6.4.5. If asthma is not controlled by the current treatment regime, treatment may be stepped up until control is achieved. If control has been maintained for at least three months, treatment may be stepped down (Appendix 1).
- 6.4.6. Inhaled medications are the preferred treatment. they deliver drugs directly to the airways, resulting in potent therapeutic effect with fewer side effects.

## **6.5. Recommendation 5: Asthma Education for patients/caregivers:**

- 6.5.1. Education and guidance should be ideally available and accessible for all patients with asthma.
- 6.5.2. The essential elements of asthma education to be delivered to all patients ideally include:
  - 6.5.2.1. Basic facts about asthma.
  - 6.5.2.2. Environmental control measures (such as that described at (Appendix 6).
  - 6.5.2.3. Home peak flow rate monitoring.
  - 6.5.2.4. Recording symptoms in diary or similar document.
  - 6.5.2.5. How to follow an action plan including at least, but not limited to information in (Appendix 5).
  - 6.5.2.6. The importance of compliance with treatment and follow-up visits.
- 6.5.3. Asthma education is best provided by appropriately trained personnel with asthma specific expertise (nurse, asthma educator, respiratory therapist).

## 6.6. Recommendation 6: Management of asthma exacerbations

- 6.6.1. Severe exacerbation is considered life-threatening emergency. GINA provides Guidelines for Management of Asthma Exacerbations in the acute care setting that can be applied in primary care settings too (**Appendix 7**).
- 6.6.2. It is necessary to promptly and thoroughly assess the severity of the acute attack to determine the required type of treatment (**Appendices 1 & 7**).
- 6.6.3. Treatment is best administered concurrently to achieve the most rapid relief of the exacerbation in accordance with guidance for initial treatment.
- 6.6.4. Response to the treatment requires ongoing assessment.
- 6.6.5. If the exacerbation is not resolved within 1-2 hours of repeated administration of quick-acting inhaled  $\beta_2$ -agonists (with or without the addition of oral glucocorticosteroid) professionals must consider patient referral to the hospital emergency department (if not already in situ).
- 6.6.6. Follow up visits may be in accordance with the specified content and frequency detailed in these guidelines.
- 6.6.7. LABA monotherapy is not advisable in an acute asthma exacerbation.

## 6.7. Recommendation 7: Management of asthma in special circumstances

### 6.7.1. Pregnancy

Treatment should ideally follow the same standards and approach as for adults >18 yrs with the following exceptions:

- 6.7.1.1. When indicated, for the management of asthma, risks of treatment versus the potential risks of severe uncontrolled asthma should ideally be decided by the treating physician based on a full assessment.
- 6.7.1.2. It is important to treat pregnant women promptly and aggressively to minimize the potential harm to mother and child, including premature birth, low birth weight and maternal blood pressure problems.
- 6.7.1.3. Acute asthma exacerbation during labor or delivery, bronchoconstriction may be induced by hyperventilation and is best managed with short acting  $\beta_2$  agonist (SABA). If high doses of SABA have been given during labor and delivery, blood glucose levels should ideally be monitored in the baby for the first 24 hours.

### 6.7.2. Asthma patients who are difficult to treat

- 6.7.2.1. Patients who have difficulty treating their symptoms despite taking high dose of ICS as a minimum requirement, should ideally be referred to an asthma specialist or consultant with appropriate training, experience and privileges to ensure best management of the patient.

### 6.7.3. Elderly

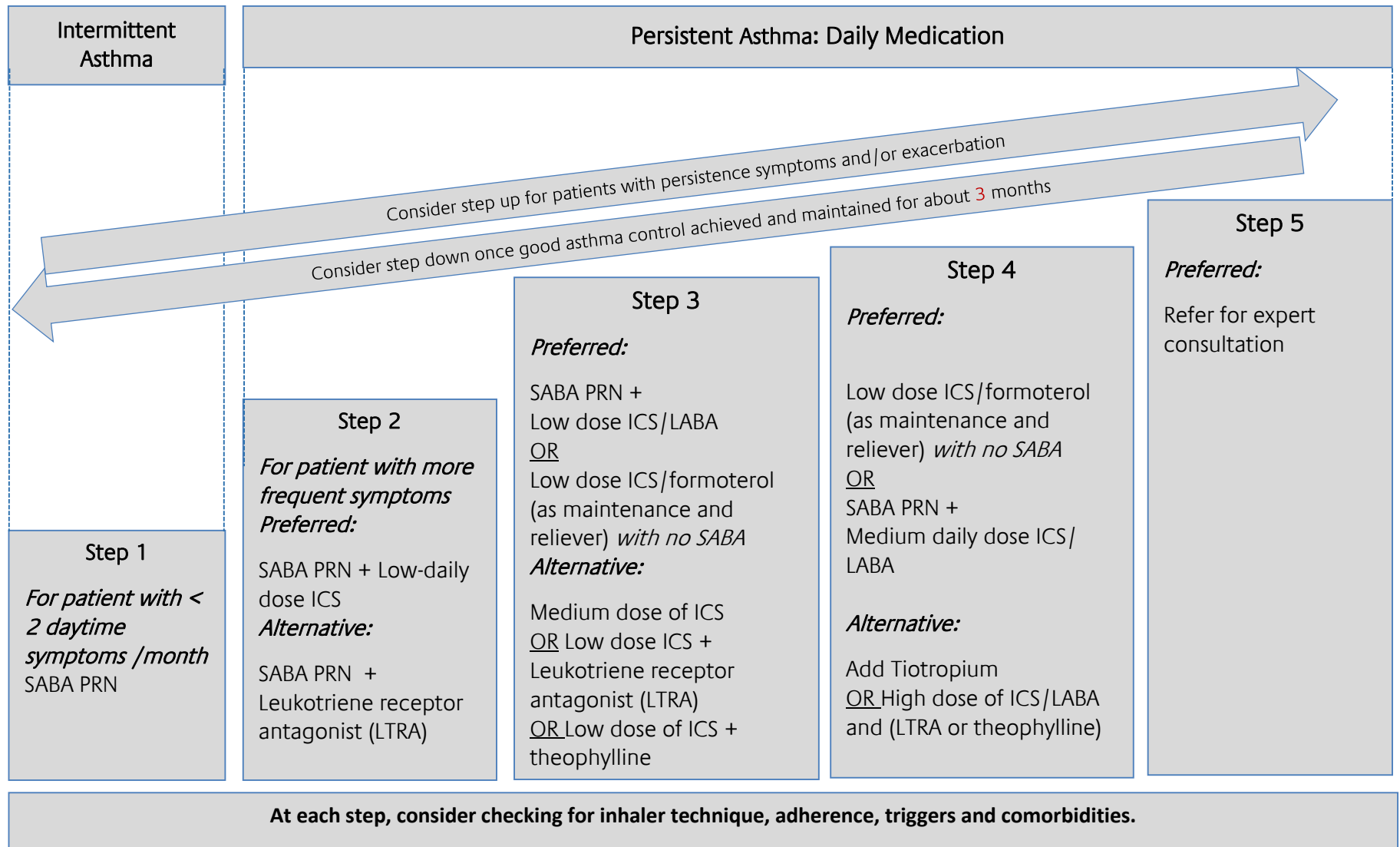
- 6.7.3.1. For older patients (over the age of 65) with respiratory symptoms, spirometry is an effective tool for detecting Chronic Obstructive Pulmonary Disease (COPD), but has limited effectiveness in identifying asthma.

- 6.7.3.2. A treatment trial attempting to reduce airflow limitation and symptoms can be considered as it can provide valuable diagnostic information.
  - 6.7.3.3. Comorbidities should be carefully considered in older patients when choosing care and treatment as well as the choice of delivery devices.
  - 6.7.3.4. Careful prescribing of asthma medications, close monitoring of the effects and improvements, including close monitoring and reporting of adverse effects.
- 6.7.4. Before and after surgery
- 6.7.4.1. Asthma should ideally be fully controlled or, if required a referral made to an Asthma Specialist or Consultant prior to elective surgery.
  - 6.7.4.2. Patients should ideally be evaluated clinically and physiologically (Lung function tests) to define current status of asthma control prior to elective surgery.
  - 6.7.4.3. Elective surgery should ideally not be considered until asthma is controlled.
  - 6.7.4.4. For emergency surgical interventions, all treatment and medication should ideally be adapted to control asthma, including oral/intravenous corticosteroid.
  - 6.7.4.5. Asthmatic patients should ideally be closely monitored during hospitalization after surgery.
- 6.7.5. Occupational asthma
- 6.7.5.1. In new cases of adult-onset asthma, if occupational asthma is suspected, cases should ideally follow the diagnostic pathway in accordance with Recommendation 2. an assessment should ideally be carried out based on job risk profiles.
  - 6.7.5.2. Lung function tests and additional tests including lung function test in the work environment and immunoglobulin testing for chemical or dust exposures may help to establish the diagnosis of occupational asthma.
  - 6.7.5.3. Diagnosis of occupational asthma should ideally be made by asthma pulmonary specialist or consultant (Appendix 2).
  - 6.7.5.4.
- 6.7.6. Asthma and Fasting (Ramadan)
- 6.7.6.1. The responsible treating physician should ideally advise the patient to manage their asthma normally during Ramadan.
  - 6.7.6.2. If adjustment of the timing of the medication is determined to be necessary a full assessment of the patient's needs should ideally be carried out to ensure asthma control is maintained.
  - 6.7.6.3. If the patient wishes to abstain from taking asthma treatment or adjust the timing against advice of the treating physician, the physician should ideally:

- 6.7.6.3.1. Inform the patient of the potential risks associated with this action.
  - 6.7.6.3.2. Educate the patient on how to manage their condition and minimize the risks whilst abstaining from treatment, including avoiding known triggers. and
  - 6.7.6.3.3. Document in the patient record the patient's decision to abstain from treatment.
- 6.7.7. Asthma in Al Omra / Al Haj / Travel
- 6.7.7.1. Patients should be encouraged to ensure that their Asthma is under control before travelling.
  - 6.7.7.2. The patient should ideally be prescribed sufficient medication to cover the travel period and should have an action plan to ensure appropriate and timely treatment is delivered.
  - 6.7.7.3. Patients should ideally be encouraged to use medication such as bronchodilators before and after holy physical activities like Tawaf in addition to use as normally required.
  - 6.7.7.4. Physicians should advise the patient to seek medical attention if needed during his/her travel, and not wait until he/she returns home.

## 7. Appendices

### 7.1. Appendix 1: Recommended management of asthma in adults 18≥yrs



- Confirm the symptoms are due to asthma and refer for expert consultation if diagnosis is in doubt.
- Consider short course of oral systemic corticosteroids if exacerbation is severe or patient has history of previous severe exacerbations.
- Caution: Frequent use of SABA may indicate the need to step up treatment.

## 7.2. Appendix 2: Pulmonary specialist referral

### Consider pulmonary specialist referral

- Patient with life-threatening asthma exacerbation.
- Patient with uncontrolled asthma or unresponsiveness to therapy after 3–6 months of treatment.
- Patient who had exacerbation required hospitalization or who required two courses of systemic steroid therapy in the last one year.
- Atypical patient presentation.
- Occupational asthma is suspected.
- Assessment of respiratory disability required.
- Additional diagnostic testing is required (e.g., allergy skin testing, bronchoscopy).
- Patient requires additional educational or social support.
- Patient is being considered for advance therapy (anti IgE, anti IL-5, Bronchial thermoplasty etc....).

### 7.3. Appendix 3: Assessment of asthma severity in exacerbation

Asthma Severity	Mild or Moderate	Severe	Life threatening
Respiratory Rate per min >18 years	increased	>30/min	Drowsy, confused, silent chest. arrhythmia & cyanosis <b>Near-fatal:</b> Raised PaCO <sub>2</sub> and/or requiring mechanical ventilation with raised inflation pressure
Oxygen Saturation (SpO <sub>2</sub> )	90% - 95% on room air	<90% (on air)	
Pulse rate	100-120 bpm	>120 bpm	
Retractions	Accessory muscles not used	Accessory muscles in use	
Dyspnea	Speaks in short sentences, prefers sitting to lying, not agitated	Speaks in words, sits hunched forwards, agitated	
Expiratory Limitation Airflow	>50% of the best recorded	≤50% of the best recorded	



## 7.4. Appendix 4: Assessment of Asthma Control



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### Asthma Control Test (for 12 years or older)

### إختبار السيطرة على الربو (من عُمُر ١٢ سنة فأكثر)

Do you want to know about your asthma control level, then simply take the test

The below five questions will let you know whether you are controlling your asthma or asthma controlling you.

1. Choose the most appropriate one that you think your asthma is.
2. Add your 5 scores to get the total.
3. Your total score will help you and your doctor to discuss your treatment plan.

هل تريد أن تعرف مستوى حالة الربو لديك، إختأ قم بإجراء الإختبار

الأسئلة الخمسة التالية تجعلك تعرف إن كنت مسيطر على مشكلة الربو أو إنه يعيق نظرك حياتك.

١. إختار حجتك عن كل سؤال و اكتب الرقم فهي الخانة المحددة على اليسار.
٢. اجمع درجاتك للحصول على المجموع.
٣. مجموع درجاتك سيساعدك أنت وطبيبك في وضع الخطة العلاجية الخاصة بك.

**Q1** During the past 4 weeks, how often did your asthma prevent you from getting as much done at work, school or home?

1 All of the time 2 Most of the time 3 Some of the time 4 A little of the time 5 None of the time

**Q2** During the past 4 weeks, how often have you had shortness of breath?

1 More than once a day 2 Once a day 3 3 to 6 times a week 4 Once or twice a week 5 Not at all

**Q3** During the past 4 weeks, how often did your asthma symptoms (wheezing, coughing, shortness of breath, chest tightness or pain) wake you up at night or earlier than usual in the morning?

1 4 or more times a week 2 3 to 6 times a week 3 Once a week 4 Once or twice a week 5 Not at all

**Q4** During the past 4 weeks, how often have you used your rescue inhaler Bronchodilator or nebuliser?

1 3 or more times a day 2 1 or 2 times a day 3 2 or 3 times a week 4 Once a week or less 5 Not at all

**Q5** How would you rate your asthma control ?

1 Not controlled 2 Poorly controlled 3 Somewhat controlled 4 Well controlled 5 Completely controlled

**25** Simply turn over and find out what it means

Total

**س١** خلال ال ٤ أسابيع الماضية، في كم من الوقت منعك الربو من إنجاز واجباتك في العمل، أو الدراسة، أو الملل؟

١ كل الوقت ٢ معظم الوقت ٣ بعض الوقت ٤ قليل من الوقت ٥ لم يحصل أبداً

**س٢** خلال ال ٤ أسابيع الماضية، كم مرة حصل لك ضيق للفس؟

١ أكثر من مرة في اليوم ٢ مرة واحدة في اليوم ٣ من ال٣ إلى ٦ مرات في الاسبوع ٤ مرة أو مرتين في الاسبوع ٥ لم يحصل أبداً

**س٣** خلال ال ٤ أسابيع الماضية، كم مرة أيقظتك أعراض الربو (الصفير، السعال، ضيق للفس، ضيق صدر أو ألم في الصدر) أثناء الليل أو في الصباح الباكر؟

١ ٤ مرات أو أكثر في الاسبوع ٢ ٣ مرات في الاسبوع ٣ مرة واحدة في الاسبوع ٤ مرة أو مرتين في الاسبوع ٥ لم يحصل أبداً

**س٤** خلال ال ٤ أسابيع الماضية، كم مرة استخدمت بخاخة الازمات أو البخاخ (موسعات الشعب الهوائية)؟

١ ٣ مرات أو أكثر في اليوم ٢ مرتين في اليوم ٣ ٢ أو ٣ مرات في الاسبوع ٤ مرة واحدة في الاسبوع أو أقل ٥ لم يحصل أبداً

**س٥** خلال ال ٤ أسابيع الماضية، ما هو تقييمك للسيطرة على الربو عليك؟

١ لا يوجد سيطرة أبداً ٢ ضعيفة ٣ سيئة ٤ جيدة ٥ سيطرة كاملة

**٢٥** اقلب الصفحة لتعرف ما أنتهي تعنيه درجاتك

المجموع

Cont. Results analyses for the Assessment of Asthma Control

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**Score 19 or less**

asthma is uncontrolled or poorly controlled. Discuss your result with your doctor. There are other treatments that can control your asthma

**النتيجة ١٩ أو أقل..**

حالة الربو لديك غير مسيطر عليها. اطلع طبيبك على النتيجة. يوجد علاجات للسيطرة على الربو بشكل افضل

**Score 24- 20**

You have some Control over your asthma. You can do better. Ask your doctor if you should change your treatment plan

**النتيجة ٢٠ - ٢٤**

حالة الربو غير مسيطر عليها كما يجب. إسأل طبيبك.. فيما كان عليك تغيير الخطة العلاجية

**Score 25**

You have control over your asthma, good work. Keep it up.

**النتيجة ٢٥**

حالة الربو مسيطر عليها وحافظ عليها بالمتابعة مع الطبيب

## 7.5. Appendix 5: A. Asthma self-management plan for adults/guardians (EN)

Your asthma plan needs to be reviewed and updated at least once every year

### ADULT ASTHMA ACTION PLAN

Name \_\_\_\_\_  
 Age \_\_\_\_\_ Date of Birth \_\_\_\_\_ Contact number \_\_\_\_\_  
 Emergency contact person  
 Name \_\_\_\_\_ Relation \_\_\_\_\_ Phone \_\_\_\_\_  
 Doctor / Asthma nurse contact details  
 Name \_\_\_\_\_ Contact number \_\_\_\_\_

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### GREEN ZONE DOING GREAT



Peak Flow Meter Personal Best \_\_\_\_\_

- Breathing is easy
- No cough
- No wheeze
- Can do regular activities
- Sleeps through the night
- Using quick relief medicine no more than 2 times a week

(ONLY FOR EXERCISE-INDUCED ASTHMA)  
 10 minutes before exercise

Take: \_\_\_\_\_  
(short-acting  $\beta$ -2agonist)  
 2 puffs  4 puffs  6 puffs

#### PREVENTIVE MEDICINE

Dose \_\_\_\_\_ When \_\_\_\_\_ Device \_\_\_\_\_

#### OTHER ASTHMA MEDICINES USED REGULARLY

Dose \_\_\_\_\_ When \_\_\_\_\_ Device \_\_\_\_\_

#### RELIEVER MEDICINES

Dose \_\_\_\_\_ When \_\_\_\_\_ Device \_\_\_\_\_

#### OTHER INSTRUCTIONS

### YELLOW ZONE CAUTION



Peak Flow Meter between %50 to %80 of personal best \_\_\_\_\_ to \_\_\_\_\_

- Short of breath  Cough  Wheeze  Can't do usual activities
- Sleep disturbance due to breathing difficulty, cough or wheeze  Using quick relief medicine more than 2 times a week

1

#### GIVE QUICK RELIEF MEDICINE AND KEEP TAKING YOUR GREEN ZONE MEDICINE

Take: \_\_\_\_\_  
(every 20 minutes for up to 1 hour) \_\_\_\_\_  
(short-acting  $\beta$ -2agonist)  
 2 puffs  4 puffs OR  Nebulizer, dose \_\_\_\_\_

2

If your symptoms return to GREEN ZONE after 1 hour of above treatment: Continue monitoring to be sure you stay in the GREEN ZONE OR if your symptoms do not return to GREEN ZONE after 1 hour of above treatment:

Take: \_\_\_\_\_  
(short-acting  $\beta$ -2agonist)  
 2 puffs  4 puffs OR  Nebulizer, dose \_\_\_\_\_ every \_\_\_\_\_ minutes  
 Add \_\_\_\_\_ mg per day for \_\_\_\_\_ Days  
(Oral Steroid)

3

If you get worse, call your doctor or asthma nurse, to make appointment within 24 hours and go to RED ZONE

### RED ZONE DANGER



Peak Flow Meter less than %50 of personal best \_\_\_\_\_

- Very short breath  Breathing very fast
- Can not do usual activities  Quick relief medicine not helping
- Lips or finger nails look blue

#### TAKE THIS MEDICINE

Take: \_\_\_\_\_  
(short-acting  $\beta$ -2agonist)  
 4 puffs  6 puffs OR  Nebulizer, dose \_\_\_\_\_ every \_\_\_\_\_ minutes  
 Add \_\_\_\_\_ mg per day for \_\_\_\_\_ Days  
(Oral Steroid)



DON'T WAIT,  
 CALL 998 OR go to the nearest hospital immediately.

AMB CALL 800 655

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## Cont. B. Asthma self-management plan for adults/guardians (AR)

دائرة الصحة  
DEPARTMENT OF HEALTH



خطة مالتك من مرض الربو تتطلب المراجعة والمتابعة مرة في السنة على الأقل

الإسم	تاريخ الولادة	رقم الهاتف
العمر	الشخص الموجب الاتصال به في حال الطوارئ	رقم الهاتف
الإسم	العلة بالمرض	رقم الهاتف
تفاصيل الاتصال بالطبيب بالمرضى الربو		رقم الهاتف

**خطة عمل الربو للمتلقيين**

**المنطقة الخضراء مستقر**

مقياس شدة جريان الهواء (أفضل قرابة 8)

التنفس بصورة طبيعية

لا يوجد سعال

لا يوجد صفير في الصدر

القيام بالنشاطات اليومية بدون أي صعوبة

الانوم خلال الليل بدون تقطع

يحدث أعراض الربو

استخدام أدوية الربو سريعة المفعول أقل من مرتين في الأسبوع

(شاهد لحالات الربو المصاحبة للرياضة)

قبل ممارسة الرياضة > 10 دقائق تناول

(short-acting B-2agonist)

و يكون  4 بخات  6 بخات

المدينة: \_\_\_\_\_ مولد المدينة: \_\_\_\_\_ الجواز: \_\_\_\_\_

أدوية الربو المستخدمة بالنظام

المدينة: \_\_\_\_\_ مولد المدينة: \_\_\_\_\_ الجواز: \_\_\_\_\_

أدوية مسكنة

المدينة: \_\_\_\_\_ مولد المدينة: \_\_\_\_\_ الجواز: \_\_\_\_\_

إرشادات أخرى

**المنطقة الصفراء احذر**

مقياس شدة جريان الهواء بين 50% و 80% من أفضل قرابة 8

ضيق في التنفس  سعال  صفير في الصدر  صعوبة في التنفس بصورة بالقيام بالنشاطات اليومية

صعوبة في النوم بسبب ضيق التنفس- السعال أو صفير الصدر

استخدام أدوية الربو سريعة المفعول أكثر من مرتين في الأسبوع

1 استخدم أدوية الربو سريعة المفعول واستمر في استخدام الأدوية الوقائية المبيئة في المنطقة الخضراء

تناول  4 بخات أو  بخات مرة واحدة

(short-acting B-2agonist)

2 إذا تحسنت الأعراض وعدت للمنطقة الخضراء بعد ساعة من العلاج استمر في مراقبة أعراض الربو وتأكد من استمرارية الرقابة في المنطقة الخضراء

تناول  4 بخات أو  بخات مرة واحدة كل  دقيقة

(short-acting B-2agonist)

إضافة  ملوجرام مرة في اليوم لمدة  أيام

(Oral Steroid)

3 إذا بقيت حالتك الصحية اتصل بطبيبك أو بمدرسة الربو. لتجد موعد خلال ٢٤ ساعة وانتقل إلى المنطقة الحمراء

**المنطقة الحمراء خطر**

مقياس شدة جريان الهواء أقل من 50% من أفضل قرابة 8

تنفس ضعيف جداً  لا يمكنك ممارسة الأنشطة المعتادة  الشفتين أو الظاهر تبدو زرقاء اللون

التنفس بصورة سريعة  عدم فاعلية الأدوية سريعة المفعول

تناول هذه الأدوية  4 بخات  6 بخات أو  بخات - المدينة كل  دقيقة

(short-acting B-2agonist)

إضافة  ملوجرام يومياً  أيام

(Oral Steroid)

لا تسجل، اتصل بالإسعاف على 998 أو توجه إلى أقرب مستشفى في أسرع وقت ممكن

www.haad.ae

تصل على 800 555

## 7.6. Appendix 6: Environmental control measure

### Strategies for avoiding common allergens and pollutants

Decreasing environmental exposure to the following can enhance asthma control:

- Smoking or exposure to all tobacco types (cigarettes, shisha, medwakh, etc..) should be avoided. Patients should be encouraged to quit smoking and advised about the available support for that.
- Perfumes and burning fragrances such as bakhour.
- Drugs, food and preservatives that cause symptoms.

Other interventions have shown to decrease the exposure to indoor allergens, but clinically controversial:

- Outdoor pollens including date palm pollen, sand storms and mold: Close windows and doors and remain indoors when pollen, sand storm and mold counts are highest.
- House dust mites: wash bed linens and blankets weekly in hot water and dry in the sun. Use anti-allergic bedding if possible. Replace carpets with hard flooring, especially in sleeping rooms. Use vacuum cleaner with filters.
- Pets with fur: Use air filters. Remove the pet from the home, or at least from the sleeping area.
- Consider referral for sublingual immunotherapy against house dust mites appropriately.
- Cockroaches: Clean the home thoroughly. Use pesticide spray, but make sure the patient is not at home when spraying occurs.
- Indoor mold: Reduce humidity in the house. clean damp areas frequently.

### 7.7. Appendix 7: Management of asthma exacerbation

Setting	Features mild to moderate	Features severe to life threatening
Primary care	<p>SABA 4-10 puffs by pMDI + spacer repeat every 20min. For 1hr. Give prednisolone 1mg/kg/day max. 50mg. Controlled oxygen to maintain saturation 93%-95%</p>	<p>Transfer to acute care facility while waiting:            Give inhaled SABA &amp; anticholinergic,            Controlled oxygen to maintain saturation 93%-95%,            Systemic corticosteroid</p>

## 7.8. Appendix 8: Reviewers

Name of Stakeholder	Profession	Organization
Dr. Amr Elekiaby	Consultant Pulmonologist	NMC Royal Hospital
Dr. Arun Arya	Consultant Pulmonologist	Nation Hospital
Dr. Hassan Al Hariri	Consultant Pulmonologist	Dubai Health Authority
Dr. Mohammed Al Houqani	Consultant Pulmonologist	United Arab Emirates University
Dr. Mohammed Harris	Pulmonologist	Al Zahra Hospital
Dr. Mohamed Rafique. P	Pulmonologist	Al Ain Hospital
Dr. Saber Mashaal	Consultant Pulmonologist	Al Ain Hospital
Dr. Saicharan G Bodi	Pulmonologist	Cleveland Clinic Abu-Dhabi
Dr. Yaser Abu El Sameed	Consultant Pulmonologist	Cleveland Clinic Abu-Dhabi
Dr. Zaid Zoumot	Consultant Pulmonologist	Cleveland Clinic Abu-Dhabi
Dr. Zouhair Harb	Consultant Pulmonary, Critical Care And Sleep Medicine	Advanced Cure Diagnostic Center

## 7.9. Appendix 9: Bibliography

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