IPCRG presentations on respiratory diseases

Asthma control and severity. What doctors should do to support patients with uncontrolled and severe asthma.

International Primary Care Respiratory Group
IPCRG

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Session Outline

- Introduction
- Definition
- What is asthma control and reasons for poor control
- Group Work / Case vignettes
- How to measure asthma control?
- Difficult to manage asthma: a practical guide

Introduction

Definition

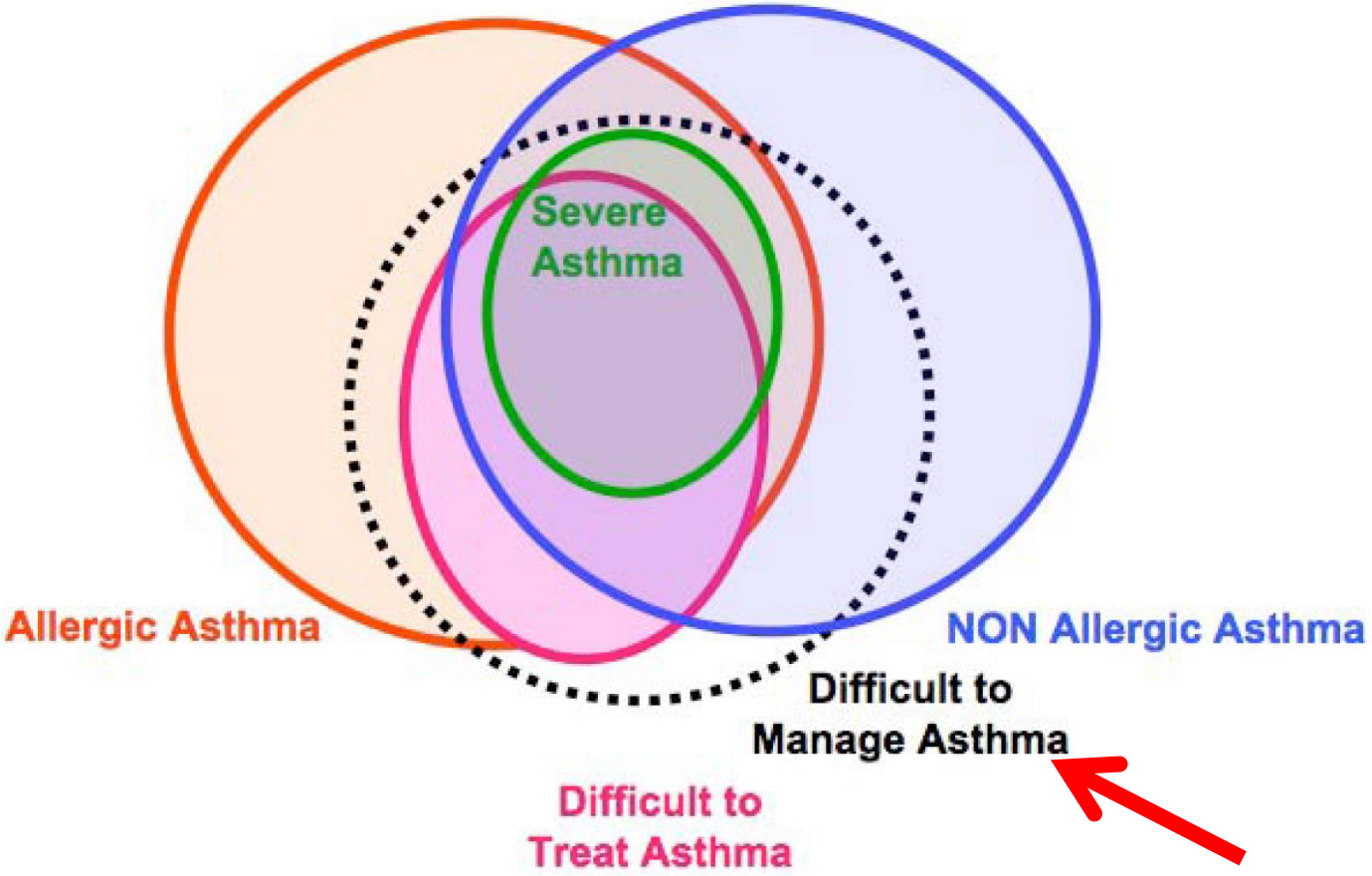
- Difficult to manage asthma is asthma that either the patient or the clinician finds difficult to manage.
- A patient with difficult to manage asthma has daily symptoms and regular exacerbations despite apparently best treatment.

Introduction

There are two main groups of patients with difficult to manage asthma:

- People whose asthma has been controlled in the past but who have now lost control.
- People whose asthma has never been controlled.

Difficult to manage asthma



Poorly controlled asthma: What should we do?

1. What is asthma control
2. Reasons for poor asthma control

- In groups of 3, please:
  1. define asthma control
  2. list 3 reasons for poor asthma control
- After 3 m one member from each team should report to the group

What is asthma control?

As defined by the Global Initiative for Asthma (GINA), 2007

- Minimal to no daytime asthma symptoms
- No limitations on activities
- No nocturnal symptoms or awakenings
- Minimal to no need for reliever or rescue therapy
- Normal lung function (FEV_1 or PEF)
- No exacerbations

Reasons for poor asthma control

- Wrong diagnosis or confounding illness
- Incorrect choice of inhaler or poor technique
- Concurrent smoking
- Concomitant rhinitis
- Unintentional or intentional nonadherence
- Individual variation in treatment response
- Under treatment

Haughney J et al. *Respir Med*. 2008;102:1681–93.

Clinical cases

Group Work

- We will present a case vignette
- Please take your notes and discuss the case in small groups (3-5 persons)
- After 5 m we will discuss the case in the plenary

Case 1:

Sara- 43 year old, goes for a routine asthma consultation:

- Daytime symptoms > twice a week
- Nocturnal awakenings
- In recent weeks used rescue medication 2/3 times a week

- She is regularly taking inhaled beta-2 agonists and corticosteroids medium dose fixed combination and salbutamol as needed

Is her asthma controlled?

Characteristic	Controlled (All of the following)	Partly controlled (Any present in any week)	Uncontrolled
Daytime symptoms	Twice or less per week	More than twice per week	3 or more features of partly controlled asthma present in any week
Limitations of activities	None	Any	
Nocturnal symptoms / awakening	None	Any	
Need for rescue / "reliever" treatment	Twice or less per week	More than twice per week	
Lung function (PEF or FEV_1)	Normal	< 80% predicted or personal best (if known) on any day	

How do we measure asthma control?

How do we measure asthma control ?

- History
- Prescription review
- Questionnaires
- Objective measures

How to assess asthma control in practice?

Simple tools that both healthcare providers and patients can use.

- Asthma Control Questionnaire (ACQ)
  - 7-item questionnaire. Based upon day/night-time symptoms, daily activities, rescue bronchodilator
- Royal College of Physicians (RCP)
  - 3 questions based upon day/night-time symptoms and daily activities
- Asthma Control Test (ACT)
  - Validated instrument. 5 questions based upon day/night-time symptoms, rescue bronchodilator use and daily activities.
- Control of Allergic Rhinitis and Asthma Test (CARAT)
  - Validated instrument. 4 questions on rhinitis + 6 on asthma. Available in several languages

Juniper et al ERJ 1999;14:902-7, Br Med J 1990;301:651-653, Nathan J Allergy Clin Immun, 2004:113:59-65

Is your asthma under control?

Asthma Control Test™

The first step to achieving control over your asthma is to know where you're at right now. That way, your health care professional (doctor, nurse or pharmacist) can help you reach the best asthma control possible.

This test is a way of working out your present level of asthma control.

Take five minutes now and do this simple test.

STEP 1 Answer these simple questions

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

SCORE

All of the time	Most of the time	Some of the time	A little of the time	Not at all
1	2	3	4	5

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

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

Q3 During the **past four 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?

4 or more times a week	2 to 3 nights a week	1 night a week	Less than 1 night a week	Not at all
1	2	3	4	5

Q4 During the **past four weeks**, how often have you used your reliever medication (such as your blue inhaler *or* rescue inhaler)?

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

Q5 How would you rate your asthma control during the **past four weeks**?

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

STEP 2 Add up each score to get the total

TOTAL

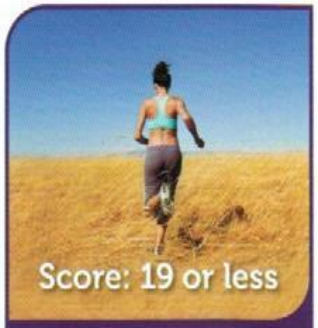
STEP 3 Turn this leaflet over to find out how well your asthma is controlled

What does your Asthma Control Test™ result mean?

Your test result is an assessment of your level of asthma control.[1,2] It can help you and your health care professional decide if your asthma is controlled.

Score: 20-25

Well done. Your asthma appears to be controlled.[2] Even so, it can change over time so it's important to retest yourself regularly. Continue to talk to your health care professional about your asthma control.



Score: 19 or less

Your asthma may be uncontrolled or only partly controlled.[2] Talk to your health care professional about how you can improve it.

For further information about your asthma and what your test result might mean, make an appointment to see your health care professional.*

asthmacontrol.co.nz

Asthma Control Test™

Your answers to this 5-question quiz will provide you a score that may help you and your doctor determine if your treatment plan is working or if it might be time for a change.

If your child is between the ages of 4 and 11 years, please use the Childhood Asthma Control Test.

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1. In the past **4 weeks**, how much of the time did your **asthma** keep you from getting as much done at work, school or at home?

○ All of the time	○ Most of the time	○ Some of the time	○ A little of the time	○ None of the time	

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

○ More than once a day	○ Once a day	○ 3 to 6 times a week	○ Once or twice a week	○ Not at all	

3. 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?

○ 4 or more nights a week	○ 2 or 3 nights a week	○ Once a week	○ Once or twice	○ Not at all	

4. During the past **4 weeks**, how often have you used your rescue inhaler or nebulizer medication (such as albuterol)?

○ 3 or more times per day	○ 1 or 2 times per day	○ 2 or 3 times per week	○ Once a week or less	○ Not at all	

5. How would you rate your **asthma** control during the **past 4 weeks**?

○ Not controlled at all	○ Poorly controlled	○ Somewhat controlled	○ Well controlled	○ Completely controlled	

Control of Allergic Rhinitis and Asthma Test

25-06-2012

During the last 4 weeks, because of your asthma/rhinitis/allergy how many times, on average, did you experience:

	Never	Up to 2 days per week	More than 2 days per week	Almost every day or every day
1. Blocked nose ? *				
2. Sneezing? *				
3. Itchy nose? *				
4. Runny nose? *				
5. Shortness of breath/dyspnoea? *				
6. Wheezing in the chest? *				
7. Chest tightness upon physical exercice? *				
8. Tiredness/limitations in doing daily tasks? *				
9. Woke up during the night because of your asthma/rhinitis/allergy? *				

During the last 4 weeks, because of your asthma/rhinitis/allergy, how many times did you have to:

	I am not taking any medicines	Never	Less than 7 days	7 or more days
10. Increase the use of your medications? *				

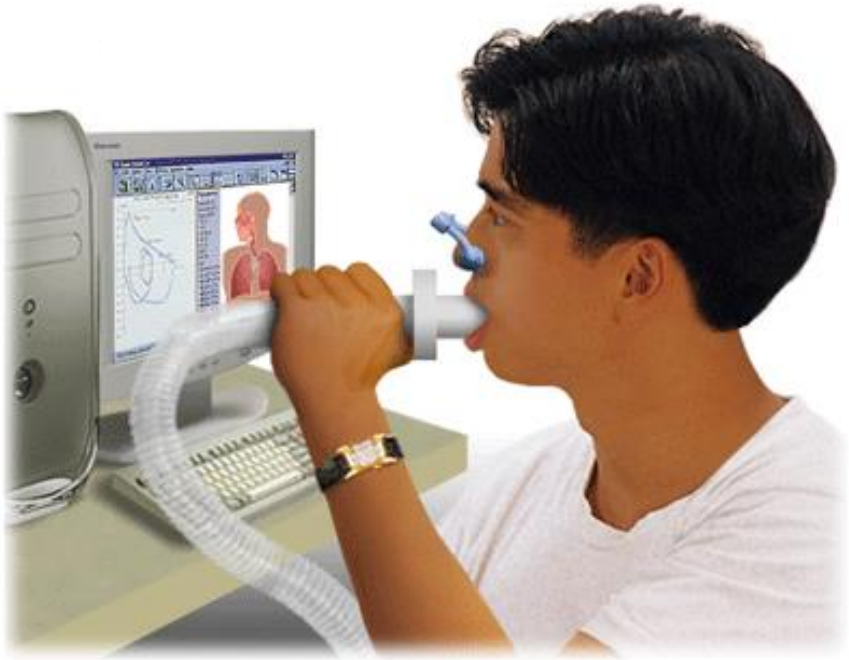
* All questions are mandatory

Total Score: 0 — Scores higher than 24 indicate good disease control

Score of the upper airway (item 1-4): 0 — Controlled if score is >8

Score of the lower airway (item 5-10): 0 — Controlled if score is ≥16

Objective measures



Reasons for poor asthma control: Case 2

Case 2:

Sara- 43 year old, goes for a routine asthma consultation:

- **Once we check asthma control and we discover that she has an uncontrolled asthma**

- **What is next?**

International Primary Care IPCRG Respiratory Group

DESKTOP HELPER

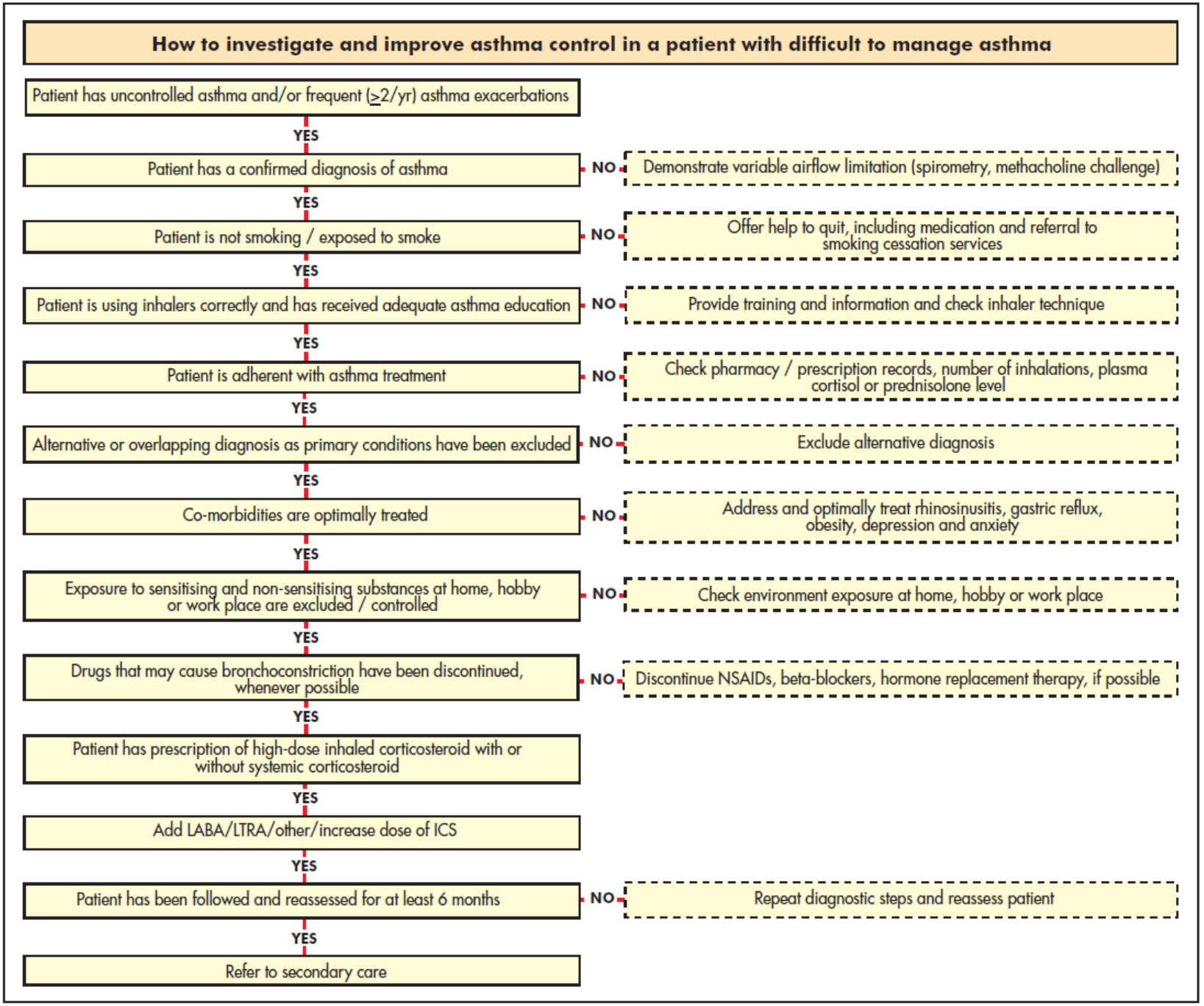
No. 2 April 2012

Improving the care of adults with difficult to manage asthma: a practical guide for primary healthcare professionals

How to review a patient with difficult to manage asthma

SIMPLES

- **S**moking
- **I**nhaler technique
- **M**onitoring
- **P**harmacotherapy
- **L**ifestyle
- **E**ducation
- **S**upport


How to investigate and improve asthma control in a patient with difficult to manage asthma
Patient has uncontrolled asthma and/or frequent (≥2/yr) asthma exacerbations
YES
Patient has a confirmed diagnosis of asthma
NO
Demonstrate variable airflow limitation (spirometry, methacholine challenge)
YES
Patient is not smoking / exposed to smoke
NO
Offer help to quit, including medication and referral to smoking cessation services
YES
Patient is using inhalers correctly and has received adequate asthma education
NO
Provide training and information and check inhaler technique
YES
Patient is adherent with asthma treatment
NO
Check pharmacy / prescription records, number of inhalations, plasma cortisol or prednisolone level
YES
Alternative or overlapping diagnosis as primary conditions have been excluded
NO
Exclude alternative diagnosis
YES
Co-morbidities are optimally treated
NO
Address and optimally treat rhinosinusitis, gastric reflux, obesity, depression and anxiety
YES
Exposure to sensitising and non-sensitising substances at home, hobby or work place are excluded / controlled
NO
Check environment exposure at home, hobby or work place
YES
Drugs that may cause bronchoconstriction have been discontinued, whenever possible
NO
Discontinue NSAIDs, beta-blockers, hormone replacement therapy, if possible
YES
Patient has prescription of high-dose inhaled corticosteroid with or without systemic corticosteroid
YES
Add LABA/LTRA/other/increase dose of ICS
YES
Patient has been followed and reassessed for at least 6 months
NO
Repeat diagnostic steps and reassess patient
YES
Refer to secondary care

Step1: confirm the diagnosis of asthma

- If the patient is not responding as expected to asthma therapy:
  - **Confirm the asthma diagnosis and rule out (or in) confounding illness before changing or increasing medications**
- Tools for asthma diagnosis must be stratified by age
- Objective measures of reversible airflow obstruction (spirometry, PEF) are important if available

Diagnosing asthma in primary care

IPCRG guidelines. *Prim Care Respir J.* 2006;15:20–34.

- Compatible clinical history
  - Episodic or persistent dyspnoea, wheeze, tightness, cough
  - Triggers (allergic, irritant)
  - Risk factors for asthma development
  - Consider occupational asthma for adults with recent onset
- Objective evidence
  - Spirometry or peak expiratory flow
  - Bronchoprovocation test (methacholine challenge)
- Ancillary tests
  - Chest x-ray
  - Eosinophils, IgE level
  - Allergy testing
  - Exhaled nitric oxide
  - Induced sputum

Step 2: question about smoking

- Smoking adversely impacts asthma control
  - Current smokers are almost 3 times more likely than non-smokers to be hospitalised for their asthma over a 12-month period
- Why does smoking adversely impact asthma?
  - Asthma misdiagnosed as COPD or concomitant COPD
  - Relative steroid resistance

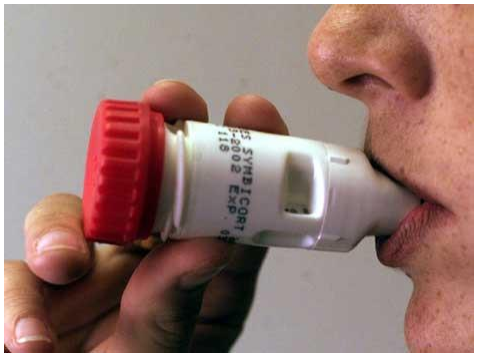
Price D et al. *Clin Exp Allergy.* 2005;35:282–7.

Clinical approach to smoking

- Tools
  - Take a smoking history
  - Investigate the possibility of COPD
    - IPCRG guidance includes tool to differentiate asthma from COPD*
- Solutions
  - Encourage smokers to quit!
    - IPCRG guidance on smoking cessation: http://www.theipcrg.org/smoking/index.php
  - Try alternative therapy:
    - Leukotriene receptor antagonist
    - Possibly theophylline

*IPCRG Guidelines: diagnosis of respiratory diseases in primary care. *Prim Care Respir J.* 2006;15:20–34.

Step 3: asses inhaler technique



Step 3: asses inhaler technique

Correct inhaler choice or poor technique

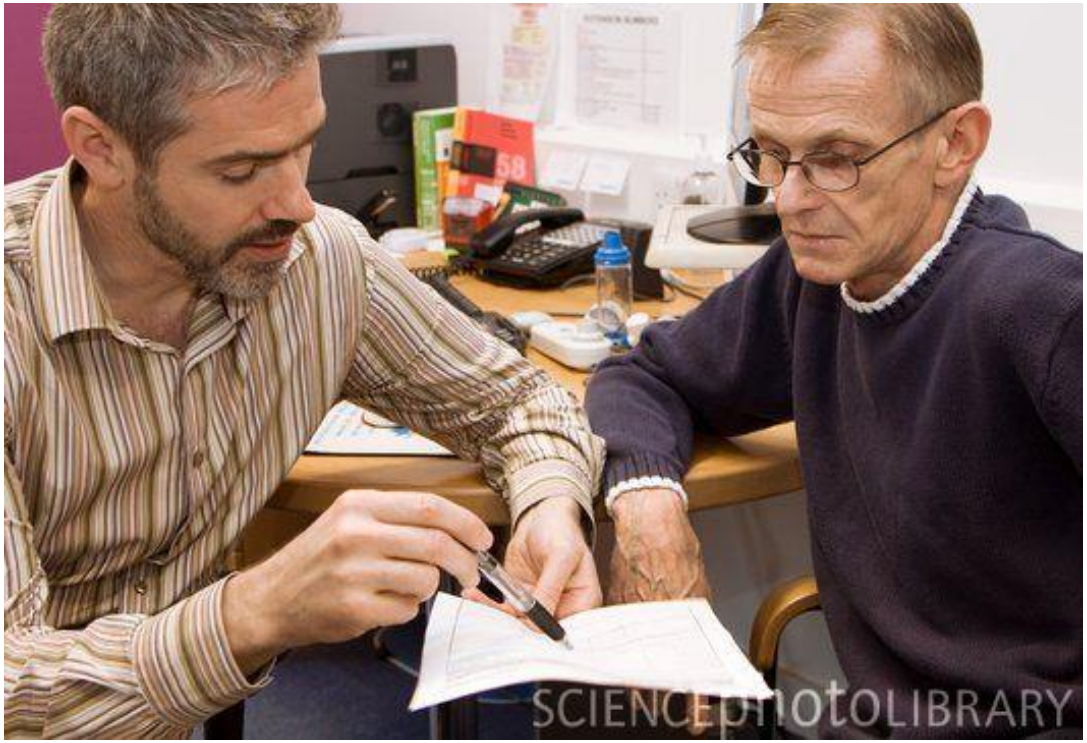
- Problems with inhaler technique are common in clinical practice & can lead to poor asthma control
- All patients should be trained in technique, and trainers should be competent with the inhalation technique

Inhaler choice and technique
Key recommendations:

- Take patient preference into account when choosing the inhaler device
- Simplify the regimen and do not mix inhaler device types
- The choice of steroid inhaler is most important because of the narrower therapeutic window
- Invest the time to train each patient in proper inhaler technique:
  - Observe technique & let patient observe self (using video demonstrations)
  - Devices to check technique & maintain trained technique are available
- Recheck inhaler technique on each revisit

Haughney J et al. *Respir Med*. 2008;102:1681–93.

Step 4: assess patient adherence to treatment



Step 4: assess patient adherence to treatment

Unintentional & intentional nonadherence

- Nonadherence to asthma therapy, particularly to inhaled steroids, is a common problem contributing to poor asthma control
- Nonadherence is often a hidden problem as assessment of adherence is often not included in routine asthma review
- Barriers to assessing adherence:
  - Patient and physician may prefer to avoid the subject
  - Lack of clear, easy methods for addressing barriers to adherence
  - Perception that little can be done?
- Appreciating the factors involved is the first step toward improving adherence

Horne R. *Chest*. 2006;130:65S–72S.

Nonadherence: identifying the causes

- Tools for identifying & assessing nonadherence:
- Interventions to facilitate optimal adherence are likely to be more effective
- We need to tailor the intervention & support according to specific barriers & patient preferences

Haughney J et al. *Respir Med*. 2008;102:1681–93.

Non adherence

Action - Provide training on self-management skills

Written action plan

Your Regular Treatment:

1. Each day take _____
2. Before exercise, take _____

WHEN TO INCREASE TREATMENT

Assess your level of Asthma Control

In the past week have you had:

Daytime asthma symptoms more than 2 times ?	No	Yes
Activity or exercise limited by asthma?	No	Yes
Waking at night because of asthma?	No	Yes
The need to use your [rescue medication] more than 2 times?	No	Yes
If you are monitoring peak flow, peak flow less than_____?	No	Yes

If you answered YES to three or more of these questions, your asthma is uncontrolled and you may need to step up your treatment.

HOW TO INCREASE TREATMENT

STEP-UP your treatment as follows and assess improvement every day:

_____ [Write in next treatment step here]

Maintain this treatment for _____ days [specify number]

WHEN TO CALL THE DOCTOR/CLINIC.

Call your doctor/clinic: _____ [provide phone numbers]

If you don't respond in _____ days [specify number]

_____ [optional lines for additional instruction]

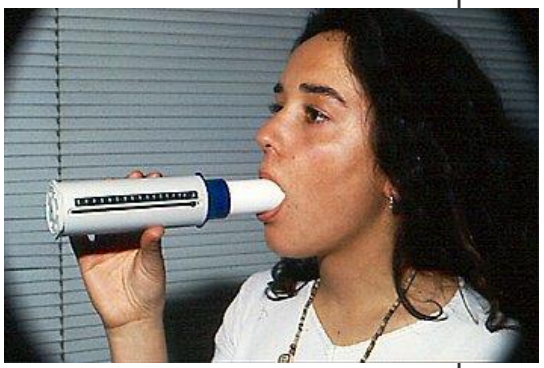
EMERGENCY/SEVERE LOSS OF CONTROL

✓If you have severe shortness of breath, and can only speak in short sentences,

✓If you are having a severe attack of asthma and are frightened,

✓If you need your reliever medication more than every 4 hours and are not improving.

1. Take 2 to 4 puffs _____ [reliever medication]
2. Take ____mg of _____ [oral glucocorticosteroid]
3. Seek medical help: Go to _____; Address_____
   Phone: _____
4. Continue to use your _____[reliever medication] until you are able to get medical help.



Asthma Action Plan

Take your completed Asthma Action Plan in to your doctor. The more prepared you are, the better.

NAME _____ **DATE** _____

DOCTOR _____

PHONE FOR DOCTOR OR CLINIC _____

EMERGENCY 911 OR _____

MY BEST PEAK FLOW READING WHEN I AM FEELING FINE IS _____

GREEN : USE YOUR CONTROLLER MEDICINE EVERY DAY.

Breathing is good.
- No cough or wheeze
- Can work and play

PEAK FLOW READING ABOVE _____

MEDICINE _____

HOW MUCH TO TAKE _____ **WHEN TO TAKE IT** _____

YELLOW : TAKE RESCUE (QUICK-RELIEF) MEDICINE WHEN YOU HAVE A FLARE-UP.

You are having a flare-up.
- Cough or wheeze
- Tight chest
- Waking up at night

PEAK FLOW READING BETWEEN _____ **AND** _____

MEDICINE _____

HOW MUCH TO TAKE _____ **WHEN TO TAKE IT** _____

RED : GET HELP FROM A DOCTOR NOW!

You are having a serious flare-up.
- Rescue (quick-relief) medicine isn't helping
- Breathing hard and fast
- Can't walk or talk well

PEAK FLOW READING BELOW _____

MEDICINE _____

HOW MUCH TO TAKE _____ **WHEN TO TAKE IT** _____

NOTES _____

My Asthma Action Plan

Name: _____ Date:_____

Parent/Guardian:_____

Healthcare Provider:_____

Medical Record #:_____

Phone for healthcare provider:_____

Phone for taxi or friend:_____

Traffic light colors help you learn about asthma symptoms and what to do.

RED means **I feel AWFUL.** Get help right away.

YELLOW means **I do NOT feel good.** Add a relief medicine to feel better fast.

GREEN means **I feel GOOD.** Use long-term control medicine.

I feel GOOD

- Breathing is easy.
- No cough or wheeze.
- Can work and play

Peak Flow Numbers:
_____ **to** _____

☐ Use asthma long-term control medicine.

Medicine:	How taken:	How much:	When:
_____	_____	_____	_____ times a day
_____	_____	_____	_____ times a day
_____	_____	_____	_____ times a day

20 minutes before exercise or sports, take _____puffs of this medicine:
_____

I do NOT feel good

- Cough
- Wheeze
- Hard to breathe
- Wake up at night.
- Can do some, but not all activities.

Peak Flow Numbers:
_____ **to** _____

TAKE_____ puffs of quick-relief medicine. If not back in the Green Zone within 20 to 30 minutes, take _____more puffs.

Medicine:	How taken:	How much:	When:
_____	_____	_____	every_____ hours

KEEP USING long-term control medicine:

Medicine:	How taken:	How much:	When:
_____	_____	_____	_____ times a day
_____	_____	_____	_____ times a day

Call healthcare provider if quick-relief medicine does not work OR if these symptoms happen more than twice a week.

I feel AWFUL

- Medicine does not help.
- Breathing is hard and fast.
- Can't walk well.
- Can't talk.
- Feel very scared.

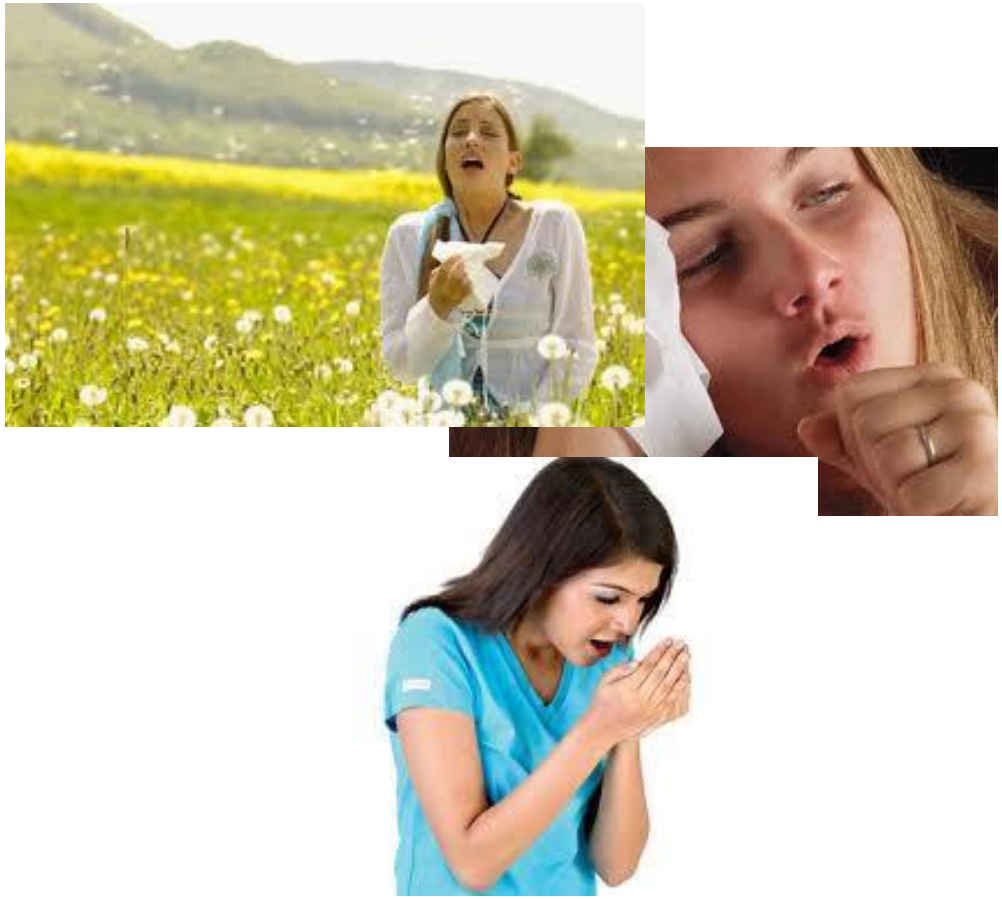
Peak Flow Number is Lower than _____

Get help now! Take these quick-relief medicines until you get emergency care.

Medicine:	How taken:	How much:	When:
_____	_____	_____	_____
_____	_____	_____	_____

Call 911 if can't walk or talk because it is too hard to breathe OR if lethargic OR if skin is sucked in around neck and ribs during breaths OR if lips or fingernails are gray or blue.

Step 5: exclude alternative or overlapping diagnosis as primary conditions



Wrong diagnosis or confounding illness

Action - Rule out (or in) confounding illness before changing medications

- Chronic rhino-sinusitis,
- Reflux disease
- Obstructive sleep apnoea syndrome
- Cardiac disorders
- Vocal cord dysfunction
- Anaemia
- Obesity
- Depression and anxiety

Consider occupational asthma for adults with recent onset

Step 6: Identify and treat co-morbidities

Co morbidities can worsen asthma symptoms - identify and treat them

- allergic rhinitis
- COPD
- gastro-oesophageal reflux disease (GERD)
- respiratory infection
- cardiac disorders
- anaemia
- vocal cord dysfunction

Concomitant rhinitis

- Patients with asthma & concomitant rhinitis use more health care resources than those without rhinitis

- Children with asthma & concomitant rhinitis had double the likelihood of being hospitalised and significantly increased likelihood of a physician visit for asthma than those without rhinitis

- >50% of patients with asthma have rhinitis
  - Both allergic & nonallergic rhinitis are linked to asthma

Price D et al *Clin Exp Allergy.* 2005;35:282–7. Thomas M et al. *Pediatrics.* 2005;115:129–34.

Treating co morbid rhinitis & asthma

Upper airway treatment options	Lower airway treatment options
Nasal steroids	Inhaled steroids
Antihistamines	
Upper and lower airway treatment options	
Leukotriene receptor antagonists	
Anti-IgE	
Immunotherapy	

Step 7: control environmental factors

- Exposure to sensitising and non-sensitising substances at home, hobby or work place are excluded / controlled

Environmental Factors:

Action - Advice on allergens avoidance

Animals outside the home (cats, dogs, hamsters)
Dust Mites: Allergy Waterproof Cases
Damp cloth and vacuum
Home Humidity <50%
No carpets in the bedroom
Washing with hot water weekly
Pollens: Close windows in time of pollination
Snuff: Avoid smoking and passive exposure
Fungi: Remove mildew stains on the walls
Avoid wood stoves, smoke, air fresheners, etc..

Step 8: think about drugs which could lead to poor asthma control

- NSAID's
- Iron-dextran
- Carbamazepine
- Vaccines
- Allergen extracts (immunotherapy)
- Antibiotics: penicillins, tetras, erythromycin, sulfa
- Beta-blockers (oral and topical eye drops)
- Cholinesterase inhibitors: tacrine, rivastigmine
- MDI propellants

Step 9: Consider individual variation in treatment response

- Randomised controlled trials (RCTs) are the basis of recommendations made by clinical guidelines.
- However, several factors limit our ability to generalise RCT results to our patients.

Haughney J et al. *Respir Med*. 2008;102:1681–93.

Step 10: consider stepping up treatment

- If the patient already has high-dose inhaled corticosteroid with or without systemic corticosteroid
- Add LABA /LTRA /other /increase dose of ICS
- Follow and reassess for at least 6 months

Step 11: consider a referral to secondary care

- Doubts about diagnosis and tests unavailable:
  - Bronchoprovocation test
  - Allergy test
  - Rhino fibro-scope
- Occupational asthma
- Treating co-morbidities
- Pregnancy in a bad controlled patient
- Not available treatments (immunotherapy…)

5% suffering from difficult to control asthma

Step 11: consider a referral to secondary care

Who to refer?

- Patients who continue to have difficult to manage asthma after review and taking steps to reduce all possible causes and despite being on guideline-based treatment should be referred to a specialist clinic.

Where to refer?

- Patients should be referred to clinics with experience in difficult to manage asthma, able to provide care and treatment by a multidisciplinary team.
- What to include in a referral letter?

•Occupation
•Onset of symptoms
• Dyspnoea
• Specified dyspnoea
•Cough
•Specified cough
•Wheezing
•Smoking
•Known allergies
•Peak flow
•Spirometry and bronchodilatation test
•Use of asthma medication
•Other diseases
•Other current medication

Conclusions: what should we do?

- Empower/enable the patient
- Written action plan
- Identify triggers and allergens and avoid
- Check adherence and good inhaler technique
- Rule out or treat co-morbidities
- Changes in pharmacological treatment
- Refer only when needed

Distinction between severe and uncontrolled asthma

Uncontrolled asthma refers to the extent to which the manifestations of asthma (symptoms-use of rescue medicine etc) remain besides treatment

Recommended reading

Respiratory Medicine (2008) 102, 1681–1693

available at www.sciencedirect.com

ScienceDirect

journal homepage: www.elsevier.com/locate/rmed

REVIEW

Achieving asthma control in practice: Understanding the reasons for poor control

John Haughney [a,*], David Price [a], Alan Kaplan [b], Henry Chrystyn [c], Rob Horne [d], Nick May [e], Mandy Moffat [a], Jennifer Versnel [f], Eamonn R. Shanahan [g], Elizabeth V. Hillyer [h], Alf Tunsäter [i], Leif Bjermer [i]

Prim Care Respir J 2011; **20**(2): 118-119

Primary Care RESPIRATORY JOURNAL
www.thepcrj.org

EDITORIAL

Adherence to asthma medication: a question of ability?

See linked articles by Emilsson *et al.* on pg 141 and Roy *et al.* on pg 148

*Rob Horne[a]

[a] Professor of Behavioural Medicine, Head of Department of Practice & Policy, Director of Centre for Behavioural Medicine, The School of Pharmacy, University of London, UK

As identified in a recent European Union directive,[1] improving adherence is one of ten priorities for reducing the burden of asthma on individuals and society. But how can we achieve this in practice? Systematic reviews show that effective interventions remain elusive. In a recent Cochrane review of 13 studies in asthma, six reported improvements in adherence – and these improvements were modest and short-lived.[2] However, these studies demonstrate that adherence can be improved; adherence is a modifiable behaviour, rather than a fixed characteristic, but we need more innovative and effective interventions to support it. We can only achieve this through a clear understanding of the patient's perspective and the reasons for non-adherence, and by systematically developing and testing interventions.[3]

Eur Respir J 1999; 13: 1198–1208

European Respiratory Journal
ISSN 0903-1936

ERS TASK FORCE

Difficult/therapy-resistant asthma

The need for an integrated approach to define clinical phenotypes, evaluate risk factors, understand pathophysiology and find novel therapies

ERS Task Force on Difficult/Therapy-Resistant Asthma

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Severe asthma

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Educational aims

- To help the reader distinguish between "difficult-to-control", "refractory" and "severe" asthma.
- To discuss the initial approach to and assessment of a patient with difficult-to-control asthma.
- To inform the reader how to recognise different clinical phenotypes of severe asthma.
- To outline management strategies and discuss treatment modalities.

Summary

"Severe asthma" refers to asthma that remains difficult to control despite intensive multi-drug therapy, extensive assessment and management of comorbidity, and long-term observation by an asthma specialist.
The three main clinical phenotypes of severe asthma include asthma with frequent severe exacerbations, asthma with chronic airflow limitation, and steroid-resistant asthma.
Many patients with severe asthma are oral-steroid dependent. Classical steroid-sparing drugs (gold, methotrexate, cyclosporin) are only weakly effective and have unacceptable side-effects. Monoclonal antibodies against immunoglobulin (Ig)E and tumour necrosis factor (TNF)-α have shown clinical benefit in subgroups of patients with severe asthma, and large studies are under way to confirm these promising findings.

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CASE-BASED LEARNING

Poor asthma control? – then look up the nose. The importance of co-morbid rhinitis in patients with asthma

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Summary

Many factors can impair asthma control. One which is frequently overlooked is rhinitis. Asthma patients with significant rhinitis are over four times more likely to have poorly controlled asthma than those without. Over 80% of patients with asthma have rhinitis, which may be allergic or inflammatory/non-allergic. Both types of rhinitis share pathophysiological similarities with eosinophilic asthma, cause bronchial hyper-reactivity, and are predisposing factors for the subsequent development of asthma. Nasal allergen challenge in allergic rhinitis results in inflammation in the bronchi as well as the nose, and the reverse is also true. This article reviews briefly the evidence for the link between asthma and rhinitis, advocates looking for rhinitis when patients present with poorly controlled asthma, and provides guidance for the diagnosis and treatment of rhinitis.

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