Asthma Update

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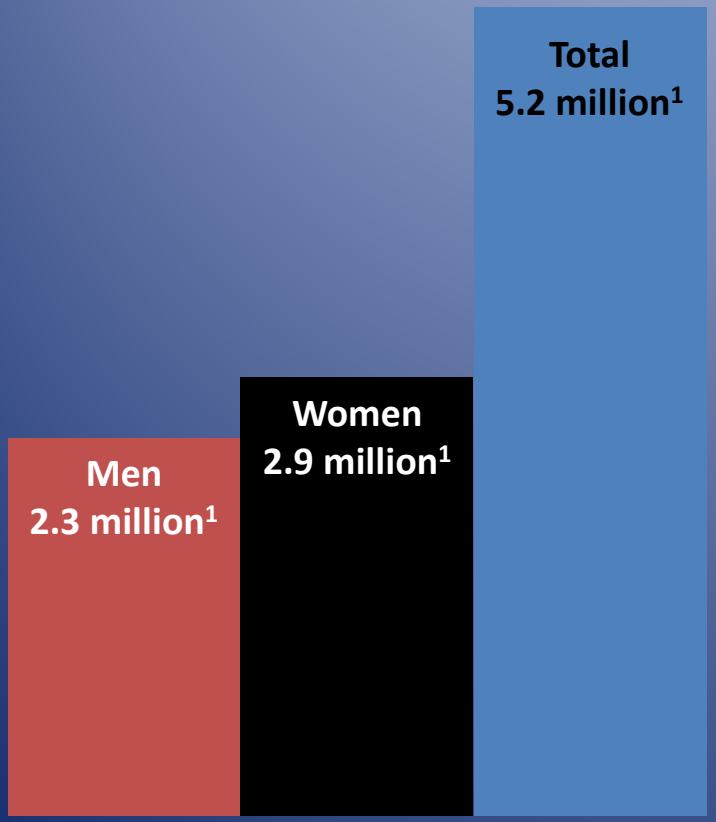
Practice Nurse

Number of people living with asthma in the UK today

Data includes 590,000 teenagers and 700,000 people over 65[1]

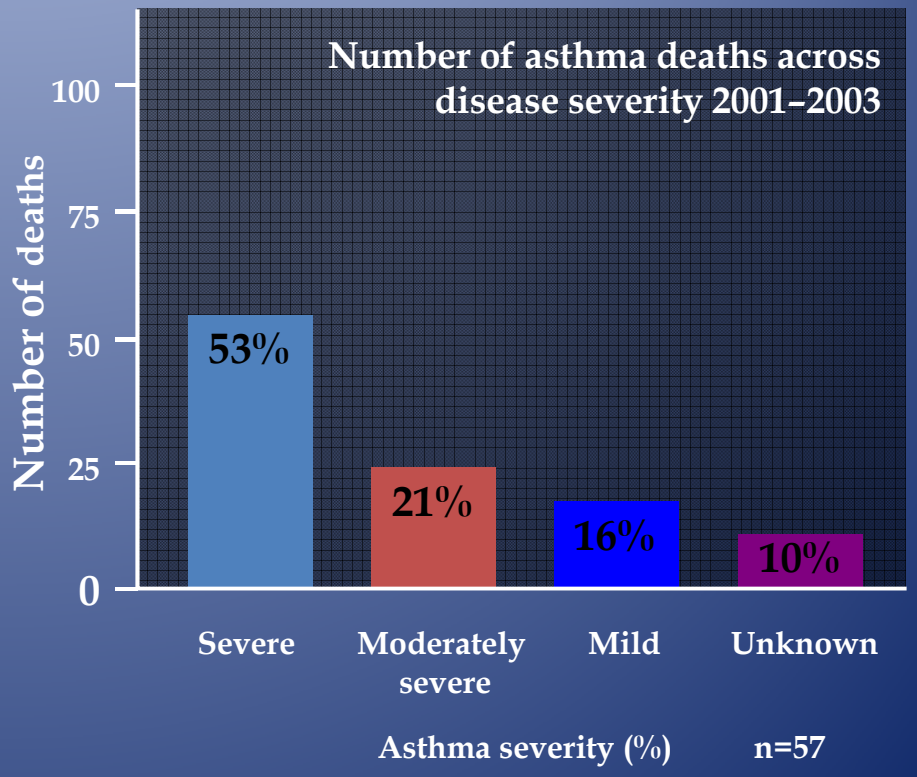


Every 6 hours someone dies from asthma[2]

1. Where Do We Stand? Asthma in the UK Today. Published December 2004. Available at: http://www.asthma.org.uk/how_we_help [Accessed October 2006.]. 2. General Register Office collated in Office for National Statistics mortality statistics for England and Wales; General Register Office for Scotland; General Register Office for Northern Ireland collated by the Northern Ireland Statistics & Research Agency (2004).

Asthma deaths occur across disease severity

- It is a myth that only severe asthma can prove fatal
- Asthma deaths occur across disease severity with deaths occurring in those patients whose asthma is considered mild-to-moderate



Harrison B et al. *Prim Care Respir J* 2005 Dec; **14**: 303–13.

Why is Asthma a priority for us?

- Asthma is an important quality indicator for the new GMS contract
- 45% of patients do not have regular asthma reviews[1]
- An estimated 50% of medicines for chronic conditions are not taken as prescribed[2]

1. Horne R et al. Can asthma control be improved by understanding the patient's perspective? BMC Pulmonary Medicine 2007, 7:8 1471-2466
2. Segal JZ. Compliance to concordance: A critical view. J Med Humanit 2007; 28: 81-96

Numbers of respiratory patients

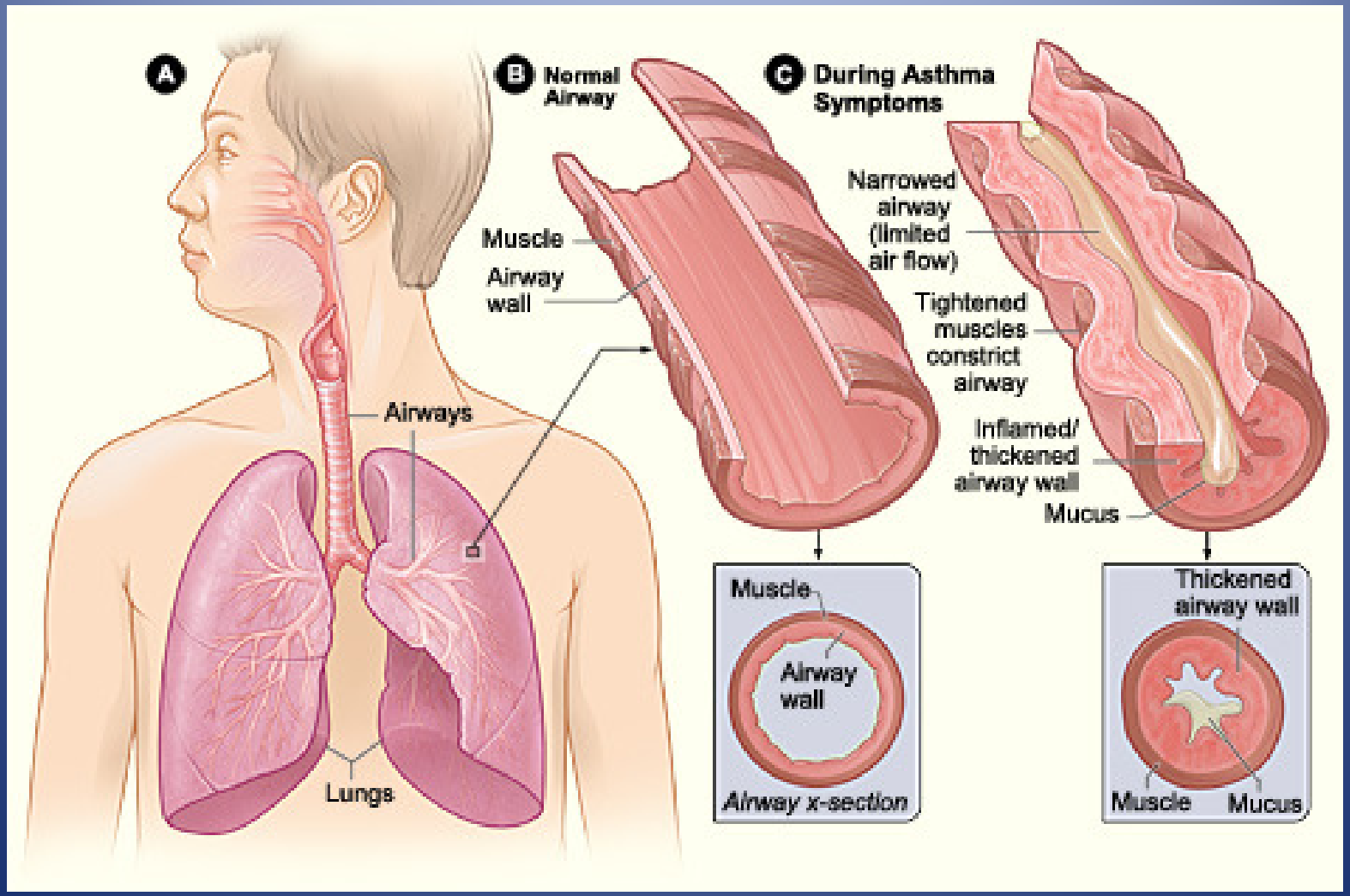
- There are 452 asthma patients on average per pharmacy[1]
- 30% do not use their asthma medication properly[2]
  - That means in your pharmacy there are 136 patients that you see who are not using their inhaler properly
- Only 45% are correctly controlled[3]
  - That means in your pharmacy there are nearly 249 patients who could have better control over their asthma
- There are 78 patients with COPD on average per pharmacy[1]

Definition of asthma

"A chronic inflammatory disorder of the airways … in susceptible individuals, inflammatory symptoms are usually associated with widespread but variable airflow obstruction and an increase in airway response to a variety of stimuli. Obstruction is often reversible, either spontaneously or with treatment."

Diagnosis and natural history. Thorax 2003; 58 (Suppl I): i1-i92

Asthma


A
B Normal Airway
C During Asthma Symptoms
Muscle
Airway wall
Airways
Lungs
Narrowed airway (limited air flow)
Tightened muscles constrict airway
Inflamed/ thickened airway wall
Mucus
Muscle
Airway wall
Airway x-section
Thickened airway wall
Muscle
Mucus

Diagnosis

- The diagnosis of asthma is a clinical one
- There is no standardised definition, therefore, it is not possible to make clear evidence based recommendations on how to make a diagnosis
- Central to all definitions is the presence of symptoms and of variable airflow obstruction

Diagnosis

- Base initial diagnosis on a careful assessment of symptoms and a measure of airflow obstruction

- Spirometry is the preferred initial test to assess the presence and severity of airflow obstruction (use PEF if spirometry not available)

PEFR – spirometry unavailable
occupational
monitoring

Diagnosis continued

Base initial diagnosis on a careful assessment of symptoms and a measure of airflow obstruction

In patients with;

High probability of asthma – move straight to a trial of treatment

Low probability of asthma – Investigate and manage accordingly

Intermediate probability of asthma – Carry out further investigations

NICE British Guideline on the management of asthma (2008)

Spirometry

- Spirometry is preferable to measurement of peak expiratory flow
- Normal spirometry when the patient is not symptomatic does NOT exclude the diagnosis of asthma
- Results are useful where the initial history and examination leave uncertainty about the diagnosis

Features that increase the probability of asthma in adults

- >1 of the following: wheeze, breathlessness, chest tightness, cough, particularly if:
  - worse at night and early morning
  - in response to exercise, allergen exposure and cold air
  - after taking aspirin or beta blockers
  - Personal/family history of asthma/atopy
- Widespread wheeze heard on auscultation of the chest
- Unexplained low FEV_1 or PEF
- Unexplained peripheral blood eosinophilia

Clinical features that lower the probability of asthma

- Prominent dizziness, light-headedness, peripheral tingling
- Chronic productive cough in absence of cough or wheeze
- Voice disturbance
- Symptoms with colds only
- Significant smoking history
- Normal PEF or spirometry when symptomatic

Asthma or COPD?

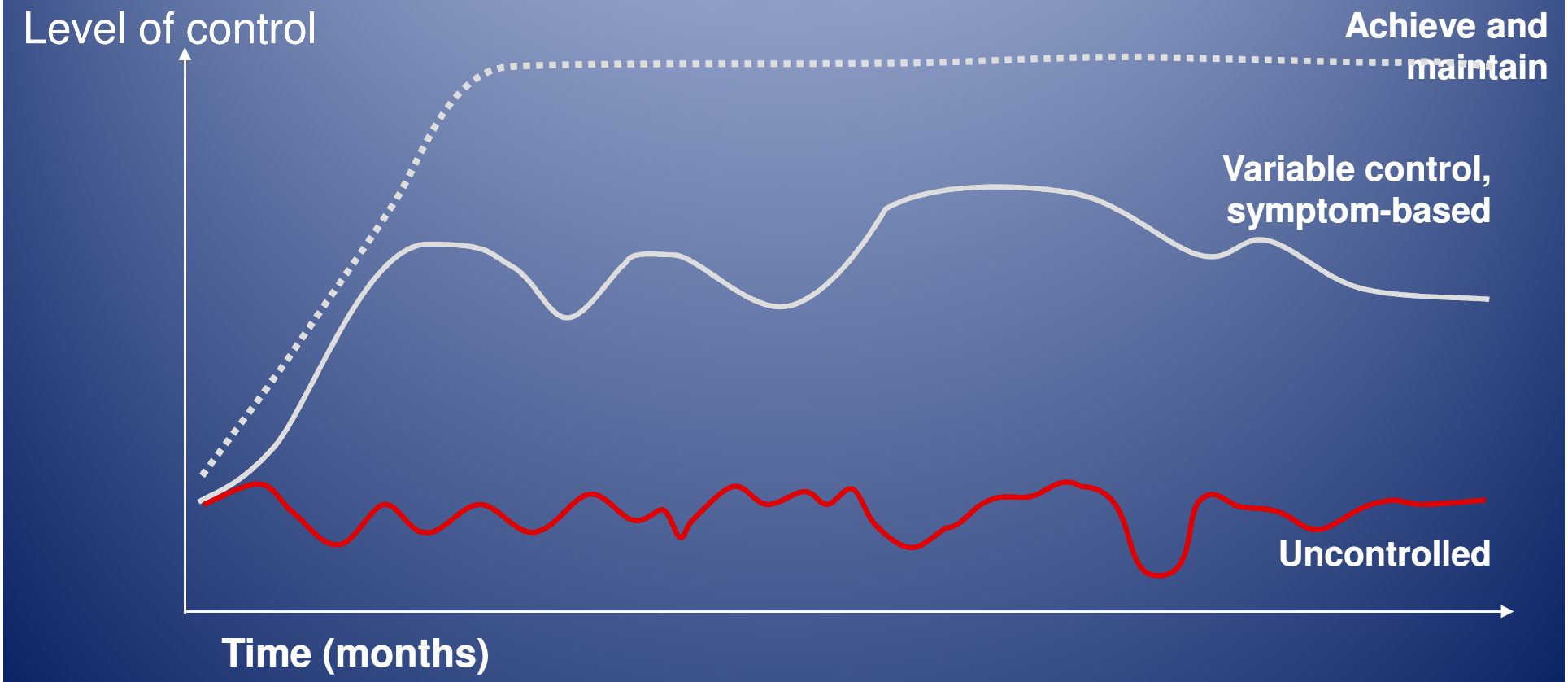
- The table below shows the clinical features differentiating asthma and COPD[1]

	COPD	Asthma
Smoker or ex-smoker	**Nearly all**	**Possibly**
Symptoms under the age of 35	**Rare**	**Often**
Chronic productive cough	**Common**	**Uncommon**
Breathlessness	**Persistent and progressive**	**Variable**
Night-time waking with breathlessness and /or wheeze	**Uncommon**	**Common**
Significant Diurnal or day to day variability of symptoms	**Uncommon**	**Common**

- Patients with asthma or COPD can **both benefit** from a review of their medications and inhaler technique
- Many patients will know their diagnosis

1. NICE. Clinical Guideline 12. Management of COPD in adults in primary and secondary care. Thorax March 2004; 59 (suppl)

What are we trying to achieve with asthma control?



Monitoring asthma in primary care

Factors that should be monitored and recorded:

- Symptomatic asthma control using RCP ‘3 questions’, Asthma Control Questionnaire or Asthma Control Test (ACT)
- Lung function (spirometry/PEF)
- Exacerbations
- Inhaler technique
- Compliance (prescription refill frequency)
- Bronchodilator reliance (prescription refill frequency)
- Possession of and use of self management plan/personal action plan

Establishing symptom control in asthma:

The Royal College of Physicians (RCP) three Questions:

- "Have you had difficulty sleeping because of your asthma symptoms (including cough)?"
- "Have you had your usual asthma symptoms during the day (cough, wheeze, chest tightness or breathlessness)?"
- "Has your asthma interfered with your usual activities (for example: housework, work, school)?"

Applies to all patients with asthma aged 16 and over

Royal College of Physicians. Three Questions To Improve Health Of Asthma Patients. http://www.rcplondon.ac.uk/news/news.asp?PR_id=70
Date accessed: 22 November

Possible explanations

Patient factors

- Low expectations
- Acceptance of limitations
- Compliance/concordance
- Inhaler actuation technique
- Inspiratory flow rate Other

Healthcare Professional factors

- Low expectations
- Overestimate control
- Not aiming for guideline-defined control
- Inappropriate choice of inhaler
- Patient training

Possible causes of poor asthma control

1. Adherence
   - Make sure they are taking the medicines in the way that they were prescribed
2. Patient education
   - Reinforce the importance of taking their type of inhaler and explain how it works
3. Inhaler technique
   - Use the *In-Check* DIAL™ to check inspiratory flow
   - Use the placebo inhalers to check technique. This should be conducted with all patients.
   - Some patients may have sufficient inspiratory flow to technically use the pressurised metered dose inhaler (pMDI) but cannot manage to manipulate the device
4. Regime
   - Make sure that for their degree of asthma, they are on the right medication

Aims of pharmacological management

- Start treatment at the step most appropriate to the initial severity of their asthma
- Aim is to achieve early control
- Step up or down with therapy
- Minimal therapy

Before initiating new drug therapy:

- Compliance
- Inhaler technique
- Eliminate trigger factors

BTS/SIGN Guideline[1]: Aim of pharmacological management

- Aim to help patients get control of their asthma so that they have:
  - minimal symptoms day and night
  - minimal need for reliever
  - no sudden worsening of asthma
  - no limitation of physical activity
  - normal lung function

  "Abolish symptoms as soon as possible"

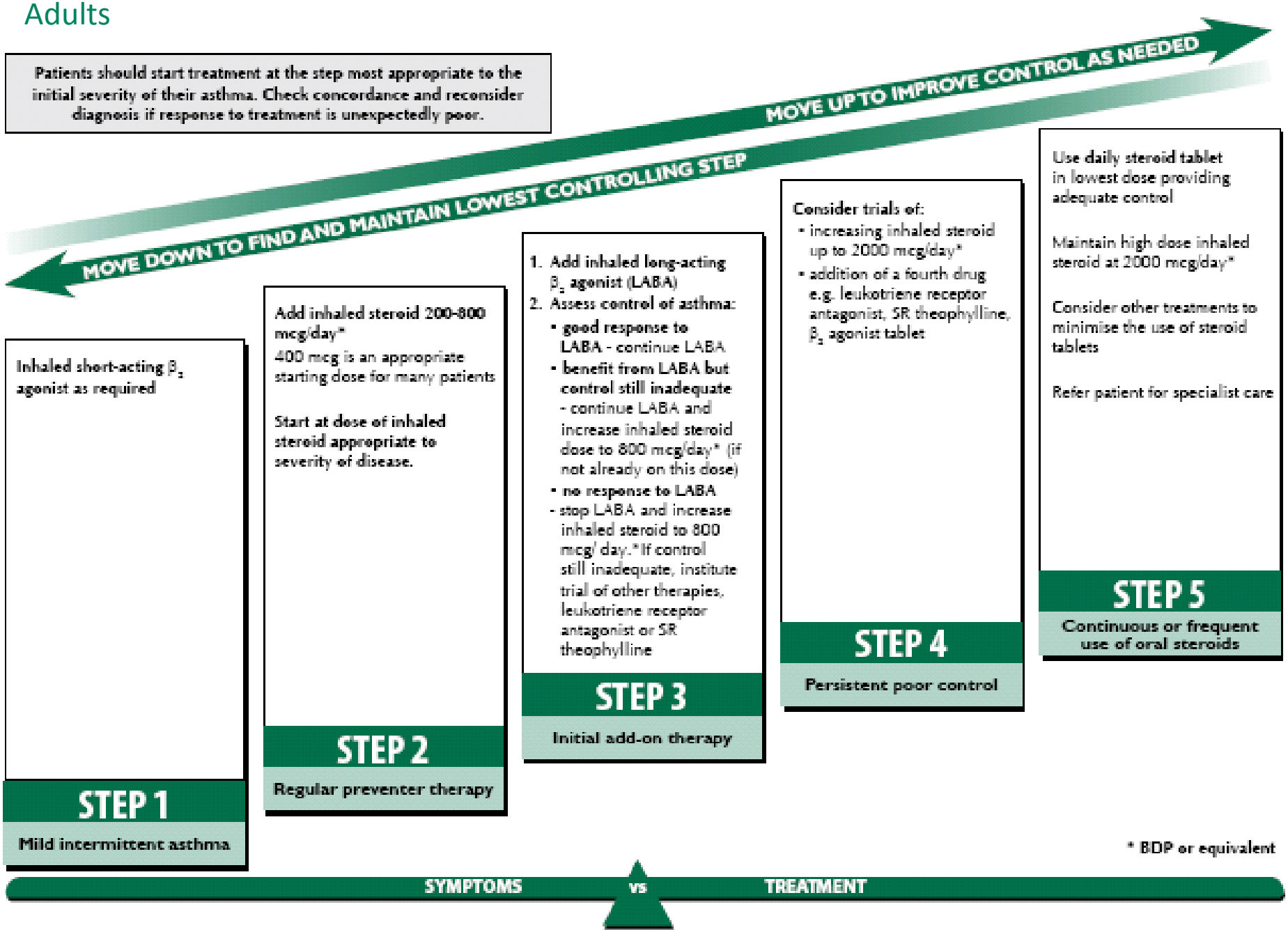
1. British Thoracic Society, Scottish Intercollegiate Guidelines Network. British guideline on the management of asthma. A national clinical guideline. Revised edition 2007. p 1- 103. http://www.brit-
2. thoracic.org.uk/c2/uploads/asthma_fullguideline2007.pdf (accessed 24.10.2007)

SIGN / BTS

British Guideline on the Management of Asthma

www.sign.ac.uk/guidelines/fulltext/102/index.html

Adults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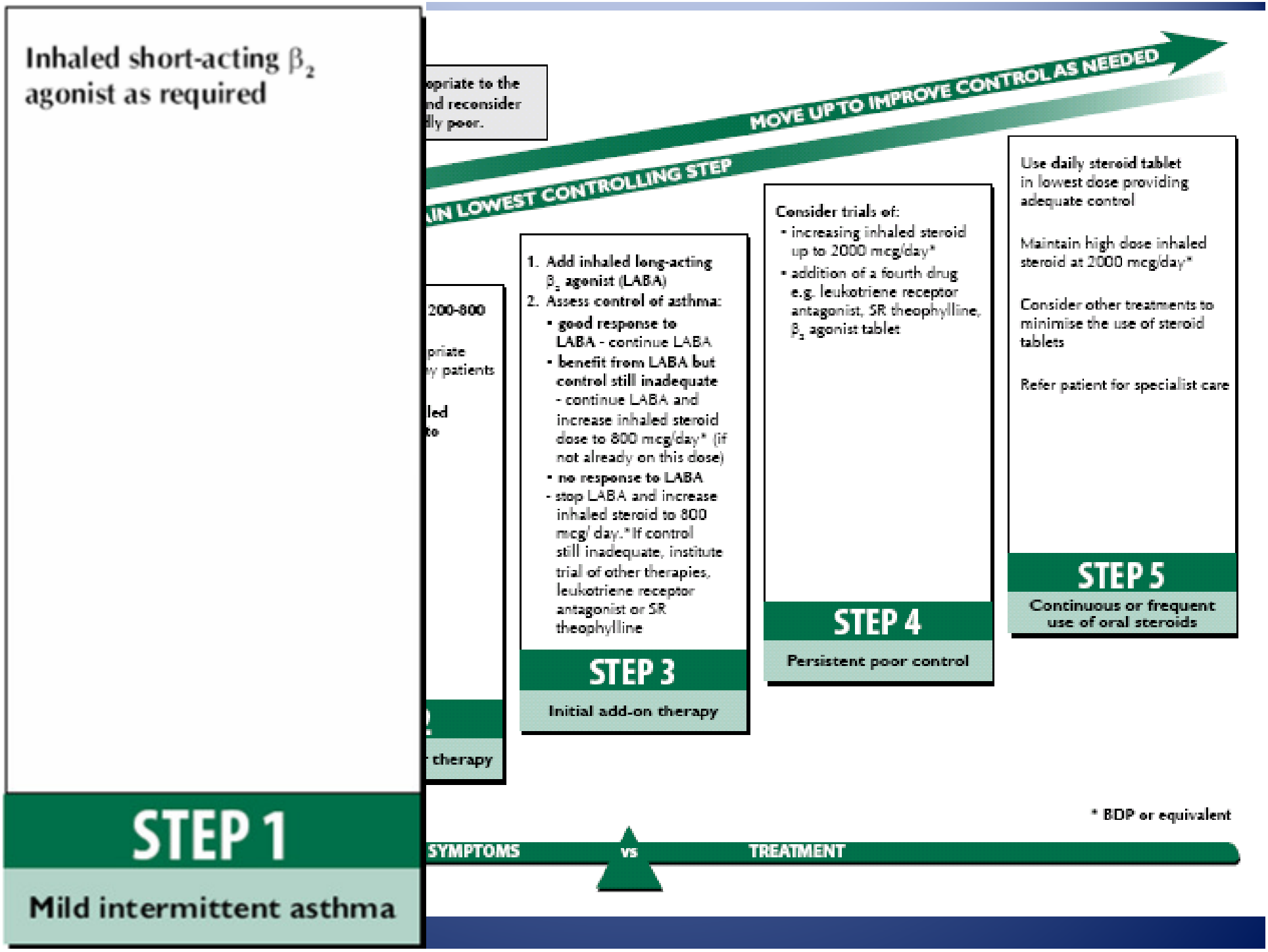
MOVE UP TO IMPROVE CONTROL AS NEEDED
MOVE DOWN TO FIND AND MAINTAIN LOWEST CONTROLLING STEP
Inhaled short-acting β2 agonist as required
STEP 1
Mild intermittent asthma
Add inhaled steroid 200-800 mcg/day*
400 mcg is an appropriate starting dose for many patients
Start at dose of inhaled steroid appropriate to severity of disease.
STEP 2
Regular preventer therapy
1. Add inhaled long-acting β2 agonist (LABA)
2. Assess control of asthma:
• good response to LABA - continue LABA
• benefit from LABA but control still inadequate - continue LABA and increase inhaled steroid dose to 800 mcg/day* (if not already on this dose)
• no response to LABA - stop LABA and increase inhaled steroid to 800 mcg/ day.* If control still inadequate, institute trial of other therapies, leukotriene receptor antagonist or SR theophylline
STEP 3
Initial add-on therapy
Consider trials of:
• increasing inhaled steroid up to 2000 mcg/day*
• addition of a fourth drug e.g. leukotriene receptor antagonist, SR theophylline, β2 agonist tablet
STEP 4
Persistent poor control
Use daily steroid tablet in lowest dose providing adequate control
Maintain high dose inhaled steroid at 2000 mcg/day*
Consider other treatments to minimise the use of steroid tablets
Refer patient for specialist care
STEP 5
Continuous or frequent use of oral steroids
* BDP or equivalent
SYMPTOMS
vs
TREATMENT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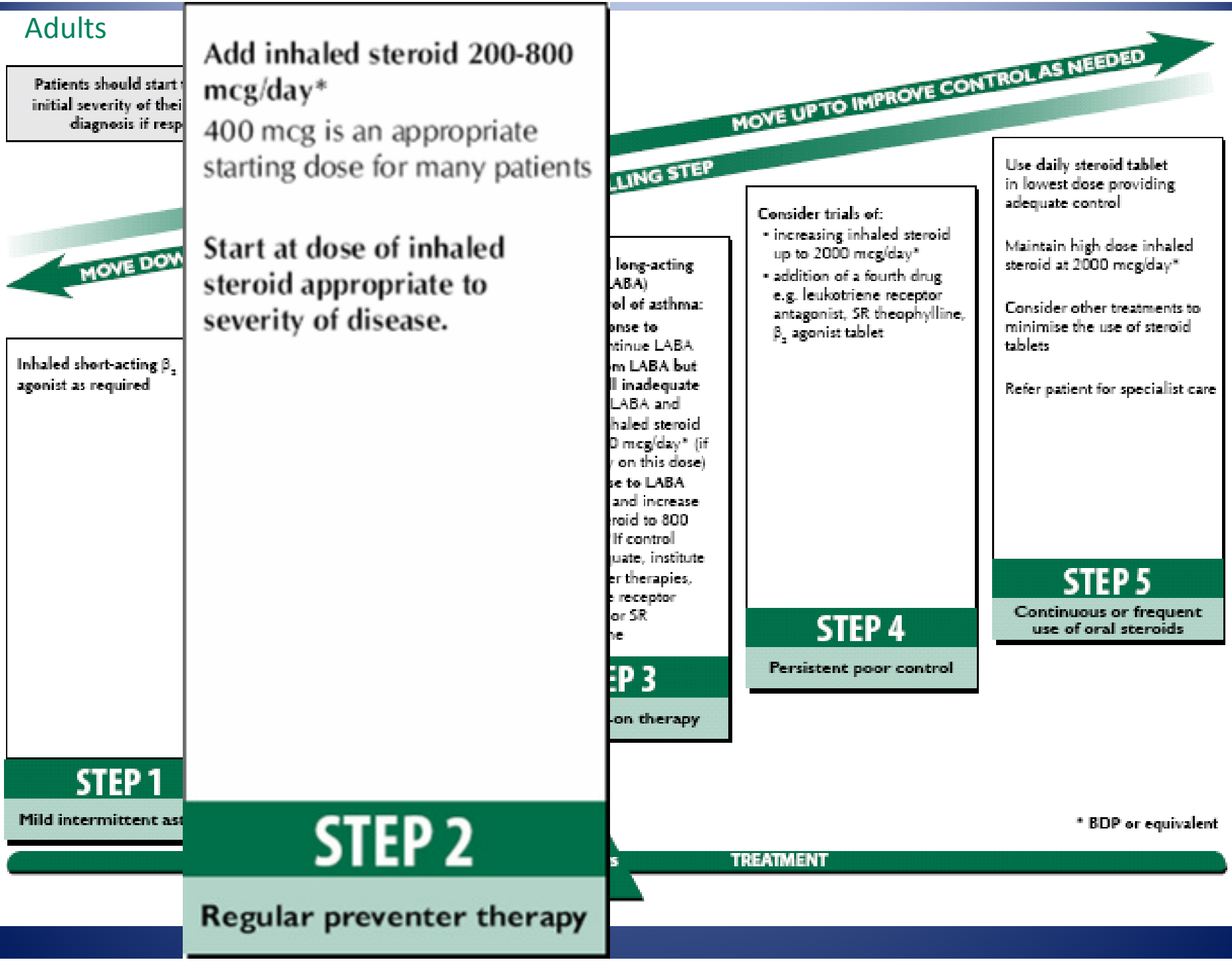
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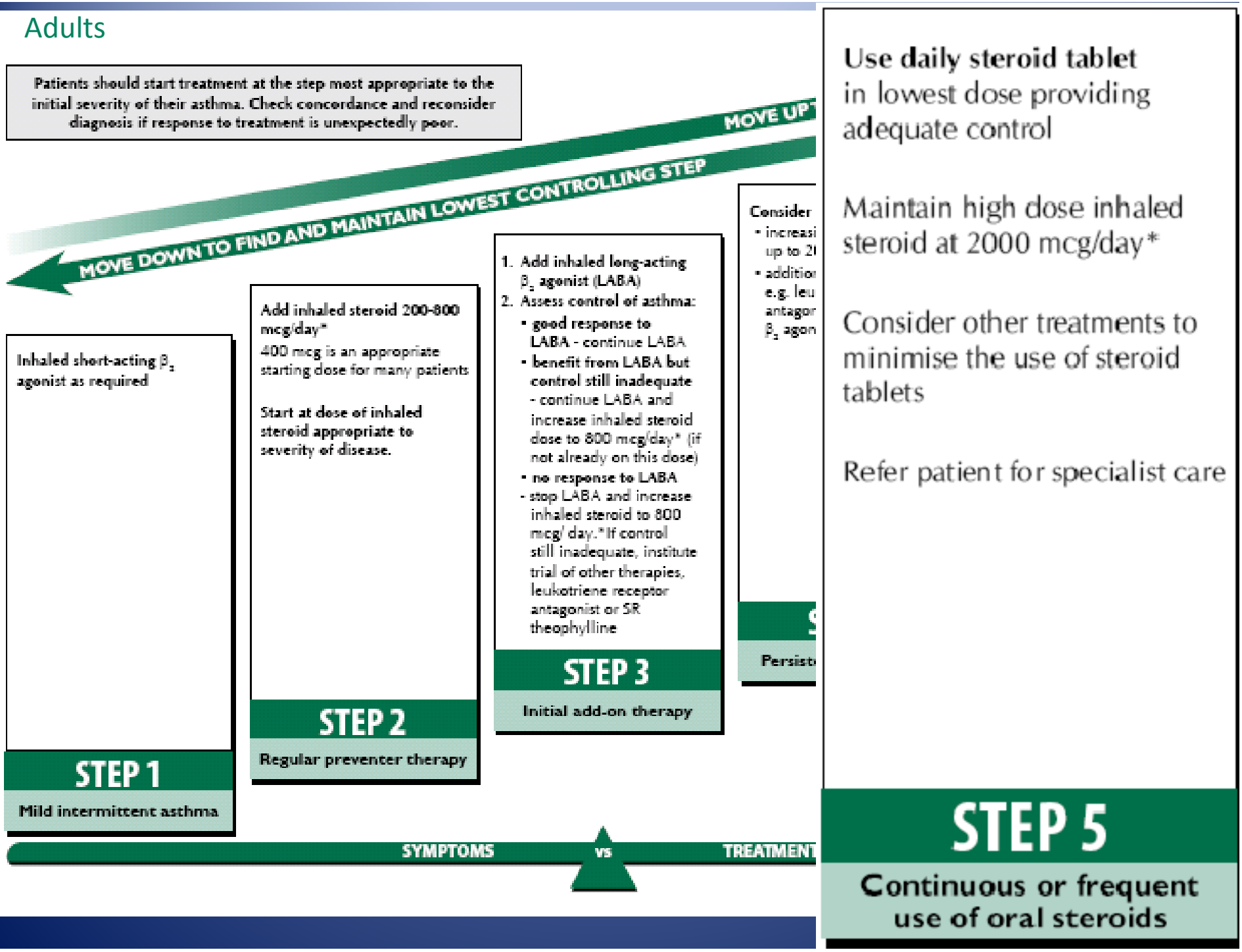
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