

## Diagnosis

Signs/symptoms suggestive of COPD

- history and functional assessment
- lung function testing (spirometry – reversibility testing)
- exclude other conditions (chest x-ray, full blood examination, ECG)

**C**

## Severity

At risk of developing COPD, mild COPD, moderate COPD or severe COPD

- lung function (spirometry)
- symptoms
- functional assessment

**C**

## Treatment

Individual assessment with increases in treatment according to severity

- appropriate pharmacotherapy
- encourage smoking cessation
- refer to pulmonary rehabilitation
- consider oxygen therapy

**A**

- treat complications
- treat co-existing conditions
- address psychosocial issues
- assess for suitability for surgical treatment (bullectomy, lung volume reduction surgery, lung transplantation)

**C**

## Pharmacotherapy

Used to decrease symptoms and/or complications

- bronchodilators should be used for symptom relief or prevention
- chronic use of systemic steroids should be avoided
- regular use of inhaled steroids should be limited
- influenza vaccine should be recommended

**A**

## Education

Should be:

- tailored to the needs and environment of the patient
- interactive
- aimed at improving quality of life
- simple to follow, practical and appropriate

**A**

Should include goals such as:

- smoking cessation
- understanding end-of-life issues
- patient responses to acute exacerbations

**C**

### Initial assessment

- symptoms (dyspnoea, cough, increased and/or purulent sputum, fever)
- lung function tests
- arterial blood gases
- assess for admission
- home management

**C**

### Management

- oxygen to achieve oxygen saturation >90%
- short acting, inhaled B<sub>2</sub>-agonists
- oral or IV corticosteroid
- antibiotics only if increased sputum and purulence
- consider non-invasive intermittent positive pressure ventilation (NIPPV)

**A**

### Monitor response

- clinical symptoms, presence of complications (CCF, arrhythmia)
- arterial blood gases

**C**

good response

poor response

### Start discharge planning

- patient education
  - smoking cessation
  - inhaler technique
  - treatment regimen
  - pulmonary rehabilitation
- home care arrangements
  - visiting nurse
  - oxygen delivery
  - home caregiver
- follow-up arrangements made for 4-6 weeks
- discharge details to GP within 2 days

**A**

**C**

### Poor response

- severe dyspnoea
- life-threatening hypoxemia
- severe acidosis
- impaired mental status
- complications
- NIPPV failure or exclusion

**C**

### Invasive mechanical ventilation

### Discharge

- clinical improvement

**C**

### Follow-up assessment

- ability to cope
- lung function
- inhaler technique
- need for long-term oxygen therapy and/or home nebuliser

**A**



## Diagnosis and severity

- history (symptoms, treatment, past admission, atopy)
- physical examination
- lung function testing (spirometry is preferred over peak expiratory flow) pre and post bronchodilator medication
- bronchial challenge tests may help confirm diagnosis of asthma

**B**

## Achieve best lung function

- if FEV<sub>1</sub> is less than 80% predicted, or if there is 15% reversal after  $\beta$ 2 agonist, intensive asthma therapy is recommended
- back titrate to lowest dose that maintains symptom control and best lung function

**A**

## Maintain best lung function

### Avoid trigger factors

- identify trigger factors
- cease inappropriate medication

**C**

### Optimise medication

- treat with least number of medications
- use minimum doses necessary
- explain difference between ‘preventer’, ‘reliever’ and ‘symptom controller’ medications
- take steps to reduce risk of adverse events from medications

**A**

## Develop an Action Plan

- discuss and write an individualised plan for management of exacerbations
- detail the increases in medication doses and include when and how to gain rapid access to medical care

**A**

## Educate and review regularly

- ensure patients and their families understand the disease, the rationale for treatment and how to implement their action plan
- emphasise the need for regular review – even when asthma is well controlled
- review compliance at each consultation
- review inhaled technique at each consultation

**C**

Content adapted from the NAC Asthma Management Handbook 2001. Format adapted from the Scottish Collegiate Guidelines Network.



## severe and life threatening

FEV<sub>1</sub> < 50% predicted of best or <IL  
PEF < 50% or <100L/min

Any of the following:

- exhaustion
- single words only
- pulse rate > 120/min
- pulsus paradoxus palpable
- central cyanosis likely
- chest often quiet
- oximetry < 92%
- confusion
- coma
- respiratory effort poor
- PCO<sub>2</sub> > 42 mmHg

## moderate

FEV<sub>1</sub> < 50%-75% predicted or best PEF 50-75%

Any of the following:

- talks in phrases
- pulse rate 100-120/min
- pulsus paradoxus may be palpable
- central cyanosis may be present
- moderate to loud wheeze
- oximetry 92-95%
- respiratory rate > 25 breaths/min

## mild

FEV<sub>1</sub> > 75% predicted or best PEF >75%

Any of the following:

- talks in sentences
- pulse rate < 100/min
- pulsus paradoxus not palpable
- central cyanosis absent
- variable wheeze
- oximetry > 95%
- respiratory rate < 25 breaths/min

## treatment

- admit – consider ICU
- maximise inspired oxygen
- monitor oximetry and ABGs
- nebulised beta<sub>2</sub> agonist with oxygen
- nebulised ipratropium bromide
- IV steroids 24 hours – then review
- consider IV aminophylline
- consider adrenaline
- CXR if no response or suspect pneumothorax
- observations continuous
- check for hypocalcaemia

## treatment

- probably admit
- maximise inspired oxygen
- monitor oximetry
- nebulised beta<sub>2</sub> agonist with oxygen
- nebulised ipratropium bromide optional
- IV steroids stat
- commence oral steroids
- observations continuous
- CXR only if focal signs present

## treatment

- probably not for admission
- maximise inspired oxygen
- monitor oximetry
- nebulised beta<sub>2</sub> agonist with oxygen
- consider oral steroids
- regular observations
- CXR only if focal signs present



## severe and life threatening

FEV<sub>1</sub> < 40% predicted of best (unable to perform)  
PEF < 40% (unable to perform)

Any of the following:

- exhaustion
- altered consciousness
- marked increased accessory muscle use
- talks in words only or unable to speak
- pulse rate > 200/min
- pulsus paradoxus palpable
- central cyanosis likely
- may be silent
- oximetry on air < 90%
- confusion
- PCO<sub>2</sub> > 42 mmHg

## moderate

FEV<sub>1</sub> < 40-60% predicted or best  
PEF 40-60%

Any of the following:

- talks in phrases
- pulse rate 100-200/min
- pulsus paradoxus may be palpable
- central cyanosis absent
- moderate to loud wheeze
- oximetry on air 90-94%

## mild

FEV<sub>1</sub> > 60% predicted or best  
PEF > 60%

Any of the following:

- talks in sentences
- pulse rate < 100/min
- pulsus paradoxus not palpable
- central cyanosis absent
- moderate wheeze
- oximetry > 90%

## treatment

- admit – consider ICU
- may need arterial blood gases
- 6 to 12 puffs via spacer every 20 mins x 3 doses in 1st hour
- if life threatening give continuous nebulised salbutamol. Give IV when no response to aerosol salbutamol 5mcg/kg over 10 mins then 1-5mcg/kg 1 min thereafter
- 2 to 4 puffs every 20 mins x 3 doses in 1st hour ipratropium
- oral prednisolone
- IV methylprednisolone
- IV aminophylline (ICU only)
- CXR if no response or suspect pneumothorax
- observe continuously
- check for hypocalcaemia

## treatment

- probably admit
- monitor with SaO<sub>2</sub>
- 6 to 12 puffs via spacer. If initial response inadequate then repeat at 20 minute intervals for 2 further doses. 1 to 4 hourly doses thereafter
- nebulised ipratropium bromide optional
- commence oral steroids (1mg/kg/dose daily)
- observe for 1 hour after last dose
- CXR only if focal signs present

## treatment

- probably not for admission
- 6 to 12 puffs via spacer and review in 20 mins
- monitor oximetry
- consider oral steroids
- observe for 20 mins after dose
- CXR only if focal signs present