COPD - management of acute exacerbation in primary care

Quick info:
Scope:
• early detection, assessment, diagnosis, and management of chronic obstructive pulmonary disease (COPD) in adults
• management in primary and secondary care, and criteria for specialist referral
• principles of palliative care in COPD

Out of scope:
• children and adolescents
• smoking cessation – see 'Smoking cessation' care map
• other aspects of palliative care – see 'End of life care in adults' care map

Definition:
• COPD is characterised by airflow obstruction [1-3]:
  • forced expiratory volume in 1 second (FEV₁)/forced vital capacity (FVC) ratio less than 0.7 [3]
  • airflow obstruction is usually progressive, not fully reversible [1-4], and does not change over several months [1,3]
  • airflow limitation is usually associated with a chronic inflammatory response in the airways and the lung to noxious particles or gases [2]
• COPD is the preferred term for patients with airflow obstruction who were previously defined as having [1,3]:
  • chronic bronchitis
  • emphysema
• Asthma-COPD Overlap Syndrome (ACOS) [2]:
  • is characterised by persistent airflow limitation with several features associated with asthma and other features associated with COPD

Incidence and prevalence:
• in the UK, an estimated 3 million people are affected by COPD – approximately 2 million of these remain undiagnosed [3]
• the prevalence of COPD in the population is estimated to be between 2% and 4% [3]
• prevalence rates are increasing in women but have reached a plateau in men [1,3]
• the incidence of COPD is difficult to determine as the disease develops insidiously [3]
• in the UK, the mean age of diagnosis is age 67 years [1]
• 7% of men over age 75 years suffer from COPD [3]
• worldwide, COPD is the fourth leading cause of death [2]

Prognosis:
• in the UK, COPD accounts for approximately 30,000 deaths each year (more than 90% of these occur in those over age 65 years) [3]
• 5 year survival rates from diagnosis [1]:
  • men with mild disease – 78%
  • men with severe disease – 30%
  • women with mild disease – 72%
  • women with severe disease – 24%
• 15% of patients admitted to hospital with COPD die within 3 months and approximately 25% die within a year [11]
• COPD is also associated with an increased risk of mortality from cardiovascular disease [11]

Other common co-morbidities and systemic features of COPD include [2,3]:
• lung cancer – having COPD increases the risk of developing lung cancer
• depression and/or anxiety disorder
• osteoporosis
• cachexia

Risk factors:
• smoking [1-3] – in most cases COPD is caused by cigarette smoking [11]
COPD - management of acute exacerbation in primary care

2 Information resources for patients and carers

Quick info:
Recommended resources for patients and carers, produced by organisations certified by The Information Standard:
- 'Chronic Obstructive Pulmonary Disease' (PDF) from Patient UK at http://www.patient.co.uk

For details on how these resources are identified, please see Map of Medicine's document on Information Resources for Patients and Carers (URL).

Home Oxygen Therapy Leaflet

BTS Respiratory Physiotherapy Leaflet

Pulmonary Rehabilitation Information Leaflet

Respiratory Action Plan (1/5)
Respiratory Action Plan (2/5)
Respiratory Action Plan (3/5)
Respiratory Action Plan (4/5)
Respiratory Action Plan (5/5)


Local Breathe Easy Support Groups
Breathe Easy Groups are support groups for people affected by lung conditions, including their friends, family and carers. These groups are run by members with help and support from the British Lung Foundation when it's needed. There are more than 230 Breathe Easy groups across Britain. Groups typically meet once a month and members arrange all kinds of things for their meetings, from talks on local patient services and advice from health care professionals, to arts and crafts and trips to the theatre or the seaside. Every group is different and the activities each one organises depends on what its members want and enjoy.

In NDCCG Breathe Easy Groups are held in Chesterfield and Buxton – details are shown below:-

Hardwick North
When: 4th Tuesday of every month 1.30pm - 3.30pm
Call: 03000 030 555
St Barnabas Centre, Pilsley Rd, Chesterfield, S45 9BU

Hardwick East
When: 2nd Wednesday of every month 1.30pm - 3.30pm

References:
COPD - management of acute exacerbation in primary care

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3 Updates to this care map

Quick info:
Date of publication: 31-Jan-2016
This care map has been updated with recommendations on home oxygen use and spirometry in chronic obstructive pulmonary disease (COPD), in line with the following guidelines:


New guidance on suspected cancer referrals has been included, in line with:


Information about the asthma-COPD overlap syndrome has been added, in line with:


Please see the care map's Provenance for additional information on references, contributors, and the editorial methodology.

Date of publication: 31-Jul-2015
Updated drug safety recommendations from the Medicines and Healthcare Products Regulatory Agency (MHRA) on the delivery of tiotropium and the additional risk of cardiovascular side effects in patients with cardiac conditions have been added in line with:


Please see the care map's provenance for additional information on references, contributors, and the editorial methodology.

Date of publication: 31-Jan-2014
The clinical content of this care map has been accredited by the Royal College of Physicians (RCP). This care map has been updated with the following guidelines:


Bainbridge Hall, Chapel Road, Carr Vale, Chesterfield, S44 6JD

Chesterfield
When: 2nd Monday of every month 1pm - 3.30pm
Call: 03000 030 555
Burns Close Community Room, Burns Close, Grangewood, S40 2SW

Buxton
When: 1st Tuesday of the month, from 1.30-3.30pm
Contact: 03000 030 555
St Anne’s Parish Centre, Hardwick Square West, Buxton, SK17 6PX

Individuals can phone the BLF Helpline number shown above for details or just turn up at their local meeting. The groups are free to attend. Further details are also available on the British Lung Foundation website at www.blf.org.uk
COPD - management of acute exacerbation in primary care

Quick info:

Exacerbations of chronic obstructive pulmonary disease (COPD):

- are defined as:
  - the sustained worsening of the patient's symptoms from their usual stable state which is beyond normal day-to-day variations
  - acute in onset
  - needing a change in regular medication
- are common and are correlated with:
  - impaired quality of life (QoL)
  - accelerated decrease in lung function
  - increased health care costs
- are the cause of most deaths from COPD

Presenting features of acute exacerbations of COPD:

- worsening breathlessness (common)
- increased cough (common)
- increased sputum production (common)
- change in sputum colour
- increased sputum purulence
- upper airway symptoms
- increased wheeze
- chest tightness
- reduced exercise tolerance
- oedema
- increased fatigue
- acute confusion
- chest pain
- fever

Further information has been added from the following:


Expert opinion has been added to this care map in line with:

- Contributors representing the Royal College of Physicians (RCP) and the Royal College of General Practitioners (RCGP); 2014.

A literature search identified an update to the following guideline, but no changes to clinical recommendations were required:


Please see the care map's Provenance for additional information on references, accreditations from national clinical bodies, contributors, and the editorial methodology.
The diagnosis of an exacerbation is made clinically [3]:

- it does not depend on the results of investigations, but investigations may at times assist in ensuring appropriate treatment is given

The following can cause exacerbations of COPD, although the cause is unidentifiable in 30% of cases [1-3]:

- infections of the tracheobronchial tree [2]:
  - viral [3]:
    - rhinoviruses (common cold)
    - influenza
    - parainfluenza
    - coronavirus
    - respiratory syncytial virus (RSV)
  - bacterial [3]:
    - *Haemophilus influenzae (H. influenzae)*
    - *Streptococcus pneumoniae (S. pneumoniae)*
    - *Moraxella catarrhalis (M. catarrhalis)*
    - *Staphylococcus aureus (S. aureus)*
    - *Pseudomonas aeruginosa (P. aeruginosa)*
    - *Chlamydophila pneumoniae (C. pneumoniae)*
  - common pollutants [3]
  - medications [1]

References:


6 Consider differential diagnoses

Quick info:
Consider the following differential diagnoses for an exacerbation:

- pneumonia [2,3] – see 'Community acquired pneumonia (CAP)’ care map
- pneumothorax [2,3] – see 'Pneumothorax' care map
- left ventricular failure [3]
- pulmonary embolism [2,3]
- upper airway obstruction [3]
- pleural effusion [2,3] – see 'Pleural effusion' care map
- recurrent aspiration [3]
- cardiac arrhythmias [2]

References:

Prevention of exacerbation

Quick info:
Provide self-management advice for patients at risk of an exacerbation [3]:

• encourage a quick response to symptoms of exacerbation by:
  • starting oral corticosteroid therapy if increased breathlessness interferes with activities of daily living (unless contraindicated)
  • starting antibiotic therapy if their sputum changes colour with increased sputum volume or increased breathlessness (two out of three required)
  • optimise therapy to control symptoms
  • increase frequency of bronchodilator
  • give a course of antibiotics (subject to local current microbiological guidelines) and corticosteroid tablets to keep at home – monitor use of these drugs
  • advise patient to contact a healthcare professional if symptoms do not improve

Reference:

Assess severity of exacerbation

Quick info:
Assess the severity of the exacerbation:

• by measuring the following [1]:
  • blood pressure (BP)
  • respiratory rate
  • oxygen saturation by pulse oximetry (SpO₂)
• based on the patient’s medical history before the exacerbation [2]:
  • severity of chronic obstructive pulmonary disease (COPD) based on the degree of airflow limitation
  • number of previous exacerbations/hospitalisations
  • co-morbidities
  • duration of worsening or new symptoms
  • current treatment regimen
  • previous use of mechanical ventilation

Signs of a severe exacerbation include:

• marked dyspnoea [3]
• tachypnoea [3]
• pursed lip breathing [3]
• use of accessory respiratory muscles [2,3]
• paradoxical chest wall movements [2]
• worsening or new onset central cyanosis [2,3]
• haemodynamic instability [2]
• new onset peripheral oedema [2,3]
• deteriorated mental status [2]
• acute confusion [3]
• marked reduction in activities of daily living [3]

Assess the need for hospital admission based on clinical findings and social circumstances [1].

References:
COPD - management of acute exacerbation in primary care

9 Consideration of referral to community respiratory team

Quick info:

Local Service Information
Derbyshire Community Health Services (DCHS) – Respiratory Team
Welbeck Suite
Walton Hospital
Whitcoates Lane
Chesterfield
S40 3HW
Tel: 01246 253067
Fax: 01246 565053

Referral can be made for advice and specialist input for patients with respiratory conditions.
Consider referral for:
- Complex respiratory patients requiring case management
- Management advice and optimisation of patient’s therapies and quality of life
- Support and education for patients and carers
- Pulmonary rehabilitation (use separate form which can be accessed from team Ph: 01246 253067)
- Specialist respiratory physiotherapy to support and educate local community rehabilitation services
- End of stage COPD or Fibrosing lung disease

(Please note if you are referring the patient for pulmonary rehabilitation, please use the pro-forma available under PACEF guidelines on the intranet)

10 Initial management

Quick info:

Prompt therapy for exacerbations results in [3,11]:
- less lung damage
- faster recovery
- fewer admissions and subsequent readmissions

Management:
- increase frequency of bronchodilator:
- nebulisers and hand-held inhalers can be used to administer inhaled therapy during exacerbations [3]
- choice of delivery should reflect the [3]:
  - dose of medication required
  - the ability of the patient to use the device
  - resources available to supervise therapy administration
- if the patient becomes fatigued, consider using a nebuliser [1]
- if patient is not taking a short-acting bronchodilator, issue an inhaler to use 'as required' or on a regular basis [3]
- if the patient is taking an ‘as required’ dose of a short-acting bronchodilator, adjust therapy to control their symptoms [3]
- start treatment with oral steroids [3]:
  - prednisolone 30mg daily for 7-14 days for all patients with increased breathlessness and all patients admitted to hospital, if not contraindicated
- however, there is insufficient evidence to provide firm conclusions regarding the optimal duration of corticosteroid therapy of acute exacerbations [2]
**COPD - management of acute exacerbation in primary care**

- **systemic corticosteroids [2]:**
  - shorten recovery time
  - improve lung function (FEV1) and arterial hypoxaemia (PaO2)
  - reduce risk of early relapse, treatment failure, and length of hospital stay
- **start oral antibiotics [1,14]:**
  - if patient has:
    - purulent sputum; and
    - increased breathlessness; and/or
    - increased sputum volume
  - amoxicillin 500mg three times daily for 5 days, or doxycycline 200mg stat and then 100mg once daily for 5 days
  - if patient is allergic to penicillin and doxycycline is contraindicated – clarithromycin 500mg twice daily for 5 days
  - if patient has antibiotic resistance – co-amoxiclav 625mg three times daily for 5 days
- **risk factors for antibiotic resistant organisms include:**
  - co-morbid disease
  - severe COPD
  - frequent exacerbations
  - antibiotics taken in last 3 months

http://www.derbyshiremedicinesmanagement.nhs.uk/assets/Clinical_Guidelines/Formulary_by_BNF_chapter_prescribing_guidelines/BNF_chapter_5/Chapter_5_Antimicrobial_treatment_guideline.pdf

Respiratory Action Plan (1/5)
Respiratory Action Plan (2/5)
Respiratory Action Plan (3/5)
Respiratory Action Plan (4/5)
Respiratory Action Plan (5/5)

**Local Service Information**

Derbyshire Community Health Services (DCHS) – Respiratory Team
Welbeck Suite
Walton Hospital
Whitecoates Lane
Chesterfield
S40 3HW
Tel: 01246 253067
Fax: 01246 565053

References:


11 Consider oxygen therapy

Quick info:
COPD - management of acute exacerbation in primary care

Acute exacerbation [8]:

- chronic obstructive pulmonary disease (COPD) can predispose to hypercapnic (type 2) respiratory failure with acidosis
- patients with acute exacerbations of COPD should be treated with Venturi masks to minimise the risk of this
- if the patient has an oxygen alert card from a previous episode of hypercapnic respiratory failure, follow instructions on the card
- if the patient does not have an oxygen alert card, commence treatment using a 28% Venturi mask at 4L/min in pre-hospital care and aim for an oxygen saturation of 88–92%
- if saturation remains below 88% in pre-hospital care despite Venturi mask:
  - change to:
    - nasal cannulae at 2-6L/min; or
    - a simple face mask at 5L/min
  - alert the A&E department that the patient should be treated as a high priority
- all patients with the following should be treated as high priority:
  - oxygen alert cards
  - previous non-invasive ventilation (NIV) or intermittent positive pressure ventilation (IPPV)
  - saturation below 88% in the ambulance
  - alert the A&E department that the patient needs immediate senior assessment on arrival

Home Oxygen Therapy - Patient Information Leaflet

Local Service Information
Contact:
Clinical Nurse Specialist for Home Oxygen Assessment
Direct Line: 01246 516128
Mobile: 07500 443384
Email: CRHFT.HOS@nhs.net

Reference:

14 Patient cannot be managed at home

Quick info:
The following factors favour treatment in hospital:

- marked increase in symptom intensity, eg development of resting dyspnoea [2]
- respiratory rate more than or equal to 24 breaths per minute [9]
- oxygen saturation less than or equal to 92% in a patient not known to need long-term oxygen therapy [9]
- severe underlying chronic obstructive pulmonary disease (COPD) [2]
- new onset physical signs, eg cyanosis, peripheral oedema [2]
- failed response to initial medical treatment of exacerbation [2]
- significant co-morbidities present, eg [9]:
  - pneumonia
  - cardiac arrhythmia
  - congestive cardiac failure
  - diabetes mellitus (DM)
  - renal or liver failure
  - new onset of arrhythmias [2]
  - impaired physical functions [9]
  - worsening of peripheral oedema [1,3]
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• rapid rate of onset [1,3]
  • frequent exacerbations [2]
  • older age [2]
• need for therapy not available at home, eg [3,9]:
  • oxygen therapy
  • nebulised agents
  • intravenous (IV) antibiotics
  • IV aminophylline
• if already receiving long-term oxygen therapy (LTOT) [3]
• previous or current need for non-invasive ventilation (NIV) [9]
• previous exacerbation which required intensive care unit (ICU) admission [9]
• inability to cope at home, need for social support, or lack of such support [1,2,3,9]
• inability to eat or sleep due to symptoms [9]
• uncertainty of diagnosis, eg [9]:
  • haemoptysis
  • weight loss
  • signs of pleural effusion, pneumothorax, or heart failure

References:

15 Patient can be managed at home

Quick info:
The following patients are suitable for home or hospital-at-home care:
• mild exacerbation – increased cough, sputum, and mild increase in breathlessness [9]
• respiratory rate less than 24 breaths per minute [9]
• oxygen saturation (\(\text{SaO}_2\)) greater than 92% [9]
• cyanosis absent [3]
• mental status is unchanged [3,9] and the patient is fully alert [9]
• patient does not have [9]:
  • arrhythmia
  • clinical signs of pneumonia
  • signs of heart failure
• able to cope at home [3]
• able to eat and sleep [9]
• patient is supported by family members [9]
• has adequate mobility [9]
• not receiving long-term oxygen therapy (LTOT) [3]

Hospital-at-home schemes:
• are safe and effective [3]
• should be considered as an alternative way of caring for patients with exacerbations who would otherwise be admitted to hospital [3]
COPD - management of acute exacerbation in primary care

should include a validated tool to assess impact on patients [15]

- requires a multi-professional team, including:
  - a consultant respiratory physician, supported by trainee junior medical staff [15]
  - allied health professionals experienced in managing chronic obstructive pulmonary disease (COPD) [3]
  - nurses [9], eg specialist respiratory nurses [3,15]
  - physiotherapists [3,9,15]
  - occupational therapists [3]
  - generic health workers [3]

- should take into account patients’ preferences about such treatment [3] – early discharge is favoured by patients [9]
- treatment recommendations are the same as for hospitalised patients [2]
- there is no evidence that hospital-at-home schemes are associated with a poorer outcome than hospital management when measuring [9]:
  - forced expiratory volume in 1 second (FEV₁)
  - mortality
  - health-related quality of life (QoL)

There is currently insufficient data to make firm recommendations about which patients should be considered for such schemes – selection should depend on resources available and the absence of factors associated with a worse prognosis, eg acidosis [3].

Local Service Information

North East Rapid Response (DCC Homecare Service)
North East Rapid Response provide an out of hours service to people living in north east Derbyshire. The support offered is split between planned support that takes place regularly each night, and responsive support that is highlighted through 'Call Derbyshire' who can be contacted on 01629 533190.

Derbyshire Community Health Services – Intermediate Care Services – Single Point of Access (SPA)
http://www.dchs.nhs.uk/find_services_by_topic/id/45232

Call Derbyshire: 01629 533190
Text us: 86555
contact.centre@derbyshire.gov.uk

North East Health and Social Care - Social Care and Support in Derbyshire
http://www.ne-derbyshire.gov.uk/health-social-care/social-care/

VSPA (Voluntary Single Point of Access)
The aim of the VSPA (Voluntary Sector Single Point of Access) is to provide an effective referral route into health and social care voluntary services and to support people to receive services at home or as close to home as is possible. The service covers Erewash, Hardwick and North Derbyshire Clinical Commissioning Groups (CCGs) patient population. The service is not for patients to self-refer into, but to be referred by health, social care or voluntary sector professionals. http://www.ndva.org.uk/learn-more-about-us/vspa

References:
18 Investigations and assessment

Quick info:

Investigations and assessment:

- the following are not routinely recommended [3,15]:
  - sputum culture
  - blood tests
  - electrocardiogram (ECG) – indicated if the resting heart rate is:
    - less than 60 beats per minute; or
    - greater than 110 beats per minute
  - pulse oximetry – the National Institute for Health and Clinical Excellence (NICE) [3]:
    - recommend that pulse oximetry is of value if severe exacerbation is clinically evident
    - advises reference to local protocols for use of oximetry in guiding oxygen therapy

If patients have been referred to a hospital-at-home scheme [15]:

- the first visit should be carried out on the day after initiation of the scheme
- the following should be recorded:
  - level of dyspnoea
  - cough
  - sputum colour
  - sputum volume
- the following should be measured:
  - pulse
  - blood pressure (BP)
  - respiratory rate
  - temperature
  - oxygen saturation (SpO₂) and fractional inspired oxygen concentration (FiO₂)
- a copy of the clinical notes and observations should be left at the patient’s home
- assess treatment compliance and nebuliser/oxygen usage
- encourage telephone contact with a respiratory practitioner (there is insufficient evidence to justify setting up telemetry for hospital-at-home patients)
- home care should be completed in fewer than 14 days and with fewer than 10 visits – failure to comply with this recommendation requires team discussion

North East Rapid Response (DCC Homecare Service)

North East Rapid Response provide an out of hours service to people living in north east Derbyshire. The support offered is split between planned support that takes place regularly each night, and responsive support that is highlighted through "Call Derbyshire" who can be contacted on 01629 533190.


Derbyshire Community Health Services – Intermediate Care Services – Single Point of Access (SPA)

http://www.dchs.nhs.uk/find_services_by_topic/id/45232

References:


19 Further management

Quick info:
Home treatment of acute exacerbations [3]:
• establish optimal therapy
• arrange appropriate review
• arrange multidisciplinary assessment if necessary

Ensure patients are aware of the correct use of medications, optimum duration of treatment, and adverse effects of prolonged oral corticosteroids [3].

Further interventions:
• education programmes with information on the following [15]:
  • the disease and its management
  • control of symptoms
  • encouragement and help to stop smoking – see ‘Smoking cessation’ care map
  • plan of action for acute exacerbation
  • adopting a healthy lifestyle
  • leisure activities and travelling
  • long-term oxygen therapy (LTOT), if appropriate
• physiotherapeutic techniques and nutritional support [15]
• contact list for advice on acute emergencies [15]
• prescriptions at home to initiate when exacerbations occurs [15]
• psychological support [15]
• support, advice, and education for carers [15]

Local Service Information
North Derbyshire Community Respiratory Service
Welbeck Suite
Walton Hospital
Whitecoates Lane
Chesterfield
S40 3HW
Tel: 01246 253067
Fax: 01246 565053

References:

20 Monitor patient following exacerbation

Quick info:
Patients’ recovery should be monitored by regular clinical assessment of their symptoms and their functional capacity, in order to [1,3]:
• optimise current treatment
• assess whether a change in medication is appropriate
• discuss vaccinations
• consider adding new treatments, if appropriate
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21 Progress not satisfactory

Quick info:
Assess progress by [3]:
• change in symptoms
• functional capacity
• activities of daily living, ie ability to cope

Assessment should also include [3]:
• re-assessment of:
  • inhaler technique
  • the patient’s understanding of the recommended treatment regime
• advice on smoking cessation as necessary – see ‘Smoking cessation’ care map

Reference:

22 Progress satisfactory

Quick info:
Assess progress by [3]:
• improvement in symptoms
• functional capacity
• activities of daily living, ie ability to cope

Assessment should also include [3]:
• re-assessment of:
  • inhaler technique
  • the patient’s understanding of the recommended treatment regime
• advice on smoking cessation as necessary – see ‘Smoking cessation’ care map

If patient shows an exceptionally good response to treatment, perform spirometry to reconsider the diagnosis [3].

Reference:

23 Consider pulmonary rehabilitation

Quick info:
Pulmonary rehabilitation should be offered to patients with chronic obstructive pulmonary disease (COPD), including those who have had a recent hospitalisation for an acute exacerbation [3], with a view to improving [16]:
• exercise capacity

References:
COPD - management of acute exacerbation in primary care

Pulmonary rehabilitation [2,3]:
- is defined as a multidisciplinary programme of care [3]
- should be:
  - a supervised programme
  - individually tailored to optimise the patient’s physical and social performance and autonomy [3]
  - held at times that suit the patient, and in buildings that are easy for the patient to get to [3]
  - available to all appropriate patients with COPD, including those recently hospitalised for an acute exacerbation [3] – to commence within one month of discharge [16]
  - considered during an exacerbation to maintain mobility and function [4]
  - offered to all patients with a Medical Research Council (MRC) score of 2 or more who are limited by breathlessness [16]
- is not suitable for those:
  - who have difficulty walking, eg severe arthritis or severe peripheral vascular disease [16]
  - with unstable cardiac disease [16]
  - who have had a recent myocardial infarction (MI) [3]
- should include:
  - assessment of exercise tolerance with a field exercise test for the prescription of either exercise or ambulatory oxygen [4]
  - resistance and aerobic training [16]
  - psychological intervention [3]
  - behavioural intervention [3]
  - information, advice [2], and education [2,4]

The referral process and assessments for pulmonary rehabilitation also offer an important opportunity to [16]:
- offer smoking cessation advice
- assess and optimise cardiovascular health and address risk factors for cardiovascular disease
- detect and consider referral for co-existing symptoms of anxiety and/or depression
- check and optimise inhaler technique
- to screen and educate patients on nutrition

Patients should be made aware of the benefits of rehabilitation and the commitment required to gain these benefits [3]:
- benefits include [2]:
  - improved:
    - exercise capacity
    - health-related quality of life
    - strength and endurance of upper limbs
    - survival
  - reduced:
    - intensity of perceived breathlessness
    - hospitalisation
    - anxiety and depression

Encourage regular physical activity for 30 minutes a day, 5 times a week, and encourage all patients to continue exercising after completing their pulmonary rehabilitation programme [16].

http://www.dchs.nhs.uk/assets:///Pulmonary_Rehab/Welcome_to_Pulm_Rehab_leaflet.pdf

Local Service Information
North Derbyshire Community Respiratory Service
COPD - management of acute exacerbation in primary care

Quick info:
- If there are signs of deterioration reassess to see whether admission to hospital is necessary [1,3].

References:

25 Arrange acute admission

Quick info:
- If there are signs of deterioration reassess to see whether admission to hospital is necessary [1,3].

References:

26 Follow-up

Quick info:
Follow-up:
- for patients with mild or moderate disease, should take place at least annually, or more frequently if indicated [1,3,26]
- consider more frequent follow up (at least twice yearly) for patients [1,26]:
  • with newly diagnosed chronic obstructive pulmonary disease (COPD)
  • with very severe disease [3,26]
  • with frequent exacerbations or complications
  • who have recently been discharged from hospital
- should take place regularly if there has been a change in medication [1]
- should provide a written care plan/self-management plan [3]
- of all patients with COPD should include:
  • highlighting diagnosis in notes and computer database [3]
  • record of results of spirometric tests at diagnosis (absolute and percentage of predicted) [3]
  • monitoring of:
    • exposure to risk factors [2], eg smoking [3]
    • disease progression and complications [2]
    • pharmacotherapy and other medical treatments [2], including compliance [3]
    • exacerbation history, including unscheduled visits to providers, telephone calls for assistance, and use of emergency care facilities [2]
- of patients treated with mucolytics for chronic productive cough, should take place every few months [1]

Measurements required include [3]:

References:
COPD - management of acute exacerbation in primary care

- forced expiratory volume in 1 second (FEV₁) and forced vital capacity (FVC)
  - body mass index (BMI)
  - Medical Research Council (MRC) dyspnoea score
  - oxygen saturation (SaO₂) in patients with severe disease

Clinical assessment to include:
  - detailed history and examination [2]
  - measurement of spirometry before and after bronchodilator medication [2,3]
  - smoking status and desire to quit [3] – see the 'Smoking cessation' care map
  - adequacy of symptom control, eg:
    • breathlessness [1,2,3]
    • exercise tolerance [1,2,3]
    • estimated exacerbation frequency [3]
    • cough and sputum production [1]
  - health status [2]
  - anxiety and depression status [26]
  - presence of complications, including cor pulmonale [3]
  - inhaler technique [3]
  - need for referral to specialist and therapy services [3]
  - need for pulmonary rehabilitation [3]

References:
COPD - management of acute exacerbation in primary care

Key Dates

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