Bedfordshire, Luton and Milton Keynes Health and Care Partnership

NHS Bedfordshire, Luton and Milton Keynes Integrated Care Board

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Chronic Obstructive Pulmonary Disease (COPD) Primary care guidelines

September 2022

These guidelines are aimed for use by suitably trained healthcare professionals working within Bedfordshire, Luton and Milton Keynes primary care sector

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Management of Stable COPD

Task 1	**Confirm diagnosis of COPD;** clinical syndrome with confirmed obstructive spirometry (post-bronchodilator FEV_1/FVC below the lower limit of normal.[1]) Exclude diagnosis of asthma. Check for other co-existing conditions: cardiac failure, bronchiectasis, anaemia and manage appropriately. If uncertain, refer. *In Milton Keynes, consider referral to Assessment & Investigation of Respiratory symptoms (AIRS) team for initial diagnostics and assessment*. For further information on diagnosis consult NG115 - Chronic obstructive pulmonary disease in over 16s: diagnosis and management[2] For information on clinical features / spirometry in asthma COPD overlap syndrome consult the GINA guidelines. GINA Main Report 2022 Front Cover (ginasthma.org)[3]
Task 2	**Stop Smoking:** All patients still smoking, regardless of age, should be encouraged to stop, and offered help to do so, at every opportunity. Contact details: Bedfordshire and Milton Keynes: Home - Smokefree Bedfordshire (thestopsmokingservice.co.uk) Luton: Total Wellbeing Luton | Stop Smoking
Task 3	Record MRC dyspnoea score, as below. Offer **pulmonary rehabilitation** to patients with MRC score >2. All patients should be offered lifestyle advice (eg. exercise and nutrition) and be encouraged to exercise. ***In Milton Keynes:*** Refer to CNWL. Milton Keynes Community Pulmonary Rehabilitation Service :: Central and North West London NHS Foundation Trust (cnwl.nhs.uk) Refer to MKUH for patients requiring transport / on >5LO_2/min. ***In Bedford / North Bedfordshire:*** Service provided by the Bedfordshire hospitals Integrated COPD service. Refer on Systm One. Contact email: bhn-tr.bedfordrespiratory@nhs.net ***In Luton & South Bedfordshire***: Use single point of referral on ICE. Contact email: ldh-tr.LDHPulmonaryrehab@nhs.net (Services provided by the Bedfordshire hospitals Integrated COPD service or Cambridgeshire Community Services.) **MRC breathlessness score[1]**
Task 4	Offer **vaccinations**: flu (annual) / pneumococcal vaccination[4]
Task 5	Consider medication: drug treatment should be guided by breathlessness and exercise limitation, exacerbation frequency, symptoms, disability, and physiological complications that the patient experiences. At different times in the natural history of their disease different features may predominate and their management should change to reflect this. Before initiating a new prescription: i. check **adherence** with medicines (order history,) ii. Consider greener choice (information on carbon footprint, use DPIs / SMIs in preference, where appropriate) iii. teach **inhaler technique** and ask patients to demonstrate regularly, iv. Provide and update plan for responding to symptoms.

Grade	
1	Not troubled by breathlessness except on strenuous exercise
2	Short of breath when hurrying or walking up a slight hill
3	Walk slower than contemporaries on level ground due to breathlessness, or has to stop for breath when walking at own pace
4	Stop for breath after walking about 100m or after a few minutes on level ground
5	Too breathless to leave the house, or breathless when dressing or undressing.

Medicines Management of stable COPD - Inhaled therapy

All patients diagnosed with COPD: Salamol® (Salbutamol MDI) 100mcg +/- spacer 2 puffs PRN
Or Salbutamol easyhaler (DPI)

MRC ≤2 or CAT≤9

LAMA inhaler
Braltus Zonda (tiotropium) DPI 10mcg, i OD/
Spiriva Respimat SMI (tiotropium) 2.5mcg, 2 OD/
Eklira genuair (aclidinium) DPI 322mcg, i BD

(Alternative LABA if LAMA not tolerated Formoterol easyhaler or Atimos modulite)

Review in 1 month. Titrate up if persistent breathlessness / exacerbations

MRC ≥3 or CAT ≥10

LABA/ LAMA inhaler
(Stop single LAMA / LABA if prescribed & counsel)
Spiolto Respimat SMI (tiotropium + oldaterol) 2.5/2.5mcg, 2 OD /
Duaklir Genuair DPI (aclidinium + formoterol) 340/12mcg, i BD /
Anoro Ellipta DPI (umeclidinium + vilanterol) 55/22mcg, i OD /
Bevespi Aerosphere MDI (glycopyrronium + formoterol) 7.2/5mcg 2 BD

Breathlessness continues: ≥2 moderate exacerbations or ≥1 leading to hospitalisation.
Trial 3 months triple therapy and review.

Asthmatic features*

ICS / LABA combination

Fostair NEXThaler DPI 100/6, 2 BD (beclomethasone + formoterol) /
Relvar Ellipta DPI 92/22, i OD (fluticasone + vilanterol) /
Symbicort Turbohaler DPI 400/12, i BD (budesonide + formoterol) /
Fostair MDI 100/6, 2 BD (beclomethasone + formoterol)

Day to day symptoms that adversely impact quality of life or: ≥2 exacerbations or ≥1 leading to hospitalisation in last 12 months.

Triple therapy
(Stop previous LAMA/ LABA or ICS/LABA + LAMA & counsel)
Trelegy DPI 95/55/22, i OD (fluticasone + vilanterol + umeclidinium) /
Trimbow NEXThaler DPI 88/5/9, 2 BD (beclomethasone + formoterol + glycopyrronium)
Trimbow MDI 87/5/9 ii BD (as above)
Trixeo Aerosphere MDI 160/5/7.2, 2 BD (budesonide / formoterol / glycopyrronium)

An exacerbation is defined as either / or:

- Change in sputum colour
- Increased quantity of sputum
- Increased breathlessness (persistent symptoms for more than 48hrs.

COPD Assessment Test (CAT) can be accessed via http://www.catestonline.org

***In MK**, consider referral to **Assessment & Investigation of Respiratory symptoms (AIRS) team** for complex / continuing exacerbations with maximal therapy. (To contact for a query use: respiratory.airs-anp@nhs.net)*
In Bedfordshire and Luton refer to secondary care.

*Asthmatic features include:
Any previous secure diagnosis of asthma or atopy, higher blood eosinophil count (> 300cells/µL (0.3 x10^9/L),) substantial variation in FEV1 over time (at least 400ml) or substantial diurnal variation in peak expiratory flow (at least 20%.)

- Be aware of, and be prepared to discuss, the risk of side effects (including pneumonia) in people with COPD taking ICS (link).[5]
- Follow the MHRA advice on the risk of psychological and behavioural side effects associated with inhaled corticosteroids (link).[6]
- Give steroid card at ≥1000mcg beclometasone dipropionate (BDP) equivalent daily (link.)[7]

Inhaler technique & device decision aid

- Sub-optimal technique is widespread and linked to poor clinical control of COPD / asthma.
- Assess at every opportunity by a competent healthcare professional.
- Signpost to videos, eg. How to use your inhaler | Asthma UK RightBreathe

For an inhaler device decision aid, see overleaf.

Spacers

- If using an MDI, a spacer should be used
- Teach use, ensure patient can demonstrate use
- Ensure patient aware of cleaning requirement, (not more frequently than monthly).
- Replace Spacer every 12 months
- The website www.rightbreathe.com has information regarding which spacers are compatible with different MDIs

What is the inhaler carbon footprint?

Dry powder inhalers (DPI) and soft mist inhalers (SMI) do not contain propellant, so they have a lower carbon footprint than other types of inhalers. Inhalers with a lower carbon footprint should be used in preference **where clinically appropriate**. See BLMK Strategies-for-lowering-inhaler-carbon-footprint-Dec-2021 Information on each inhaler's carbon footprint per inhaler is given in the inhaler formulary.

Oral therapy

Mucolytics

For patients with chronic cough and difficult to expectorate sputum, consider a trial of NACSYS® (Acetylcysteine) 600mcg effervescent tablets daily (prescribe as NACSYS brand,) or 2nd line Carbocisteine capsules 750mg TDS for 6 weeks then reduce to BD. Review if improvement in sputum production and reduced viscosity. **Stop if no improvement**.

Theophyllline

- Consider trial if inhaled therapy is optimised / unable to use inhaled therapy
- Monitor plasma levels and for drug interactions.
- Caution use in older people.
- Titrate **and review after 4-8 weeks**. Continue ONLY If symptomatic improvement

Rescue packs – see COPD exacerbations

Prophylactic antibiotics eg. Azithromycin. To be initiated and guided by specialist respiratory physician only.

Roflumilast – For respiratory specialist initiation and stabilisation. Hospital to review benefits of continued use. Suitable for continuation in primary care as per local formulary.

Education

- Patient should be educated about COPD and its management.
- Advise on nutrition/weight management (record MUST score and offer Food First advice, then consider dietician referral if appropriate.) Further advice for patients and carers available at; Managing Malnutrition: COPD (malnutritionpathway.co.uk)
- Advise on physical activity/exercise to prevent deconditioning
- Offer personalised self-management plan
- **Identify treatment aims: symptoms / improve QOL / prevent exacerbations**
- Consider community pharmacy **New Medicines Service (NMS)** at review/therapy change

INHALER DEVICE DECISION AID

NEW INHALER PATIENT

Ask patient to demonstrate a breath in as if using an inhaler

Can patient breathe in QUICKLY AND DEEPLY over 2-3 seconds

Yes

CONSIDER **DPI** FOR ALL INHALED MEDICINES (including SABA)

No

CONSIDER **AEROSOLS** +/- SPACER FOR ALL INHALED MEDICINES

A DPI device is the preferred option for a new inhaler patient as long as they have optimal inhaler technique (visually checked) and it is acceptable to the patient. A SMI inhaler is an aerosol alternative to consider 1st line.

EXISTING INHALER PATIENT

Dry powder inhalers (DPIs), aerosols (eg. MDI+/- spacer, breath-actuated, soft-mist inhaler (SMI)) Ask patient about what inhaler device they use. Confirm with their prescribing records.

Ask patient to demonstrate a breath in. Try both a quick and deep inhalation over 2-3 seconds and a slow and steady inhalation over 4-5 seconds.

Patient can breathe **QUICKLY** and **DEEPLY** only?

Consider **DPI** for all inhaled medicines

Patient can breathe in both **QUICKLY AND DEEPLY** and **SLOW AND STEADILY**?

Consider **DPI or SMI** (aerosol) as first line for all inhaled medicines

Patient can breathe in **SLOWLY** AND **STEADILY** only?

Consider **aerosols / SMI** for all inhaled medicines

MIXED DEVICES – TRY TO ALIGN TO ALL DPIs OR ALL AEROSOLS to help with consistent inhaler technique

Confirm patient engagement and optimise inhaler technique for each device

Also consider any dexterity issues to load and use device. Can they co-ordinate pressing the device and breathing in? Can they form a seal over the mouthpiece? Suitability to lifestyle, eg. portability.

Psychological Support

For patients requiring psychological support, self-referral or GP referral:

- In Bedfordshire; Bedfordshire Wellbeing Service email: elt-tr.bedfordiapt@nhs.net Tel@ 01234 880400
- In Luton; Total Wellbeing Luton | Talking Therapies email: info@totalwellbeing.org Tel: 0300 5554152
- In Milton Keynes; Home :: MK Talking Therapies Tel: 01908 725099

Fan therapy

Consider the use of hand-held fans or bigger fans (pass air over trigeminal nerves which then slows respiratory rate down.)

Oxygen / Palliative Care

If <92% (when stable or 6 weeks after an exacerbation) refer for long term oxygen (LTOT) assessment.
Link for BLMK home oxygen therapy policy: BLMK Home Oxygen Therapy policy-2021
Where appropriate consider gold standard framework palliative care or discuss at palliative MDT.
To refer to palliative care: In Milton Keyes; Willen hospice, In Luton; Keech hospice, In Bedfordshire (for inpatient services; Sue Ryder palliative care hub,) (for outpatient services; palliative care ELFT.)

Review and follow-up

Review at least once a year.

For patients with more frequent exacerbations:

- Consider alternative diagnosis
- Check for co-existing conditions, eg. cardiac failure, bronchiectasis, IHD, anxiety and depression and manage appropriately.
- Check adherence. Check prescription refill records.
- Can the patient use their inhalers correctly?
- Check task list page, including immunisation and pulmonary rehabilitation.
- Optimise inhaled therapy. Stop / change if unable to use / not tolerated / ineffective.

If COPD is well controlled, consider reducing/stopping ICS therapy. In particular, review triple therapy in mild/moderate COPD without asthmatic features (and less than 2 exacerbations a year, no hospital admissions). Use the guide COPD-ICS-Review-Protocol-Beds&Luton-2019 or ICS COPD Stepdown MK Guidance 2020

When to refer for specialist review

- Diagnostic uncertainty
- Haemoptysis (follow 2-week pathway.)
- Onset of cor pulmonae
- Assessment for long term oxygen therapy (for hypoxia, if SpO2 ≤ 92% breathing air during clinical stability) or long term nebuliser therapy.
- Symptom onset at age <40 years, or a family history of alpha1-antitrypsin deficiency
- Symptoms disproportionate to disease severity, as assessed on spirometry
- Pulmonary rehabilitation
- Frequent exacerbations
- Rapid clinical or FEV_1 decline
- Problematic withdrawal of steroids
- Bullous lung disease
- Complex patient requiring specialist MDT review

Exacerbations and self-management

Acute Management

- An exacerbation is defined as either / or:
  - Change in sputum colour
  - Increased quantity of sputum
  - Increased breathlessness (persistent symptoms for more than 48hrs.)
- Exclude patients with an acute onset which may suggest a life-threatening event or may not be due to COPD, eg. pneumothorax, pneumonia, heart failure or pulmonary embolism.
- Treat with: Prednisolone 30mg every morning for 5 days and 1st line choices or either Amoxicillin 500mg TDS for 5 days, or Doxycycline 200mg stat on day 1 then 100mg OD for 4 more days, or Clarithromycin 500mg BD for 5 days. If patient has a higher risk of treatment failure refer to the antimicrobial guidelines for alternative choices. BLMK Antimicrobial Prescribing Primary care guidelines
- Increase as required bronchodilator (+ spacer if MDI)
- Consider timely referral to pulmonary rehabilitation to improve QOL, re-admission risk, etc.

Prevention of future exacerbations

- Advise at risk patients how to prevent and identify exacerbations and to respond promptly to symptoms. A self-management patient information leaflet is available in appendix 1.
- Careful selection of patients suitable for use of rescue packs and patient education is paramount to replicate the success of the trials.
- Rescue packs should only be given to patients with an individualised self-management plan. This should include: when to increase as required bronchodilators, when to start oral corticosteroids ± antibiotics (not always required – patient should be counselled on when to use,) actions/healthcare professional to contact if symptoms do not improve
- Rescue packs are not a substitution for a consultation and should not be used for sudden severe symptoms.
- **Never put rescue packs on repeat prescription**
- Remind patients to contact the surgery to inform you that they are less well and have started the rescue pack.
- Review patients requiring 2 or more rescue packs per year, (consider patient overuse / need for optimisation of regular therapy.)

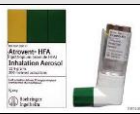
Interpretation services

If required, BLMK commissioned interpreter services are:

- For Bedford, Central Bedfordshire and Milton Keynes practices; Language is everything. Practice booking codes are needed. Email: hello@languageiseverything.com
- For Luton practices; DA Languages. Email: lccginterpretation.services@nhs.net

COPD formulary Inhaler choices

The carbon footprint information below is taken from a PresQIPP bulletin, classified by; low carbon footprint green, high carbon footprint amber, highest carbon footprint, red. The equivalent miles in a car has been calculated using a figure of 0.2758kg CO_2e/mile (or 276g $C0_2e$/mile) for an average car of unknown fuel type (link) gov.uk website. Local formulary links: Bedfordshire and Luton Joint Formulary , Milton Keynes Formulary

Drug		Device	Technique	Dose	Inhaler carbon footprint (kg CO2e)	Equivalent miles in a car per inhaler
SABA						
1st line **Salbutamol Easyhaler® 100mcg**		DPI	Inhale quick and deep	Two puffs qds prn	**0.62**	**2**
1st line **Salamol® (salbutamol) 100mcg**		MDI	Inhale slow and steady	Two puffs qds prn	**11.95**	**43**
Ventolin® evohaler (salbutamol) 100mcg		MDI	Inhale slow and steady	Two puffs qds prn	**28.26**	**102**
Ventolin® accuhaler 200mcg		DPI	Inhale quick and deep	One dose qds prn	**0.58**	**2**
Bricanyl® turbohaler (terbutaline) 500mcg		DPI	Inhale quick and deep	One dose qds prn	**0.492**	**2**
SAMA						
Atrovent® 20mcg (ipratropium)		pMDI	Inhale slow and steady	Two puffs qds	**15**	**53**
LAMA						
1st line **Braltus Zonda® (tiotropium)** 10mcg		DPI	Inhale quick and deep	One dose daily	**0.56**	**2**
1st line **Spiriva Respimat® (tiotropium)** softmist inhaler 2.5mcg		SMI	Inhale slow and steady	Two doses once daily	**0.78**	**1**
2nd line **Eklira Genuair® (aclidinium)** 375mcg		DPI	Inhale quick and deep	One puff daily	**0.52**	**2**

Drug		Device	Technique	Dose	Inhaler carbon footprint (kg CO_2e)	Equivalent miles in a car per inhaler
LAMA (continued)						
Incruse® (umeclidinium) 55mcg		DPI	Inhale quick and deep	One dose daily	**0.73**	**3**
Seebri® (glycopyrronium bromide) 44mcg		DPI	Inhale quick and deep	One dose daily	**0.56**	**2**
LABA						
Formoterol® Easyhaler 12mcg		DPI	Inhale quick and deep	One dose twice daily	**0.54**	**2**
Atimos Modulite® (Formoterol) 12mcg		pMDI	Inhale slow and steady	One puff twice daily	**13**	**47**
LABA/LAMA (dual bronchodilators)						
1st line **Spiolto Respimat® (tiotropium & olodaterol)** softmist inhaler 2.5/2.5mcg		SMI	Inhale slow and steady	Two doses once daily	**0.78**	**3**
1st line **Duaklir Genuair® (aclidinium & formoterol)** 322/12mcg		DPI	Inhale quick and deep	One dose twice daily	**0.55**	**2**
1st line **Anoro Ellipta® (umeclidinium & vilanterol**) 55/22mcg		DPI	Inhale quick and deep	One dose daily	**0.75**	**2**
Ultibro breezhaler® (Glycopyrronium & indacterol) 85/43mcg		DPI	Inhale quick and deep	One dose daily	**0.56**	**2**
Bevespi® Aerosphere (Glycopyrronium & formoterol) 7.2/5mcg		pMDI	Inhale slow and steady	Two puffs twice a day	**13**	**48**

Drug		Device	Technique	Dose	Inhaler carbon footprint (kg CO2e)	Equivalent miles in a car per inhaler
ICS / LABA combination						
1st line **Fostair NEXThaler® (beclomethasone & formoterol)** 100/6mcg		DPI	Inhale quick and deep	Two doses twice daily	**0.89**	**3**
1st line **Relvar Ellipta® (fluticasone furoate & vilanterol**) 92/22mcg		DPI	Inhale quick and steady	One dose daily	**0.75**	**3**
1st line **Symbicort® Turbohaler (budesonide & formoterol)** 400/12mcg		DPI	Inhale quick and deep	One dose twice daily	**1.05**	**4**
1st line **Fostair® pMDI (beclomethasone & formoterol)** 100/6mcg		pMDI	Inhale slow and steady	Two puffs twice daily	**11.2**	**41**
Symbicort® **pMDI** (budesonide & formoterol) 200/6		pMDI	Inhale slow and steady	Two puffs twice a day	**34**	**125**
Fobumix® Easyhaler (budesonide & formoterol) 320/9mcg		DPI	Inhale quick and deep	One dose twice a day	**0.48**	**2**
Duoresp spiromax® (budesonide & formoterol) 320/9mcg		DPI	Inhale quick and deep	One dose twice a day	**0.63**	**2**
Seretide Accuhaler (fluticasone & salmeterol) 50/500mcg		DPI	Inhale quick and deep	One dose twice a day	**0.9**	**3**

Drug		Device	Technique	Dose	Inhaler carbon footprint (kg CO2e)	Equivalent miles in a car per inhaler
ICS / LAMA / LABA triple therapy						
Trelegy® (fluticasone / vilanterol / umclidinium) 92/22/55mcg		DPI	Inhale quick and deep	one dose daily	**0.77**	**3**
Trimbow Nexthaler® (glycopyrronium / beclomethasone / formoterol) 88/5/9		DPI	Inhale quick and deep	Two doses twice daily	**0.89**	**3**
Trimbow® pMDI (glycopyrronium / beclomethasone / formoterol) 87/5/9		pMDI	Inhale slow and steady	Two puffs twice daily	**14.2**	**51**
Trixeo Aerosphere® pMDI (budesonide / formoterol / glycopyrronium) 160/5/7.2		pMDI	Inhale slow and steady	Two puffs twice daily	**13.5**	**49**

References

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Acknowledgments

These guidelines have been partly based on guidelines available from the Leicester, Leicestershire and Rutland Respiratory Prescribing Group and the Herts Valleys CCG and East & North Hertfordshire CCG. With Thanks to these groups.

Patient information on Management of COPD exacerbation based on previous version produced by Milton Keynes Respiratory Local Implementation Team.

Step-by step guide for worsening symptoms

Step 1
Increase use of your reliever (normally BLUE) inhaler
(If you have a spacer, use it as it helps you get more drug to your lungs)
Use up to a maximum of 4 puffs every 4 hours (1 puff every 30 seconds if with MDI inhaler)

Step 2
If your breathlessness is **much worse** than usual and affecting your normal activities then start taking your prednisolone (steroid) tablets.
PREDNISOLONE 5mg (steroid) tablets
Take 6 tablets on DAY 1 when your symptoms start then take 6 tablets every morning with food daily for 4 more days. Please complete the full 5 day course

Step 3
AND if you get any of the following:

- Coughing up green/yellow sputum (phlegm).
- More sputum than usual.
- The sputum is thicker, stickier or tastes different.

Start taking your antibiotic as well **EITHER**

Doxycycline 2 capsules on DAY 1 with food then 1 capsule daily for 4 more days. **Please complete the full 5 day course**

OR

Amoxicillin 500mg Capsules. Take 1 capsule 3 times a day for 5 days. Please complete the full 5 day course.

Step 4
Following a flare up you must **arrange a follow up** with your practice nurse or GP to ensure you are getting better, are on the correct medication, check your inhaler technique, and have the flare up recorded in your notes. You should be reviewed before asking for a replacement Rescue pack to ensure it is still appropriate.

EMERGENCY

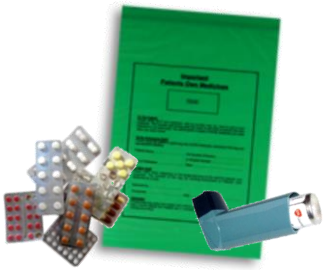
At any time if your symptoms get worse, despite increasing the use of your blue inhaler, (i.e. you're not getting better), please contact your doctor/nurse for an urgent appointment. Or dial 111 for advice out of hours.

Keep taking all your regular medication.

If you have any of the following:

- **Very short of breath**
- **Chest pains**
- **High fever**
- **Feeling of drowsiness or confusion**

DIAL 999 AMBULANCE



Take all your medicines with you to the hospital

How to help your lungs:

- It is beneficial to stop smoking. Ask your doctor/nurse/pharmacist for help.
- Take your medication/inhalers the way you've agreed with your doctor / nurse / pharmacist and check you're getting the best from your inhalers.
- Try to keep as active as possible - your armchair is your enemy.
- Get a balance between activity and rest.
- Maintain a sensible weight and diet, ask your nurse for advice.
- Whenever possible, avoid situations which make your symptoms worse.
- Develop coping strategies to help avoid stressful situations. Discuss with doctor or nurse
- Have an annual flu jab.
- Have your pneumococcal jab.
- Keep well hydrated unless instructed otherwise

Self-management of worsening symptoms of COPD (flare up / exacerbation)

What is a Flare Up?

A "**flare up**" or **exacerbation** is a worsening of symptoms such as increased breathlessness, cough and/or sputum and wheeze that is more than your normal day to day variations.

What causes a flare up?

Not all flare ups are caused by bacterial infections as other triggers such as air pollution, changes in weather, viruses and stress can also cause them. Therefore antibiotics are not always necessary. Please see step-by step guide inside of what to do and ask your nurse/doctor if you are unsure.

GP Surgery:

Main contact:

British Lung Foundation Help Line: 03000 030 555 Website: http://www.blf.org.uk

Contact NHS 111: 24hrs or if GP Surgery is close