In the UK in 2012, 29,776 people died from COPD (5.3 per cent of the total number of UK deaths and 26.1 per cent of deaths from lung disease) British Lung Foundation (BLF).

In Norfolk & Waveney, in common with most of the UK, there are predicted to be a significant number of undiagnosed patients with COPD.

**Definition of COPD (GOLD 2019)**
“A common, preventable and treatable disease that is characterised by persistent respiratory symptoms and airflow limitation that is due to airway and / or alveolar abnormalities usually caused by significant exposure to noxious particles or gases.”

**Diagnosis**
NICE NG 115 states: “The diagnosis of chronic obstructive pulmonary disease (COPD) depends on thinking of it as a cause of breathlessness or cough. The diagnosis is suspected on the basis of symptoms and signs and is supported by spirometry.”

**Goals of treatment for stable COPD (GOLD 2019)**

1. **Reduce symptoms:**
   - Relieve symptoms
   - Improve exercise tolerance
   - Improve health status

2. **Reduce risk:**
   - Prevent disease progression
   - Prevent and treat exacerbations
   - Reduce mortality

*Smoking cessation*
*Encourage exercise*
*Encourage healthy diet and weight*
*Refer for pulmonary rehabilitation*
*Vaccinations*
*Appropriate Inhaled treatment*
*Written self-management plan and*

The pyramid of value for COPD interventions: estimates of cost per quality adjusted life year gained. Ref. London Respiratory Network with The London School of Economics.
COPD: Diagnosis

Age > 35 years + At least one risk factor: smoker, ex-smoker, occupational exposure, air pollution, genetics (alpha\(^1\)–antitrypsin deficiency)

Symptoms: typical - exertional dyspnoea, chronic cough, regular sputum, frequent winter bronchitis, wheeze. Other - weight loss, exercise intolerance, ankle swelling and fatigue.

Medical History:
Check for asthma - documented reversibility, eosinophils > 0.3x10^9, history of rhinitis, atopic eczema, nasal polyps, variable breathlessness, exposure to risk factors, exacerbations, family history, co-morbidities, psychological factors and signs of respiratory failure or right heart failure.

Check: Spirometry – quality assured. Chest x-ray and consider BNP (to rule out other causes of dyspnoea), pulse oximetry (if cyanosis or cor pulmonale), BMI, FBC.

Assessment of airflow limitation
For prognosis & assessing exacerbation

Check exacerbation history
For prognosis & guiding treatment

Assessment of symptoms and risk of exacerbations
1. Medical Research Council (MRC) Dyspnoea Scale 1-5 (= GOLD mMRC 0-4)
2. COPD assessment test (CAT) www.catestonline.org

Follow guidelines overleaf:
1. Management & reducing risk of exacerbations – for ALL patients
2. Pharmacological management – see algorithm
3. Management of exacerbations & good housekeeping tips

Asthma & COPD likely?
See pharmacological management algorithm. Seek more specialist advice if required

COPD Diagnosis is confirmed if post-bronchodilator FEV\(_1\)/FVC < 0.7
NB fixed cut off of <0.7 may lead to over-diagnosis in the elderly and under-diagnosis in younger subjects\(^3\)

FEV\(_1\) predicted
Stage 1. Mild >80%
Stage 2. Moderate 50 – 79%
Stage 3. Severe 30 – 49%
Stage 4. Very Severe < 30% REFER

Infrequent: 0 – 1 not leading to hospital admission
Frequent: \(\geq 2\) OR \(\geq 1\) leading to hospital admission

Significant breathlessness if MRC \(\geq 3\) and symptom burden if CAT \(\geq 10\)

Refer for specialist opinion if: diagnostic doubts, dysfunctional breathing, very severe COPD, excessive cough, age < 40 years, FH alpha-1 antitrypsin deficiency, oxygen assessment (if pulse oximetry <92%), cor pulmonale, lung cancer suspected, bullous lung disease, lung volume reduction surgery or transplant, age < 50 years and degree of symptoms out of kilter with lung impairment. Recurrent infections or exacerbations when on appropriate therapy.
COPD: Management and Reducing Risk of Exacerbations
Adapted, with kind permission, from a North Norfolk CCG document

- **Improve** care planning for early recognition
- **Reduce** unscheduled care in the Practice
- **Reduce** unplanned admissions

### SIX KEY AREAS

#### ONE
**Immunisation**
- Annual flu vaccination
- ‘One off’ pneumonia vaccination

#### TWO
**Lifestyle Advice**
- Active support to quit smoking*
- Eat well and keep a healthy weight**
- Exercise**

#### THREE
**Assessment and Encouragement for Pulmonary Rehabilitation***
- If Symptomatic breathlessness
  - ≥ 1 admission in last 12 months
  - A & E attendance
  - post exacerbation / admission and after 12 months
- Also consider nearest BLF Breathe Easy Group

#### FOUR
**Self-management Education and Support**
- Written self-management plan
- Rescue medication, if appropriate
- See COPD Rescue Packs: Quick Ref. Guide
- Exacerbation risk reduction
- Contact details for key clinicians

#### FIVE
**Optimal Guideline Based Therapy** *(see overleaf)*
- Review inhaler technique
- Education and training
- Consider alternative devices / spacers (if appropriate)

#### SIX
**Very severe COPD - Supportive Care**
- Review for housebound patients
- Referral to specialist services
- Social services / carer assessment
- Benefits
- Oxygen assessment (if appropriate)
- Advance care planning

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* Smokefree Norfolk [www.smokefreenorfolk.nhs.uk](http://www.smokefreenorfolk.nhs.uk)  Waveney: [www.onelifesuffolk.co.uk](http://www.onelifesuffolk.co.uk)

** British Lung Foundation (BLF) support resources [www.blf.org.uk/support-for-you/copd](http://www.blf.org.uk/support-for-you/copd)

*** Pulmonary Rehabilitation - Norfolk (Norfolk Community Health & Care NHS Trust North, Norwich & South) Great Yarmouth & Waveney (James Paget University Hospitals NHS Foundation West Norfolk (BOC)
**Diagnosed COPD: Pharmacological Management**

Based on NG 115 & PCRS ‘Keeping it simple approach’

Assess predominant symptoms FIRST: see ‘diagnosis’  
Inhaler device options overleaf

---

Revisit at every review: stop smoking, lifestyle, vaccinations, pulmonary rehabilitation, co-morbidities, self-management plan

---

Offer SABA to use as needed

- **NO Asthmatic features/features suggesting steroid responsiveness**
  - Predominant Breathlessness  
    - ≤ 1 exacerbation per year  
    - Daily SABA use / continued breathlessness that limits daily activities
  - Offer additional LABA + LAMA
    - Please note: if a patient is stable on either LAMA or LABA alone / has a contraindication or suffered adverse effects, there is no need to change to the combination.
  - Still symptomatic

- **Predominant Exacerbations (+ / - Breathlessness)**  
  - ≥ 2 exacerbations per year OR ≥ 1 exacerbation per year requiring hospital admission
  - Consider LABA + ICS
    - Be aware of long-term ICS risks— see overleaf
  - Continued exacerbations
    - Consider LABA + ICS
    - Be aware of long-term ICS risks— see overleaf
    - Consider LABA + LAMA + ICS
    - Be aware of long-term ICS risks— see overleaf

- **Still poorly controlled? STOP, THINK, TAKE STOCK. Consider referring to a Specialist**

---

Consider TRIPLE THERAPY: LABA + LAMA + ICS

3-month trial: LABA + LAMA + ICS

If no improvement, revert to LABA + LAMA and REFER for specialist opinion

**Mucolytics. Consider: if chronic sputum producing cough. Trial as acute treatment dose for 4 weeks. If no improvement: STOP. If effective: continue with maintenance dose. Consider using in winter months only. Mucolytics do not prevent exacerbations**

---

**SABA:** Short Acting Beta Agonist  
**SAMA:** Short Acting Muscarinic Antagonist  
**LABA:** Long Acting Beta Agonist  
**LAMA:** Long Acting Muscarinic Antagonist  
**ICS:** Inhaled Corticosteroid
### COPD: Pharmacological Management – Inhalers

1st choice options below in alphabetical order. See COPD inhaler types & devices for all inhaler options and features of each device.

<table>
<thead>
<tr>
<th>Inhalers</th>
<th>Type</th>
<th>Content</th>
<th>Usual Dose</th>
<th>Inhalers</th>
<th>Type</th>
<th>Content</th>
<th>Usual Dose</th>
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<tbody>
<tr>
<td><strong>SABA - Short Acting Beta² Agonist</strong></td>
<td></td>
<td></td>
<td></td>
<td><strong>LAMA + LABA combination</strong></td>
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<tr>
<td>Easyhaler® salbutamol 100mcg</td>
<td>DPI</td>
<td>salbutamol</td>
<td>1-2 pm</td>
<td>Anoro Ellipta® 55 / 22mcg</td>
<td>DPI</td>
<td>Umeclidinium / vilanterol</td>
<td>1p od</td>
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<tr>
<td>Salbutamol cfc free 100mcg</td>
<td>pMDI</td>
<td>salbutamol (‘spacer types a &amp; c)</td>
<td>1-2 pm</td>
<td>Duaklir Genuair® 340 / 12mcg</td>
<td>DPI</td>
<td>Acildinium / formoterol</td>
<td>1p od</td>
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**LAMA – Long Acting Antimuscarinic**

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<th>Type</th>
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<th>Usual Dose</th>
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<tr>
<td>Braltus Zonda® 10mcg</td>
<td>DPI</td>
<td>tiotropium</td>
<td>1p od</td>
</tr>
<tr>
<td>Eklira Genuair® 322mcg</td>
<td>DPI</td>
<td>aclidinium</td>
<td>1p bd</td>
</tr>
<tr>
<td>Incruse Ellipta® 55mcg</td>
<td>DPI</td>
<td>umeclidinium</td>
<td>1p od</td>
</tr>
<tr>
<td>Seebri Breezhaler® 44mcg</td>
<td>DPI</td>
<td>glycopyrronium</td>
<td>1p od</td>
</tr>
<tr>
<td>Spiriva Respimat® 2.5mcg</td>
<td>MDI</td>
<td>tiotropium</td>
<td>2p od</td>
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**LABA – Long Acting Beta² Agonist**

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<th>Type</th>
<th>Content</th>
<th>Usual Dose</th>
</tr>
</thead>
<tbody>
<tr>
<td>Atimos Modulite® 12mcg</td>
<td>pMDI</td>
<td>formoterol (‘spacer type a)</td>
<td>1p bd</td>
</tr>
<tr>
<td>Easyhaler® Formoterol 12mcg</td>
<td>DPI</td>
<td>formoterol</td>
<td>1p bd</td>
</tr>
<tr>
<td>Onbres Breezhaler® 150 &amp; 300mcg</td>
<td>DPI</td>
<td>indacaterol</td>
<td>1p od</td>
</tr>
<tr>
<td>Striverdi Respimat® 2.5mcg</td>
<td>MDI</td>
<td>olodaterol</td>
<td>2p od</td>
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**ICS + LABA combination**

<table>
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<th>Type</th>
<th>Content</th>
<th>Usual Dose</th>
</tr>
</thead>
<tbody>
<tr>
<td>DuoResp Spiromax® 320 / 9mcg</td>
<td>DPI</td>
<td>Budesonide / formoterol</td>
<td>1p bd</td>
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<tr>
<td>Fobumix Easyhaler® 320 / 9mcg</td>
<td>DPI</td>
<td>Budesonide / formoterol</td>
<td>1p bd</td>
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<tr>
<td>Fostair®100/6 (‘ spacer types a &amp; b)</td>
<td>pMDI</td>
<td>extra-fine beclomethasone / formoterol</td>
<td>2p bd</td>
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<tr>
<td>Fostair NEXThaler® 100 / 6mcg</td>
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<td>extra-fine beclomethasone / formoterol</td>
<td>2p bd</td>
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<tr>
<td>Relvar Ellipta® 92 / 22mcg</td>
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<tr>
<td>Symbicort® 200/6 (‘ spacer type b)</td>
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<td>Budesonide / formoterol</td>
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<tr>
<td>Symbicort Turbohaler® 400 / 12mcg</td>
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<td>Budesonide / formoterol</td>
<td>1p bd</td>
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**ICS + LABA + LAMA combination**

<table>
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<th>Type</th>
<th>Content</th>
<th>Usual Dose</th>
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</thead>
<tbody>
<tr>
<td>Trelegy Ellipta® 92 / 22 / 55mcg</td>
<td>DPI</td>
<td>fluticasone furoate / vilanterol / umeclidinium</td>
<td>1p od</td>
</tr>
</tbody>
</table>

**Inhaled Corticosteroids**

**Long term side effects:** Osteoporosis – consider fracture risk. Diabetes. Cataracts. Small (but real) increased risk of non-fatal pneumonia.

Give ICS safety card if high dose >1000mcg BDP equivalent. Consider ICS safety card if >800mcg BDP equivalent and using nasal corticosteroids.

**LAMAs: cautions**


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**Inhalers** (useful website [https://www.rightbreathe.com/](https://www.rightbreathe.com/))

Choice should be based on most suitable device for the patient. Consider consistency of device if changing treatment approach. Check patient can demonstrate acceptable technique at each review. Before changing treatment always check concordance. Prescribe by brand to reduce risk of dispensing different devices.

*Spacers Use pMDIs with spacers to improve drug delivery
  a: Universal spacers b: Aerochamber Plus® c: Volumatic®
  KM Bulletin 18 Spacers  MIMs online inhaler table
What is an acute exacerbation of COPD?
- An exacerbation is a sustained acute-onset worsening of the person's symptoms from their usual stable state, which goes beyond their normal day-to-day variations.
- Commonly reported symptoms include:
  - Worsening breathlessness, cough, increased sputum production and change in sputum colour.
  - The change in these symptoms often necessitates a change in medication.

Assessing an acute exacerbation: physical signs of a severe exacerbation,
- Acute confusion
- Marked reduction in activities of daily living
- Marked dyspnoea and tachypnoea, pursed-lip breathing, use of accessory muscles at rest.
- New-onset cyanosis or peripheral oedema.
- Measure the person's temperature and examine the chest.
- Check pulse oximetry and consider the need for hospital admission
- Do not send sputum samples for culture routinely

Self-management plan: provide a structured written action plan (COPD Self-management action plan and information booklet)
- How to recognise when COPD is getting worse
- How to increase use of SABA and, if no response who to contact and when

Rescue pack See COPD Rescue Packs: Quick Ref. Guide  If patient has one, provide written information:
- To start oral corticosteroid if they have a significant increase in breathlessness interferes with activities of daily living
- To start antibiotics if sputum becomes discoloured or increases in volume, or clinical signs of pneumonia
- Who to contact if they start treatment, or are uncertain about whether to start treatment

Follow up:
- During acute episode: depends on clinical judgment and severity of illness
- Once clinically stable: e.g. 6 weeks after onset of exacerbation
- Optimise medication and check inhaler technique to reduce risk of further exacerbations
- Consider referral /re-referral for pulmonary rehabilitation post exacerbation / admission and after 12 months
- Review self-management plan. Assess if acute supply of rescue pack is needed?

Repeated, or single prolonged (post two antibiotic courses), exacerbations:
- Collect one early morning sputum sample to test.
- Consider bronchiectasis.
### RESCUE PACK (SOS medication) CONTENTS

**Oral corticosteroid + Antibiotic**

<table>
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<tr>
<th>Drug, Form, Strength</th>
<th>Dose (Adult)</th>
<th>Quantity</th>
<th>Other information</th>
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<tr>
<td>Prednisolone 5mg tablets</td>
<td>30mg (6 tablets) once daily for 5 days</td>
<td>30</td>
<td>As per updated NG 115 July 2019</td>
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<tr>
<td>Amoxicillin 500mg capsules</td>
<td>500mg three time a day for 5 days*</td>
<td>15</td>
<td>*In simple uncomplicated COPD exacerbations 5 days is sufficient, in patients with repeated infections consider longer course guided by sensitivities</td>
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<tr>
<td>OR Doxycycline capsules 100mg</td>
<td>200mg stat then 100mg once daily for total 5 days*</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>OR Clarithromycin 500mg tablets (or penicillin allergy)</td>
<td>500mg twice daily for 5 days*</td>
<td>10</td>
<td>Co-amoxiclav: Increased risk of <em>c. difficile</em>. Risk factors include: • co-morbid disease • severe COPD • frequent exacerbations, antibiotics in last 3 months</td>
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<tr>
<td>Co-amoxiclav (only if resistance to other options)</td>
<td>625mg three times a day for 5 days</td>
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### Good Housekeeping Tips for Managing COPD in Primary Care

**HAVE A DESIGNATED GP & NURSE LEAD FOR RESPIRATORY DISEASES (DRL)**

The following recommendations include features which may be considered outstanding by CQC

- **New patient opportunistic screening.** LTC clinics on smokers ≥ 35 years with cough or regular chest infections. Consider using a questionnaire. Use handheld spirometer to check lung age.

- **Respiratory Reviews** should be of sufficient length for a full review. The patient should have a clear understanding of their condition, how to use their medication and their self-management plan.

- The clinician performing your reviews should be competent e.g. ideally have (or be working towards) the relevant 'Education for Health Diploma', or at least have completed other relevant training, in order for your COPD review to be adequate & safe (PCRS Fit to Care)

- **Aim to review exacerbations or admissions within 3 weeks** (ideally 2 following hospital discharge) by DRL, this includes the following: OOH / A&E / paramedic contacts and admissions / community nurses
  - set up scanning protocol looking for following words: COPD, bronchitis, asthma, pneumonia, LRTI in hospital discharges /OOH report /A&E reports / paramedic/community nurse documentation
  - Discuss referral for pulmonary rehabilitation with the patient

- **Ensure that reception staff are aware** that when patients with a COPD diagnosis present for urgent appointment, they should have an assessment the same day (which could be via telephone), by a clinician with suitable experience.

- **Review reliever (blue) inhaler**, flexible dosing is recommended. Ensure directions reflect this as patients may require up to TWO to FIVE puffs via spacer prn up to every four hours during an exacerbation. More than 2 inhalers may be required per month

- Many patients with COPD do not require inhaled corticosteroids

- **Review self-management plans (SMPs)**
  - At every review assess suitability for SOS medication for an exacerbation of COPD as per their SMP, ensure they have been seen by the DRL within 3 weeks from onset of exacerbation. SOS medicines should NOT be on repeat.

- **Check inhaler technique at EVERY REVIEW**

- Ensure patients collecting inhalers from local pharmacies have inhaler technique checked.

- **If the patient is a dispensing patient** ensure that inhaler technique, and reviewing their understanding of the SMP, is part of the Dispensary Review of the Use of Medicines (DRUM)

### Useful read code descriptions:

<table>
<thead>
<tr>
<th>Code Description</th>
<th>Read Code Description</th>
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<td>No of COPD exacerbations in the last year</td>
<td>Issue of COPD rescue pack</td>
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<tr>
<td>Pulmonary Rehabilitation</td>
<td>Smoking cessation advice</td>
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<td>Referral to Pulmonary Rehabilitation</td>
<td>Referral to smoking cessation</td>
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<td>COPD Self-Management Plan given</td>
<td>Admit COPD emergency</td>
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### References:

1. Global Initiative for Chronic Obstructive Lung Disease (GOLD) 2019
2. NICE NG 115 COPD July 2019
3. NICE CKS COPD March 2019
4. ‘Guide to Performing Quality Assured Diagnostic Spirometry’ 2013
5. AGEM Respiratory Formulary COPD
6. Primary Care Respiratory Society UK (PCRS)
7. N&W Antimicrobial Guidance Feb 2019
Title | COPD Primary Care Guideline ALL Norfolk & Waveney CCGs
---|---
Description of policy | Guidelines for the diagnosis and management of COPD in primary care
Scope | To inform primary care healthcare professionals
Prepared by | Medicines Optimisation Team
Evidence base / Legislation | Level of Evidence:
A. based on national research-based evidence and is considered best evidence
B. mix of national and local consensus
C. based on local good practice and consensus in the absence of national research based information.
Dissemination | Is there any reason why any part of this document should not be available on the public web site? ☐ Yes / ☒ No
Approved by | NEL CSU Senior Prescribing Team v1.0 14.3.17.
Authorised by | Norfolk & Waveney Prescribing Reference Group v1.0 8.6.17 Norfolk & Waveney Rightcare Respiratory Group v2.0 26.2.18, Rightcare Respiratory Group V3.0 16.10.19
Review date and by whom | November 2021 Medicines Optimisation Team & Rightcare Respiratory Group
Date of issue | November 2019

### Version Control (To be completed by policy owner)

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<td>Amendments following Respiratory Group Meeting 8.3.17 &amp; Senior Prescribing Team 14.3.17. Colour formatting change. Page 1: Addition of data, GOLD definition, more detail for goals. Page 2: Asthma box red. GOLD link to A/B/C/D box. Ref to more info for spirometry. Page 3 – Changed title (deleted non-pharmacological). Amended TWO – to lifestyle advice and added wording from BLF related to diet and exercise plus link at the bottom. Amended THREE – deleted ref to MRC and highlighted symptomatic breathlessness and added link to breathe easy – left as general link to BLF to add postcode as local ones include, Kings Lynn, North Norfolk, Norwich and Thetford . Added extra box SIX for supportive care. Page 4- Evidence statement for LAMA/LABA amended. To add link to KM Bulletin on triple therapy step down when done. Page 6- extra section added for repeat exacerbations. New page 7 for rescue pack information and good housekeeping tips added</td>
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<td>Dose error identified and amended on pharmacological management front page- onbrez</td>
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<td>Further comments from GY&amp;W. Reliever information expanded to include example higher dose.</td>
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<td>1.22</td>
<td>14.2.18 Draft update</td>
<td>Prescribing &amp; Medicines Management Team (MC) &amp; Norfolk Rightcare Respiratory group</td>
<td>Page 5 &amp; page 8 further wording amendments suggested by DF.</td>
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<tr>
<td>1.23</td>
<td>22.2.18 Draft update</td>
<td>Prescribing &amp; Medicines Management Team (MC) &amp; Norfolk Rightcare Respiratory group</td>
<td>Norfok changed to Norfolk &amp; Waveney. NEL CSU logo replaced with AGEM – links updated</td>
<td></td>
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<tr>
<td>2.0</td>
<td>26.2.18 FINAL</td>
<td>Prescribing &amp; Medicines Management Team (MC) &amp; Norfolk Rightcare Respiratory group</td>
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<td>2.1</td>
<td>17.5.18 update</td>
<td>Prescribing &amp; Medicines Management Team (MC) &amp; Norfolk Rightcare Respiratory group</td>
<td>Main Ref. changed to GOLD 2019, NICE NG 115 &amp; PCRS</td>
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<tr>
<td>2.2</td>
<td>22.5.19 Draft update</td>
<td>Prescribing &amp; Medicines Management Team (MC) &amp; Norfolk Rightcare Respiratory group</td>
<td>Link to new Rescue Pack quick guideline added where relevant.</td>
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<td></td>
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<td></td>
<td>Diagnosis description changed to NICE NG 115. Ref. to GOLD ABCD removed from Diagnosis page.</td>
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<td>Pharmacological Algorithm changed from GOLD format to NICE NG 115 format with local adaption</td>
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<td>using PCRS ‘Keeping it simple approach’ and local specialist opinion. NICE Ref. to using SAMA as an option not included as per PCRS and local opinion.</td>
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<td></td>
<td></td>
<td>High blood eosinophil ref. clarified using GOLD 2019 value 0.3x10^6. Additional information added to</td>
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</tr>
</tbody>
</table>
algorithm to ensure adverse effects are taken into consideration & existing patients stable on LABA or LAMA are not changed to LABA/LAMA unnecessarily. Theophylline information removed as not standard primary care treatment. Inhaler table amended to only include formulary 1st line options and only LABA/ICS inhalers with moderate dose ICS. Mucolytic info simplified by removing drug details and moved to 1st page to leave 2nd page for inhaled therapy only. Managing exacerbations checked with NICE NG115 /CKS wording and amended

| 2.3 | 19.7.19 | draft | Waveney smoking cessation link added. To amend with BOC link for Pulmonary Rehab 1.8.19. Minor formatting changes. Clarified co-amoxiclav entry |
| 2.4 | 28.8.19 | draft | Post Rightcare Resp Meeting amendments- steroid dose as per NICE update July 19, clarification of post exacerbation pulmonary rehab wording. Pharmacological management pathway amendment in line with NICE July 19 update. Order of antibiotics changed in line with updated NICE/local antimicrobial prescribing guidance |
| 3.0 | 30.10.19 | Medicines Optimisation Team (MC) & Norfolk Rightcare Respiratory group | FINAL | Ratification at Rightcare Esp. meeting 16.10.19 with one further addition of criteria for referral to pulmonary rehab. |