Clinical Effectiveness Southwark

QUAY HEALTH SOLUTIONS

ihl improving health

NHS Southwark Clinical Commissioning Group

The Health Foundation

This guide was written in 2018 and is awaiting an update. Please use with discretion.

Chronic Obstructive Pulmonary Disease (COPD)

A guide for Southwark General Practice ©

Key Messages

1. Ensure COPD diagnosis is correct i.e. based on quality assured spirometry and $FEV_1/FVC < 0.7$ (post-bronchodilator)
2. Frequent Exacerbations: associated with more rapid disease progression and poor outcomes. Refer to COPD clinic if >2 exacerbations within 6 months
3. Pulmonary Rehabilitation: reduces exacerbations, admissions and mortality. Refer if MRC breathlessness scale ≥2, or post-exacerbation

Always work within your knowledge and competency

October 2018 (review October 2020, or earlier if indicated)

Why focus on COPD in Southwark?

Clinical Effectiveness Southwark

Under-diagnosed: 4500 people remain undiagnosed (prevalence = 1.4% vs. expected= 3.1%)[1]

Diagnostic difficulty: Not all patients diagnosed with COPD have had post-bronchodilator quality assured (QA) spirometry to confirm the diagnosis

Under-treated: The proportion of Southwark patients receiving value-based COPD care can be increased

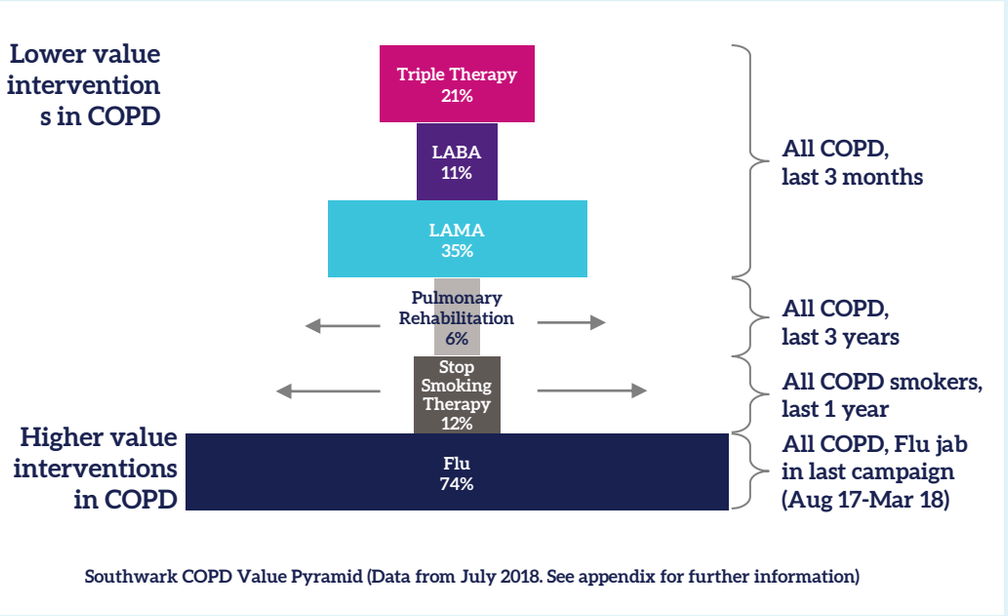
Risk: Important cause of respiratory death in Southwark. However, most COPD patients die from IHD because many are still tobacco dependent (36%* of COPD patients admitted to KCH/GSTT are current smokers)

*National COPD audit data 2017

The highest value interventions in COPD are:

- Immunisations (flu + pneumococcal)
- Stopping smoking (treat tobacco dependence)
- Pulmonary Rehabilitation (PR)

Southwark data (below) suggests we can improve further in these three areas:



Southwark COPD Value Pyramid (Data from July 2018. See appendix for further information)

COPD Diagnosis

COPD diagnosis[2] requires all three:

Symptoms

Aged >35 years with one or more of the following:

- Breathlessness, usually exertional and progressive
- Chronic cough +/- wheeze
- Regular sputum production
- Recurrent LRTIs/Frequent 'winter bronchitis'

+

Risk Factor

Primary risk-factor is Tobacco Smoke

Other risk factors: occupational exposure (dusts/fumes/chemicals), indoor + outdoor pollution, inhaled drugs, family history of alpha1-antitrypsin deficiency

+

QA Spirometry: FEV_1/FVC <0.7 (post-bronchodilator)

QA Spirometry is essential for the diagnosis of COPD*

Other recommended investigations[2]

- Oxygen saturation (SaO_2)
- BMI
- FBC to identify anaemia/polycythaemia
- CXR
- Consider BNP

Refer all patients to Community Lung Function Service (CLFS) (via eRS) for diagnostic QA spirometry

*Consider alternative diagnosis if: (a) older person without typical COPD symptoms where FEV_1/FVC <0.7, or (b) younger person with symptoms of COPD and FEV_1/FVC >0.7

COPD: When to refer patients early?

Asthma-COPD Overlap (ACO)[3]

What is ACO?
Airflow limitation with features of both Asthma and COPD. ACO prevalence in COPD population is approximately 20%[4]

Why is ACO important?
ACO patients have worse outcomes compared to those with just Asthma or COPD. ACO is associated with:

- Worse QOL with more frequent exacerbations
- More rapid decline in lung function and higher mortality

ACO needs different treatment to COPD (i.e. ICS+LABA, rather than LAMA+LABA)

Suspect if: age >40 years + persistent airflow obstruction + smoking history + history of asthma or bronchodilator reversibility + eosinophilia >0.4 x10^9/L

Refer suspected ACO to Community Lung Function Service, then discuss in Virtual Respiratory Clinic

Airflow obstruction (% of predicted FEV_1)

- Spirometry is essential for diagnosis of COPD, but less important to determine treatment
- FEV_1 remains a requirement of QOF
- Where marked discordance between FEV_1 and symptoms, review and consider referral on case-by-case basis

Disease severity	Percentage of predicted FEV_1 (post-bronchodilator)[2]
Mild*	>80%
Moderate	50-79%
Severe	30-49%
Very severe	**<30%**

Refer very severe airflow obstruction early to COPD clinic (via eRS)

Other indications for early referral[5]

- **Weight loss & fatigue –** both are common in severe COPD, but can indicate other disease. Refer to **COPD clinic** early if low BMI + COPD, as these patients have poor outcomes
- **Waking at night or ankle swelling –** consider heart failure (left, or right – cor pulmonale). Refer to **COPD clinic** if cor pulmonale, or if left heart failure is suspected, see **CES heart failure guide**
- **Chest pain –** IHD. Refer to **rapid access chest pain clinic**
- **Haemoptysis/sudden weight loss –** consider **2ww Lung referral**

Refer early, to relevant clinic, as indicated above

LAMA long-acting muscarinic antagonist
LABA long-acting beta agonist
ICS inhaled corticosteroid

* Symptoms should be present to diagnose COPD in people with mild airflow obstruction

Principles of COPD Management

Reduce risk of exacerbation/delays disease progression

1

Treat tobacco dependency (TD) + offer healthy living advice

- Stopping smoking improves symptoms, reduces exacerbations and delays disease progression

2

Immunisations

- Annual Flu and one-off Pneumococcal - reduces number and severity of acute infective exacerbations (due to LRTI), and admissions

3

Pulmonary Rehabilitation

- Improves health-related QOL, anxiety/depression + exercise capacity
- Reduces exacerbations, admissions and mortality

Improving quality of life

4

Optimise medical management

- Evidence-based inhalers (also reduce hospitalisations)
- Optimisation of inhaler technique
- ICS stepdown (where appropriate)
- Consider and treat other co-morbidities

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Exacerbations and Self-management

- Exacerbation management and rescue packs
- Education and self-management plans
- Other patient support: 'Breath of Life' group in Southwark

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Worsening COPD

- When to refer to COPD clinic
- Advance care planning and Palliative Care (and add to palliative care register)

Holistic, person-centred, pro-active care. Review post-exacerbation + annually

Principles of COPD Management

1 Treat tobacco dependency (TD)[2] + offer healthy living advice[5]

Treating TD: Discuss at every contact for patients that smoke

- Ensure you are trained to deliver Very Brief Advice (VBA)
  ASK ADVISE ACT
  http://www.ncsct.co.uk/publication_very-brief-advice.php
- Measure exhaled carbon monoxide (CO)
- If ready to quit, **refer, as 'support + pharmacotherapy' is more successful vs 'only VBA'**

Shisha contains tobacco. 1 hour shisha session > 100 cigarettes[6]

Self-refer/Refer to local Stop Smoking Service

Inhaled illicit drugs and alcohol

Inhaled illicit drugs

- Inhaled cannabis, cocaine or heroin damage lung parenchyma
- 1 cannabis joint = 3-5 cigarettes[5]

Alcohol intake

- If more than recommended (14units/week on a regular basis) and/or problematic, consider referral to CGL

Self-refer to CGL (Southwark Drug and Alcohol service)

Exercise: Encourage in all including severe COPD

- In general, advice is 'get yourself breathless 2-3 times a day'
- PR physiotherapists can personalise exercise plans
- Consider linking in with local singing group: **Breath of Life**
  www.timeandtalents.org.uk/event/breath-of-life/all

Refer to Pulmonary Rehabilitation

Weight: Aim for BMI of 20-25

- **Obesity:** Weight loss helps COPD symptoms when BMI>25 – **refer for weight management**
- **Low BMI (<18) +COPD =** *poor* muscle reserve + worse outcomes - **refer to COPD clinic early and refer also to dietician**

Caution: Sudden weight loss in COPD is a red flag for cancer

Refer as detailed above

2 Immunisations[2]

Encourage all patients to have:

- Annual Influenza vaccine
- Once-only pneumococcal vaccine

3 Pulmonary Rehabilitation (PR)[2] 'Breathing better for life classes'

Offer to all eligible COPD patients:

- **MRC ≥ 2**
- **Recent COPD exacerbation** (especially if admitted to hospital or @home team)
- See page 18 for referral criteria and medical exclusions

Refer to Pulmonary Rehabilitation

Principles of COPD Management

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Optimise medical management: Evidence-based treatment

Stratify* COPD patients to help determine management

IMPORTANT NOTE:
We expect the guidance on this page to be updated within 12 months.

Exacerbations per year	+	MRC scale	=	COPD patient category	Suggested initial management	
'Non-exacerbators' 0-1, no hospitalisations		1-2		A	Dual Bronchodilation (LAMA+LABA)	Manage in Primary Care
		≥3		B		
'Exacerbators' ≥2, or ≥ 1 hospitalisation		1-2		C	Dual Bronchodilation (if no features of asthma**)	Refer to Virtual Respiratory Clinic: likely questionable diagnosis/ACO/LVF
		≥3		D		Refer to COPD Clinic for Triple Therapy

Grade	MRC breathlessness scale (MRC)
1	Breathless only with strenuous exercise
2	Breathless when hurrying on a level or walking up a slight hill
3	Walks slower than contemporaries on the level because of breathlessness, or has to stop when walking at own pace on the level
4	Stops for breath after walking 100m, or after a few minutes on level ground
5	Too breathless to leave home, or breathless when dressing/undressing

	Pre-referral checklist[5]
1	Review of spirometry: Was it QA? Indicative of COPD?
2	Management appropriate to COPD patient category?
3	Adherence and inhaler technique
4	Still smoking? Refer to Stop Smoking Service
5	Appropriate immunisations received?
6	Appropriate for pulmonary rehabilitation?

*Local respiratory specialist team guided modifications[5] applied to modified GOLD ABCD assessment tool rom GOLD 2017 guidance[3]. MRC rather than nMRC was felt to be more appropriate for this guide.

** If features of asthma, discuss with COPD consultant prior to commencing an ICS

Principles of COPD Management

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Optimise medical management: Evidence-based inhaler therapy*

IMPORTANT NOTE:
We expect the guidance on this page to be updated within 12 months.

- **Inhaled drugs in COPD: PRN SABA for all COPD patients, and then treat according to COPD patient category i.e. COPD 'A/B' or 'C/D' (page 8)**
- **If previously diagnosed COPD, on regular LAMA only and symptoms are stable** - patients can remain on this. However, step up treatment if increasing breathlessness or exacerbations, as indicated below
- **No COPD patients should be on monotherapy with ICS**

All COPD patients

Any PRN SABA

SABA use:
SABAs help symptoms and should be prescribed according to patient need

However, if needing **SABA ≥QDS, review patient** e.g. Should they be on dual bronchodilation?

Excess SABA use causes side-effects e.g. tachycardias, and can be problematic as high incidence of IHD in COPD patients

Salbutamol MDI
100mcg 1-2 puffs PRN +/- Aerochamber plus®

Salbutamol Easyhaler®
100mcg 1-2 puffs PRN

Salbutamol breath actuated device
100mcg 1-2 puffs PRN

Prescribe by drug

+

COPD patient category determined treatment

Previously diagnosed COPD, on regular LAMA – if stable, remain on LAMA only, if breathless, or exacerbates, step up	COPD 'A/B' ('non-exacerbators')	COPD 'C/D' ('exacerbators')
	Dual bronchodilation (LAMA+LABA)	Dual bronchodilation if no features of asthma
Incruse Ellipta® OD umeclidimium →	**Anoro Ellipta® OD** umeclidimium/vilanterol	**COPD 'C'** Refer to Virtual Respiratory Clinic
Eklira Genuair® BD aclidinium →	**Duaklir Genuair® BD** aclidinium/formoterol	**COPD 'D'** Refer to COPD clinic for Triple Therapy
Seebri Breezhaler® OD glycopyrronium →	**Ultibro Breezhaler® OD** glycopyrronium/ indacaterol	**Triple therapy inhalers (ICS+LABA+LAMA) e.g. Trimbow®, Trelegy®** should only be initiated upon recommendation of a COPD specialist
Spiriva Respimat® OD triotropium →	**Spiolto Respimat® OD** tiotropium/olodaterol	

Prescribe by brand

*Local respiratory specialist team modifications[5] applied to GOLD 2017 guidance[3] and SELAPC COPD 2016[7]
SABA: Short-acting beta agonist

Principles of COPD Management

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Optimise medical management: Inhaler choice and technique

Inhaler Choice[5]

Aerosol device (slow + steady inspiration) vs dry powder (quick + deep inspiration). Consider:

- Patient's ability to use
- Concerns about inspiratory effort needing instant feedback
- OD vs BD dosing

Inspiratory effort required by patient when using inhaler device

Low → High

Breezhaler® (DPI)
- Quick + Deep
- 'Feedback rattle' and empty capsule post inhalation

Respimat® (Aerosol)
- Slow + Steady
- Aerosol inhaler, hence mist delivery (=visual feedback)
- Minimal inspiratory effort required

Ellipta® (DPI)
- Quick + Deep
- No feedback

Genuair® (DPI)
- Quick + Deep
- Visual feedback

- **Changing inhaler devices:** only change after discussion and agreement with patients
- **Placebo devices**: can be ordered for your practice (see page 15)

Optimising inhaler technique

Steps common to all devices[8]

1. Prepare inhaler device e.g. Remove cap and prime
2. Load dose e.g. shake inhaler, insert and pierce capsule, click the lever
3. Breathe out as far as is comfortable
4. Put lips around mouthpiece to form a tight seal
5. Breathe correctly for the device type (see left)
6. Remove inhaler from mouth and hold breath for 5-10 seconds
7. Repeat as directed and close/replace cap

For videos on inhaler technique for each type of inhaler, see www.rightbreathe.com

Looking after inhalers[5]

Follow instructions in the box of inhaler

- **MDI (Aerosol) -** Wipe mouthpiece weekly with dry cloth
- **DPI -** Wipe mouthpiece weekly with dry cloth. Never use water on a DPI
- Keep cap on when not using/storing

Looking after spacers[5]

- Soak in warm water for 15 minutes and gently clean using a detergent (e.g. washing up liquid)
- Usually not dishwasher safe
- Don't scrub the inside, but you can scrub the outside of the spacer and the mouth piece
- Air dry and store in a safe place
- Replace at least annually if used daily, or when opaque

Principles of COPD Management

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Optimise medical management: ICS step-down and managing other co-morbidities

Inhaled Corticosteroids (ICS)

- **ICS beneficial in moderate-very severe COPD (and asthma/ACO):** increases time to next exacerbation and slows decline in QOL
- **ICS in mild-moderate COPD (i.e. COPD patient categories 'A/B'):** risks may outweigh benefits[9]

Risks of ICS[3,6]

Pneumonia (especially in COPD 'A/B'), oral candidiasis, hoarse voice, skin bruising bone density reduction, cataracts, diabetes, adrenal suppression[6]

Who to step down?*

COPD 'A/B' + on an ICS BUT eosinophils <0.4 x10^9/L (i.e. no markers of ACO)
(The subgroup of COPD 'A/B' + on an ICS with markers of ACO i.e. eosinophilia >0.4 x10^9/L, benefit from an ICS (GSTT/KCH practice) and should not be stepped-down)

Arrange Virtual Respiratory Clinic to discuss candidates for ICS step-down

Once stepped down, review in 3 months and ensure FEV_1 has not dropped (COPD clinic can offer A+G if needed)

ICS cards

Indicated for patients that remain on: ≥ 1000mcg beclometasone or equivalent

Very few COPD patients should be on these doses of ICS. Those that are, should be under the care of a COPD specialist. Cards available from souccg.medicines-optimization@nhs.net

Consider and optimise treatment of co-morbidities in COPD[5,10]

Anxiety/Depression are common in patients with COPD, especially those with severe symptoms . **Consider screening (PHQ9 or GAD7)**

Cardiovascular Disease
- Heart failure (HF)– left (see CES HF guide) or right (refer to COPD clinic)
- At risk of IHD - consider primary prevention, do a **QRISK2**, minimise risk factors accordingly

Lung Cancer
- Risk of Lung cancer in COPD x 5, compared with smoking and no COPD
- Think 'Could it be Cancer?' 10% of people with lung cancer have normal CXRs

Other co-morbidities
- **Osteoporosis:** COPD and current/frequent oral steroids are independent risk factors for Osteoporosis - consider QFracture© score +/- DEXA/bone protection.[11] If on long term high-dose ICS, or ≥ 3 courses of prednisolone in 1 year, should be on bone protection – e.g. adcal, and do a DEXA scan (GSTT/KCH practice)
- **Metabolic syndrome and Diabetes** (refer to CES Diabetes guide)
- **Anaemia –** investigate. If also frail, refer to COPD clinic
- **Polycythaemia** – usually secondary to smoking, but if SaO_2 <94%, refer to COPD clinic
- **Obesity and malnutrition –** refer to weight management/dietician
- **Frailty** (**eFI** on EMIS)
- **Sleep disturbance – OSA** – common in COPD, consider **Epworth sleepiness scale**** and referral to sleep clinic. **Ventilatory failure**, if severe COPD and drowsiness/confusion/morning headaches **– discuss urgently with Integrated Respiratory Team via 7 day phone service** (see page 18)
- **Other causes of breathlessness** - see CES breathlessness guide

*i.e. patients who do not have confirmed ACO (or markers of ACO) and who are not exacerbators (not COPD 'C/D')

**Epworth Sleepiness Scale https://www.blf.org.uk/support-for-you/obstructive-sleep-apnoea-osa/diagnosis/epworth-sleepiness-scale

Principles of COPD Management

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Exacerbations and Self-management

Exacerbation of COPD

Exacerbation: Sustained worsening of symptoms from usual stable state, which is beyond normal day-to-day variation, and is acute in onset[2]

- Symptoms: increased breathlessness/sputum purulence and or volume/increased cough/wheeze
- Code as 'Exacerbation of Chronic obstructive pulmonary disease'

Caution: in COPD and new acute breathlessness, other diagnoses, in addition to exacerbation of COPD, should also be considered

Exacerbation of COPD: treatment

Bronchodilator	Increase PRN bronchodilator (+ spacer if MDI)
Steroids	If breathlessness interfering with ADLs: start prednisolone 30mg OD for 7 days (unless advised a different dosing schedule by specialist)
Antibiotics	• If sputum purulent/increased volume, start doxycycline 200mg OD[12] for 7 days • For alternative antibiotics, see Southwark & Lambeth Antimicrobial Guideline for Primary Care 2018[12]
Safety-net	• Contact GP surgery if no improvement within 24 hrs • Escalation options: @home service or hospital
Follow-up	• Within 72 hours to review and issue next rescue pack (should not be on repeat prescribing) • Consider PR referral + update self-management plan. If >2 exacerbations in 6 months, refer.

Multiple exacerbations and Bronchiectasis[5]

If 'multiple exacerbations'/not better after rescue treatment, consider other causes:

- Lung cancer - If no CXR within last 6 months, repeat
- Bronchiectasis - Send sputum for MC+S, if pseudomonas, bronchiectasis more likely

COPD + diagnosed Bronchiectasis: treat exacerbations with 14 days of doxycycline 200mg OD or co-amoxiclav 625mg TDS, or treatment according to allergy status, sensitivities from sputum MC+S. If further advice needed, discuss with microbiology

Self-management, education and other support

Self-management plans: Provide a written plan (see DXS: 'COPD 3 page self-management action plan') covering

- How to know when COPD is getting worse
- When to increase use of SABA
- When to take rescue pack medication
- When and who to contact if no response

COPD helpline (available to patients known to COPD clinics, or advice for GPs) available 7 days/week 9am-445pm (provided by the Integrated Respiratory Team, IRT): GSTT 07796 178 719, KCH 0203 299 6531

Better breathing for life classes (i.e. Pulmonary Rehabilitation referral)

- To improve pacing of breathing, positions of ease
- Improve mucus clearance

British Lung Foundation Support: Patient resources online
https://www.blf.org.uk/support-for-you/copd

Local Southwark Singing Group: Breath of Life

Principles of COPD Management

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Worsening COPD

Worsening COPD symptoms?

- Check inhaler technique/compliance, smoking status, suitability for PR, co-morbidities and consider other causes of breathlessness (see CES breathlessness guide), but especially in COPD:
  - **Lung cancer** (refer on 2ww)
  - **Cor pulmonale** (refer to COPD clinic)
  - **Heart Failure** (see CES Heart Failure guide)
- Consider disease progression despite being on optimal therapy and not smoking (refer to COPD clinic)
- Consider increasing social care package

Refer to appropriate specialist/service

Oral Mucolytic Therapy	**If ++ sputum production, send sputum for MC+S**
	• **Bronchiectasis in COPD[5]:** prevalence 20% and requires different management
	• **Carbocisteine trial[2,5]:** 1 month for COPD with chronic productive cough with sputum
	  • Continue only if symptomatic improvement
	  • Not recommended for routine use to prevent COPD exacerbations

Nebulisers	**Should only be started by a Respiratory Specialist[5]** (Note: Equivalent bronchodilation can be provided by an MDI and a spacer with 10 puffs)
Long term oxygen therapy (LTOT)	**If SaO_2 ≤92% during clinical stability, refer[5]** **Refer to Home O_2 Service Assessment and Review (HOSAR)**

Referral to Respiratory Clinic: Other indications[2]

- Diagnostic uncertainty
- Suspected severe COPD (FEV_1 <30%) (refer early)
- A rapid decline in FEV_1
- Significant symptomatic breathlessness
- More than 2 exacerbations in 6 months[5]
- Onset of symptoms under 40 years or a family history of alpha-1 antitrypsin deficiency

Other co-morbidities

- Confirm onset of cor pulmonale
- Frequent infections despite being on therapy (?Bronchiectasis)
- Haemoptysis (Refer on urgent 2ww Lung pathway for ?Lung Cancer)
- Bullous lung disease

Additional therapies/interventions

- Assessment for long-term nebuliser therapy
- Assessment for lung volume reduction surgery

Principles of COPD Management

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Worsening COPD – ACP and Palliative Care

Advance Care Planning (ACP)

ACP involves early patient–clinician communication about prognosis and future, including end-of-life care.

Consider discussing ACP in patients with[13]:

- FEV_1 less than 30% predicted
- Oxygen dependence
- One or more hospital admissions in prior year for COPD exacerbation
- Weight loss or cachexia
- Right-heart failure (cor pulmonale)
- Episode of acute type 2 respiratory failure with non-invasive ventilation in hospital
- Increasing dependence on others

ACP Tools[5]

- The **SPICT™ tool** helps identify people with general indicators of poor or deteriorating health, and clinical signs of life-limiting conditions for assessment and care planning: www.spict.org.uk/using-spict/
- **Gold Standards Framework ACP discussion support:** www.goldstandardsframework.org.uk/cd-content/uploads/files/ACP/Thinking%20Ahead%20(3).pdf
- **Coordinate My Care (CMC):** An NHS clinical service sharing information between healthcare providers, coordinating care, and recording wishes of how patients would like to be cared for http://coordinatemycare.co.uk/

Involve IRT by referring to COPD clinic (via eRS), or if housebound, request a home visit by emailing IRT

Palliative Care

Palliative care is an approach that is useful for patients:

- With progressive or uncontrolled symptoms despite optimal disease-modifying therapy
- Who are deteriorating due to progressive respiratory failure
- Any patients who might be anticipated to be entering the last year of life

- **Add to practice palliative care register**
- **Refer to community palliative care team as needed for specialist advice and support**

Advanced symptomatic COPD[5]
Hand-held fans: A cool draft of air from a handheld fan has been found to be very helpful in reducing the feeling of breathlessness

Drugs: The palliative care team can advise on medications

- Low dose oral opioids can be effective for the symptomatic management of breathlessness in COPD – please seek advice from the community palliative care team as required
- Low dose lorazepam may be useful in the management of associated anxiety and/or distress, but is not indicated for the management of breathlessness itself

Oxygen in advanced symptomatic COPD

- Oxygen can be considered for management of hypoxia in patients with COPD, with careful monitoring for the associated risks of over-treatment
- Oxygen is not indicated for the treatment of breathlessness in the absence of documented hypoxia, and can cause harm in this situation. Seek advice from the IRT and palliative care team as required

Refer to Community Palliative Care Team (as needed)
Consider using 'Coordinate My Care'

COPD reviews and patient resources

COPD reviews[2,5]

When seeing patients for other presenting complaints, consider

- If smoking, quantify + CO check + VBA +/- Stop Smoking Service referral
- Inhaler technique
- Oxygen saturation

Annual COPD Review or Post-Exacerbation Review

• Symptoms	Breathlessness (including MRC scale), exercise tolerance, other common co-morbidities e.g. anxiety, depression, IHD, HF, worsening COPD? Coping at home?
• Exacerbations	If >2 in last 6 months refer to COPD clinic At annual review, code 'number of exacerbations in last year'
• COPD patient category	Review and manage accordingly
• Examination	Oxygen saturation, BMI
• Spirometry	Annual FEV_1 % of predicted (also ensure previous spirometry was QA + indicative of COPD, if not refer to CLFS)
• Risk reduction	Immunisations, Smoking history (pack years), if smoking offer VBA +/- CO check +/- Stop Smoking Service referral, Pulmonary rehabilitation
• Medication Review	Appropriate therapy/inhaler technique/adherence/ concerns with treatment/rescue pack prescription
• Self-Management	Written plan (see DXS) + rescue pack script (+/- BLF COPD passport), local support groups

Patient Resources

Stop Smoking Service:: https://www.southwark.gov.uk/health-and-wellbeing/public-health/for-the-public/smoking

Southwark free gym and swim: https://www.southwark.gov.uk/leisure-and-sport/free-swim-and-gym

Southwark 'Exercise on Referral' Scheme: https://www.southwark.gov.uk/health-and-wellbeing/public-health/for-the-public/being-active?chapter=3

Southwark weight management programme: https://www.guysandstthomas.nhs.uk/our-services/weight-management/patients.aspx#na

British Lung Foundation (BLF) site (Patient leaflets and Support): https://www.blf.org.uk/support-for-you/copd/treatment/managing-my-copd

BLF COPD passport: https://passport.blf.org.uk/

Nutrition advice for patients and carers: https://www.malnutritionpathway.co.uk/copd

Singing group: Breath of Life www.timeandtalents.org.uk/event/breath-of-life/all

RightBreathe: www.rightbreathe.com information on inhalers and videos on inhaler technique

Practice Resources: Placebo Inhalers[5]

Placebo inhalers can be ordered for your practice from individual pharmaceutical manufacturers. Information on Southwark CCG member's zone >medicines optimisation>prescribing guidance>respiratory>availability of placebo inhalers

www.southwarkccg.nhs.uk/members-zone/Commissioning/medicines-management/prescription-guidance/Respiratory/Forms/AllItems.aspx

Inhaler therapy in COPD

Drug Class	Inhalers	Dose and Drug	Dosing frequency	Inhaler type	Feed-back?	Dose Counter?	Notes
Inhalers initiated in Primary Care[7,14]							
Dual Bronchodilation (LAMA+LABA)	**Anoro Ellipta®**	vilanterol/umeclidimium 22/55 mcg	1 puff OD	DPI	No	Yes	
	Duaklir Genuair®	aclidinium/formoterol 340/12 mcg	1 puff BD	DPI	Yes	Yes	
	Ultibro Breezhaler®	glycopyrronium/ Indacaterol 85/43 mcg (capsule)	1 puff OD	DPI	Yes	No	Caution if eGFR <30ml/min
	Spiolto Respimat®	tiotropium/olodaterol 2.5/2.5 mcg	2 puffs OD	Aerosol		Yes	Caution if eGFR <30ml/min
LAMA	**Incruse Ellipta®**	umeclidinium 55 mcg	1 puff OD	DPI	No	Yes	
	Eklira Genulair®	aclidinium 322 mcg	1 puff BD	DPI	Yes	Yes	
	Seebri Breezhaler®	glycopyrronium 44 mcg (capsule)	1 puff OD	DPI	Yes	No	Caution if eGFR <30ml/min
	Spiriva Respimat®	tiotropium 2.5 mcg	2 puffs OD	Aerosol		Yes	Caution if eGFR <30ml/min
SABA	Salbutamol MDI	salbutamol 100 mcg	1-2 puffs PRN	Aerosol		No	+/- aerochamber plus®
	Salbutamol breath-actuated device						
	Salbutamol Easyhaler®			DPI		Yes	
Inhalers requiring Respiratory Specialist input[5,15]							
Triple Therapy (ICS + LAMA + LABA)	**Trimbow®**	beclomethasone/ formoterol/ glycopyrronium 87/5/9 mcg	2 puffs BD	Aerosol		Yes	Initiated by Respiratory Specialist for COPD 'C/D'
	Trelegy Ellipta®	fluticasone furoate/umeclidinium/ vilanterol 99/55/22 mcg	1 puff OD	DPI		Yes	
Other inhalers	**Seretide** and **Symbicort**	No longer recommended for treatment in **COPD** – seek advice via Advice + Guidance, or discuss in Virtual Respiratory Clinic					

Note:
The information contained within the therapy section is not comprehensive and the prescriber should consult the BNF for further information, when making prescribing decisions.

Key:
Aerosol i.e. MDI – Metered-dose inhaler = 'slow and steady' inspiration
DPI – Dry-powder inhaler = 'quick and deep' inspiration
Capsule – contents of a capsule are inhaled
OD – once daily
BD – twice daily
PRN – as needed

Other therapy/medication in COPD

Drug	Dose	Duration	Indication	Notes
Managing Exacerbations in Primary Care[12]				
Doxycycline	200mg PO OD	7 days (14 days if bronchiectasis)	Rescue medication for COPD exacerbation	• See Southwark & Lambeth Antimicrobial Guideline for Primary Care 2018[9] for alternative antibiotics • Review patients post-exacerbation • Rescue medication should never be prescribed as a repeat medication • If >2 exacerbations within 6 months, refer to COPD clinic, as regular oral steroids increase mortality in COPD
Prednisolone	30mg PO OD (unless specified otherwise by clinic)	7 days		
Co-amoxiclav	625mg PO TDS	7 days (14 days if bronchiectasis)	Exacerbation if **risk-factors** present, or if known **bronchiectasis**	• Ensure NOT penicillin allergic. Risk factors for antibiotic resistant organisms: co-morbid disease, severe COPD, frequent exacerbations, antibiotics in last 3 months. Previous microbiology should be reviewed if at risk of resistance
Tobacco Dependency Treatment (Primary care may be asked to prescribe)[5, 15]				
Varenicline (Champix®)	Days 1-3 0.5mg OD, Days 4-7 0.5mg BD, Days 8 onwards 1mg BD (Patients encouraged to quit during days 8-14)	Standard course 12 weeks, licensed for up to 24 weeks	Tobacco Dependency	• Initiated by Stop Smoking Service, who continue to monitor patients. They request that GPs provide Varenicline prescriptions and state the dose/duration required • Most effective quit smoking therapy available and it can be prescribed with NRT • Eagles Study[16]: safe and effective in serious mental illness (SMI), although MRHA[12] advise caution. Can be used in SMI[5], but close monitoring advised, and discontinue treatment if patients develop agitation, depressed thoughts, suicidal ideation • Contraindications: End-stage renal failure, pregnancy, under 18 years, allergy. Cautions: breast feeding, SMI. Side-effect: Nausea (usually settles), taste disturbance, dry mouth, drowsiness
Nicotine Replacement Therapy (NRT)	See notes			• Stop Smoking Service provides NRT vouchers to patients, which are exchanged at local pharmacies for nicotine replacement therapy. This can be co-prescribed with varenicline
Immunisations[2]				
Flu	Annual		All COPD patients (regardless of age)	See https://cks.nice.org.uk/immunizations-seasonal-influenza#!scenario for latest flu immunisation related guidance, including egg allergy advice
Pneumococcal	One-Off			
Mucolytics (Primary Care initiated)[2,15]				
Carbocisteine	2.25g daily in divided doses	Long term	Sputum clearance	Trial of 1 month in primary care (see page 13 and send sputum first), continue only if beneficial. Dose can be reduced to 1.5g daily in divided doses as condition improves
Therapies initiated by Specialists (Primary care may be asked to prescribe)[5]				
Azithromycin	250-500mg PO OD	Mon/Wed/Fri for at least 6 months	Specialist initiated, to prevent exacerbations	Can prolong QTc interval, we might be asked to refer for an ECG and check for other co-prescribed drugs that prolong QTc
Nebulisers				Should never be initiated in primary care, refer to COPD clinic for assessment. Types: saline, salbutamol, ipratropium bromide
Oxygen Therapy – Initiated and prescribed by specialist service[2,5]				
Oxygen			Oxygen saturation <92%	Should never be initiated in primary care, refer to HOSAR. Types: ambulatory or LTOT (>15 hours/day)

COPD: Need more help?

Urgent telephone advice
- COPD clinical advice lines: GSTT call 07796 178719, KCH 0203 299 6531 (7 days/week 9am-445pm)
- Respiratory registrar on-call (GSTT/KCH)

Urgent referrals
- **@Home team:** 8am -11pm call 0203 049 5751, email medical summary thereafter to gst-tr.gsttathome@nhs.net , for further information, see https://www.guysandstthomas.nhs.uk/our-services/community-at-home-service/patients.aspx
- **2 week-wait suspected lung cancer pathway:** form on DXS

Stop Smoking Service
- For further details see: https://www.guysandstthomas.nhs.uk/our-services/stop-smoking-service/overview.aspx, patients can self-refer, or you can email gst-tr.stopsmokingsouthwark.nhs.net with the patient's details
- 12 week treatment programme including medication and behavioural support therapy offered to priority groups (pregnancy, living with a child, LTC (including mental health), highly dependant). Those outside of these groups are signposted to one of 20 pharmacies in Southwark that offer stop smoking support (Patient Stop Smoking leaflet on DXS)

Community Services
Use integrated respiratory service **(IRS) referral form (on DXS)** and refer via eRS - means of finding on eRS is explained within the referral form. Valid for referrals to:
- **Community Lung Function Service** (on eRS >Diagnostic Physiological Measurement > "Full Lung Function" > "Community Lung Function Service")
- **Pulmonary Rehabilitation**
- **Home Oxygen Service Assessment and Review (HOSAR)**
- **Integrated Respiratory Team (IRT)** (see routine referrals)

Other community services
- **CGL Southwark: Drug and Alcohol support service:** Patients can self-refer, details at https://www.changegrowlive.org/content/cgl-southwark
- **Dietician – refer via eRS** (form on DXS) to hospital or community clinics, home visits for housebound patients
- **Southwark Weight Management**: https://www.guysandstthomas.nhs.uk/our-services/weight-management/patients.aspx
- **Palliative Care:** via your practice-allocated named community palliative care nurse. GSTT Palliative Care Team 0207 188 4754, or email gst-tr.gstt-palliativecare@nhs.net, referral form at https://www.guysandstthomas.nhs.uk/our-services/palliative-care/referrals.aspx#na

Non-urgent advice
- **'Advice & Guidance'-** COPD clinic GSTT, or Respiratory clinic at KCH
- **Virtual Respiratory Clinic** (cover both Asthma and COPD)– run by Dr Irem Patel Respiratory Consultant, KCH and Dr Amy Dewar Respiratory Consultant, GSTT. To organise, contact 0203 299 3103 or email Stu: s.lindsey@nhs.net . Clinics are available Mondays, Tuesdays, Thursdays and Fridays between 2pm and 4pm. One/practice/year. You will be emailed instructions about how to book slots/how many patients etc

Routine Referrals
- **Integrated Respiratory Team (IRT): COPD patients with complexity.** The IRT can provide a holistic review and home visit if needed. Referral - GSTT: gst-tr.integratedrespiratoryteamgstt@nhs.net, or call 07796 178719, KCH kch-tr.IntegratedRespiratoryTeam@nhs.net, or call 0203 299 6531 (7 days/week 9am-445pm)
- **COPD Clinics:** Via eRS COPD Clinic at GSTT, or Respiratory Clinic at KCH

Other Useful Resources
- **RightBreathe Website**: www.rightbreathe.com to help inform the selection, prescribing, and on-going use of inhalers
- **Coordinate My Care:** http://coordinatemycare.co.uk/
- **Nutrition in COPD:** https://www.malnutritionpathway.co.uk/copd

Pulmonary Rehabilitation (PR)
(Breathe better life classes)

Referral criteria:
1. Must be able to walk at least 10 metres without stopping (can include a walking aid if required)
2. MRC 2 or above
3. More functionally limited by the breathlessness than by other conditions including back pain
4. Must be willing to take part in an exercise programme

Patients can be referred back again to PR, if last course was more than 1 year ago

They should NOT be referred if:
- CVS unstable (e.g. severe uncontrolled hypertension, AAA > 5.5 cm or unstable angina)
- High risk of falls (≥3 in last 6 months without having a comprehensive falls assessment and treatment)
- They have a mental health diagnosis which prevents them from engaging safely in a group exercise session

Other useful information
Current PR sites – Southwark: Dulwich Leisure Centre, KCH, St Thomas (Lambeth: Streatham Leisure Centre, Brixton Leisure Centre)

- **PR team can visit practices** to run information with patients, to encourage them to attend PR (email KCH kch-tr.PulmonaryRehab1@nhs.net or GSTT gst-tr.GSTTPULMONARYREHABPHYSIO@nhs.net)

- **Video to inform patients about PR:** www.whittington.nhs.uk/default.asp?c=10911

- **British Lung Foundation PR leaflet** - https://www.blf.org.uk/support-for-you/keep-active/pulmonary-rehabilitation

Appendix

The COPD Value Pyramid

This is a model that is designed to aid clinicians, system commissioners and providers to make value-based decisions for people and populations with COPD. In expressing the comparative value of various interventions in terms of cost per individual per quality-adjusted life year (QALY), it provides a guide for how value for patients and for the healthcare system can be optimised.

It was developed by the NHS England London Respiratory Network and the data represented is for Southwark (extracted in July 2018).

(http://www.respiratoryacademy.co.uk/resources/copd-value-pyramid/)

Differentiating between COPD and Asthma[2]	COPD	Asthma
Smoker/ex-smoker	Nearly all	Possibly
Symptoms < age 35	Rare	Often
Chronic productive cough	Common	Uncommon
Breathlessness	Persistent + progressive	Variable
Night time waking with breathlessness and/ or wheeze	Uncommon	Common
Significant diurnal, or day-to-day variability of symptoms	Uncommon	Common

Spirometry should only be performed by those on National Register of Certified Professionals and Operators.

As part of a phased introductory process starting in April 2017 all healthcare practitioners in England will be required to demonstrate that they are competent to perform and/or interpret spirometry and join a register of certified practitioners.[17]

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Acknowledgements

CES would like to thank all of our colleagues who participated and fed-back during the consultation process, and in particular Southwark CCG's Medicine's Optimisation Team, Colleagues from GSTT and KCH, and the Health Innovation Network.

Approval: CES Programme Board, October 2018

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Abbreviations

2ww: 2 week wait
AAA: Abdominal aortic aneurysm
A&G: Advice & Guidance
ACO: Asthma-COPD overlap
ACP: Advance care planning
ADL: Activities of daily living
BD: Twice daily [dosing]
BLF: British Lung Foundation
BMI: Body mass index
BNF: British National Formulary
BNP: N-terminal proB-type natriuretic peptide
CES: Clinical Effectiveness Southwark
CGL: Care Grow Live (Southwark Drug and Alcohol service)
CLFS: Community lung function service
CMC: Coordinate My Care
CO: Carbon monoxide
CVS: Cardiovascular system
CXR: Chest x-ray
DEXA: Dual-energy X-ray absorptiometry
DPI: Dry-powder inhaler
DXS: Point-of-care tool for EMIS Web
ECG: Electrocardiogram
eFI: e-Frailty score
eGFR: Estimated Glomerular Filtration Rate
EMIS: Healthcare software
eRS: Electronic referral system
FBC: Full blood count
FEV_1: Forced expiratory volume in 1 second
FVC: Forced vital capacity
GAD7: Generalised Anxiety Disorder 7 (anxiety screening questionnaire)
GSTT: Guy's & St Thomas' NHS Trust
GOLD – Global Initiative for Chronic Obstructive Lung Disease
HF: Heart failure
HOSAR: Home oxygen service assessment and review
ICS: Inhaled corticosteroids
IHD: Ischaemic Heart Disease
IRS: Integrated respiratory service
IRT: Integrated respiratory team
KCH: King's College Hospital NHS Trust
LABA: Long-acting beta agonist
LAMA: Long-acting muscarinic antagonist
LRTI: Lower respiratory tract infection
LTC: Long-term conditions
LTOT: Long-term oxygen therapy
LVF: Left-heart failure
MC+S: Microscopy, culture and sensitivities
MDI: Metered-dose inhaler
MRC: Medical Research Council
MRHA: Medicines and Healthcare products Regulatory Agency
NRT: Nicotine replacement therapy
O_2: Oxygen
OD: Once daily [dosing]
OSA: Obstructive sleep apnoea
PHQ9: Patient health questionnaire 9 (depression screening questionnaire)
PO: Oral administration [dosing]
PR: Pulmonary Rehabilitation
PRN: When necessary [dosing]
QA: Quality Assured [pertaining to spirometry]
QALY: Quality-adjusted life years
QDS: Four time a day [dosing]
Qfracture©: Osteoporosis risk calculator
QOF: Quality and outcomes framework (contract)
QOL: Quality of Life
QRISK2: Cardiovascular risk assessment tool (predicts 10 year cardiovascular risk)
QTc: Corrected QT interval
SABA: Short-acting beta agonist
SaO_2: Oxygen saturation
SELAPC: South-east London Area Prescribing Committee
SMI: Serious Mental Illness
SPICT: Supportive and Palliative Care Indicators Tool
TD: Tobacco Dependency
TDS: Three times daily [dosing]
Triple Therapy: LAMA+LABA+ICS
VBA: Very Brief Advice [pertaining to stopping smoking]

Clinical Effectiveness Southwark

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October 2018 (review October 2020, or earlier if indicated)