COPD PRESCRIBING GUIDELINES[1,2]

- Requires the presence of irreversible airways obstruction; if unable to perform effective spirometry reconsider diagnosis and refer to secondary care
- Airflow obstruction is defined as reduced FEV_1/FVC ratio (<0.7)
- This must persist after administration of bronchodilator drugs
- It is no longer necessary to have an FEV_1<80% predicted for definition of airflow obstruction
- If FEV_1 is >80% predicted, a diagnosis of COPD should only be made in the presence of respiratory symptoms e.g. breathlessness or cough
- If the FEV_1 improves markedly over time, with treatment or spontaneously, the diagnosis of COPD must be reconsidered, provided all the FEV_1 measurements are reliable and taken in the clinically stable state (ie not during a exacerbation)

Diagnosis of COPD

Assess severity of airflow obstruction using reduction in FEV_1

Post-Bronchodilator FEV_1/FVC	FEV_1% predicted	Post-bronchodilator[1]
<0.7	≥80%	Stage 1- Mild*
<0.7	50 – 79%	Stage 2 - Moderate
<0.7	30 – 49%	Stage 3 - Severe
<0.7	<30%	Stage 4 – Very severe **

**symptoms should be present to diagnose COPD in people with mild airflow obstruction*
***or FEV_1<50% with respiratory failure*

Management

- Offer pneumococcal and influenza vaccinations
- Encourage all patients to stop smoking
- Refer for oxygen assessment when O_2 saturations are less than or equal to 92% breathing air
- Refer to pulmonary rehabilitation when Medical Research Council (MRC) dyspnoea score is 3
- Promote use of self management plans and rescue packs. Rescue packs could include: Doxycycline 200mgs stat then 100mg daily 6 days or Amoxicillin 500mgs three times daily for 7 days and Prednisolone (plain) 30mgs daily for 7 days
- Screen for anxiety and depression
- Consider referral to the rest of the multidisciplinary team e.g. community COPD matron, community COPD service, physiotherapists, dietician (follow current CCG malnutrition guidelines if BMI is low), occupational therapy, social services, palliative care teams

References

1. National Institute for Health and Care Excellence (NICE). Chronic Obstructive Airways Disease. NICE Update. June 2010
2. Global Initiative for Chronic Obstructive lung disease(GOLD), Management and prevention of COPD. January 2014
3. Drummond et al. ICS in patients with stable COPD. A systematic review and meta-analysis. JAMA 2008; 300 (20)2407-16
4. Suissa s, Kezouh A, Ernst P. Inhaled corticosteroids and the risk of diabetes onset and progression. 123; 11:1001-1006. Available via http:www.amjmed.com/article/S0002-9343(10)00648-0/fulltext

SUPPORTING INFORMATION (see SPC for complete details/specific guidance of individual inhaler products http:emc.medicines.org.uk

ALGORITHM FOR THE USE OF INHALED THERAPIES IN COPD 1.2

Also refer to COPD Drug Delivery Devices Pictorial Guide

Use **community pharmacy New Medicines Service (NMS)** and **Medicines Use Reviews(MUR)** at each review

All prices are for 30 days or per inhaler for prn doses (Drug Tariff/MIMs July 2016)

Key:
SAMA - short acting muscarinic antagonist
SABA - short acting beta-2 agonist
LAMA - long-acting muscarinic antagonist
LABA - long-acting beta-2 agonist
ICS - Inhaled corticosteroid; MDI-metered dose inhaler

MILD

FEV_1 predicted based on post bronchodilator FEV_1 in patient with FEV1/FEC <0.7

Few symptoms:
CAT score ≤ 10; MRC score 0 -1
Mild air flow limitation
FEV_1 ≥ 80% predicted
≤ 1 exacerbations per year
(not leading to hospitalisation)

Check adherence with all medication. Teach inhaler technique before prescribing (Use inhaler training tool e.g Incheck to correct respiratory flow)
Optimal Inspiratory flow Rate (*Ref: SPC and manufacturer contact)*
MDI < 30 l/min (Inhale slow and steady)
Dry Powders (Inhale deep and fast)
Accuhaler® 30 – 90 l/min
Breezhaler® 50 l/min
Easyhaler® 28 l/min
Ellipta® 42 – 128 l/min
Genuair® 35 - 95 l/min
Handihaler® 20 - 30 l/min
Spiromax® 40 - 60 l/min
Turbohaler® 60 -90 l/min
Respimat® (Inhale slow and long and deep – independent on inspiratory effort)

SABA or SAMA as required

SABA: DPI Salbutamol easyhaler 100mcg 1 -2 puffs up to qds
MDI – Salbutamol MDI 100mcg (+ spacer) 1 -2 puffs up to qds
SAMA: MDI – Ipratropium MDI (+ spacer) 1 -2 puffs up to qds

Initiate or review smoking cessation
Offer pulmonary rehabilitation

Always check inhaler technique and adherence

Dry powder inhaler (DPI) Inhale DEEP and FAST

Metered dose inhaler (MDI) / Respimat® Inhale SLOW and STEADY

MODERATE

Moderate air flow limitation
FEV_1 50 – 79% predicted
Increasing breathlessness
mMRC ≥ 2
CAT ≥ 10
≤ 1 exacerbations per year
(not leading to hospitalisation)

*** Stopping Smoking is the only treatment that slows disease progression.**
Offer at every opportunity
* Refer to Pulmonary Rehab if MRC≥3
* Give self-management and action plans for responding to symptoms.
At review -
√ Review symptom control, activities of daily living (ADL), exercise capacity and number of exacerbations in last 12 months

LABA

Formoterol 12mcg Easyhaler®
1 inhalation twice daily, £11.90

LAMAs: caution with cardiac rhythm disorders/ cardiac background, glaucoma, urinary retention, BPH

LAMA

Discontinue SAMA. Continue SABA

#consider if eGFR < 50ml/min

Umeclidinium 55mcg Ellipta®
1 inhalation daily £27.50

#Aclidinium 400mcg Genuair®
1 inhalation twice daily £28.60

Glycopyrronium 55mcg Breezhaler®
1 inhalation daily £27.50

Tiotropium 2.5mcg Respimat®
2 inhalation daily £23

Alternative LAMAs
Tiotropium 18mcg Handihaler® (refill)
1 inhalation daily £33.50

Increasing breathlessness offer LAMA + LABA combination

Umeclidinium + Vilanterol
Anoro Ellipta®
1 inhalation daily
£32.50

Aclidinium + Formoterol
Duaklir Genuair®
1 inhalation twice daily
£32.50

Glycopyrronium + Indacterol
Ultibro Breezhaler®
1 inhalation daily
£32.50

Tiotropium + Olodaterol
Spiolto Respimat®
2 inhalations daily
£32.50

For persistent symptoms; review non pharmacological measures i.e pulmonary rehabilitation, smoking cessation advice, review diagnosis and/or consider specialist advice

SEVERE

FEV_1 < 50% predicted
High risk of exacerbation
≥ 2 exacerbations per year
(require oral corticosteroids /anitibiotics)

Consider ICS phenotypes and biomarkers:
Higher blood eosinophil levels have been suggested to be associated with a higher COPD exacerbation risk and greater ICS responsiveness. Check if ever raised over the last few years (ie > 0.3 x 10^9g/l)
Pascoe S et al. Lancet Respir. Med. 2015 2015DOI: http://dx.doi.org/10.1016/S2213-2600(15)00106-X Published online April 2015

ICS Safety
Be aware of the potential risk of developing side effects in people with COPD treated with ICS (including non fatal pneumonia NNH= 25 over 6 month-3 years[3]; diabetes NNH =21 over 5.5 years[4 ^]) and be prepared to discuss with patient
^ Canadian health insurance data base of 388,584 patients – study limited by observational nature of study

N.b. If patients need to remain on Seretide 500/50 Accuhaler® (£40.72). consider AirFluSal 500/50 Forspiro® (£32.74) as a cost effective alternative. Ensure inhaler technique is reviewed.

LABA + ICS (Ensure brand prescribing)

Stop LABA + LAMA combination. Add ICS + LABA combination If ICS is declined/not tolerated then consider LABA + LAMA combination

DPI:

Relvar Elipta® 92/22
1 inhalation daily (£22)

DuoResp Spiromax® 320/9
1 inhalation twice daily (£29.97)

Symbicort® Turbohaler 400/12
1 inhalation twice daily
(£38 + NHS rebate)

Fostair® 100/6 NEXThaler
2 inhalations twice daily (29.32)

MDI:

Fostair® 100/6
(+ aerochamber plus®)
2 inhalations twice daily (£29.32)

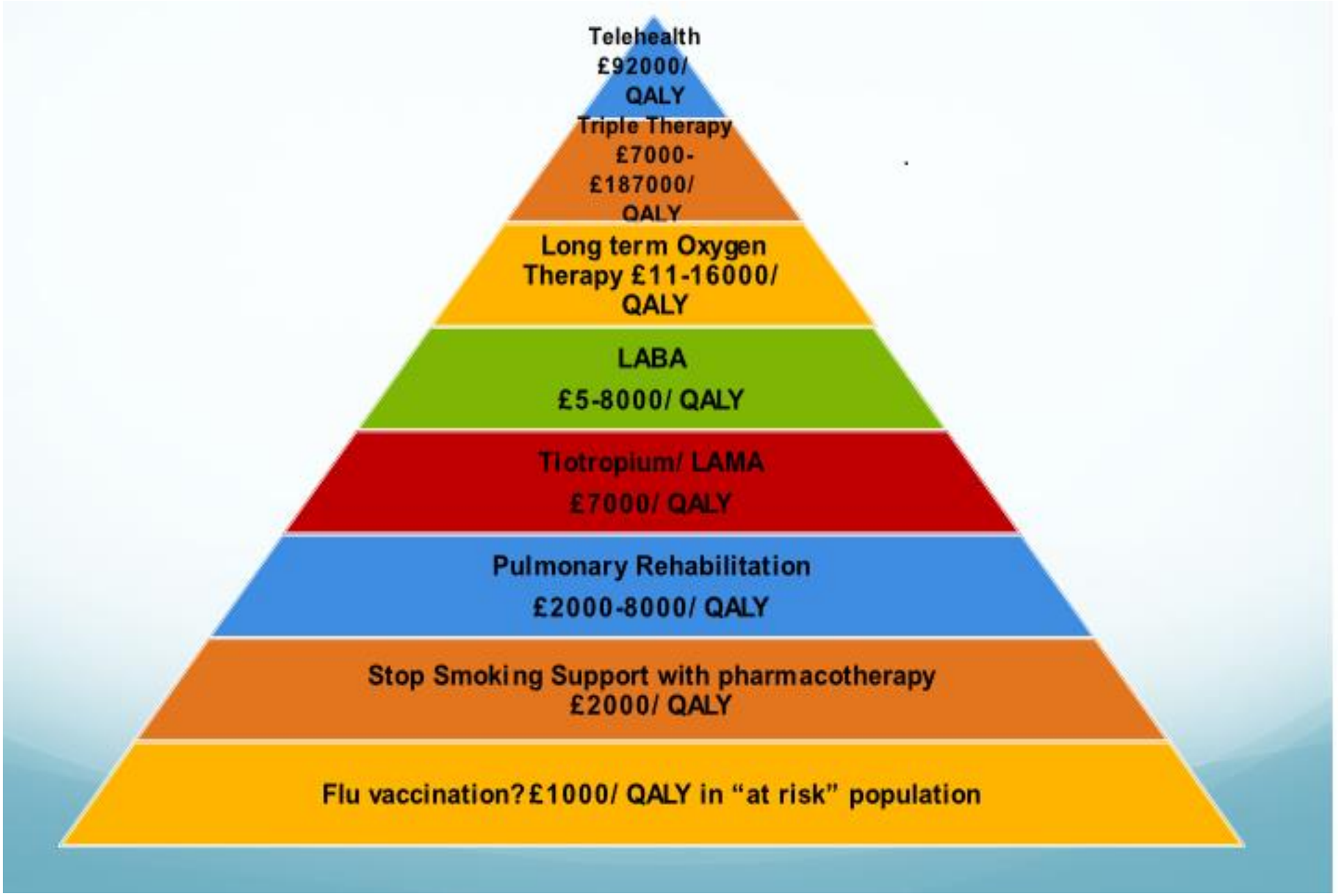
Consider STEROID CARD if on:
Beclometasone fine particle size (Fostair® /QVAR®) 400 - 500mcg daily
Budesonide 800 - 1000mcg daily

Give STEROID CARD if on:
≥ 1000mcg Beclometasone dipropionate* (DiDPI) daily
≥ 1600mcg Budesonide daily
≥ 500mcg Fluticasone daily

LAMA + LABA + ICS
Unclear if triple therapy is helpful
Only use in severe disease with persistent exacerbations

Seek specialist advice

Chronic productive cough: consider trial of carbocisteine capsules 750mg three times daily for 4 weeks then 750mg twice daily if improvement in sputum production or reduction in viscosity. **Stop if no improvement. Do not routinely use mucolytic drugs to prevent exacerbations in people with stable COPD**



Reproduced from the London Respiratory Group to draw attention to the costs and associated QALY