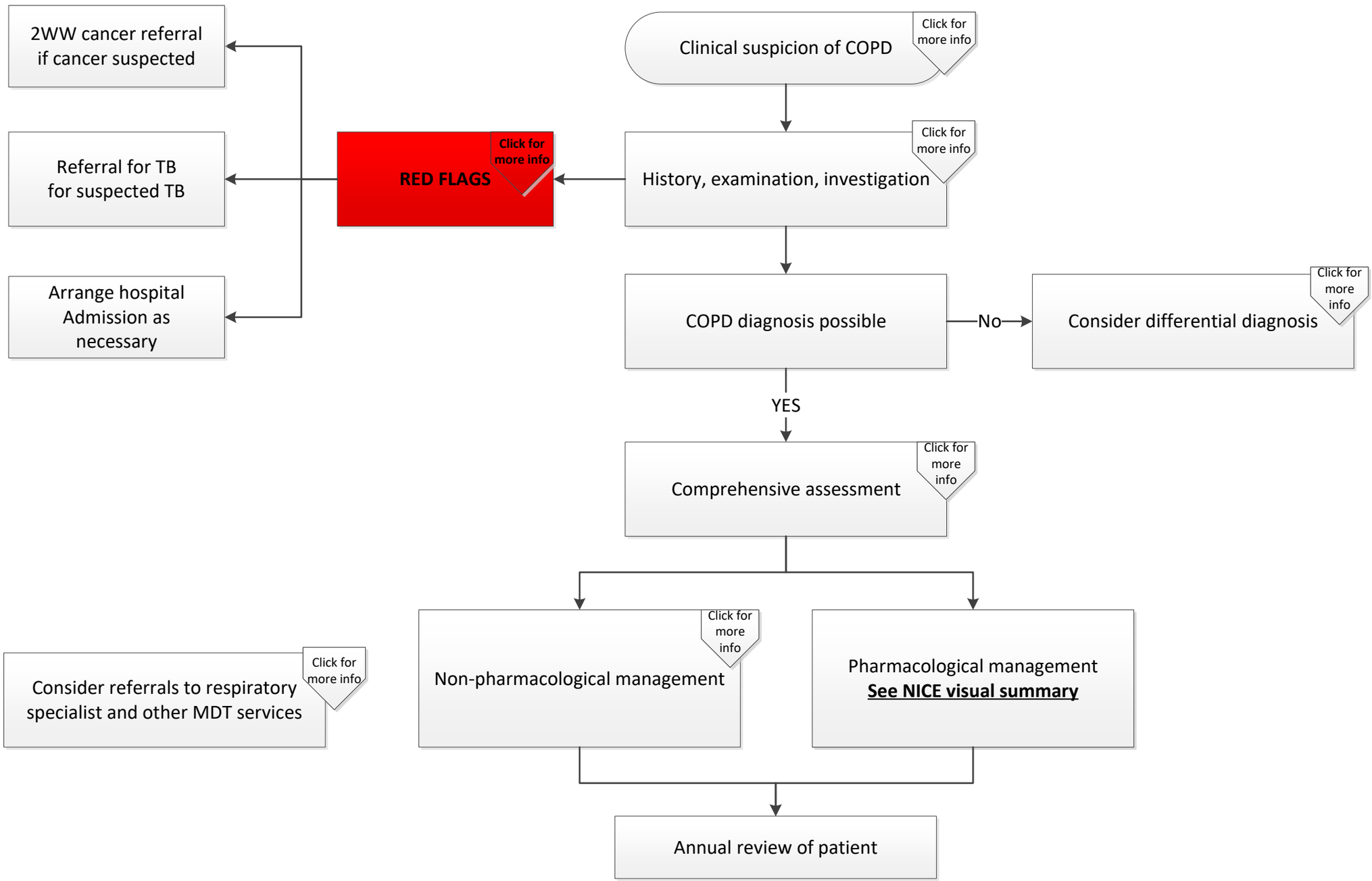
Diagnosing COPD



Back to pathway

Clinical suspicion of COPD

Consider a diagnosis of COPD for people who are:

- **> 35, and**
- smokers/ex-smokers – in most cases COPD is caused by cigarette smoking
- occupational exposure
- genetic risk of homozygous alpha1-antitrypsin deficiency
- environmental factors, e.g. air pollution

And have any of following symptoms which can be variable from day-to-day:

- chronic and progressive dyspnoea
- chronic cough
- regular sputum production
- frequent Lower respiratory tract infections
- wheeze

Patients may also present with clinical features of asthma:

- chronic unproductive cough
- significant variable breathlessness
- night-time waking with breathlessness and/or wheeze
- significant diurnal or day to day variability of symptoms

Back to pathway

RED FLAGS

History

- Unexplained weight loss, night sweats
- Hemoptysis
- Night sweats
- Persistent cough
- Persistent sore throat
- Persistent hoarseness

Examination

- Rapid or slow respiratory rate
- Silent chest
- Confusion
- Low Sats
- Difficulty completion sentences
- Headache, photophobia, neck stiffness, rash, persistent enlarged neck glands

Back to Pathway

History, Examination and Investigations.

History

- Onset variability and progression of symptoms
  - Breathlessness
  - Cough and sputum production
  - Peripheral Oedema – consider cor pulmonale
  - Red flags

- Exposure to risk factors

- Smoking
- Occupational or environmental exposures

- Impact of symptoms on daily life and occupation
- Past medical history
- Family history

Examination

- General examination and vital signs
- Chest examination
- Peripheral oedema and signs of cor pulmonale

Investigations

- CXR – to help, exclude other causes
- FBC – anaemia, polycythaemia
- Spirometry

- Post bronchodilator FEV1/FVC <0.7 confirms persistent airflow obstruction
- Consider other causes in older people without typical symptoms of COPD who have an FEV1/FVC ratio <0.7
- Even when their FEV1/FVC ratio > 0.7

- additional investigations may be indicated depending on clinical situation

Back to pathway

Assessments

- Classification of severity of airflow limitation

Table 1: GOLD Classification of Severity of Airflow Limitation in COPD (Based on Post-Bronchodilator FEV1)

In patients with $FEV_1/FVC < 0.70$:

GOLD 1:	Mild	$FEV_1 \geq 80\%$ predicted
GOLD 2:	Moderate	$50\% \leq FEV_1 < 80\%$ predicted
GOLD 3:	Severe	$30\% \leq FEV_1 < 50\%$ predicted
GOLD 4:	Very Severe	$FEV_1 < 30\%$ predicted

- MRC Dyspnoea Scale

Table 1. Medical Research Council (MRC) dyspnoea scale.

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

Data from: [NICE, 2019a]

- CAT assessment COPD Assessment Test (CAT) - MDCalc

Your Name: | Today's Date:

CAT COPD Assessment Test

How is your COPD?
Take the COPD Assessment Test™ (CAT)

For each item below, place a mark (X) in the box that best describes you currently. Be sure to only select one response for each question.

Example:	I am very happy	0 X 2 3 4 5	I am very sad
			SCORE
I never cough	0 1 2 3 4 5	I cough all the time	
I have no phlegm (mucus) in my chest at all	0 1 2 3 4 5	My chest is completely full of phlegm (mucus)	
My chest does not feel tight at all	0 1 2 3 4 5	My chest feels very tight	
When I walk up a hill or one flight of stairs I am not breathless	0 1 2 3 4 5	When I walk up a hill or one flight of stairs I am very breathless	
I am not limited doing any activities at home	0 1 2 3 4 5	I am very limited doing activities at home	
I am confident leaving my home despite my lung condition	0 1 2 3 4 5	I am not at all confident leaving my home because of my lung condition	
I sleep soundly	0 1 2 3 4 5	I don't sleep soundly because of my lung condition	
I have lots of energy	0 1 2 3 4 5	I have no energy at all	
			TOTAL SCORE

Back to Pathway

Consider differential diagnoses

- **Asthma –** COPD and asthma can be difficult to distinguish clinically and may co-exist.
- **Bronchiectasis –** Copious sputum, frequent chest infections, history of childhood pneumonia, coarse lung crepitations.
- **Heart failure – Chronic –** breathlessness why lying flat, history of ischaemic heart disease, fine lung crepitations.
- **Lung Cancer –** Persistent cough, haemoptysis, weight loss, persistent hoarse voice
- **Interstitial Lung Disease** – Dry cough, fine lung crepitations
- **Anaemia –** fatigue, breathlessness and palpitations. See CKS topics on **Anaemia- iron deficiency** and **Anaemia- B12 and folate deficiency**.
- **Tuberculosis** – persistent productive cough, which may be associated with breathlessness and haemoptysis. May co-exist with COPD
- **Cystic Fibrosis**
- **Upper airway obstruction** (for example tracheal tumour).
- For detailed information on the differential diagnosis of cough and breathlessness, see the CKS topics on **Cough** and **Breathlessness**.

Back to pathway

Non-Pharmacological Management

- Explain the diagnosis, risk factors for progression and the importance of a healthy diet and physical activity
- Patient information **COPD (chronic obstructive pulmonary disease) | Asthma + Lung UK (blf.org.uk)**
- **Chronic obstructive pulmonary disease (COPD) - NHS (www.nhs.uk)**
- **Chronic Obstructive Pulmonary Disease | COPD | Patient**
- **Offer treatment and support to stop smoking**

- All patients should be encouraged to stop, & offered help to do so, at every opportunity & ALWAYS before a therapy change.

- Refer patients direct to a local NHS smoking cessation service or to Hertfordshire's Stop Smoking Service – 0800 389 3998 **Stop Smoking Service | Hertfordshire County Council**

- **Offer pneumococcal and influenza vaccinations**
- **Offer Pulmonary rehabilitation if indicated**

-Make pulmonary rehabilitation available to all appropriate people with COPD including people who have had a recent hospitalisation for an acute exacerbation

-Offer pulmonary rehabilitation to all people who view themselves as functionally disabled by COPD (usually MRC grade 3 and above but in some cases an MRC score of 2 will be accepted [e.g. frequent exacerbation, functional limitation or admission to hospital.

-Pulmonary rehabilitation is not suitable for people who are unable to walk, who have unstable angina or who have had a recent myocardial infarction.

- Further information and referral details available here: **pulmonary rehabilitation pathway**

- **Co-develop a personalised self-management plan**
- **Optimise treatment for comorbidities**

Back to Pathway

Referrals

- **Consider referral to respiratory specialist**

- diagnostic uncertainty-COPD is very severe or rapidly worsening
- Cor pulmonale is suspected
- <40 years of age and/or there is a family history of alpha-1-antitrypsin deficiency
- frequent infections — to assess preventable factors and exclude bronchiectasis
- to assess the need for oxygen therapy, long-term non-invasive ventilation, nebulizer therapy or long-term oral corticosteroids, lung surgery

- **Consider referral to other MDT services**

- physiotherapist – excessive sputum
- social services and occupational therapist – patients experiencing difficulties with activities of daily living or functional disability
- dietician, psychological services