What is COPD?

COPD is an under-diagnosed, airflow-limiting condition that:

› Affects five percent of the U.S. population, 10 percent of whom are age 65 and older
› Claims over 124,000 lives every year, making it the third leading cause of death, according to the Centers for Disease Control
› Costs over $37 billion dollars every year, making it a primary focus for Medicare quality health outcomes

COPD is a constellation of lung diseases including:

› Emphysema – enlargement of airspaces associated with pathologic destruction of the alveolar-capillary membrane (clinician should be aware that a solitary radiological emphysematous finding does not support a COPD diagnosis)
› Chronic bronchitis – a clinical cough of more than 3 months for 2 consecutive years

Symptoms

› Exertional dyspnea
› Wheezing
› Chest tightness
› Excessive sputum production
› Cough

NOTE: Symptoms may be similar to conditions such as heart failure and pneumonia.

Risk factors

› Aged 65 to 74
› Caucasian
› Female
› History of asthma
› Unemployed
› Low socioeconomic status
› Smoking
› Second-hand smoke inhalation
› Occupational exposure to pollutants

Physical exam findings

› Tachypnea
› Tachycardia
› Hypoxia
› Dyspnea with speaking or eating
› Accessory muscle use
› Intercostal chest retractions
› Abnormal breath sounds (crackles, decreased breath sounds, rhonchi, and wheezes)
› Hyper-expansion of the chest (barrel chest)
› Cyanosis
› Hepatomegaly
› Jugular vein distension
› Muscle wasting
Diagnosis

Diagnosis is enhanced by using several data points such as:

- Radiology exams – chest film and chest CT
- Arterial blood gas (ABG)
- Pulse oximetry
- Spirometry – the gold standard test to diagnose COPD – should be done:
  - Yearly to assess progression or stability
  - With and without bronchodilator when not contraindicated
- Spirometry data includes:
  - FEV1 Forced expiratory volume over 1 second. If less than 80% of predicted, COPD diagnosis should be considered
  - FVC Forced vital capacity
  - FEV1/FVC This ratio determines the airflow limitation, if less than 0.70 a COPD diagnosis should be considered
  - DLCO Diffusion capacity of the lung for carbon monoxide (CO) must have an oxygen saturation of less than 92% to consider a valid test

People with COPD should be encouraged to get:

- Annual influenza vaccine
- Pneumococcal vaccine every 5 years
- Smoking cessation counseling if an active smoker
- Exercise
- Diet/nutrition education due to COPD malnutrition risk.

Once COPD is diagnosed, it is important to classify its severity and progression to help the clinician make informed treatment decisions. The following online tools are useful:

<table>
<thead>
<tr>
<th>Online tool</th>
<th>Function</th>
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</thead>
</table>
| **GOLD classification**  
http://GOLDCOPD.com | Stages COPD in functional classes, using the FEV1/FVC and FEV1 data |
| **BODE index**  
http://www.qxmd.com/calculate-online/respirology/bode-index | Prognosis calculator which determines 52 month life expectancy |
<table>
<thead>
<tr>
<th>ICD-10-CM Code</th>
<th>ICD-10-CM Description</th>
<th>Definition/tip</th>
<th>Coding tip</th>
</tr>
</thead>
<tbody>
<tr>
<td>J44.9</td>
<td>Chronic obstructive pulmonary disease, unspecified</td>
<td>Includes: • Asthma with COPD • Chronic (asthmatic) obstructive bronchitis • Chronic bronchitis with airways obstruction • Chronic bronchitis with emphysema • Chronic emphysematous bronchitis • Chronic obstructive asthma • Chronic obstructive bronchitis • Chronic obstructive tracheobronchitis Code also type of asthma, if applicable (J45.-)</td>
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<tr>
<td>J44.0</td>
<td>Chronic obstructive pulmonary disease w/acute lower respiratory infection (Use additional code to identify the infection)</td>
<td>Includes: • Asthma with COPD • Chronic (asthmatic) obstructive bronchitis • Chronic bronchitis with airways obstruction • Chronic bronchitis with emphysema • Chronic emphysematous bronchitis • Chronic obstructive asthma • Chronic obstructive bronchitis • Chronic obstructive tracheobronchitis Code also type of asthma, if applicable (J45.-)</td>
<td></td>
</tr>
<tr>
<td>J44.1</td>
<td>Chronic obstructive pulmonary disease w/(acute) exacerbation</td>
<td>• Chronic bronchitis with emphysema • Chronic emphysematous bronchitis • Chronic obstructive asthma • Chronic obstructive bronchitis • Chronic obstructive tracheobronchitis</td>
<td>Use additional code to identify: • Tobacco dependence (F17.-) • Tobacco use (Z72.0) • History of tobacco use (Z87.891) • Exposure to environmental tobacco smoke (Z77.22) • Occupational exposure to environmental tobacco smoke (Z57.31)</td>
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<tr>
<td>J41.0</td>
<td>Simple chronic bronchitis</td>
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<tr>
<td>J41.1</td>
<td>Mucopurulent chronic bronchitis</td>
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<tr>
<td>J41.8</td>
<td>Mixed simple &amp; mucopurulent chronic bronchitis</td>
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</tr>
<tr>
<td>J42</td>
<td>Unspecified chronic bronchitis</td>
<td>Chronic bronchitis NOS Chronic tracheitis Chronic tracheobronchitis</td>
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<tr>
<td>J43.0</td>
<td>Unilateral pulmonary emphysema [MacLeod’s syndrome]</td>
<td>Swyer-James syndrome Unilateral emphysema Unilateral hyperlucent lung</td>
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<tr>
<td>J43.1</td>
<td>Panlobular emphysema</td>
<td>Panacinar emphysema</td>
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<tr>
<td>J43.2</td>
<td>Centrilobular emphysema</td>
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<tr>
<td>J43.8</td>
<td>Other emphysema</td>
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</tr>
<tr>
<td>J43.9</td>
<td>Emphysema, unspecified</td>
<td>Bullous emphysema (lung)(pulmonary) Emphysema (lung)(pulmonary)(NOS) Emphysematous bleb Vesicular emphysema (lung)(pulmonary)</td>
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</tr>
<tr>
<td>J98.2</td>
<td>Interstitial emphysema Mediastinal emphysema</td>
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<tr>
<td>J98.3</td>
<td>Compensatory emphysema</td>
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<tr>
<td>F17.20</td>
<td>Nicotine dependence</td>
<td>* Add 6th character: 0- uncomplicated 1- in remission 3- w/withdrawal 8- w/other nicotine-induced disorders 9- w/unspecified nicotine-induced disorders</td>
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<tr>
<td>F17.21</td>
<td>Nicotine dependence, cigarettes</td>
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<tr>
<td>F17.22</td>
<td>Nicotine dependence, chewing tobacco</td>
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<tr>
<td>F17.23</td>
<td>Nicotine dependence, other tobacco products</td>
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<td></td>
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<tr>
<td>Z72.0</td>
<td>Tobacco Use</td>
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