WHO PEN Protocol 3
3.1 Management of Asthma
3.2 Management of Chronic Obstructive Pulmonary Disease (COPD)

ASK

Asthma and COPD can both present with cough, difficult breathing, tight chest and/or wheezing

DIAGNOSIS

The following features make a diagnosis of asthma more likely:
- previous diagnosis of asthma;
- symptoms since childhood or early adulthood;
- history of hayfever, eczema and/or allergies;
- intermittent symptoms with asymptomatic periods in between;
- symptoms worse at night or early morning;
- symptoms triggered by respiratory infection, exercise, weather changes or stress;
- symptoms respond to salbutamol.

The following features make a diagnosis of COPD more likely:
- previous diagnosis of COPD;
- history of heavy smoking, i.e. >20 cigarettes per day for >15 years;
- history of heavy and prolonged exposure to burning fossil fuels in an enclosed space, or high exposure to dust in an occupational setting;
- symptoms started in middle age or later (usually after age 40);
- symptoms worsened slowly over a long period of time;
- long history of daily or frequent cough and sputum production often
- starting before shortness of breath;
- symptoms that are persistent with little day-to-day variation.

TEST

Measure Peak Expiratory Flow rate (PEFR)
- Give two puffs of salbutamol and remeasure in 15 minutes
- If the PEF improves by 20%, a diagnosis of asthma is very probable.
- Smaller response makes a diagnosis of COPD more likely

### WHO PEN Protocol 3.2
Management of Chronic Obstructive Pulmonary Disease

#### ASSESS

<table>
<thead>
<tr>
<th>Assess severity</th>
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<tr>
<td>Moderate - if breathless with normal activity</td>
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<tr>
<td>Severe - if breathless at rest</td>
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<td>Measure PEFR and oxygen saturation, if possible.</td>
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#### TREAT

- inhaled salbutamol, two puffs as required, up to four times daily;
- if symptoms are still troublesome, consider low-dose oral theophylline;
- if ipratropium inhalers are available, they can be used instead of, or added to, salbutamol, but they are more expensive.

#### ADVICE

**COPD - Advice to patients and families**

- ensure they understand that smoking and indoor air pollution are the major risk factors for COPD – therefore, patients with COPD must stop smoking and avoid dust and tobacco smoke;
- keep the area where meals are cooked well ventilated by opening windows and doors;
- cook with wood or carbon outside the house, if possible, or build an oven in the kitchen with a chimney that vents the smoke outside;
- stop working in areas with occupational dust or high air pollution – using a mask may help, but it needs to have an appropriate design and provide adequate respiratory protection.

#### Management of exacerbation of COPD

<table>
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<th>TREAT</th>
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<tr>
<td>antibiotics should be given for all exacerbations;</td>
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<td>for severe exacerbations, give oral prednisolone 30–40mg for around seven days;</td>
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<td>give high doses of inhaled salbutamol by nebulizer or metered dose inhaler with spacer; (e.g. four puffs every 20 minutes for one hour) or by nebulizer;</td>
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<td>oxygen, if available, should be given by a mask that limits the concentration to 24% or 28%.</td>
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