

# Using the “EML Antibiotic book” in the Primary care setting

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The WHO Essential Medicines List Antibiotic Book  
Webinar – November 18, 2021



# Introduction

- Percentage of patients attending a primary health care facility receiving an antibiotic should be less than 30%
- Oral Watch antibiotics use globally is increasing
- Reducing the inappropriate use of Watch antibiotics is a critical strategy
- Ensure vulnerable populations have continued or, where appropriate, improved **“access to Access”** antibiotics
- WHO Global Programme of Work includes a target that at least **“60% of total antibiotic prescribing at the country level should be Access antibiotics by 2023”**
- Not intended to replace existing local and national antibiotic prescribing guidelines and clinical judgment
- Relevant diagnostic tests (including imaging and laboratory tests) are suggested based on the WHO’s Essential *in-vitro* Diagnostics List (EDL)



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# Improving the use of antibiotics with the WHO EML antibiotic book

- No Antibiotic Care - safely reducing antibiotic use
- Improving Access use and reducing inappropriate oral Watch antibiotics
- Reducing the use of Not Recommended antibiotics
- Improving AWaRe-ness!
- Appropriate antibiotic dosing and duration
- Most otherwise healthy patients with mild common infections can be treated without antibiotics as these infections are frequently self-limiting
- The risks of taking antibiotics when they are not needed should always be considered (e.g. side effects, allergic reactions, *C. difficile* infection, selection of resistant bacteria)



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**? Definition**

A self-limiting inflammation of the trachea and bronchi characterized by persistent cough +/- fever usually caused by a viral infection

**🔍 Diagnosis**

**🔍 Clinical Presentation**

- Acute onset (<2 weeks) of cough lasting > 5 days +/- sputum production and shortness of breath (colour of the sputum does not indicate bacterial infection) +/- fever
- Generally a mild condition; cough usually lasts 10-20 days (can last longer)

**Important:** Symptoms can overlap with pneumonia and this can lead to inappropriate treatment with antibiotics. This should be avoided with a careful patient assessment

- **Bronchitis:** Less severe presentation, usually self-limiting (but cough may take weeks to resolve)
- **Pneumonia (see "Community-acquired pneumonia" infographic):** More severe presentation with shortness of breath and systemic signs of infection (e.g. increased heart and respiratory rate)

**🔬 Microbiology Tests**

Usually not needed; consider testing for Influenza virus or SARS-CoV-2 (e.g. during influenza season or outbreaks based on local epidemiological risk/situation/protocols)

**🏢 Other Laboratory Tests**

Usually not needed

**📷 Imaging**

Usually not needed

**🦠 Most Likely Pathogens**

**Respiratory viruses:**

- Rhinovirus
- Influenza virus (A and B)
- Parainfluenza virus
- Coronavirus (including SARS-CoV-2)
- Respiratory syncytial virus
- Metapneumovirus
- Adenovirus

**💊 Treatment**

**🚫 No Antibiotic Care**

- Symptomatic treatment
- Bronchodilators (in case of wheezing), mucolytic or antitussive agents, can be considered based on local practices and patient preferences

Patients should be informed that:

- Great majority of cases are self-limiting and of viral origin
- Cough can persist for several weeks

**💊 Symptomatic Treatment**

☐ Ibuprofen 200-400 mg q6-8h (Max 2.4 g/day)

OR

☐ Paracetamol (acetaminophen) 500 mg-1 g q4-6h (max 4 g/day)

- **Hepatic impairment/cirrhosis:** Max 2 g/day

**💊 Antibiotic Treatment**

Antibiotic treatment is **not recommended and should be avoided** as there is no evidence of a significant clinical benefit and there is a risk of side effects of antibiotics

# BRONCHITIS

## “No Antibiotic Care”

- Most respiratory tract infections have a viral cause
- Even when its bacterial, many are frequently self-limiting
- Focus on symptomatic treatment

# First & second choice if antibiotic indicated

- **Diagnose** – what is the clinical diagnosis, is there evidence of a significant bacterial infection?
- **Decide** – are antibiotics really needed? Do I need to take any cultures or other tests?
- **Drug (medicine)** – which antibiotic to prescribe - is it Access or Watch or Reserve? Are there any allergies, interactions, or other contraindications?
- **Dose** – what dose, how many times a day, are any dose adjustments needed e.g. because of renal impairment?
- **Delivery** – what formulation to use, is this a quality product? If intravenous treatment, when is Step Down to oral possible?
- **Duration** –for how long – what is the Stop Date?
- **Discuss** – inform the patient of the diagnosis, likely duration of symptoms, any likely medicine toxicity and what to do if not recovering.
- **Document** – write down all the decisions and management plan.



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# ACUTE OTITIS MEDIA

- Focus on symptomatic treatment
- If antibiotic required then to use “Access” category

**Definition**

Infection of the middle ear that occurs mostly in children under 5 years of age and is rare in adults, often as a complication of a viral upper respiratory tract infection

**Diagnosis**

**Clinical Presentation**

Acute onset of ear pain (unilateral or bilateral), fever ( $\geq 38.0^{\circ}\text{C}$ ), +/- ear discharge

**Microbiology Tests**

- Not needed unless a complication is suspected.
- Cultures of pus from perforated ear drums should not be used to guide treatment

**Other Laboratory Tests**

Not needed unless a complication is suspected

**Imaging**

Not needed unless a complication (e.g. mastoiditis, brain abscess) is suspected

**Otoscopy**

**Required for definitive diagnosis if available:**  
Bulging, inflamed/congested tympanic membrane (may be opaque/show decreased mobility)

**Most Likely Pathogens**

**Respiratory viruses (most cases):**

- Respiratory syncytial virus
- Rhinovirus
- Coronavirus (including SARS-CoV-2)
- Influenza virus (A and B)

**Bacteria (rarely bacterial superinfections can occur):**

- *Streptococcus pneumoniae*
- *Haemophilus influenzae*
- *Moraxella catarrhalis*
- *Streptococcus pyogenes* (group A *Streptococcus*)

**Prevention**

Overlaps with prevention of upper respiratory tract infections; hand hygiene, vaccination against *S. pneumoniae*, *H. influenzae* and influenza viruses can be useful

**Treatment**

**Clinical Considerations**

**Important:** Most non-severe cases can be managed symptomatically with **no antibiotic treatment**

- Instruct patients to monitor symptoms and report back in case they worsen/persist after few days

Antibiotics should be considered if:

- Severe symptoms (e.g. systemically very unwell, severe ear pain, fever  $\geq 39.0^{\circ}\text{C}$ )

**Symptomatic Treatment**

☐ Ibuprofen 200-400 mg q6-8h (Max 2.4 g/day)

OR

☐ Paracetamol (acetaminophen) 500 mg-1 g q4-6h (Max 4 g/day)

- **Hepatic impairment/cirrhosis:** Max 2 g/day

**Antibiotic Treatment**

*Antibiotic treatment is not required in the great majority of cases (see "Clinical Considerations" when antibiotics may be indicated)*

*All dosages are for normal renal function*

**First Choice**

☒ **ACCESS** Amoxicillin 500 mg q8h **ORAL**

**Second Choice**

☒ **ACCESS** Amoxicillin+clavulanic acid 500 mg+125 mg q8h **ORAL**

**Antibiotic Treatment Duration**

**5 days**

# Use of the 'WHO EML Antibiotic book in Bhutan'

- Adoption into the Standard treatment guidelines mainly for infectious diseases
- Using the infographics in patient and outpatient settings for easy decision makings (both investigations and treatment)
- Setting Key Performance indicators (KPI) in our primary health centers
- Adoption into the academic curriculums for prescribers and dispensers



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