



الكلية : الطب

القسم او الفرع : طب الاسرة والمجتمع

المرحلة: الرابعة

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اسم المادة باللغة الإنكليزية : **Child Health**

اسم المحاضرة الرابعة باللغة العربية: السيطرة على التهابات الجهاز التنفسي عند الاطفال

اسم المحاضرة الرابعة باللغة الإنكليزية: **Control of Acute Respiratory Infections in Children**

Control of Acute Respiratory Infections (ARI) in Children

- **Definition:** ARIs include infections of the respiratory tract from the nostrils to the lungs.
- **Public Health Importance:**
 - A leading cause of **morbidity and mortality** in children, especially in **developing countries**.
 - Account for **30–60%** of outpatient visits in pediatric settings.
 - **70%** of ARIs are **upper respiratory infections (URIs)**, which are usually mild and self-limited.
 - Most cases are mild and do not require antibiotics.
 - The main goal is to identify serious cases early and manage them appropriately using standard WHO guidelines

Global Burden of Pneumonia

- **Annual incidence of pneumonia** in children <5 years:
 - Developed countries: **3–4%**
 - Developing countries: **10–20%**
- The incidence of **ARI overall** is similar worldwide; however, pneumonia is significantly more frequent and severe in low-resource settings.

Etiological Agents

- **Viruses:** Most common cause of primary ARIs.
- **Bacteria:**
 - Primary or secondary pathogens.
 - **Streptococcus pneumoniae** and **Haemophilus influenzae** are the leading causes of bacterial pneumonia.
 - Cause 2–4% of pneumonia cases in developed countries.
 - Responsible for ~20% in developing countries.

Objectives of the ARI Control Programme

- Early **identification of serious cases**.
- **Standard case management** to reduce mortality.
- Limit **unnecessary antibiotic use** by recognizing mild, self-limiting infections.

WHO Standard Case Management Approach

A. Assessment

History Taking

Ask the mother about:

1. Age
2. Feeding habits
3. Presence of fever
4. Convulsions
5. Irregular breathing
6. Previous treatments during illness
7. Activity level

Physical Examination

1. **Respiratory Rate (RR)** – Count for a full minute.
 - Fast breathing is defined by age:
 - < 2 months: ≥ 60 breaths/min
 - 2–12 months: ≥ 50 breaths/min
 - 12 months–5 years: ≥ 40 breaths/min
2. **Chest Indrawing:**
 - Indicates increased respiratory effort.
 - Lower chest wall moves inward during inspiration.
3. **Stridor:**
 - Harsh sound during inspiration.
 - Suggests upper airway obstruction (e.g., croup).
4. **Wheeze:**
 - Whistling noise during expiration.
 - Suggests narrowing of lower airways (e.g., bronchiolitis, asthma).
5. **Fever** – Measure temperature.
6. **Cyanosis** – Indicates hypoxia.
7. **Malnutrition:**
 - Increases risk of severe ARI and mortality.
 - Signs may be masked in severely malnourished children.

Classification of ARIs

Children aged 2 months to 5 years

Classification	Signs	Action
Very Severe Pneumonia	Any danger sign : Not drinking, convulsions, abnormally sleepy, stridor at rest, severe wasting	Refer urgently; give pre-referral ABX
Severe Pneumonia	Chest indrawing \pm nasal flaring, grunting, cyanosis	Refer urgently; give pre-referral ABX
Pneumonia	Fast breathing only (50+/min for 2–12 months, 40+/min for 12 months–5 years)	Treat at home with antibiotics

Classification	Signs	Action
No Pneumonia	Cough/cold without fast breathing or chest indrawing	Home care; no antibiotics

Infants less than 2 months

Classification	Signs	Action
Very Severe Pneumonia	Danger signs: Poor feeding, abnormal sleep, convulsions, stridor, fever or low temp, grunting, cyanosis, wheeze	Refer urgently; pre-referral ABX
Severe Pneumonia	Fast breathing ($\geq 60/\text{min}$), severe chest indrawing	Refer urgently; pre-referral ABX
No Pneumonia	No fast breathing, chest indrawing, or danger signs	Home care; watch closely

Management Based on Classification

1. Very Severe or Severe Pneumonia (All Age Groups)

- **Give first (pre-referral) dose of parenteral antibiotics**
- **Refer urgently** to hospital
- **Manage fever**, if present
- Supportive care: oxygen if available, warmth, feeding support

2. Pneumonia (2 months–5 years)

- Treat at home with antibiotics:
 - **Cotrimoxazole, Amoxicillin, or Procaine Penicillin**
- Guidelines:
 - Give first dose at the health center
 - Teach the caregiver:
 - Dosage
 - Frequency
 - Duration (typically 5 days)
 - Advise on **home care**
 - Reassess in **2 days**

3. No Pneumonia (Cough or Cold)

2 months–5 years

- **No antibiotics**
- Home care advice:
 - Clear nasal passages
 - Continue feeding and breastfeeding
 - Increase fluid intake
 - Use safe remedies for cough
 - **Return immediately if:**
 - Breathing becomes fast or difficult
 - Feeding becomes difficult
 - Fever persists
 - Child becomes more ill

< 2 months

- **No antibiotics**
- Home care advice:
 - Keep warm
 - Breastfeed frequently
 - Clear nasal passages
 - Monitor closely for danger signs
 - Return if feeding or breathing worsens, or fever appears

Special Considerations

Malnourished Children

- Danger signs may be **masked**.
- **Weak cough**, absent fever, no chest indrawing may still indicate severe disease.
- Require **careful clinical judgment** and a **low threshold for referral**.

Preventive Strategies

- **Exclusive breastfeeding** for 6 months
- **Vaccination** (e.g., Hib, pneumococcal, measles)
- Good **nutrition**
- **Handwashing** and hygiene
- Reduce **indoor air pollution**
- Early treatment of **URIs** to prevent progression
- **Educate caregivers** on signs of deterioration and effective home care.

