ACUTE RESPIRATORY INFECTIONS
INTRODUCTION

• Acute respiratory infections (ARI) are a major cause of morbidity and mortality in young children worldwide.

• Nearly 4 million children die every year due to ARI.

• ARI accounts for 30-40% of the hospital visits by children in office practice.
• Most young children worldwide have 4 to 8 episodes of respiratory infections per year.

• Incidence of acute lower respiratory infections (pneumonia) is very high in developing countries.
DEFINITION

ARI comprise infection in any part of the respiratory system (upper or lower) lasting less than 30 days (for otitis media less, than 2 weeks).
CLASSIFICATION

A. Anatomical classification
   The site of infection may not be limited to one part of the respiratory tract

B. WHO classification / Clinical classification
   Identifying the few children having pneumonia among the many children with ARI
ANATOMICAL CLASSIFICATION

Classified based on the site of infection

• Acute Upper Respiratory Infections (AURI)

• Acute Lower Respiratory Infections (ALRI)
ACUTE UPPER RESPIRATORY TRACT INFECTION

- Nasopharyngitis
- Tonsillitis
- Sinusitis and
- Otitis media.
ACUTE LOWER RESPIRATORY TRACT INFECTION

- Epiglottitis,
- Laryngitis,
- Laryngo Tracheobronchitis
- Bronchitis
- Bronchiolitis and
- Pneumonia
CLINICAL CLASSIFICATION

- No pneumonia: Cough or cold
- Pneumonia
- Severe pneumonia
- Very severe pneumonia
ETIOLOGICAL AGENTS

Bacteria
- Strep. Pneumoniae
- Staph. Aureus
- H. Influenzae

Viruses
- RSV
- Adenovirus
- Influenzae
- Parainfluenza
- Measles
RISK FACTORS

- Malnutrition
- Low birth weight
- Not breast fed
- Vitamin A deficiency
- Indoor air pollution
- Low socioeconomic status
- Poor hygiene
- Missing vaccines
MODE OF TRANSMISSION

• Primarily by **direct contact** with discharges from respiratory mucous membranes of infected persons

• By the **airborne** route, probably by droplets

• By **indirect contact** with articles freshly soiled with the discharges of infected
MANAGEMENT OF ARI

Assess-------Classify--------Identify treatment
<table>
<thead>
<tr>
<th>SIGNS</th>
<th>Chest indrawing</th>
<th>No chest indrawing and fast breathing</th>
<th>No chest indrawing and no fast breathing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Classify as</td>
<td>SEVERE PNEUMONIA</td>
<td>PNEUMONIA</td>
<td>NO PNEUMONIA: COUGH AND COLD</td>
</tr>
<tr>
<td>TREATMENT</td>
<td>Refer urgently</td>
<td>Advise mother about home care and give</td>
<td>If cough &gt; 30 days, reassessment</td>
</tr>
<tr>
<td></td>
<td>Give 1st dose</td>
<td>an antibiotic, Treat fever and wheeze</td>
<td>Assess and treat ear pain or sore throat,</td>
</tr>
<tr>
<td></td>
<td>of antibiotic</td>
<td></td>
<td>Treat fever and wheeze</td>
</tr>
<tr>
<td></td>
<td>Treat fever and</td>
<td></td>
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<td></td>
<td>wheeze</td>
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</tbody>
</table>

**RE-ASSESS IN 2 DAYS**

<table>
<thead>
<tr>
<th>SIGNS</th>
<th>Chest indrawing</th>
<th>No chest indrawing and fast breathing</th>
<th>No chest indrawing and no fast breathing</th>
</tr>
</thead>
<tbody>
<tr>
<td>WORSE</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Not able to drink</td>
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<td></td>
<td></td>
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<tr>
<td>Has chest indrawing</td>
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<tr>
<td>Has other danger</td>
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<tr>
<td>signs</td>
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<td></td>
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<tr>
<td>THE SAME</td>
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<tr>
<td>IMPROVING</td>
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<tr>
<td>Breathing slower</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Less fever</td>
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<td></td>
<td></td>
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<tr>
<td>Eating better</td>
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<td></td>
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<tr>
<td>Change antibiotic</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>or refer</td>
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</tr>
<tr>
<td>Follow up in 5</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>days if not</td>
<td></td>
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<td></td>
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<tr>
<td>improving</td>
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</tbody>
</table>
MANAGEMENT OF ARI (CONT)

- Antibiotics - Penicillin, Ampicillin, Cotrimoxazole
- Supportive care
- Oxygen
PREVENTION

Difficulties in preventing ARI are due to:

• Multiplicity of agents

• Periodic antigen changes especially among viruses

• Immunization against viruses may not offer effective resistance against infection of the surface mucosa of the respiratory tract.

• Air borne spread of the infection.

• Lack of specific treatment.

• The rapid change in the clinical picture of a child with ARI
NON SPECIFIC MEASURES

1- Improve socioeconomic condition.

2- Health education.

3- Decrease over crowding.

4- Improve nutrition.

5- Promote breast feeding.

6- Avoid exposure to indoor
SPECIFIC MEASURES

• Immunization against measles, pertussis, diphtheria and tuberculosis

• Pneumococcal vaccine and influenza vaccine however both are not widely used
ISSUES FOR IMNCI

• Individualized treatment guidelines per country

• Training and supervision of 1st level health workers

• Changing family behavior regarding care of the sick

• Availability and effectiveness of essential drugs.

• Assess  Classify  Treatment
• As ARI being a significant problem, Govt has launched a nation wide **ARI control program**:

**Its main objectives are:**
Early diagnosis and treatment of pneumonia

**Its principal strategies are:**
• Prevention
• Case finding and management
POINTS TO REMEMBER

• Beware of serious conditions like measles, mumps and diphtheria which may begin as nasopharyngitis.
• Blood stained nasal discharge especially unilateral, may indicate conditions like diphtheria or foreign body (old) and hence needs ENT evaluation.
• Sinusitis, serous otitis media or acute lower respiratory infections are common complications following nasopharyngitis.
• Clinically viral pharyngotonsillitis may be difficult to differentiate from bacterial pharyngotonsillitis.
THANK YOU