Revised WHO classification and treatment of childhood pneumonia at health facilities

• EVIDENCE SUMMARIES •

World Health Organization

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This document is derived from previously published WHO guidelines on the management of childhood pneumonia and is not a guideline per se. References for the guidelines are: [1] Integrated Management of Childhood Illness (IMCI). WHO recommendations on the management of diarrhoea and pneumonia in HIV-infected infants and children. Geneva: World Health Organization; 2010 (http://www.who.int/maternal_child_adolescent/documents/9789241548083/en) AND [2] Recommendations for management of common childhood conditions, Evidence for technical update of pocket book recommendations. Geneva: World Health Organization; 2012 (http://www.who.int/maternal_child_adolescent/documents/management_childhood_conditions/en).

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Executive Summary

In the early 1980s, the global burden of childhood mortality due to pneumonia led the World Health Organization (WHO) to develop a pneumonia control strategy suitable for countries with limited resources and constrained health systems. Management of pneumonia cases formed the cornerstone of this strategy. Simple signs were identified to classify varying severities of pneumonia in settings with little or no access to diagnostic technology; the classifications determined the appropriate case management actions. Children with fast breathing were classified as having "pneumonia" and were given an oral antibiotic (at that time oral cotrimoxazole) to take at home for five days. Children who had chest indrawing with or without fast breathing were classified as having "severe pneumonia" and were referred to the closest higher-level health facility for treatment with injectable penicillin. Children who had any general danger signs were classified as having "severe pneumonia or very severe disease". These children received a first dose of oral antibiotic and were then urgently referred to a higher-level health facility for further evaluation and treatment with parenteral antibiotics.

These pneumonia classification and management guidelines had been developed based on evidence generated in the 1970s and early 1980s, and were incorporated into the original version of Integrated Management of Childhood Illness (IMCI). In the intervening time, new evidence has emerged which prompted the development of revised guidelines.

Research results provided solid scientific evidence to guide and support the revision of the pneumonia guidelines. During two related consultations, a panel of experts assessed the new evidence according to the GRADE methodology ("Grading of Recommendations, Assessment, Development and Evaluation"). The consultations aimed to summarize the new WHO recommendations for policy and practice, to review GRADE evidence profiles, and to discuss the factors that determined the strength of the recommendations. The first consultation resulted in updated recommendations for preventing and managing pneumonia in HIV-infected and -exposed infants and children; these were published in 2010.[1] The second resulted in updated recommendations for managing pneumonia in non-HIV affected infants and children, published in 2012.[2]

The revisions include changing the recommendation for the first-line antibiotic and re-defining the classification of pneumonia severity. The data show that oral amoxicillin is preferable to oral cotrimoxazole for the treatment of "fast breathing pneumonia" and is equivalent to injectable penicillin/ampicillin in cases of "chest indrawing pneumonia". Hence, in a programmatic context, the distinction between previously defined "pneumonia" (fast breathing) and "severe pneumonia"

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[1] Integrated Management of Childhood Illness (IMCI). WHO recommendations on the management of diarrhoea and pneumonia in HIV-infected infants and children. Geneva: World Health Organization; 2010 (http://www.who.int/maternal_child_adolescent/documents/9789241548083/en).

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(chest indrawing) loses its significance. The new classification is therefore simplified to include only two categories of pneumonia; "pneumonia" with fast breathing and/or chest indrawing, which requires home therapy with oral amoxicillin, and "severe pneumonia", pneumonia with any general danger sign, which requires referral and injectable therapy.

Dosages for pneumonia treatment at health facilities have been revised to reflect three age bands: 2 months up to 12 months (4–<10 kg); 12 months up to 3 years (10–<14 kg); 3 years up to 5 years (14–19 kg). Dosages and age bands for treatment of fast breathing pneumonia by community health workers (CHWs) have not changed.

National child health programmes will benefit from the revised recommendations and are encouraged to incorporate them into their existing guidelines for care at health facilities. The recommendations concerning the use of amoxicillin should also be included in guidelines for integrated community case management (iCCM). Programmes should recognize the importance of these revisions, which will result in a substantially lower need for referral, and in better treatment outcomes. Local adaptations may be required, particularly the arrangements to include amoxicillin as the first-line therapy; facility-level health workers will also need to be re-trained in the new system of classification and treatment.

The purpose of this document is to provide a summary of WHO-approved recommendations,[1,2] and the evidence supporting them, and to assist national child health programmes in revising their guidelines to conform to the new recommendations.

The revised recommendations are:

Recommendation 1

Children with fast breathing pneumonia with no chest indrawing or general danger sign should be treated with oral amoxicillin: at least 40mg/kg/dose twice daily (80mg/kg/day) for five days. In areas with low HIV prevalence, give amoxicillin for three days.

Children with fast-breathing pneumonia who fail on first-line treatment with amoxicillin should have the option of referral to a facility where there is appropriate second-line treatment.

Recommendation 2

Children age 2–59 months with chest indrawing pneumonia should be treated with oral amoxicillin: at least 40mg/kg/dose twice daily for five days.

Recommendation 3

Children aged 2–59 months with severe pneumonia should be treated with parenteral ampicillin