

DENGUE

GUIDELINES FOR DIAGNOSIS, TREATMENT, PREVENTION AND CONTROL



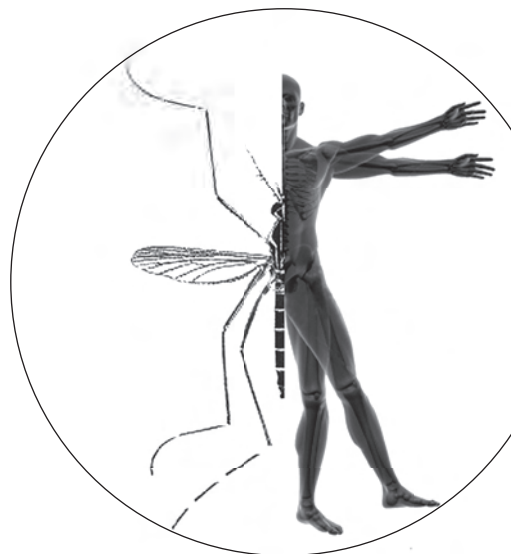
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2009



World Health
Organization

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A joint publication of the World Health Organization (WHO) and the Special Programme for Research and Training in Tropical Diseases (TDR)



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PREFACE

Since the second edition of *Dengue haemorrhagic fever: diagnosis, treatment, prevention and control* was published by the World Health Organization (WHO) in 1997, the magnitude of the dengue problem has increased dramatically and has extended geographically to many previously unaffected areas. It was then, and remains today, the most important arthropod-borne viral disease of humans.

Activities undertaken by WHO regarding dengue are most recently guided at the global policy level by World Health Assembly resolution WHA55.17 (adopted by the Fifty-fifth World Health Assembly in 2002) and at the regional level by resolution CE140.R17 of the Pan American Sanitary Conference (2007), resolution WPR/RC59.R6 of the WHO Regional Committee for the Western Pacific (2008) and resolution SEA/RC61/R5 of the WHO Regional Committee for South-East Asia (2008).

This new edition has been produced to make widely available to health practitioners, laboratory personnel, those involved in vector control and other public health officials, a concise source of information of worldwide relevance on dengue. The guidelines provide updated practical information on the clinical management and delivery of clinical services; vector management and delivery of vector control services; laboratory diagnosis and diagnostic tests; and surveillance, emergency preparedness and response. Looking ahead, some indications of new and promising avenues of research are also described. Additional and more detailed specific guidance on the various specialist areas related to dengue are available from other sources in WHO and elsewhere, some of which are cited in the references.

The contributions of, and review by, many experts both within and outside WHO have facilitated the preparation of this publication through consultative and peer review processes. All contributors are gratefully acknowledged, a list of whom appears under "Acknowledgements". These guidelines are the result of collaboration between the WHO Department of Control Neglected Tropical Diseases, the WHO Department of Epidemic and Pandemic Alert and Response, and the Special Programme for Research and Training in Tropical Diseases.

This publication is intended to contribute to prevention and control of the morbidity and mortality associated with dengue and to serve as an authoritative reference source for health workers and researchers. These guidelines are not intended to replace national guidelines but to assist in the development of national or regional guidelines. They are expected to remain valid for five years (until 2014), although developments in research could change their validity, since many aspects of the prevention and control of dengue are currently being investigated in a variety of studies. The guidelines contain the most up-to-date information at the time of writing. However, the results of studies are being published regularly and should be taken into account. To address this challenge, the guide is also available on the Internet and will be updated regularly by WHO.



METHODOLOGY

These guidelines were written using the following methodology:

1. Writing team

Each chapter was allocated to a WHO coordinator and at least one non-WHO lead writer. The non-WHO lead writers received a small fee for their work. Declarations of interest were obtained from all lead writers and no conflicting interests were declared. The lead writers were chosen because of their expertise in the field and their willingness to undertake the work.

Since this guide has the broad scope of all aspects of prevention and control of dengue, the lead writers were selected for technical expertise in the areas of epidemiology, pathogenesis and transmission, clinical aspects, vector control, laboratory aspects, surveillance and response, and drug and vaccine development.

2. Peer review

All the chapters were submitted to peer review. The peer review groups were determined by the WHO coordinator and the non-WHO lead writers of each chapter. The groups consisted of five or more peer reviewers, who were not paid for their work. Declarations of interest were obtained from all peer reviewers. For those peer reviewers with potential conflicting interests, the interests are declared below.¹

For each chapter, the process of reaching agreement on disputed issues differed. For chapters 1, 3, 4 and 6, the comments of the peer reviewers were discussed electronically within the group. Chapter 2 had a larger group whose members met for a consensus group discussion. Chapter 5 required extensive discussion, but consensus was reached without a consensus group meeting. Agreement on the chapter content was reached for all the groups.

3. Use of evidence

For each chapter, items are referenced that (1) provide new data, (2) challenge current practice, (3) describe ongoing research and (4) reflect key developments in knowledge about dengue prevention and control.

Priority was given to systematic reviews when available. Additional literature searches

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