

WHO Guidelines on Hand Hygiene in Health Care

First Global Patient Safety Challenge Clean Care is Safer Care



WHO Library Cataloguing-in-Publication Data

WHO guidelines on hand hygiene in health care.

1.Hand wash - standards. 2.Hygiene. 3.Cross infection - prevention and control. 4.Patient care - standards. 5.Health facilities - standards. 6.Guidelines. I.World Health Organization. II.World Alliance for Patient Safety.

ISBN 978 92 4 159790 6 (NLM classification: WB 300)

© World Health Organization 2009

All rights reserved. Publications of the World Health Organization can be obtained from WHO Press, World Health Organization, 20 Avenue Appia, 1211 Geneva 27, Switzerland (tel.: +41 22 791 3264; fax: +41 22 791 4857; e-mail: bookorders@who.int). Requests for permission to reproduce or translate WHO publications – whether for sale or for noncommercial distribution – should be addressed to WHO Press, at the above address (fax: +41 22 791 4806; e-mail: permissions@who.int).

The designations employed and the presentation of the material in this publication do not imply the expression of any opinion whatsoever on the part of the World Health Organization concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries. Dotted lines on maps represent approximate border lines for which there may not yet be full agreement.

The mention of specific companies or of certain manufacturers' products does not imply that they are endorsed or recommended by the World Health Organization in preference to others of a similar nature that are not mentioned. Errors and omissions excepted, the names of proprietary products are distinguished by initial capital latters

All reasonable precautions have been taken by the World Health Organization to verify the information contained in this publication. However, the published material is being distributed without warranty of any kind, either expressed or implied. The responsibility for the interpretation and use of the material lies with the reader. In no event shall the World Health Organization be liable for damages arising from its use.

Printed in



WHO Guidelines on Hand Hygiene in Health Care

First Global Patient Safety Challenge Clean Care is Safer Care

CONTENTS

INTRO	INTRODUCTION		١
PART	1.	REVIEW OF SCIENTIFIC DATA RELATED TO HAND HYGIENE	1
1.		Definition of terms	2
2.	2.1 2.2 2.3	Guideline preparation process Preparation of the Advanced Draft Pilot testing the Advanced Draft Finalization of the WHO Guidelines on Hand Hygiene in Health Care	2
3.	3.1 3.2	The burden of health care-associated infection Health care-associated infection in developed countries Burden of health-care associated infection in developing countries	6
4.		Historical perspective on hand hygiene in health care	9
5.		Normal bacterial flora on hands	10
6.		Physiology of normal skin	11
7.	7.1 7.2 7.3 7.4 7.5	Transmission of pathogens by hands Organisms present on patient skin or in the inanimate environment Organism transfer to health-care workers' hands Organism survival on hands Defective hand cleansing, resulting in hands remaining contaminated Cross-transmission of organisms by contaminated hands	12
8.	8.1 8.2	Models of hand transmission Experimental models Mathematical models	22
9.		Relationship between hand hygiene and the acquisition of health care-associated pathogens	24
10.	10.1 10.2 10.3	Methods to evaluate the antimicrobial efficacy of handrub and handwash agents and formulations for surgical hand preparation Current methods Shortcomings of traditional test methods The need for better methods	25
11.	11.1 11.2 11.3 11.4 11.5 11.6 11.7 11.8 11.9 11.10 11.11 11.12	Review of preparations used for hand hygiene Water Plain (non-antimicrobial) soap Alcohols Chlorhexidine Chloroxylenol Hexachlorophene lodine and iodophors Quaternary ammonium compounds Triclosan Other agents Activity of antiseptic agents against spore-forming bacteria Reduced susceptibility of microrganisms to antiseptics Relative efficacy of plain soap, antiseptic soaps and detergents, and alcohols	30

1

12.		WHO-recommended handrub formulation	49
	12.1	General remarks	
	12.2	Lessons learnt from local production of the WHO-recommended handrub formulations in different	
		settings worldwide	
13.		Surgical hand preparation: state-of-the-art	54
	13.1	Evidence for surgical hand preparation	
	13.2	Objective of surgical hand preparation	
	13.3	Selection of products for surgical hand preparation	
	13.4	Surgical hand antisepsis using medicated soap	
	13.5	Surgical hand preparation with alcohol-based handrubs	
	13.6	Surgical hand scrub with medicated soap or surgical hand preparation	
		with alcohol-based formulations	
14.		Skin reactions related to hand hygiene	61
	14.1	Frequency and pathophysiology of irritant contact dermatitis	
	14.2	Allergic contact dermatitis related to hand hygiene products	
	14.3	Methods to reduce adverse effects of agents	
15.		Factors to consider when selecting hand hygiene products	64
	15.1	Pilot testing	
	15.2	Selection factors	
16.		Hand hygiene practices among health-care workers	66
		and adherence to recommendations	
	16.1	Hand hygiene practices among health-care workers	
	16.2	Observed adherence to hand cleansing	
	16.3	Factors affecting adherence	
17.		Religious and cultural aspects of hand hygiene	78
	17.1	Importance of hand hygiene in different religions	
	17.2	Hand gestures in different religions and cultures	
	17.3	The concept of "visibly dirty" hands	
	17.4	Use of alcohol-based handrubs and alcohol prohibition by some religions	
	17.5	Possible solutions	
18.		Behavioural considerations	85
	18.1	Social sciences and health behaviour	
	18.2	Behavioural aspects of hand hygiene	
19.		Organizing an educational programme to promote hand hygiene	89
	19.1	Process for developing an educational programme when implementing guidelines	
	19.2	Organization of a training programme	
	19.3	The infection control link health-care worker	
20.		Formulating strategies for hand hygiene promotion	93
	20.1	Elements of promotion strategies	
	20.2	Developing a strategy for guideline implementation	
	20.3	Marketing technology for hand hygiene promotion	
21.		The WHO Multimodal Hand Hygiene Improvement Strategy	99
	21.1	Key elements for a successful strategy	
	21.2	Essential steps for implementation at heath-care setting level	
	21.3	WHO tools for implementation	
	21.4	"My five moments for hand hygiene"	
	21.5	Lessons learnt from the testing of the WHO Hand Hygiene Improvement	
		Strategy in pilot and complementary sites	
22.		Impact of improved hand hygiene	124

23.	00.4	Practical issues and potential barriers to optimal hand hygiene practices	
	23.1	Glove policies	
	23.2 23.3	Importance of hand hygiene for safe blood and blood products Jewellery	
	23.4	Fingernails and artificial nails	
	23.5	Infrastructure required for optimal hand hygiene	
	23.6	Safety issues related to alcohol-based preparations	
24.		Hand hygiene research agenda	146
PAR1	ΓII.	CONSENSUS RECOMMENDATIONS	151
1.		Ranking system for evidence	
2.		Indications for hand hygiene	
3.		Hand hygiene technique	
4.		Recommendations for surgical hand preparation	
5. 6.		Selection and handling of hand hygiene agents Skin care	
7.		Use of gloves	
8.		Other aspects of hand hygiene	
9.		Educational and motivational programmes for health-care workers	
10.		Governmental and institutional responsibilities	
11.		For health-care administrators	
12.		For national governments	
PART	ΓIII.	PROCESS AND OUTCOME MEASUREMENT	157
1.		Hand hygiene as a performance indicator	158
	1.1	Monitoring hand hygiene by direct methods	
	1.2	The WHO-recommended method for direct observation	
	1.3	Indirect monitoring of hand hygiene performance	
	1.4	Automated monitoring of hand hygiene	
2.		Hand hygiene as a quality indicator for patient safety	164
3.		Assessing the economic impact of hand hygiene promotion	168
	3.1	Need for economic evaluation	
	3.2	Cost-benefit and cost-effectiveness analyses	
	3.3	Review of the economic literature	
	3.4	Capturing the costs of hand hygiene at institutional level	
	3.5 3.6	Typical cost-savings from hand hygiene promotion programmes Financial strategies to support national programmes	
	3.0	r mandal strategies to support national programmes	
PART	ΓIV.	TOWARDS A GENERAL MODEL OF CAMPAIGNING FOR BETTER HAND HYGIENE -	474
		A NATIONAL APPROACH TO HAND HYGIENE IMPROVEMENT	174
1.		Introduction	175
2.		Objectives	175
3.		Historical perspective	176
4.		Public campaigning, WHO, and the mass media	177
	4.1	National campaigns within health care	
5.		Benefits and barriers in national programmes	178
6.		Limitations of national programmes	179

7.	7.4	The relevance of social marketing and social movement theories	180
8.	7.1	Hand hygiene improvement campaigns outside of health care Nationally driven hand hygiene improvement in health care	181
0.		Nationally arrest hand hygiene improvement in health care	101
9.		Towards a blueprint for developing, implementing and evaluating a	182
		national hand hygiene improvement programme within health care	
10.		Conclusion	182
PAR1	۲ V .	PATIENT INVOLVEMENT IN HAND HYGIENE PROMOTION	189
1.		Overview and terminology	190
2.		Patient empowerment and health care	190
3.		Components of the empowerment process	191
	3.1	Patient participation	
	3.2	Patient knowledge	
	3.3	Patient skills	
	3.4	Creation of a facilitating environment and positive deviance	
4.		Hand hygiene compliance and empowerment	192
	4.1	Patient and health-care worker empowerment	
5.		Programmes and models of hand hygiene promotion, including patient	194
		and health-care worker empowerment	
	5.1	Evidence	
	5.2	Programmes	
6.		WHO global survey of patient experiences	195
7.		Strategy and resources for developing, implementing, and evaluating	196
		a patient/health-care worker empowerment programme in a health-care	
		facility or community	
PART	۲VI.	COMPARISON OF NATIONAL AND SUB-NATIONAL GUIDELINES FOR HAND HYGIENE	199
REFE	RENCES		206
APPE	NDICES		239
1.		Definitions of health-care settings and other related terms	240
2		Guide to appropriate hand hygiene in connection with Clostridium difficile spread	240
3.		Hand and skin self-assessment tool	246
4		Monitoring hand hygiene by direct methods	247
5.		Example of a spreadsheet to estimate costs	250
6.		WHO global survey of patient experiences in hand hygiene improvement	251
ABBI	REVIATIO	NS	258
ACKI	NOWI ED	SEMENTS	250

INTRODUCTION

The WHO *Guidelines on Hand Hygiene in Health Care* provide health-care workers (HCWs), hospital administrators and health authorities with a thorough review of evidence on hand hygiene in health care and specific recommendations to improve practices and reduce transmission of pathogenic microorganisms to patients and HCWs. The present *Guidelines* are intended to be implemented in any situation in which health care is delivered either to a patient or to a specific group in a population. Therefore, this concept applies to all settings where health care is permanently or occasionally performed, such as home care by birth attendants. Definitions of health-care settings are proposed in Appendix 1. These *Guidelines* and the associated WHO Multimodal Hand Hygiene Improvement Strategy and an Implementation Toolkit (http://www.who.int/gpsc/en/) are designed to offer health-care facilities in Member States a conceptual framework and practical tools for the application of recommendations in practice at the bedside. While ensuring consistency with the *Guidelines*' recommendations, individual adaptation according to local regulations, settings, needs, and resources is desirable.

The development of the *Guidelines* began in autumn 2004 and the preparation process is thoroughly described in Part I, Section 2. In brief, the present document is the result of the update and finalization of the Advanced Draft, issued in April 2006, according to the literature review and data and lessons learnt from pilot testing. A Core Group of experts coordinated the work of reviewing the available scientific evidence, writing the document, and fostering discussion among authors; more than 100 international experts contributed to preparing the document. Authors, technical contributors, external reviewers, and professionals who actively participated in the work process up to final publication are listed in the Acknowledgements at the end of the document.

The WHO Guidelines on Hand Hygiene in Health Care provide a comprehensive review of scientific data on hand hygiene rationale and practices in health care. This extensive review includes in one document sufficient technical information to support training materials and help plan implementation strategies. The document comprises six parts; for convenience, the figures and tables are numbered to correspond to the part and the section in which they are discussed:

- Part I reviews scientific data on hand hygiene practices in health care and in health-care settings in particular.
- Dort II rangets conseques recommendations of the

An Executive Summary of the Advanced Draft of the Guidelines is available as a separate document, in Chinese, English, French, Russian and Spanish versions (http://www.who.int/gpsc/tools/en/). An Executive Summary of the present Guidelines will be translated into all WHO official languages.

It is anticipated that the recommendations in these Guidelines will remain valid until 2011. The Patient Safety Department (Information, Evidence and Research Cluster) at WHO headquarters is committed to ensuring that the WHO Guidelines on Hand Hygiene in Health Care are updated every two to three years.

预览已结束, 完整报告链接和二维码如下:

https://www.yunbaogao.cn/report/index/report?reportId=5 29315

