CHILDHOOD ILLNESS

0 F

INTEGRATED MANAGEMENT

# MANAGEMENT OF THE CHILD WITH A SERIOUS INFECTION OR SEVERE MALNUTRITION

Guidelines for care at the first-referral level



DEPARTMENT OF CHILD AND ADOLESCENT HEALTH AND DEVELOPMENT

**WORLD HEALTH ORGANIZATION** 

WHO Library Cataloguing in Publication Data

Management of the child with a serious infection or severe malnutrition : guidelines for care at the first-referral level in developing countries.

1.Child 2.Communicable diseases-in infancy and childhood-diagnosis-therapy 3.Disease management 4.Child nutrition disorders 5.Delivery of health care, Integrated 6.Community health aides-handbooks 7.Health personnel-handbooks 8.Respiratory tract infections-diagnosis-therapy 9.Diarrhea, Infantile-therapy 10.Fever 11.HIV infections-in infancy and childhood-diagnosis-therapy 12.Manuals 13.Guidelines 14.Developing countries

ISBN 92 4 154531 3 (NLM classification: WS 200)

The World Health Organization welcomes requests for permission to reproduce or translate its publications, in part or in full. Applications and enquiries should be addressed to the Office of Publications, World Health Organization, 1211 Geneva 27, Switzerland, which will be glad to provide the latest information on any changes made to the text, plans for new editions, and reprints and translations already available.

#### © World Health Organization 2000

Publications of the World Health Organization enjoy copyright protection in accordance with the provisions of Protocol 2 of the Universal Copyright Convention. All rights reserved.

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 Secretariat 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.

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 letters.

Designed by minimum graphics Printed in Hong Kong

Management of the child with a serious infection or severe malnutrition

Guidelines for care at the first-referral level in developing countries Price: Sw.fr. 15.—  $\,$ 

Price in developing countries: Sw.fr. 10.50

ISBN 92 4 154531 3

## **Contents**

Acl	knowledgements	vii
For	reword	viii
Sta	ges in the management of the sick child	ix
Cha	art 1. Stages in the management of the sick child admitted to hospital: summary of key elements	x
Ho	w the manual is organized	xi
Ho	w the manual can be used	xii
Lis	t of abbreviations	xiii
Chapter 1	Emergency triage assessment and treatment	1
1.1	Summary of steps in emergency triage assessment and treatment	1
1.2	Assessment for emergency and priority signs	2
1.3	Give emergency treatment	3
	1.3.1 How to manage the airway	3
	1.3.2 Other emergency treatment	4
1.4		4
	Chart 2. Triage of all sick children	5
	Chart 3. How to manage the airway in a choking child	6
	Chart 4. How to manage the airway in a child with obstructed breathing	7
	Chart 5. How to give oxygen	8
	Chart 6. How to position the unconscious child	9
	Chart 7. How to give IV fluids rapidly for shock	10
	Chart 8. How to give IV fluids for shock in a child with severe malnutrition	11
	Chart 9. How to give diazepam (or paraldehyde) rectally for convulsions	12
	Chart 10. How to give IV glucose	13
	Chart 11. How to treat severe dehydration in an emergency setting	14
Chapter 2	Assessment and diagnosis	15
2.1	Child presenting with lethargy, unconsciousness or convulsions	17
2.2	Child presenting with cough or difficult breathing	18
	2.2.1 Conditions presenting without wheeze, stridor or chronic cough	18
	2.2.2 Conditions presenting with wheeze	20
	2.2.3 Conditions presenting with stridor	22
	2.2.4 Conditions presenting with chronic cough	22
2.3	Child presenting with diarrhoea	23
2.4	1 0	24
	2.4.1 Fever lasting longer than 7 days	25
Chapter 3	Cough or difficult breathing	29
3.1	Pneumonia	29
	3.1.1 Very severe pneumonia	29
	3.1.2 Severe pneumonia	32
	3.1.3 Pneumonia (non-severe)	32

#### MANAGEMENT OF THE CHILD WITH A SERIOUS INFECTION OR SEVERE MALNUTRITION

	3.1.4 Pleural effusion and empyema	33
3.2	Cough or cold	33
3.3	Conditions presenting with wheeze	34
	3.3.1 Bronchiolitis	34
	3.3.2 Asthma	35
	3.3.3 Wheeze with cough or cold	37
3.4	1 0	37
	3.4.1 Viral croup	37
	3.4.2 Diphtheria	38
3.5	Pertussis	36
3.6		41
3.7	Foreign body inhalation	42
3.8	Heart failure	43
Chapter 4	Diarrhoea	45
4.1	Acute diarrhoea	45
	4.1.1 Severe dehydration	45
	Chart 12. Diarrhoea Treatment Plan C	46
	Chart 13. Diarrhoea Treatment Plan B	48
	4.1.2 Some dehydration	49
	Chart 14. Diarrhoea Treatment Plan A	50
	4.1.3 No dehydration	51
4.2	Persistent diarrhoea	52
	4.2.1 Severe persistent diarrhoea	52
	4.2.2 Persistent diarrhoea (non-severe)	53
4.3	Dysentery	54
Chapter 5	Fever	57
5.1	Malaria	57
	5.1.1 Severe malaria	57
	5.1.2 Malaria (non-severe)	60
5.2		61
5.3		64
	5.3.1 Severe complicated measles	65
	5.3.2 Measles (non-severe)	66
5.4	Septicaemia	67
5.5	Typhoid fever	67
5.6	Ear infections	68
	5.6.1 Mastoiditis	68
	5.6.2 Acute otitis media	69
	5.6.3 Chronic otitis media	70
5.7	Urinary tract infection	70
5.8	Septic arthritis and osteomyelitis	71
5.9	Dengue haemorrhagic fever	72
Chapter 6	Young infants	74
6.1	Serious bacterial infection	74
6.2	Local bacterial infection	77
6.3	Diarrhoea	77
6.4	Ophthalmia neonatorum	78
6.5	Hypothermia	79
Chapter 7	Severe malnutrition	80
7.1	Organization of care	81
7.2	General treatment	81
	7.2.1 Hypoglycaemia	82

#### CONTENTS

	7.2.2 Hypothermia	82
	7.2.3 Dehydration	83
	7.2.4 Electrolyte imbalance	84
	7.2.5 Infection	84
	7.2.6 Micronutrient deficiencies	85
	7.2.7 Initial refeeding	85
	7.2.8 Catch-up growth	86
	7.2.9 Sensory stimulation and emotional support	87
	7.2.10 Preparation for follow-up after recovery	87
7.3	Treatment of associated conditions	88
	7.3.1 Eye problems	88
	7.3.2 Severe anaemia	88
	7.3.3 Dermatosis of kwashiorkor	89
	7.3.4 Continuing diarrhoea	89
	7.3.5 Tuberculosis	89
7.4	Monitoring the quality of care	89
	7.4.1 Mortality audit	89
	7.4.2 Weight gain during rehabilitation phase	90
Chapter 8	Children with HIV/AIDS	92
8.1	HIV testing and counselling	93
	8.1.1 Child with unknown HIV status	93
	8.1.2 HIV-positive child responding poorly	94
	8.1.3 HIV-positive child responding well	94
8.2	Management of HIV-related conditions	94
	8.2.1 Tuberculosis	94
	8.2.2 Pneumocystis carinii pneumonia (PCP)	94
	8.2.3 Oral and oesophageal candidiasis	94
	8.2.4 Lymphoid interstitial pneumonitis (LIP)	95
	8.2.5 Kaposi sarcoma	95
8.3	HIV transmission and breastfeeding	95
8.4	Immunization	96
8.5	Follow-up	96
8.6	Palliative care in terminal HIV/AIDS	97
Chapter 9	Supportive care	99
9.1	Nutritional management	99
	9.1.1 Supporting breastfeeding	99
	9.1.2 Age-specific feeding guidelines	104
	9.1.3 Nutritional management of sick children	105
	Chart 15. Feeding recommendations during sickness and health	106
9.2	Fluid management	108
9.3	Management of fever	108
9.4	Management of anaemia	109
9.5	Oxygen therapy	109
Chapter 10	Monitoring the child's progress	113
10.1	Monitoring procedures	113
	Monitoring chart	113
	Chart 16. Example of a Monitoring chart	114
10.3	Audit of paediatric care	115
Chapter 11	Counselling and discharge from hospital	116
11.1	Timing of discharge from hospital	116
	Counselling	117
	Nutrition counselling	117

#### MANAGEMENT OF THE CHILD WITH A SERIOUS INFECTION OR SEVERE MALNUTRITION

Chart 17, Mother's Card   115	11.4	Home treatment	118
1.1.6   Checking immunization status   1.21     1.1.7   Communicating with the first-level health worker   1.21     1.1.8   Providing follow-up care   1.21     1.1.8   Providing follow-up care   1.22     Appendix I   Practical procedures   1.22     Appendix I   Practical procedures   1.24     A1.1   Giving injections   1.24     A1.2   Giving parenteral fluids   1.25     A1.3   Blood transfusion   1.33     A1.4   Insertion of a nasogastric tube   1.33     A1.5   Lumbar puncture   1.34     A1.6   Insertion of a chest drain   1.34     A1.6   Insertion of a chest drain   1.34     A2.1   Anti-biotics   1.35     A2.2   Anti-tuberculosis antibiotics   1.35     A2.3   Anti-uberculosis antibiotics   1.35     A2.4   Antiportics   1.34     A2.5   Anti-univarials   1.34     A2.6   Anticonvulsants (doses for treatment of acute convulsions)   1.41     A2.6   Anticonvulsants (doses for treatment of acute convulsions)   1.41     A2.8   Analgesics   1.42     A2.8   Analgesics   1.42     A2.8   Analgesics   1.44     A2.9   Other drugs   1.45     Appendix 3   Formula for ReSoMal: rehydration solution   1.44     A3.1   Formula for ReSoMal: rehydration solution   1.44     A3.2   Formula for concentrated electrolyte/mineral solution   1.44     A3.3   Recipes of refeeding formulas F-75 and F-100   1.45     Appendix 4   Assessing nutritional status and recovery   1.46     A4.2   Monitoring weight gain   1.56     Blank Weight Chart   Weight Chart   1.56     Appendix 5   Toys and play therapy   1.55     Appendix 5   Toys and play therapy   1.55     Appendix 5   Toys and play therapy   1.55     Appendix 5   Toys of reservely malnourished children   1.55     Appendix 7   Toys for severely malnourished children   1.55     Appendix 8   Appendix 9   Appendix 9   Appendix 9   Appendix 9     Appendix 9   Appendix 9   Appendix 9   Appendix 9   Appendix 9   Appendix 9   Appendix 9   Appendix 9   Appendix 9   Appendix 9   Appendix 9   Appendix 9   Appendix 9   Appendix 9   Appendix 9   Appendix 9   Appendix 9   Appendix 9   Appendix 9   Appendi		Chart 17. Mother's Card	119
1.1.7   Communicating with the first-level health worker   121	11.5	Checking the mother's own health	120
1218   Providing follow-up care   1218   References   123	11.6	Checking immunization status	120
Appendix 1   Practical procedures   123	11.7	Communicating with the first-level health worker	120
Appendix 1   Practical procedures   124	11.8	Providing follow-up care	121
A1.1 Giving injections A1.2 Giving parenteral fluids A1.3 Blood transfusion A1.4 Insertion of a nasogastric tube A1.5 Lumbar puncture A1.6 Inserion of a chest drain A1.6 Inserion of a chest drain A1.6 Inserion of a chest drain Appendix 2 Drug dosages/regimens A2.1 Antibiotics A2.2 Anti-tuberculosis antibiotics A2.3 Antimalarials A2.4 Antipyretics A2.5 Vitamins/Minerals A2.6 Anticonvulsants (doses for treatment of acute convulsions) A2.7 Bronchodilators/Anti-inflammatory agents for treatment of wheeze A2.8 Analgesics A2.9 Other drugs Appendix 3 Formulas and recipes for severely malnourished children A3.1 Formula for ReSoMal: rehydration solution A3.2 Formula for concentrated electrolyte/mineral solution A3.3 Recipes of refeeding formulas F-75 and F-100 Appendix 4 Assessing nutritional status and recovery A4.1 Calculating the child's weight-for-length Table 26. WHO/NCHS normalized reference weight-for-length and weight-for-height, by sex A4.2 Monitoring weight gain Blank Weight Chart Weight Chart Weight Chart Weight Chart Daily Ward Feed Chart—example Daily Ward Feed Chart—example Daily Ward Feed Chart—blank A5.2 Toys for severely malnourished children A5.3 Sample curriculum for play therapy A5.4 Toys for severely malnourished children A5.5 Toys for severely malnourished children A6.6 Sample curriculum for play therapy A5.1 Sample curriculum for play therapy A5.2 Toys for severely malnourished children Index	References		123
A1.2 Giving parenteral fluids A1.3 Blood transfusion A1.4 Insertion of a nasogastric tube A1.5 Lumbar puncture A1.6 Insertion of a chest drain A1.7 Lumbar puncture A1.6 Insertion of a chest drain A1.7 Lumbar puncture A1.6 Insertion of a chest drain A2.7 Anti-tuberculosis antibiotics A2.1 Antibiotics A2.2 Anti-tuberculosis antibiotics A2.3 Antimalarials A2.4 Antipyretics A2.5 Vitamins/Minerals A2.6 Anticonvulsants (doses for treatment of acute convulsions) A2.7 Bronchodilators/Anti-inflammatory agents for treatment of wheeze A2.8 Analgesics A2.9 Other drugs A2.9 Other drugs A3.1 Formulas and recipes for severely malnourished children A3.1 Formula for ReSoMal: rehydration solution A3.2 Formula for concentrated electrolyte/mineral solution A3.3 Recipes of refeeding formulas F-75 and F-100 Appendix 4 Assessing nutritional status and recovery A4.1 Calculating the child's weight-for-length Table 26. WHO/NCHS normalized reference weight-for-length and weight-for-height, by sex A4.2 Monitoring weight gain Blank Weight Chart Weight Chart example 24-Hour Food Intake Chart Daily Ward Feed Chart—example Daily Ward Feed Chart—example Daily Ward Feed Chart—example Daily Ward Feed Chart—example A5.1 Sample curriculum for play therapy A5.2 Toys for severely malnourished children I55 Appendix 5 Toys and play therapy A5.2 Toys for severely malnourished children I56 Index Index	Appendix 1	Practical procedures	124
A1.3 Blood transfusion A1.4 Insertion of a nasogastric tube A1.5 Lumbar puncture A1.6 Inserion of a chest drain  Appendix 2 Drug dosages/regimens  A2.1 Antibiotics A2.2 Anti-tuberculosis antibiotics A2.3 Antimalarials A2.4 Antipyretics A2.5 Vitamins/Minerals A2.6 Anticonvulsants (doses for treatment of acute convulsions) A2.7 Bronchodilators/Anti-inflammatory agents for treatment of wheeze A2.8 Analgesics A2.9 Other drugs  Appendix 3 Formulas and recipes for severely malnourished children  A3.1 Formula for ReSoMal: rehydration solution A3.2 Formula for concentrated electrolyte/mineral solution A3.3 Recipes of refeeding formulas F-75 and F-100  Appendix 4 Assessing nutritional status and recovery  A4.1 Calculating the child's weight-for-length Table 26. WHO/NCHS normalized reference weight-for-length and weight-for-height, by sex A4.2 Daily Ward Feed Chart Daily Ward Feed Chart Daily Ward Feed Chart—blank  Appendix 5 Toys and play therapy A5.1 Sample curriculum for play therapy A5.2 Toys for severely malnourished children  Index  Index  Is a severely malnourished children  A5.2 Toys for severely malnourished children  Is a severely malnourished children  A5.3 Sample curriculum for play therapy A5.4 Toys for severely malnourished children  Is a severely malnourished children	A1.1	Giving injections	124
A1.4 Insertion of a nasogastric tube A1.5 Lumbar puncture A1.6 Inserion of a chest drain A1.6 Inserion of a chest drain  Appendix 2 Drug dosages/regimens  A2.1 Antibiotics A2.2 Anti-tuberculosis antibiotics A2.3 Antimalarials A2.3 Antimalarials A2.4 Antipyretics A2.5 Vitamins/Minerals A2.6 Anticonvulsants (doses for treatment of acute convulsions) A2.7 Bronchodilators/Anti-inflammatory agents for treatment of wheeze A2.8 Analgesics A2.9 Other drugs  Appendix 3 Formulas and recipes for severely malnourished children  A3.1 Formula for ReSoMal: rehydration solution A3.2 Formula for concentrated electrolyte/mineral solution A3.3 Recipes of refeeding formulas F-75 and F-100  Appendix 4 Assessing nutritional status and recovery  A4.1 Calculating the child's weight-for-length Table 26. WHO/NCHS normalized reference weight-for-length and weight-for-height, by sex A4.2 Monitoring weight gain Blank Weight Chart Weight Chart: example 24-Hour Food Intake Chart Daily Ward Feed Chart—blank  Appendix 5 Toys and play therapy A5.1 Sample curriculum for play therapy A5.2 Toys for severely malnourished children  155 Index  156 Index  Appendix 5 Toys for severely malnourished children  157 Index  158  Appendix 5 Toys for severely malnourished children  159  150  150  151  152  154  155  156  157  158  159  150  150  150  150  150  150  150	A1.2	Giving parenteral fluids	125
A1.5 Lumbar puncture A1.6 Inserion of a chest drain  A2.1 Antibiotics  A2.1 Antibiotics A2.2 Anti-tuberculosis antibiotics A2.3 Antimalarials A2.4 Antipyretics A2.5 Vitamins/Minerals A2.6 Anticonvulsants (doses for treatment of acute convulsions) A2.7 Bronchodilators/Anti-inflammatory agents for treatment of wheeze A2.8 Analgesics A2.9 Other drugs  Appendix 3 Formulas and recipes for severely malnourished children  A3.1 Formulas and recipes for severely malnourished children  A3.2 Formula for ReSoMal: rehydration solution A3.3 Recipes of refeeding formulas F-75 and F-100  Appendix 4 Assessing nutritional status and recovery  A4.1 Calculating the child's weight-for-length Table 26. WHO/NCHS normalized reference weight-for-length and weight-for-height, by sex A4.2 Monitoring weight gain Blank Weight Chart Weight Chart: example 24-Hour Food Intake Chart Daily Ward Feed Chart—example Daily Ward Feed Chart—example Daily Ward Feed Chart—blank  Appendix 5 Toys and play therapy  A5.1 Sample curriculum for play therapy A5.2 Toys for severely malnourished children  156 Index  157 Index  158  A2.1 Lathibiotics 13.3 13.3 13.3 13.3 13.3 13.3 13.3 13.	A1.3	Blood transfusion	130
A1.6 Inserion of a chest drain  Appendix 2 Drug dosages/regimens  A2.1 Antibiotics A2.2 Anti-tuberculosis antibiotics A2.3 Antimalarials A2.4 Anti-tuberculosis antibiotics A2.5 Vitamins/Minerals A2.6 Anticonvulsants (doses for treatment of acute convulsions) A2.7 Bronchodilators/Anti-inflammatory agents for treatment of wheeze A2.8 Analgesics A2.9 Other drugs  Appendix 3 Formulas and recipes for severely malnourished children  A3.1 Formula for ReSoMal: rehydration solution A3.2 Formula for concentrated electrolyte/mineral solution A3.3 Recipes of refeeding formulas F-75 and F-100  Appendix 4 Assessing nutritional status and recovery  A4.1 Calculating the child's weight-for-length Table 26. WHO/NCHS normalized reference weight-for-length and weight-for-height, by sex A4.2 Monitoring weight gain Blank Weight Chart Weight Chart: example Blank Weight Chart example Daily Ward Feed Chart—example Daily Ward Feed Chart—example Daily Ward Feed Chart—example Daily Ward Feed Chart—blank  A5.1 Sample curriculum for play therapy A5.2 Toys for severely malnourished children  Iss  A5.3 Sample curriculum for play therapy A5.4 Toys for severely malnourished children  Iss  Index  Iss  A5.6 Index  Iss  A5.7 Index  Iss  A5.8 Index  Iss  A5.8 Sample curriculum for play therapy A5.9 Toys for severely malnourished children  Iss  Index  Iss	A1.4	Insertion of a nasogastric tube	132
Appendix 2   Drug dosages/regimens   135	A1.5	Lumbar puncture	132
A2.1 Antibiotics A2.2 Anti-tuberculosis antibiotics A2.3 Antimalarials A2.4 Antipyretics A2.5 Vitamins/Minerals A2.6 Anticonvulsants (doses for treatment of acute convulsions) A2.7 Bronchodilators/Anti-inflammatory agents for treatment of wheeze A2.8 Analgesics A2.9 Other drugs Appendix 3 Formulas and recipes for severely malnourished children A3.1 Formula for ReSoMal: rehydration solution A3.2 Formula for concentrated electrolyte/mineral solution A3.3 Recipes of refeeding formulas F-75 and F-100 Appendix 4 Assessing nutritional status and recovery A4.1 Calculating the child's weight-for-length Table 26. WHO/NCHS normalized reference weight-for-length and weight-for-height, by sex A4.2 Monitoring weight gain Blank Weight Chart Weight Chart Weight Chart Weight Chart Daily Ward Feed Chart—example Daily Ward Feed Chart—example Daily Ward Feed Chart—example Daily Ward Feed Chart—blank Appendix 5 Toys and play therapy A5.2 Toys for severely malnourished children  156  157  158  158  158  159  150  150  150  150  150  150  150	A1.6	Inserion of a chest drain	134
A2.2       Anti-tuberculosis antibiotics       136         A2.3       Antimalarials       138         A2.4       Antipyretics       146         A2.5       Vitamins/Minerals       141         A2.6       Anticonvulsants (doses for treatment of acute convulsions)       141         A2.7       Bronchodilators/Anti-inflammatory agents for treatment of wheeze       142         A2.8       Analgesics       142         A2.9       Other drugs       143         Appendix 3       Formulas and recipes for severely malnourished children       144         A3.1       Formula for ReSoMal: rehydration solution       144         A3.2       Formula for concentrated electrolyte/mineral solution       144         A3.3       Recipes of refeeding formulas F-75 and F-100       145         Appendix 4       Assessing nutritional status and recovery       146         A4.1       Calculating the child's weight-for-length       146         A4.2       Monitoring weight gain       146         A4.2       Monitoring weight gain       146         Blank Weight Chart       151         Veight Chart: example       151         Daily Ward Feed Chart—example       152         Daily Ward Feed Chart—blank       154	Appendix 2	Drug dosages/regimens	135
A2.3       Antimalarials       138         A2.4       Antipyretics       144         A2.5       Vitamins/Minerals       141         A2.6       Anticonvulsants (doses for treatment of acute convulsions)       144         A2.7       Bronchodilators/Anti-inflammatory agents for treatment of wheeze       142         A2.8       Analgesics       142         A2.9       Other drugs       146         A2.9       Tormula for ResoMal: rehydration solution       144         A3.1       Formula for ReSoMal: rehydration solution       144         A3.2       Formula for concentrated electrolyte/mineral solution       144         A3.3       Recipes of refeeding formulas F-75 and F-100       145         Appendix 4       Assessing nutritional status and recovery       146         A4.1       Calculating the child's weight-for-length	A2.1		135
A2.4       Antipyretics       146         A2.5       Vitamins/Minerals       141         A2.6       Anticonvulsants (doses for treatment of acute convulsions)       141         A2.7       Bronchodilators/Anti-inflammatory agents for treatment of wheeze       142         A2.8       Analgesics       142         A2.9       Other drugs       143         Appendix 3       Formula and recipes for severely malnourished children       144         A3.1       Formula for ReSoMal: rehydration solution       144         A3.2       Formula for concentrated electrolyte/mineral solution       144         A3.3       Recipes of refeeding formulas F-75 and F-100       145         Appendix 4       Assessing nutritional status and recovery       146         A4.1       Calculating the child's weight-for-length	A2.2		138
A2.5 Vitamins/Minerals A2.6 Anticonvulsants (doses for treatment of acute convulsions) A2.7 Bronchodilators/Anti-inflammatory agents for treatment of wheeze A2.8 Analgesics A2.9 Other drugs  Appendix 3 Formulas and recipes for severely malnourished children  A3.1 Formula for ReSoMal: rehydration solution A3.2 Formula for concentrated electrolyte/mineral solution A3.3 Recipes of refeeding formulas F-75 and F-100  Appendix 4 Assessing nutritional status and recovery  A4.1 Calculating the child's weight-for-length Table 26. WHO/NCHS normalized reference weight-for-length and weight-for-height, by sex A4.2 Monitoring weight gain Blank Weight Chart Weight Chart Weight Chart Weight Chart Daily Ward Feed Chart—example Daily Ward Feed Chart—blank  Appendix 5 Toys and play therapy A5.1 Sample curriculum for play therapy Toys for severely malnourished children  Ista			139
A2.6 Anticonvulsants (doses for treatment of acute convulsions)  A2.7 Bronchodilators/Anti-inflammatory agents for treatment of wheeze A2.8 Analgesics A2.9 Other drugs  Appendix 3 Formulas and recipes for severely malnourished children  A3.1 Formula for ReSoMal: rehydration solution A3.2 Formula for concentrated electrolyte/mineral solution A3.3 Recipes of refeeding formulas F-75 and F-100  Appendix 4 Assessing nutritional status and recovery  A4.1 Calculating the child's weight-for-length Table 26. WHO/NCHS normalized reference weight-for-length and weight-for-height, by sex A4.2 Monitoring weight gain Blank Weight Chart Weight Chart Weight Chart: example 24-Hour Food Intake Chart Daily Ward Feed Chart—example Daily Ward Feed Chart—blank  Appendix 5 Toys and play therapy Toys for severely malnourished children  Iso  Appendix 5 Toys are play therapy Toys for severely malnourished children  Iso  Appendix 5 Toys for severely malnourished children  Iso  Index  Acute Conversed to the conversed of t			140
A2.7 Bronchodilators/Anti-inflammatory agents for treatment of wheeze A2.8 Analgesics A2.9 Other drugs  Appendix 3 Formulas and recipes for severely malnourished children  A3.1 Formula for ReSoMal: rehydration solution A3.2 Formula for concentrated electrolyte/mineral solution A3.3 Recipes of refeeding formulas F-75 and F-100  Appendix 4 Assessing nutritional status and recovery  A4.1 Calculating the child's weight-for-length Table 26. WHO/NCHS normalized reference weight-for-length and weight-for-height, by sex Blank Weight Chart Weight Chart Weight Chart: example 24-Hour Food Intake Chart Daily Ward Feed Chart—example Daily Ward Feed Chart—blank  Appendix 5 Toys and play therapy A5.1 Sample curriculum for play therapy A5.2 Toys for severely malnourished children  Index  142  143  144  145  146  147  146  147  146  147  146  147  147			141
A2.8 Analgesics A2.9 Other drugs  Appendix 3 Formulas and recipes for severely malnourished children  A3.1 Formula for ReSoMal: rehydration solution A3.2 Formula for concentrated electrolyte/mineral solution A3.3 Recipes of refeeding formulas F-75 and F-100  Appendix 4 Assessing nutritional status and recovery  A4.1 Calculating the child's weight-for-length Table 26. WHO/NCHS normalized reference weight-for-length and weight-for-height, by sex A4.2 Monitoring weight gain Blank Weight Chart Weight Chart: example 24-Hour Food Intake Chart Daily Ward Feed Chart—example Daily Ward Feed Chart—blank  Appendix 5 Toys and play therapy  T55 A5.1 Sample curriculum for play therapy T56 A5.2 Toys for severely malnourished children  Index  158 Index  158  158  158  158  158  158  158  15			
A2.9 Other drugs       143         Appendix 3 Formulas and recipes for severely malnourished children       144         A3.1 Formula for ReSoMal: rehydration solution       144         A3.2 Formula for concentrated electrolyte/mineral solution       144         A3.3 Recipes of refeeding formulas F-75 and F-100       145         Appendix 4 Assessing nutritional status and recovery       146         A4.1 Calculating the child's weight-for-length			
Appendix 3 Formulas and recipes for severely malnourished children  A3.1 Formula for ReSoMal: rehydration solution A3.2 Formula for concentrated electrolyte/mineral solution A3.3 Recipes of refeeding formulas F-75 and F-100  Appendix 4 Assessing nutritional status and recovery  A4.1 Calculating the child's weight-for-length Table 26. WHO/NCHS normalized reference weight-for-length and weight-for-height, by sex A4.2 Monitoring weight gain Blank Weight Chart Weight Chart: example 24-Hour Food Intake Chart Daily Ward Feed Chart—example Daily Ward Feed Chart—blank  Appendix 5 Toys and play therapy A5.1 Sample curriculum for play therapy A5.2 Toys for severely malnourished children  Index  154  Index  156  157  Index  158  Index			
A3.1 Formula for ReSoMal: rehydration solution A3.2 Formula for concentrated electrolyte/mineral solution A3.3 Recipes of refeeding formulas F-75 and F-100  Appendix 4 Assessing nutritional status and recovery  A4.1 Calculating the child's weight-for-length Table 26. WHO/NCHS normalized reference weight-for-length and weight-for-height, by sex A4.2 Monitoring weight gain Blank Weight Chart Weight Chart: example 24-Hour Food Intake Chart Daily Ward Feed Chart—example Daily Ward Feed Chart—blank  Appendix 5 Toys and play therapy A5.1 Sample curriculum for play therapy A5.2 Toys for severely malnourished children  Index  156  Index  167  168  169  169  169  169  169  169  169	A2.9	Other drugs	143
A3.2 Formula for concentrated electrolyte/mineral solution A3.3 Recipes of refeeding formulas F-75 and F-100  Appendix 4 Assessing nutritional status and recovery  A4.1 Calculating the child's weight-for-length Table 26. WHO/NCHS normalized reference weight-for-length and weight-for-height, by sex  A4.2 Monitoring weight gain Blank Weight Chart Weight Chart: example 24-Hour Food Intake Chart Daily Ward Feed Chart—example Daily Ward Feed Chart—blank  Appendix 5 Toys and play therapy  A5.1 Sample curriculum for play therapy A5.2 Toys for severely malnourished children  Index  144  Appendix 5 Toys for severely malnourished children  155  Index	Appendix 3	Formulas and recipes for severely malnourished children	144
A3.3 Recipes of refeeding formulas F-75 and F-100  Appendix 4 Assessing nutritional status and recovery  A4.1 Calculating the child's weight-for-length Table 26. WHO/NCHS normalized reference weight-for-length and weight-for-height, by sex  A4.2 Monitoring weight gain Blank Weight Chart Weight Chart: example 24-Hour Food Intake Chart Daily Ward Feed Chart—example Daily Ward Feed Chart—blank  Appendix 5 Toys and play therapy  A5.1 Sample curriculum for play therapy A5.2 Toys for severely malnourished children  158  Index	A3.1	Formula for ReSoMal: rehydration solution	144
Appendix 4 Assessing nutritional status and recovery  A4.1 Calculating the child's weight-for-length Table 26. WHO/NCHS normalized reference weight-for-length and weight-for-height, by sex A4.2 Monitoring weight gain Blank Weight Chart Weight Chart: example 24-Hour Food Intake Chart Daily Ward Feed Chart—example Daily Ward Feed Chart—blank  Appendix 5 Toys and play therapy A5.1 Sample curriculum for play therapy A5.2 Toys for severely malnourished children  Index  146  Appendix 4 Assessing nutritional status and recovery  147  148  149  149  149  149  149  149  149	A3.2	Formula for concentrated electrolyte/mineral solution	144
A4.1 Calculating the child's weight-for-length Table 26. WHO/NCHS normalized reference weight-for-length and weight-for-height, by sex  A4.2 Monitoring weight gain Blank Weight Chart Weight Chart: example 24-Hour Food Intake Chart Daily Ward Feed Chart—example Daily Ward Feed Chart—blank  Appendix 5 Toys and play therapy  A5.1 Sample curriculum for play therapy A5.2 Toys for severely malnourished children  Index	A3.3	Recipes of refeeding formulas F-75 and F-100	145
Table 26. WHO/NCHS normalized reference weight-for-length and weight-for-height, by sex  A4.2 Monitoring weight gain Blank Weight Chart Weight Chart: example 24-Hour Food Intake Chart Daily Ward Feed Chart—example Daily Ward Feed Chart—blank  Appendix 5 Toys and play therapy  A5.1 Sample curriculum for play therapy A5.2 Toys for severely malnourished children  Index  Table 26. WHO/NCHS normalized reference weight-for-length and weight-for-height, by sex  147 148 149 150 150 150 150 151 152 153 155 156 157 157 158 158 158 158 158 158 158 158 158 158	Appendix 4	Assessing nutritional status and recovery	146
A4.2 Monitoring weight gain Blank Weight Chart Weight Chart: example 24-Hour Food Intake Chart Daily Ward Feed Chart—example Daily Ward Feed Chart—blank  Appendix 5 Toys and play therapy A5.1 Sample curriculum for play therapy A5.2 Toys for severely malnourished children  Index  149 150 151 151 152 153 154 155 155 156 157	A4.	Calculating the child's weight-for-length	146
Blank Weight Chart Weight Chart: example 151 24-Hour Food Intake Chart Daily Ward Feed Chart—example Daily Ward Feed Chart—blank 154  Appendix 5 Toys and play therapy 155 A5.1 Sample curriculum for play therapy A5.2 Toys for severely malnourished children 156  Index		Table 26. WHO/NCHS normalized reference weight-for-length and weight-for-height, by sex	147
Weight Chart: example 24-Hour Food Intake Chart Daily Ward Feed Chart—example Daily Ward Feed Chart—blank  Appendix 5 Toys and play therapy A5.1 Sample curriculum for play therapy A5.2 Toys for severely malnourished children  Index  151 152 153 154 155 155 156 157 158	A4.2		149
24-Hour Food Intake Chart Daily Ward Feed Chart—example Daily Ward Feed Chart—blank  Appendix 5 Toys and play therapy A5.1 Sample curriculum for play therapy A5.2 Toys for severely malnourished children  Index  152  Appendix 5 Toys and play therapy 155 A5.1 Sample curriculum for play therapy 157 A5.2 Toys for severely malnourished children 158		<u>e</u>	150
Daily Ward Feed Chart—example Daily Ward Feed Chart—blank  Appendix 5 Toys and play therapy A5.1 Sample curriculum for play therapy A5.2 Toys for severely malnourished children  Index  153  Appendix 5 Toys and play therapy 155  A5.1 Sample curriculum for play therapy 157			151
Daily Ward Feed Chart—blank  Appendix 5 Toys and play therapy  A5.1 Sample curriculum for play therapy A5.2 Toys for severely malnourished children  Index  154  154  155  155  157			152
Appendix 5 Toys and play therapy  A5.1 Sample curriculum for play therapy A5.2 Toys for severely malnourished children  Index  155  157			153
A5.1 Sample curriculum for play therapy A5.2 Toys for severely malnourished children  Index  158		Daily Ward Feed Chart—blank	154
A5.2 Toys for severely malnourished children 157  Index 158	Appendix 5	Appendix 5 Toys and play therapy	
Index 158			
	A5.2	Toys for severely malnourished children	157
Credits for illustrations 162	Index		158
	Credits for	illustrations	162

162

## **Acknowledgements**

This manual is the result of an international effort co-ordinated by the World Health Organization's Department of Child and Adolescent Health and Development. A special debt of gratitude is owed to Dr Harry Campbell, Department of Public Health Sciences, University of Edinburgh, Edinburgh, Scotland, for his extensive contribution during preparation of the document. Special thanks are due to the members of the Working Group on Referral Care Manual for their valuable contributions in developing these guidelines: Dr Ann Ashworth, London, England; Dr Sandy Gove, Berkeley, USA; Dr Greg Hussey, Capetown, South Africa; Dr Elizabeth Molyneux, Blantyre, Malawi; Dr Lulu Muhe, Addis Ababa, Ethiopia; Dr Nate Pierce, Baltimore, USA and Dr Giorgio Tamburlini, Trieste, Italy.

WHO also thanks the following for their valuable contributions: Dr Robert Black, Baltimore, USA; Dr Adriano Cattaneo, Trieste, Italy; Dr Carlo Gioquinto, Italy; Dr Alan Jackson, Southampton, England; Dr Mushtaq Khan, Islamabad, Pakistan; Dr Gelasius Mukasa, Kampala, Uganda; Dr Connie Osborne, Lusaka, Zambia; Dr Ayo Palmer, Banjul, The Gambia; Dr Clare Schofield, London, England; Dr Barbara Stoll, Atlanta, USA; and Ms Patricia Whitesell, Atlanta, USA.

WHO is grateful to the following for reviewing the manuscript at different stages: Dra Ana Maria Aguilar, La Paz, Bolivia; Dr Magnolia Arango, Bogota, Colombia; Dr Antonio Alves da Cunha, Rio de Janeiro, Brazil; Dr Patria Angos, Cebu City, Philippines; Dr M.K. Bhan, New Delhi, India; Dr Zulfiqar Bhutta, Karachi, Pakistan; Dr David Brewster, Darwin, Australia; Dr Lulu Bravo, Manila, Philippines; Dr André

Briend, Paris, France; Dr Abdullah Brooks, Dhaka, Bangladesh; Dr Gerardo Cabrera-Meza, Texas, USA; Dr Adriano Cattaneo, Trieste, Italy; Dr William Cutting, Edinburgh, Scotland; Dr S R Daga, Mumbai, India; Dr Teshome Desta, Gondar, Ethiopia; Dr Trevor Duke, Goroka, Papua New Guinea; Dr Matthias Funk, Jirapa, Ghana; Dr Youssouf Gamatie, Niamey, Niger; Dr Michael Gracey, Perth, Western Australia; Dr Sharon Huttly. London, England; Dr Nirmala Kesaree, Karnataka, India; Dr Eva Kudlova, Prague, Czech Republic; Dr Abel Msengi, Dar es Salaam, Tanzania; Dr K.J. Nathoo, Harare, Zimbabwe; Dr Francis Onyango, Addis Ababa, Ethiopia; Dr Ayo Palmer, Banjul, The Gambia; Dr Carlos Bernal Parra, Medellin, Colombia; Dr Mary Penny, London, UK; Dr Pham Ngoc Thanh, Ho Chi Minh City, Vietnam; Dr Nigel Rollins, Congella, South Africa; Dr Eduardo Salazar-Lindo, Lima, Peru; Dr Gisela Schneider, Brikama, The Gambia; Professor Frank Shann, Victoria, Australia; Dr Guiseppe Sperotto, Campinas, Brazil; Professor V. Tatochenko, Moscow, Russia; and Dr Paul Torzillo, Sydney, Australia.

Valuable inputs were provided by the WHO clusters of Communicable Diseases and of Noncommunicable Diseases, and the WHO Departments of Blood Safety and Clinical Technology, Disability/Injury Prevention and Rehabilitation, Essential Drugs and other Medicines, HIV/AIDS/STI, Nutrition for Health and Development, Reproductive Health and Research, and Vaccines and Biologicals, and by WHO Regional Offices, especially AFRO, AMRO and SEARO.

WHO wishes to thank Dr Ali Hussein, Kate O'Malley and Sue Hobbs for their technical assistance.

### **Foreword**

This manual is for use by doctors, senior nurses and other senior health workers who are responsible for the care of young children at the first referral level in developing countries. It presents up-to-date clinical guidelines, prepared by experts, for both inpatient and outpatient care in small hospitals where basic laboratory facilities and essential drugs and inexpensive medicines are available. In some settings, the manual can be used in large health centres where a small number of sick children can be admitted for inpatient care.

The guidelines require the hospital to have (1) the capacity to carry out certain essential investigations—such as blood smear examinations for malaria parasites, estimations of haemoglobin or packed cell volume and blood glucose, blood grouping and crossmatching, and basic microscopy of CSF and urine—and (2) essential drugs available for the care of seriously ill children (see Appendix 2, page 135). Expensive treatment options, such as new antibiotics or mechanical ventilation, are not described.

The manual focuses on the inpatient management of the major causes of childhood mortality, such as pneumonia, diarrhoea, severe malnutrition, malaria, meningitis, measles, and related conditions. It complements standard, more comprehensive paediatric textbooks, which should be consulted for information on the management of rarer conditions or complications. Details of the principles underlying the guidelines can be found in technical review papers published by WHO (see References, page 123).

This manual is part of a series of documents and tools that support the Integrated Management of Childhood Illness (IMCI). It is consistent with the IMCI guidelines for outpatient management of sick children. They are applicable in most areas of the world and may be adapted by countries to suit their specific circumstances. WHO believes that their widespread adoption would improve the care of children in hospital and lead to lower case fatality rates.

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 30505

