

Contents

Acknowledgements	vii
Foreword	viii
Stages in the management of the sick child	ix
Chart 1. Stages in the management of the sick child admitted to hospital: summary of key elements	x
How the manual is organized	xi
How the manual can be used	xii
List 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 Give emergency treatment to the child with severe malnutrition	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 Child presenting with fever	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

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 Conditions presenting with stridor	37
3.4.1 Viral croup	37
3.4.2 Diphtheria	38
3.5 Pertussis	39
3.6 Tuberculosis	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 Meningitis	61
5.3 Measles	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

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 Conditions presenting with stridor	37
3.4.1 Viral croup	37
3.4.2 Diphtheria	38
3.5 Pertussis	39
3.6 Tuberculosis	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 Meningitis	61
5.3 Measles	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

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
10.2 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
11.2 Counselling	117
11.3 Nutrition counselling	117

11.4 Home treatment	118
Chart 17. Mother's Card	119
11.5 Checking the mother's own health	120
11.6 Checking immunization status	120
11.7 Communicating with the first-level health worker	120
11.8 Providing follow-up care	121
References	123
Appendix 1 Practical procedures	124
A1.1 Giving injections	124
A1.2 Giving parenteral fluids	125
A1.3 Blood transfusion	130
A1.4 Insertion of a nasogastric tube	132
A1.5 Lumbar puncture	132
A1.6 Inserion of a chest drain	134
Appendix 2 Drug dosages/regimens	135
A2.1 Antibiotics	135
A2.2 Anti-tuberculosis antibiotics	138
A2.3 Antimalarials	139
A2.4 Antipyretics	140
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
Table 26. WHO/NCHS normalized reference weight-for-length and weight-for-height, by sex	147
A4.2 Monitoring weight gain	149
Blank Weight Chart	150
Weight Chart: example	151
24-Hour Food Intake Chart	152
Daily Ward Feed Chart—example	153
Daily Ward Feed Chart—blank	154
Appendix 5 Toys and play therapy	155
A5.1 Sample curriculum for play therapy	155
A5.2 Toys for severely malnourished children	157
Index	158
Credits for illustrations	162