

Support materials

for facilitators



WORLD HEALTH ORGANIZATION
DEPARTMENT OF NUTRITION FOR HEALTH AND DEVELOPMENT

TRAINING COURSE ON THE MANAGEMENT OF SEVERE MALNUTRITION



CRITICAL CARE PATHWAY (CCP) — SEVERE MALNUTRITION WARD

NAME _____ M F DATE OF BIRTH OR AGE _____ DATE OF ADMISSION _____ TIME _____ HOSP. ID NUMBER _____

INITIAL MANAGEMENT

Comments on pre-referral and/or emergency treatment already given: _____

SIGNS OF SEVERE MALNUTRITION	Severe wasting?	Yes	No
Oedema?	0 + ++ +++		
Dermatosis?	0 + ++ +++ (raw skin, fissures)		
Weight(kg):	Height/length (cm):		
SD score:	or % of median:		

TEMPERATURE _____ °C	rectal	axillary
<i>If rectal <35.5°C (95.9°F), or axillary <35°C (95°F), actively warm child. Check temperature every 30 minutes.</i>		

BLOOD GLUCOSE (mmol/l):
<i>If <3mmol/l and alert, give 50 ml bolus of 10% glucose or sucrose (oral or NG). If <3 mmol/l and lethargic, unconscious, or convulsing, give sterile 10% glucose IV: 5 ml x ___ kg (child's wt) = ___ ml Then give 50 ml bolus NG.</i>
Time glucose given: _____ Oral NG IV
HAEMOGLOBIN (Hb) (g/l): _____ or Packed cell vol (PCV): _____ Blood type: _____
<i>If Hb <40 g/l or PCV <12%, transfuse 10 ml/kg whole fresh blood (or 5-7 ml/kg packed cells) slowly over 3 hours. Amount: _____ Time started: _____ Ended: _____</i>

EYE SIGNS	None	Left	Right	MEASLES	Yes	No
Bitot's spots	Pus/Inflammation	Corneal clouding	Corneal ulceration			
<i>If ulceration, give vitamin A & atropine immediately. Record on Daily Care page.</i>						
<i>Oral doses vitamin A:</i>	<6 months	50 000 IU				
	6 - 12 months	100 000 IU				
	>12 months	200 000 IU				

FEEDING <i>Begin feeding with F-75 as soon as possible. (If child is rehydrated, reweigh before determining amount to feed. New weight: _____ kg)</i>
Amount for 2-hourly feedings: _____ ml F-75* Time first fed: _____
<i>* If hypoglycaemic, feed ¼ of this amount every half hour for first 2 hours; continue until blood glucose reaches 3 mmol/l.</i>
Record all feeds on 24-hour Food Intake Chart.

SIGNS OF SHOCK	None	Lethargic/unconscious	Cold hand	Slow capillary refill(>3 seconds)	Weak/fast pulse
<i>If lethargic or unconscious, plus cold hand, plus either slow capillary refill or weak/fast pulse, give oxygen. Give IV glucose as described under Blood Glucose (left). Then give IV fluids:</i>					

Amount IV fluids per hour: 15 ml x ___ kg (child's wt) = _____ ml

	Start:	Monitor every 10 minutes		*2 nd hr:	Monitor every 10 minutes								
Time					*								
Resp. rate					*								
Pulse rate					*								

** If respiratory & pulse rates are slower after 1 hour, repeat same amount IV fluids for 2nd hour; then alternate ReSoMal and F-75 for up to 10 hours as in right part of chart below. If no improvement on IV fluids, transfuse whole fresh blood. (See left, Haemoglobin.)*

DIARRHOEA	Watery diarrhoea?	Yes	No	→ <i>If diarrhoea, circle signs present:</i>	Skin pinch goes back slowly
	Blood in stool?	Yes	No		Restless/irritable
	Vomiting?	Yes	No		Lethargic
					Thirsty
					Sunken eyes
					Dry mouth/tongue
					No tears

<i>If diarrhoea and/or vomiting, give ReSoMal. Every 30 minutes for first 2 hours, monitor and give:*</i>	<i>For up to 10 hours, give ReSoMal and F-75 in alternate hours. Monitor every hour. Amount of ReSoMal to offer:*</i>												
5 ml x ___ kg (child's wt) = ___ ml ReSoMal	5 to 10 ml x ___ kg (child's wt) = ___ to ___ ml ReSoMal												
Time	Start:												
Resp. rate													
Pulse rate													
Passed urine? Y N													
Number stools													
Number vomits													
Hydration signs													
Amount taken (ml)					F-75	F-75	F-75	F-75	F-75	F-75	F-75	F-75	F-75
* Stop ReSoMal if: Increase in pulse & resp. rates Jugular veins engorged Increasing oedema, e.g., puffy eyelids													

ANTIBIOTICS (All receive)	Drug / Route	Dose / Frequency / Duration	Time of 1 st dose



DAILY CARE		Week 1							Week 2							Week 3						
DAYS IN HOSPITAL		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
Date																						
Daily weight (kg)																						
Weight gain (g/kg)		<i>Calculate daily after on F-100.</i>																				
Oedema 0 + ++ +++																						
Diarrhoea/vomit 0 D V																						
FEED PLAN: Type feed																						
# feeds daily																						
Total volume taken (ml)																						
ANTIBIOTICS		<i>List prescribed antibiotics in left column. Allow one row for each daily dose. Draw a box around days/times that each drug should be given. Initial when given.</i>																				
FOLIC ACID		5mg	1mg ^o																			
VITAMIN A		*		<i>*Give Day 1 routinely unless evidence of dose in past month & no eye sign. Give Day 2 & Day 15 if</i>														<i>child admitted with eye sign or recent measles.</i>				
Multivitamin (if not in feed)																						
Drug for worms (Note type of worm)																						
IRON 2 X daily		<i>Begin iron after 2 days on F-100.</i>																				
FOR EYE PROBLEMS: Tetracycline or Chloramphenicol 1 drop 4 X daily																<i>After 7-10 days, when eye drops are no longer needed, shade boxes for eye drops.</i>						
Atropine 1 drop 3 X daily																						
Dermatosis 0 + ++ +++																						
Bathing, 1% permanganate																						
OTHER																						



WEIGHT CHART

Name: _____

Weight on admission: _____ kg

Height / length: _____ cm

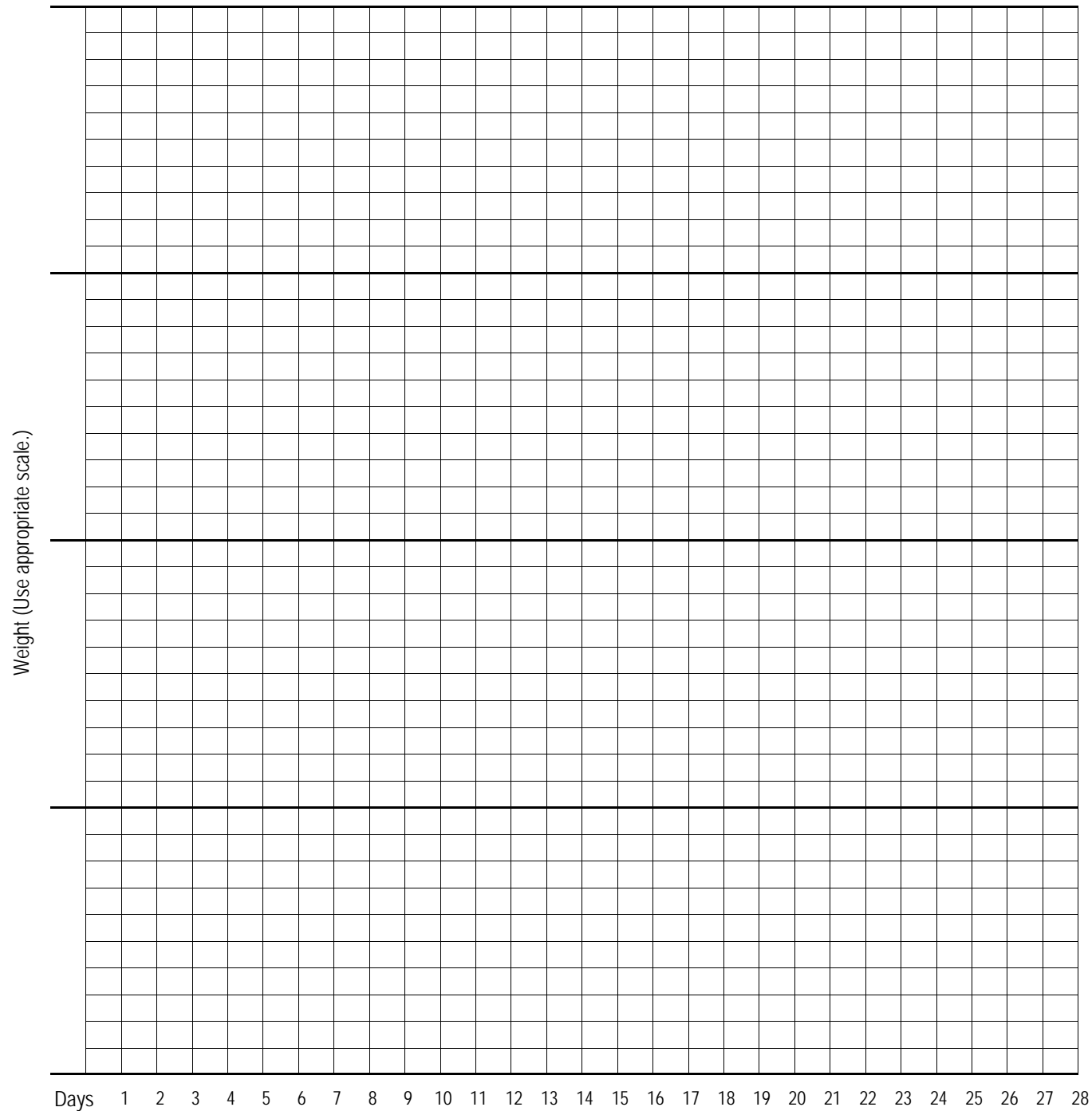
Oedema on admission: 0 + ++ +++

Desired weight at discharge
(-1SD, 90% weight for height): _____ kg

Actual weight at discharge: _____ kg

Enter likely range of weights on the vertical axis in an appropriate scale (e.g., each row representing 0.1 kg). Allow rows below the starting weight in case weight decreases; weight may decrease by as much as 30% if the child has severe oedema.

Draw a bold horizontal line across the graph to show the desired discharge weight.



Days 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28



COMMENTS / OUTCOME

COMMENTS:

TRAINING GIVEN TO PARENTS / CAREGIVERS:

IMMUNIZATIONS				
Immunization card? Yes No <i>Circle immunizations already given. Initial and date by any given in hospital.</i>				
Immunization	First	Second	Third	Booster
BCG	At birth	Optional: >6 months	—	—
Polio	At birth	2 months	3 months	12 months
DPT	3 months	4 months	5 months	12 months
Measles	6 or 9 months	—	—	—

SPECIAL DISCHARGE AND FOLLOW-UP INSTRUCTIONS:

PATIENT OUTCOME		
<i>Circle outcome:</i>	DATE	CIRCUMSTANCES / COMMENTS
Discharge at -1SD (90% weight for height)		
Early departure (against advice)		SD score (or %): _____
Early discharge		SD score (or %): _____
Referral		SD score (or %): _____
Death		Number of days after admission (circle): <24 hrs 1-3 days 4-7 days >7 days Approximate time of death: Day Night Apparent cause(s): Had child received IV fluids? Yes No



24-HOUR FOOD INTAKE CHART
 Complete one chart for every 24-hour period.

Name: _____ Hospital ID number: _____ Admission weight (kg): _____ Today's weight (kg): _____

DATE:		TYPE OF FEED:		GIVE: _____ feeds of _____ ml		
Time	a. Amount offered (ml)	b. Amount left in cup (ml)	c. Amount taken orally (a - b)	d. Amount taken by NG, if needed (ml)	e. Estimated amount vomited (ml)	f. Watery diarrhoea (if present, yes)
Column totals			c.	d.	e.	Total yes:
Total volume taken over 24 hours = amount taken orally (c) + amount taken by NG (d) - total amount vomited (e) = _____ ml						



DAILY WARD FEED CHART

DATE: _____ WARD: _____

Name of Child	F-75			F-100		
	Number feeds	Amount/ feed (ml)	Total (ml)	Number feeds	Amount/ feed (ml)	Total (ml)
<i>F-75 (total ml) needed for 24 hours</i>				<i>F-100 (total ml) needed for 24 hrs</i>		
<i>Amount needed for __ hours*</i>				<i>Amount needed for __ hours*</i>		
<i>Amount to prepare (round up to whole litre)</i>				<i>Amount to prepare (round up to whole litre)</i>		

*Divide daily amount by the number of times food is prepared each day. For example, if feeds are prepared every 12 hours, divide daily amount by 2.

WEIGHT GAIN TALLY SHEET FOR WARD



Week of:	Good weight gain ≥ 10 g/kg/day	Moderate weight gain 5 up to 10 g/kg/day	Poor weight gain < 5 g/kg/day
Number of children on F-100 for entire week:			
Totals			
% of children on F-100 in ward			



CHECKLIST FOR MONITORING FOOD PREPARATION

OBSERVE:	YES	NO	COMMENTS
Are ingredients for the recipes available?			
Is the correct recipe used for the ingredients that are available?			
Are ingredients stored appropriately and discarded at appropriate times?			
Are containers and utensils kept clean?			
Do kitchen staff (or those preparing feeds) wash hands with soap before preparing food?			
Are the recipes for F-75 and F-100 followed exactly? (If changes are made due to lack of ingredients, are these changes appropriate?)			
Are measurements made exactly with proper measuring utensils (e.g., correct scoops)?			
Are ingredients thoroughly mixed (and cooked, if necessary)?			
Is the appropriate amount of oil mixed in (i.e., not left stuck in the measuring container)?			
Is mineral mix added correctly?			
Is correct amount of water added to make up a litre of formula? (Staff should not add a litre of water, but just enough to make a litre of formula.)			
Is food served at an appropriate temperature?			
Is the food consistently mixed when served (i.e., oil is mixed in, not separated)?			
Are correct amounts put in the dish for each child?			
Is leftover prepared food discarded promptly?			
Other:			

CHECKLIST FOR MONITORING WARD PROCEDURES

OBSERVE:	YES	NO	COMMENTS
<i>Feeding</i>			
Are correct feeds served in correct amounts?			
Are feeds given at the prescribed times, even on nights and weekends?			
Are children held and encouraged to eat (never left alone to feed)?			
Are children fed with a cup (never a bottle)?			
Is food intake (and any vomiting/diarrhoea) recorded correctly after each feed?			
Are leftovers recorded accurately?			
Are amounts of F-75 kept the same throughout the initial phase, even if weight is lost?			
After transition, are amounts of F-100 given freely and increased as the child gains weight?			
<i>Warming</i>			
Is the room kept between 25° - 30° C (to the extent possible)?			
Are blankets provided and children kept covered at night?			
Are safe measures used for re-warming children?			
Are temperatures taken and recorded correctly?			
<i>Weighing</i>			
Are scales functioning correctly?			
Are scales standardized weekly?			
Are children weighed at about the same time each day?			
Are they weighed about one hour before a feed (to the extent possible)?			
Do staff adjust the scale to zero before weighing?			
Are children consistently weighed without clothes?			
Do staff correctly read weight to the nearest division of the scale?			
Do staff immediately record weights on the child's CCP?			
Are weights correctly plotted on the Weight Chart?			

CHECKLIST FOR MONITORING WARD PROCEDURES, continued

<i>Giving antibiotics, medications, supplements</i>			
Are antibiotics given as prescribed (correct dose at correct time)?			
When antibiotics are given, do staff immediately make a notation on the CCP?			
Is folic acid given daily and recorded on the CCP?			
Is vitamin A given according to schedule?			
Is a multivitamin given daily and recorded on the CCP?			
After children are on F-100 for 2 days, is the correct dose of iron given twice daily and recorded on the CCP?			
<i>Ward environment</i>			
Are surroundings welcoming and cheerful?			
Are mothers offered a place to sit and sleep?			
Are mothers taught/ encouraged to be involved in care?			
Are staff consistently courteous?			
As children recover, are they stimulated and encouraged to move and play?			

CHECKLIST FOR MONITORING HYGIENE

OBSERVE:	YES	NO	COMMENTS
<i>Handwashing</i>			
Are there working handwashing facilities in the ward?			
Do staff consistently wash hands thoroughly with soap?			
Are their nails clean?			
Do they wash hands before handling food?			
Do they wash hands between each patient?			
<i>Mothers' cleanliness</i>			
Do mothers have a place to bathe, and do they use it?			
Do mothers wash hands with soap after using the toilet or changing diapers?			
Do mothers wash hands before feeding children?			
<i>Bedding and laundry</i>			
Is bedding changed every day or when soiled/wet?			
Are diapers, soiled towels and rags, etc. stored in bag, then washed or disposed of properly?			
Is there a place for mothers to do laundry?			
Is laundry done in hot water?			
<i>General maintenance</i>			
Are floors swept?			
Is trash disposed of properly?			
Is the ward kept as free as possible of insects and rodents?			
<i>Food storage</i>			
Are ingredients and food kept covered and stored at the proper temperature?			
Are leftovers discarded?			
<i>Dishwashing</i>			
Are dishes washed after each meal?			
Are they washed in hot water with soap?			
<i>Toys</i>			
Are toys washable?			
Are toys washed regularly, and after each child uses them?			