

MODULE 5

DAILY CARE



Training Course on Inpatient Management of Severe Acute Malnutrition

(Adapted from the 2002 WHO *Training course on the inpatient management of severe acute malnutrition*)

Children 6–59 Months with SAM and Medical Complications

March 2012

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Contents

Acronyms and Abbreviations	i
Introduction.....	1
Learning Objectives	2
1. Handle a Child with SAM and Medical Complications	3
2. Care for the Skin and Bathe the Child	7
3. Give Prescribed Antibiotics and Other Medications and Supplements	8
3.1. Give Antibiotics as Prescribed	8
3.2. Give Folic Acid	9
3.3. Give Vitamin A	9
3.4. Give a Multivitamin	12
3.5. Give Presumptive Treatment for Worms and Treat Giardiasis and Amoebiasis	12
3.6. After 2 Days on F-100, Give Iron Daily; Do Not Give Iron with RUTF.....	12
4. Conduct and Observe the Appetite Test When the Child’s Condition Stabilises.....	14
5. Care for the Eyes.....	15
Exercise A.....	17
Exercise B	19
6. Monitor Pulse, Respiration, and Temperature, and Watch for Danger Signs.....	21
6.1. Measure Pulse Rate	23
6.2. Measure Respiratory Rate	23
6.3. Take Temperature.....	23
6.4. Recognise Danger Signs.....	23
7. Continue Care at Night	26
Exercise C	28
Exercise D.....	30
8. Prepare and Maintain a Weight Chart.....	36
Exercise E	40
Answers to Short Answer Exercises	43

Acronyms and Abbreviations

CCP	Critical Care Pathway
cm	Centimetre(s)
CMV	Combined Mineral and Vitamin Mix
dl	Decilitre(s)
F-75	Formula 75 Therapeutic Milk
F-100	Formula 100 Therapeutic Milk
g	Gram(s)
HIV	Human Immunodeficiency Virus
IM	Intramuscular
IU	International Unit(s)
IV	Intravenous
kg	Kilogram(s)
L	Litre(s)
mg	Milligram(s)
ml	Millilitre(s)
mmol	Millimole(s)
MUAC	Mid-Upper Arm Circumference
NG	Nasogastric
NGT	Nasogastric Tube
PCV	Packed Cell Volume
ReSoMal	Rehydration Solution for Malnutrition
RUTF	Ready-to-Use Therapeutic Food
SAM	Severe Acute Malnutrition
°C	Degrees Celsius
>	Greater Than
≥	Greater Than or Equal To
<	Less Than
≤	Less Than or Equal To
%	Percent

Introduction

Attentive and consistent daily care will make the difference in the recovery of a child with severe acute malnutrition (SAM). The routine of daily care in Inpatient Care for children 6–59 months of age with SAM with medical complications includes such tasks as feeding, bathing, weighing, giving antibiotics, and monitoring and recording each child’s progress. Throughout a very busy day and also through the night, the staff must be patient and caring with both the children and their mothers¹.

Weighing and measuring tasks were described in **Module 2, Principles of Care**. Feeding tasks were described in **Module 4, Feeding**. This module describes other aspects of daily care. You will practice tasks related to daily care during ward visits. Written practice in the module focuses on completing and interpreting the Daily Care, Monitoring Record, and Weight Chart pages of the Critical Care Pathway (CCP).

¹ The term ‘mother’ is used throughout this module. However, it is understood that the person who is responsible for the care of the child might not always be that child’s mother, but rather some other caregiver. However, for the sake of readability, ‘mother’ means ‘mother/caregiver’, ‘she’ means ‘she or he’, and ‘her’ means ‘her or his’ throughout this module.

Learning Objectives

This module and related clinical sessions describe and allow you to practice the following skills:

- Handling a child with SAM and medical complications
- Caring for the skin and bathing a child with SAM in Inpatient Care
- Giving prescribed antibiotics and other medications and supplements
- Caring for the eyes
- Conducting and observing the ready-to-use therapeutic food (RUTF) appetite test during transition
- Continuing feeding at night
- Completing and interpreting the Daily Care page and Monitoring Record of the CCP
- Monitoring pulse, respiration, and temperature and watching for danger signs
- Preparing and maintaining a weight chart

1. Handle a Child with SAM and Medical Complications

Children with SAM must be handled very gently, especially at the beginning of their care. The body of a child with SAM is fragile and bruises easily. The child needs all his or her energy to recover, so he or she must stay calm and not become upset. It is important to speak quietly and handle children as little as possible at first. Hold and touch children with loving care when feeding, bathing, weighing, and caring for them.

Through tone of voice, gentle manner, and caring attitude, nurses set a good example for the mothers on how to provide tender, loving care. Good nurses also win the trust of mothers and make them more likely to stay with their children in the hospital for the necessary length of time. It is critical for mothers to stay with their children in the hospital. The number of other adults interacting with each child should be limited, and the most skilled staff available should perform medical procedures, preferably out of earshot and sight of the other children.

Nurses can set a good example by:

- Removing the child's clothes gently
- Bathing the child gently
- Talking softly to the child while giving treatments
- Holding the child close while feeding
- Encouraging a mother who is helping to provide care
- Comforting a child after a painful procedure

As the child recovers, stimulation should increase. Play, physical activities, and mental and emotional stimulation become very important to the child's complete recovery. There will be more information on these activities in **Module 7, Involving Mothers in Care**.



SHORT ANSWER EXERCISE

Tick all of the appropriate responses or actions in the situations described below.

1. A child is crying after having an intramuscular (IM) injection. The mother appears upset and uncertain what to do.
 - a. Leave the child alone until he or she calms down.
 - b. Hold and comfort the child.
 - c. Explain to the mother why the procedure was necessary and how it will help the child.
 - d. Show the mother how to hold the child gently without rubbing the site of the injection.

2. A mother pays little attention while her child is bathed by a nurse. The mother sits quietly, does not participate and is hesitant to touch the child.
 - a. Look at the mother directly and explain the bathing procedure.
 - b. Reassure the mother that she will not hurt her child by bathing and holding her or him gently.
 - c. Show the mother how to bathe and hold the child gently.
 - d. Leave the mother alone with the child, assuming she will figure out how to finish the bath.
 - e. Watch and help while having the mother dress and warm the child after the bath.

3. A mother falls asleep and does not finish feeding her child F-75 during the night.
 - a. Let the mother sleep while you feed the child yourself.
 - b. Gently wake the mother and ask, 'Can you finish the feed'?
 - c. Wake the mother and tell her that the child could die if not fed every 2 hours.
 - d. Suggest that the mother take turns sleeping and giving feeds with another woman whose child is nearby.

Check your own answers to this exercise against the answers given on page 43.

Example of the Daily Care page of the CCP

The next page shows an example of a completed Daily Care page of the CCP. When daily care tasks are performed, the nursing staff should record their initials on this page.

Tell a facilitator when you have reached this point in the module.
When everyone is ready, your facilitator will present a brief demonstration on how to use the Daily Care page. In the meantime, you may continue reading.

Name: Bianca

Sex: M F

Age (months): _____

Date of Admission: _____

Time: _____

Hospital ID Number: _____

DAILY CARE

DAYS IN HOSPITAL	Week 1							Week 2				Week 3									
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
Date	8/1	9/1	10/1	11/1	12/1	13/1	14/1	15/1	16/1												
Daily weight (kg)	8.8	8.8	8.75	8.8	8.85	8.85	8.9	8.95	9.0												
Weight gain (g/kg)	Calculate daily when on RUTF or F-100																				
Bilateral pitting oedema 0 + ++ +++	0	0	0	0	0	0	0	0	0												
Diarrhoea (D) or Vomit (V): O D V	D	D	D	0	0	0	0	0	0												
FEED PLAN:	Type feed																				
# daily feeds	F-75	F-75	F-75	F-75	F-75	F-100	F-100	F-100	F-100												
Volume to give per feed	12	12	8	6	6	6	6	6	6												
Total volume taken (ml)	910	1140	1130	1120	1170	1170	1170	1880	1880												
NG Tube Y N																					
Breastfeeding Y N																					
Appetite test with RUTF F failed P passed	-	-	-	-	F	F	F	F	F												
ANTIBIOTICS	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.																				
Amoxicillin 5ml syrup	8:00	AC	AC	AC	AC	AC															
	12:00	BP	BP	BP	BP	BP															
ANTIMALARIAL (note type of drug)																					
FOLIC ACID (5 mg single dose upon admission)	AC	Give a single dose upon admission																			
VITAMIN A	200,000IU	AC	AC	Give day 1, 2, and 15 if child admitted with eye sign or recent measles. Else, give routinely for prevention, single dose on week 4 or upon discharge unless evidence of dose in past one month																	
ANTHELMINTHIC Drug for worms only give to children > 24 months unless the younger child has worm infestation	none																				
IRON (if not on RUTF) Give 3mg/kg/day, 2 x daily	0.75ml	Begin iron after 2 days on F-100. Do not give when on RUTF.							AC	AC											
Give Iron after Malaria treatment	8:00 + 20:00							BP	BP												
FOR EYE PROBLEMS	After 7-10 days, when eye drops are no longer needed, shade boxes for eye drops.																				
Tetracycline eye ointment: 2x daily or Chloramphenicol eye drops: 1 drop 4 x daily	8:00	AC	AC	AC	AC	AC	NP	NP													
	14:00	HP	HP	HP	HP	HP	CN	CN													
	20:00	BP	BP	BP	BP	BP	RS	RS													
	2:00	BP	BP	BP	BP	BP	RS	RS													
Corneal Ulceration, As above, plus 1% atropine eye drops: 1 drop 3 x daily	None																				
Dermatosis 0 + ++ +++	+++	+++	+++	+++	++	++	+	+	0												
Bloody Stool (Yes or No)																					
Ear problems																					
Mouth or Throat problems																					
Bathing (1% permanganate)	VR	VR	VR	VR	VR	VR	VR	VR	VR												
OTHER																					

2. Care for the Skin and Bathe the Child

Bathe children daily unless they are very sick. If a child is very sick, wait until the child is recovering before bathing him or her.

If the child does not have skin problems, or has only mild or moderate dermatosis, use regular soap for bathing.

If the child has severe (+++) dermatosis, bathe for 10–15 minutes per day in 1% potassium permanganate solution. To make a 1% solution, dissolve a crystal in enough water so that the colour is slightly purple and still transparent. Sponge the solution onto affected areas while the child is sitting in a basin. This dries the lesions, helps prevent loss of serum and inhibits infection. Initial on the Daily Care page of the CCP when the bath is done. Circle '1% permanganate' if it is used. (See example on the previous page.)

If the child has severe dermatosis but is too sick to be bathed, dab 1% potassium permanganate solution on the bad spots and dress oozing areas with gauze to keep them clean.

If potassium permanganate solution is not available, affected areas may be dabbed with 0.5% gentian violet.

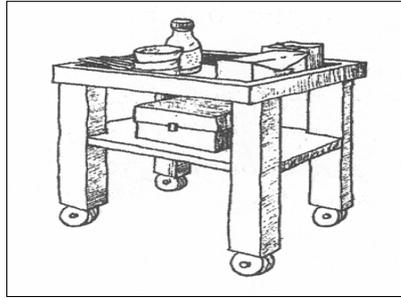
Apply barrier cream to raw areas. Useful ointments are zinc and castor oil ointment, petroleum jelly, or paraffin gauze dressing. These help relieve pain and prevent infection. Use a different tube of ointment for each child to avoid spreading infection. If the nappy (diaper) area becomes colonised with *Candida* (shows lighter discolouration [hypo-pigmentation]), use nystatin ointment or cream or any other antifungal after bathing. (Oral Candidiasis is also treated with oral nystatin.)

Leave off nappies so the affected area can dry. Be sure to dry the child well after a bath and wrap the child warmly.



3. Give Prescribed Antibiotics and Other Medications and Supplements

A nursing trolley that is wheeled around the ward regularly (for example, every 2 or 4 hours) is an efficient way to give antibiotics and other medications. As the nurse passes each bed, he or she checks the CCP and gives the child any medication needed at that time. In addition, he or she may carry out other activities, such as monitoring respiration, pulse, and temperature and giving eye drops. The needed equipment and medications are kept on the trolley.



3.1. Give Antibiotics as Prescribed

*Note: The prescription of appropriate antibiotics has already been covered in **Module 3, Initial Management**. This section is about administering them.*

When antibiotics are prescribed, list them on the Daily Care page of the CCP. Also list the time that each dose should be given, allowing one row per dose. Draw a box around the days and times that the antibiotic should be given. If the prescription changes, be sure to update the Daily Care page of the CCP. Whenever a dose is given, initial on the Daily Care page.

Look at the example of the Daily Care page on page 6. Notice how the ‘ANTIBIOTICS’ section is set up and completed.

It is assumed that nursing staff know how to measure and administer oral doses, so that will not be discussed here. However, giving antibiotics by IM injection may be difficult in a child with SAM and requires special care and attention.

Possible sites for IM injections are the buttocks or upper arm. Carefully select the site for an injection.

- Choose a site with enough muscle.
- Thoroughly clean the site with antiseptics.

Change the site when it becomes sore.

3.2. Give Folic Acid

Folic acid is a vitamin of the B complex that is important for treating and preventing anaemia and repairing the damaged gut. Each child should be given a large single dose (5 mg) on Day 1. No additional folic acid is provided if the child is on F-75, F-100, or RUTF. One L of F-75 provides 350 µg of folic acid, 1 L of F-100 provides 399 µg, and 200 g of RUTF provides 420 µg.

In case combined mineral and vitamin mix (CMV) is not being used to make F-75 and F-100, 1 mg of folic acid must be provided daily but separately from the feeds until the child recovers. If the child is consuming RUTF, additional folic acid should not be provided. Initial on the Daily Care page of the CCP when folic acid is given.

3.3. Give Vitamin A

Preventive Doses of Vitamin A

Children with SAM are at high risk of blindness due to vitamin A deficiency. A single dose of vitamin A should be given to all children with SAM on the fourth week of treatment or upon discharge, when oedema has resolved and the child has fully recovered, unless there is definite evidence that a dose has been given in the past month and the child has no signs of eye problems. For children referred to Outpatient Care to continue with the management of SAM, vitamin A is provided on the fourth week of treatment or upon discharge from Outpatient Care.

Timing and Oral Preventive Doses of Vitamin A

	Timing	Age	Dose (IU)
All children*	On the fourth week of treatment or upon discharge (child fully recovered and is free of oedema)	< 6 months	50,000
		6–11 months	100,000
		≥ 12 months	200,000

* Unless there is definite evidence of a dose in the last month and the child has no signs of eye problems.

Treatment Doses of Vitamin A

For children with severe wasting and/or bilateral pitting oedema, treatment doses of vitamin A are given if the child has:

- Visible clinical signs of vitamin A deficiency: Bitot's spots, corneal clouding, or corneal ulceration
- Signs of eye infection (pus or inflammation)
- Measles now or has had measles in the past 3 months

The treatment doses are given regardless of SAM status on Day 1, Day 2, and at least 2 weeks later, preferably on Day 15.

Timing and Oral Treatment Doses of Vitamin A

	Timing	Age	Dose (IU)
Only children with eye signs or recent measles	Day 1, Day 2, and Day 15	< 6 months	50,000
		6–11 months	100,000
		≥ 12 months	200,000

Oral treatment with vitamin A is standard. However, for children with visible eye signs or measles with severe anorexia, oedema, or septic shock, IM treatment is preferred for the first dose only, if available.

For oral administration, an oil-based formulation is preferred. For IM treatment, only water-based formulations should be used. The IM doses are 100,000 IU (water-based), except for children under 6 months of age, who should be given 50,000 IU.

Enter the dose in the first column of the Daily Care page, and initial when vitamin A is given. Sometimes the first dose is given immediately when the child arrives at the hospital for emergency treatment of corneal ulceration. If so, be sure that this dose is entered on the Daily Care page, so that a duplicate dose is not given on Day 1.

On the CCP, shade out the boxes for Day 1, Day 2, and Day 15 vitamin A if these doses are not needed (i.e., child has no eye signs and no recent measles). Give vitamin A Days 1, 2, and 15 if the child is admitted with eye sign or recent measles. Otherwise, give vitamin A in a single dose on the fourth week of treatment or upon discharge unless there is evidence of a dose having been given in the past month. Never give vitamin A when the child has bilateral pitting oedema, unless there are eye signs of vitamin A deficiency or recent measles.



SHORT ANSWER EXERCISE

1. Look again at the example of the Daily Care page on page 6. It is for Bianca, a 2-year-old girl who was admitted with some pus in her left eye. Should she be given a dose of vitamin A on Day 15? If yes, what is the dose?
2. Another child with SAM, Nawaz, is admitted with no signs of vitamin A deficiency or eye infection. Nawaz is 12 months old and has never had measles. He has no record of previous doses of vitamin A. On what day(s) should Nawaz be given vitamin A? What is the dose?
3. Efua was admitted with severe anorexia. She is 11 months old with a record of measles in the past 2 weeks. Should she be given a dose of vitamin? If yes, what is the dose?
4. Georgio is 3 years old and has severe oedema. He has Bitot's spots, and there is no evidence that he has had a dose of vitamin A in the past month. Should Georgio's first dose of vitamin A be given orally or by IM injection? What is the dose?

When and how should Georgio's next dose be given? What is the dose?

5. Dalia is 20 months of age and was referred from a health centre where she was given 200,000 IU vitamin A yesterday. She has corneal clouding. Should she be given another dose today, on Day 1 at the hospital?

Should she be given a dose on Day 2?

On Day 15?

Check your own answers to this exercise against those given on page 43 at the end of the module.

3.4. Give a Multivitamin

If CMV is used to prepare milk for feeds, then the feeds will include appropriate vitamins.

Otherwise give multivitamin drops daily (not including iron). Annex E of **Module 2, Principles of Care** lists water- and fat-soluble vitamins that should be included in the multivitamin drops.

Initial on the Daily Care page of the CCP when the multivitamin drops are given.

3.5. Give Presumptive Treatment for Worms and Treat Giardiasis and Amoebiasis

Worms are common in older children that play outside, and they can be a problem in children with SAM. They can cause dysentery and anaemia. Ask the mother if the child has worms or when was the last time the child was de-wormed. If needed, give an appropriate drug for worms according to the Ghana standard treatment guidelines. Treatment is usually delayed until the rehabilitation phase (at referral to Outpatient Care or after the child has been on RUTF or F-100 for 2 days). However, treatment may be started earlier if necessary (e.g., very severe infection with worms).

Similarly, if a child has signs of giardiasis or amoebiasis, the child is treated with metronidazole (see the job aid **Routine Medicines Protocol and Vaccines for Children under 5 with SAM in Inpatient Care** or Annex B in **Module 3, Initial Management**).

If the child has severe infection with worms, giardiasis, or amoebiasis, record that fact on the Daily Care page, along with the drug(s) given. Initial when drugs are given. If no worms are reported, give drugs after 1 week on treatment and initial on the Daily Care page.

3.6. After 2 Days on F-100, Give Iron Daily; Do Not Give Iron with RUTF

Even if a child is anaemic, he or she should not be given iron until he or she is recovering and has been on F-100 for 2 days (i.e., after 2 days of transition). If given earlier, iron can have toxic effects and promote certain bacteria growth and resistance (e.g., Salmonella). Iron is not given if the child is on RUTF. RUTF contains enough iron to cover the daily corrective needs of the child.

Note: If malaria is confirmed or suspected, the child should be treated for malaria before starting iron therapy.

Calculate and administer the amount needed. Give 3 mg elemental iron per kg per day in two divided doses. Always give iron orally, never by injection. Preferably give iron between meals using a liquid preparation. Or add iron in the F-100 milk by crushing one tablet of 200 mg iron sulphate in 2.0–2.4 L of F-100.

Write the dose for the specific child on the Daily Care page of the CCP in the left column. Initial each time on each day that the dose is given. Continue giving iron throughout the hospital stay.

Iron syrup may come in different formulations that affect how much to measure for each dose. The following table shows a common formulation and how much to measure for each of two daily doses so the child receives approximately 3 mg elemental iron per kg per day.

Doses of Iron Syrup for a Common Formulation

Weight of the child	Dose of Iron Syrup Ferrous Fumarate 100 mg per 5 ml (20 mg elemental iron per ml)
3 up to 6 kg	0.50 ml
6 up to 10 kg	0.75 ml
10 up to 15 kg	1.00 ml

4. Conduct and Observe the Appetite Test When the Child's Condition Stabilises

The appetite test determines if the child is able to eat the RUTF and therefore able to transition on RUTF and be referred to Outpatient Care to continue with care. It tests the appetite, the acceptability of the taste and consistency, and the ability of the child to swallow (e.g., the child is mature or old enough to swallow solids, the child has no lesions that prevent him or her from eating). The appetite test is repeated during each feed (before giving the F-75 or F-100 milk feeds) as soon as the child's condition stabilises.

Refer to **page 30** of **Module 4, Feeding** and review points to consider when conducting the appetite test.

Record the outcome of the RUTF appetite test at the end of the day on the 24-hour daily food intake form and on the Daily Care page of the CCP.

5. Care for the Eyes

Chloramphenicol eye drops or tetracycline eye ointment is given for an eye infection or possible eye infection. Atropine eye drops are used to relax the eye when there is corneal involvement (i.e., ulceration). In some cases, both types of eye drops may be needed.

Here is a summary of the eye drops needed for the eye signs discussed in this course.

If the child has:	Then:
Bitot's spots only (no other eye signs)	No eye drops are needed.
Pus or inflammation	Give chloramphenicol eye drops or tetracycline eye ointment.
Corneal clouding	Give chloramphenicol (1%) eye drops or tetracycline eye ointment.
Corneal ulceration	Give chloramphenicol eye drops or tetracycline eye ointment and 1% atropine eye drops.

Instil drops into the affected eye(s). Doses are:

- Chloramphenicol eye drops, 1 drop four times per day, or tetracycline eye ointment, apply two times per day, for 7–10 days
- 1% atropine, 1 drop 3 times per day

If both types of drops are needed, give them at the same time for convenience. Continue drops for at least 7 days, until all eye signs are gone.

Use special care and tenderness in examining the eyes and instilling eye drops. To avoid spreading infection, use a separate dropper and bottle for each child. Also be sure to wash your hands before and after treating each child.

The affected eye(s) should also be bandaged for 3–5 days until inflammation and irritation subside. Use eye pads soaked in normal (0.90%) saline solution, held in place with gauze bandages. The damp pads and bandages will cool the soreness, prevent the child from scratching his or her eyes, and promote healing. Change pads and bandages whenever drops are given.

To bandage the eyes:

1. Wash your hands.
2. Soak eye pads with normal (0.90%) saline solution.
3. Place a pad over each affected eye.

4. Wrap a gauze bandage over the pads and around the head (not too tight, just tightly enough to hold in place).

Some children with SAM sleep with their eyes open. Nurses should gently close the child's eyes while sleeping to prevent abrasion. Initial on the Daily Care page when eye drops are given. Shade out the boxes when eye drops are no longer needed.



Exercise A

In this exercise, you will decide on treatment for children with various eye signs. For some of the cases, you will need to refer to the **Photographs** booklet. For each child pictured or described, determine how many doses of vitamin A and which kind of eye drops are needed.

1. Photo 8: It was necessary to clean and open this child's eyes to examine them. Pus and inflammation were the only eye signs found. The child has not had a dose of vitamin A in the last month.

On which days should this child receive vitamin A?

Which eye drops should be given, if any?

2. Photo 9: This child has corneal clouding. He has not had a dose of vitamin A in the last month.

On which days should this child receive vitamin A?

Which eye drops should be given, if any?

3. Photo 10: This child has a Bitot's spot and inflammation. He has not had a dose of vitamin A in the last month.

On which days should this child receive vitamin A?

Which eye drops should be given, if any?

4. (No photo) A 2-year-old child with SAM has measles. He has some inflammation in both eyes but no other eye signs. He was referred from a health centre, where he received a dose of vitamin A yesterday.

On which days should this child receive vitamin A?

Which eye drops should be given, if any?

5. (No photo) A child with SAM has clear eyes. The child is 20 months old and had measles 2 months ago. There is no evidence that he had a dose of vitamin A in the past month.

On which days should this child receive vitamin A?

Which eye drops should be given, if any?

6. (No photo) An 11-month-old child with SAM has clear eyes with no signs of eye problems. She has never had measles. She has not had a dose of vitamin A in the past month.

On which days should this child receive vitamin A?

Which eye drops should be given, if any?

7. Photo 12: This child has corneal ulceration. He has not had a dose of vitamin A in the past month.

On which days should this child receive vitamin A?

Which eye drops should be given, if any?

When you have completed this exercise,
please discuss your answers with a facilitator.



Exercise B

This exercise will be done as a group. Your facilitator will prompt you as you set up the Daily Care page of a CCP. Obtain a blank Daily Care page to use in this exercise. (There should be a supply in your classroom.) When you have completed this exercise, save the Daily Care page for later use in **Exercise C**.

Case – Lani

Lani is an 18-month-old girl with severe wasting. Her MUAC is 10.9cm and has oedema of both feet. She also has severe dermatosis, corneal clouding and pus draining from her left ear. Her Initial Management page is provided on the next page.

Nurses take the nursing trolley around the ward to give antibiotics, eye drops, etc. at the following times:

8:00, 14:00, 16:00, 20:00, 24:00, 2:00

Use the information on Lani's Initial Management page and the above information on nursing rounds to set up Lani's Daily Care page. Your facilitator will prompt you to include the necessary information.

When the group has completed this exercise,
your facilitator will give you an answer sheet.

Name: Lani Sex: M Age (months): 18 months Date of Admission: 14/02/01 Time: 7:32 Hospital ID Number: 324

INITIAL MANAGEMENT

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

ADMISSION AS: Old Case (from Outpatient, Inpatient Care or other), New case		SIGNS OF SHOCK <u>None</u> Lethargic/unconscious Cold hand Slow capillary refill (> 3 seconds) Weak/fast pulse																																																													
VISIBLE SIGNS OF SAM Severe wasting? <u>Yes</u> No		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).																																																													
Bilateral Pitting Oedema? 0 <u>+</u> ++ +++		Then give IV fluids: Amount IV fluids per hour: 15 ml x _____ kg (child's wt) = _____ ml																																																													
Dermatosis? 0 + ++ <u>+++</u> (raw skin, fissures)		<table border="1"> <tr> <td></td> <td>Start:</td> <td>Monitor every 10 minutes</td> <td>*2nd hr</td> <td>Monitor every 10 minutes</td> </tr> <tr> <td>Time</td> <td></td> <td></td> <td>*</td> <td></td> </tr> <tr> <td>Resp. Rate</td> <td></td> <td></td> <td>*</td> <td></td> </tr> <tr> <td>Pulse rate</td> <td></td> <td></td> <td>*</td> <td></td> </tr> </table>			Start:	Monitor every 10 minutes	*2 nd hr	Monitor every 10 minutes	Time			*		Resp. Rate			*		Pulse rate			*																																									
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Time			*																																																												
Resp. Rate			*																																																												
Pulse rate			*																																																												
Weight (kg): <u>7.0</u> MUAC (cm): <u>10.9</u>		*If respiratory & pulse rates are slower after 1 hour, repeat same amount IV fluids for 2 nd hour, then alternate ReSoMal and F-75 for up to 10 hours as in right section of chart below. If no improvement on IV fluids, transfuse whole fresh blood. (See Haemoglobin, left). Give maintenance IV fluids (4 ml/kg/hour) while waiting for blood.																																																													
TEMPERATURE: <u>38</u> °C <u>axillary</u> rectal If axillary < 35°C or rectal < 35.5°C, actively warm child. Check temperatures every 30 minutes.																																																															
BLOOD GLUCOSE (mmol/l) <u>4 mmol/L</u> If < 3 mmol/L and alert, give 50 ml bolus of 10% glucose or sucrose (oral or NGT). 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 by NGT.																																																															
Time glucose given: Oral NGT IV																																																															
HAEMOGLOBIN (Hb) (g/dl): <u>9</u> or Packed cell vol (PCV): Blood type: If Hb < 4 g/dl 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: _____		DIARRHOEA Watery diarrhoea? Yes <u>No</u> Blood in stool? Yes <u>No</u> Vomiting? Yes <u>No</u> If diarrhoea, circle signs present: Skin pinch goes back slowly Lethargic Thirsty Restless/irritable Dry mouth/tongue No tears Sunken eyes																																																													
EYE SIGNS None <u>Left</u> Right Bitot's spots Pus/Inflammation <u>Corneal clouding</u> Corneal ulceration *If eye signs, give vitamin A on day 1, 2 and 15. Record on Daily Care page. **If corneal ulceration, give atropine eye drops immediately. Record on Daily Care page ***If no eye signs, give vitamin A preventive dose on the 4 th week or after full recovery from SAM (upon discharge), record on Comments/Outcome page.		If diarrhoea and/or vomiting, give ReSoMal. Every 30 minutes for first 2 hours, monitor and give: *5 ml x _____ kg (child's wt) = _____ ml ReSoMal For up to 10 hours, give ReSoMal and F-75 in alternate hours. Monitor every hour. Amount of ReSoMal to offer: * 5 to 10 ml x _____ kg (child's wt) = _____ to _____ ml ReSoMal																																																													
Oral dose of vitamin A: <table border="1"> <tr> <td>< 6 months</td> <td>50,000 IU</td> </tr> <tr> <td>6-11 months</td> <td>100,000 IU</td> </tr> <tr> <td>≥ 12 months</td> <td><u>200,000 IU</u></td> </tr> </table>		< 6 months	50,000 IU	6-11 months	100,000 IU	≥ 12 months	<u>200,000 IU</u>	<table border="1"> <tr> <td>Time</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Resp. rate</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Pulse rate</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </table>		Time										Resp. rate										Pulse rate																																	
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Time																																																															
Resp. rate																																																															
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MEASLES (Yes is circled if the child has measles now or had measles in the past 3 months) Yes <u>No</u>		<table border="1"> <tr> <td>Passed urine?</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Y N</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Number stools</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Number vomits</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Hydration signs</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Amount taken (ml)</td> <td></td> <td></td> <td></td> <td>F-75</td> <td>F-75</td> <td>F-75</td> <td>F-75</td> <td>F-75</td> <td>F-75</td> </tr> </table>		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
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Amount taken (ml)				F-75	F-75	F-75	F-75	F-75	F-75																																																						
FEEDING Begin feeding with F-75 as soon as possible Amount for 2-hourly feedings: <u>75</u> ml F-75* Time first fed: <u>8:00</u> *If hypoglycaemic, feed _____ ml F-75 (¼ of the amount above) every half hour for the first 2 hours; continue until blood glucose reaches 3 mmol/L. **If child was dehydrated, use the new weight after rehydration to determine amount of F-75. Record all feeds on 24-hour Food Intake Chart.		*Give ReSoMal orally or in special cases by NGT ** Stop ReSoMal if signs of rehydration appear: Passing urine, moist tongue, making tears, not thirsty. However, if diarrhoea continues, give ReSoMal after each loose stool to replace stool losses and prevent dehydration ***Stop ReSoMal if any sign of over-hydration: Increase in pulse & resp. rates, jugular veins engorges, increase in oedema, puffy eyelids Once the child is rehydrated, reweigh to determine the amount of F-75 to continue feeding. New weight: _____ kg (record the amount of F-75 feeds to be given on the left hand section of this chart)																																																													
ANTIBIOTICS (All received) Drug/Route		Dose/Frequency/Duration																																																													
<u>Gentamicin (IV)</u>		<u>1.3 mL once daily for 7 days (vial containing 80 mg)</u>																																																													
<u>Ampicillin (IV) followed by oral amoxicillin</u>		<u>Ampicillin = 1.75 mL every 6 hrs for 2 days</u>																																																													
MALARIA TEST <u>14/02/01</u> Type/Date/Outcome <u>Negative</u>		Antimalarial: _____ Dose/Frequency/Duration																																																													
HIV TEST <u>14/02/01</u> Type/Date/Outcome <u>Non-reactive</u>		If HIV+, give Cotrimoxazole																																																													
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6. Monitor Pulse, Respiration, and Temperature, and Watch for Danger Signs

Measure pulse, count respiration, and measure temperature every 4 hours, before feeding. This monitoring is very important because an increase in pulse rate or respiratory rate can signal a problem, such as an infection or heart failure from over-hydration due to feeding or rehydrating too fast. An increase or decrease in temperature to above or below normal can also indicate infection.

It is critical to monitor the child closely (every 4 hours) during initial treatment and transition to free feeding on RUTF or F-100. After the child is stable and feeding on RUTF or freely on F-100, you may decrease monitoring of pulse, respiration, and temperature to once a day, as long as the child is gaining weight. If there is no weight gain, or if the child loses weight, resume monitoring every 4 hours.

Record results of monitoring on the Monitoring Record, which is the third page of the CCP. There is space on the Monitoring Record to record six readings per day on pulse, respiration, and temperature for a number of days. It is convenient to keep the pages of a CCP in order on a clipboard. When the first Monitoring Record is full, simply add another one to the stack.

Example of Monitoring Record of the CCP

The next page shows an example of a completed Monitoring Record of the CCP. Tell a facilitator when you have reached this point in the module. When everyone is ready, your facilitator will present a brief demonstration of how to use the Monitoring Record. In the meantime, you may continue reading.

Name: Bianca Sex: M F Age (months): _____ Date of Admission: _____ Time: _____ Hospital ID Number: _____

MONITORING RECORD

Monitor respiratory rate, pulse rate, and temperature 4-hourly until after transition to RUTF or F-100 and patient is stable. Then monitoring may be less frequent (e.g., twice daily).

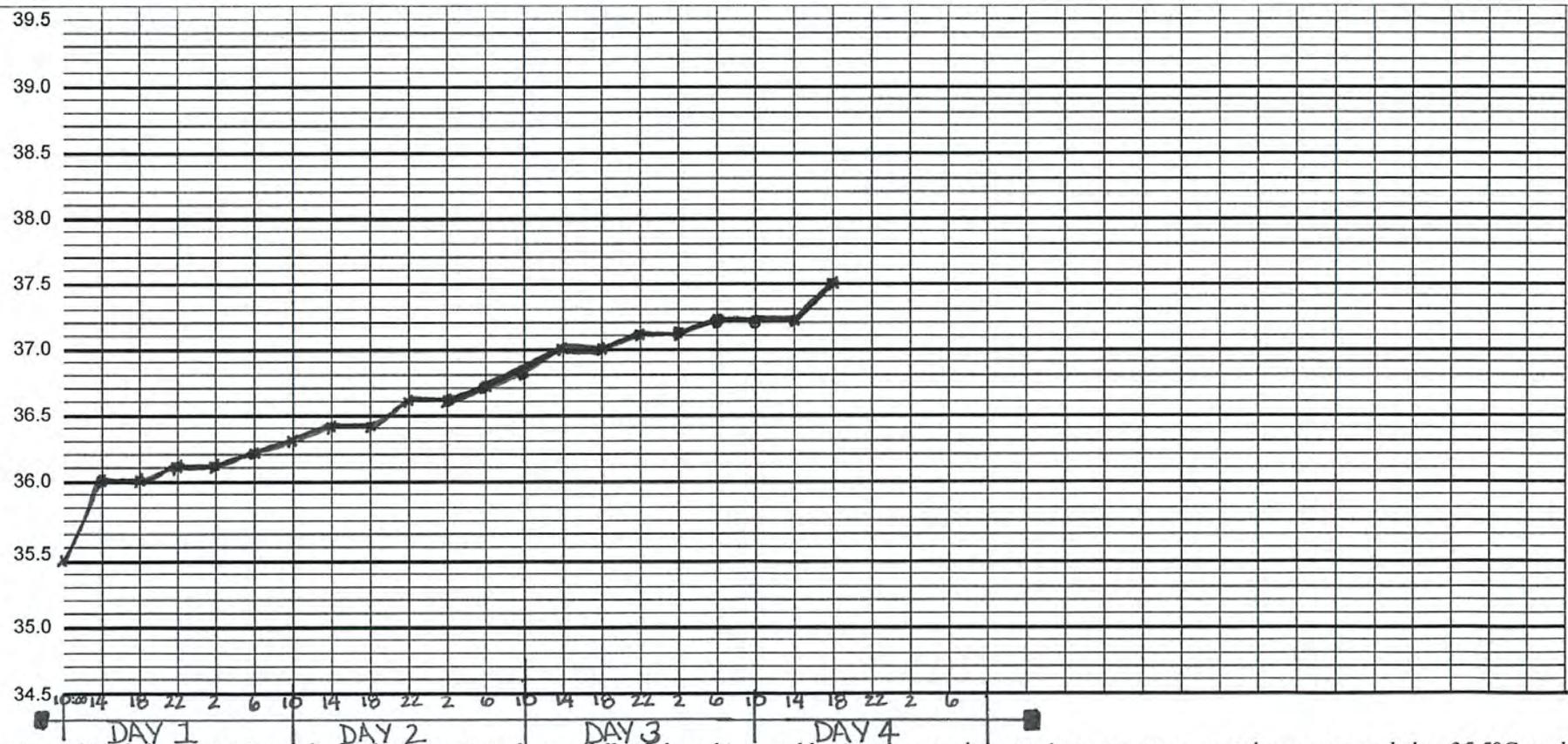
RESPIRATORY RATE

Breaths/ minute	35	30	32	35	35	32	35	30	32	35	32	35	35	35	35	32	35	35	40	40
--------------------	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----

PULSE RATE

Beats/ minute	90	86	90	90	92	90	86	92	86	90	90	90	90	92	92	90	90	92	95	95
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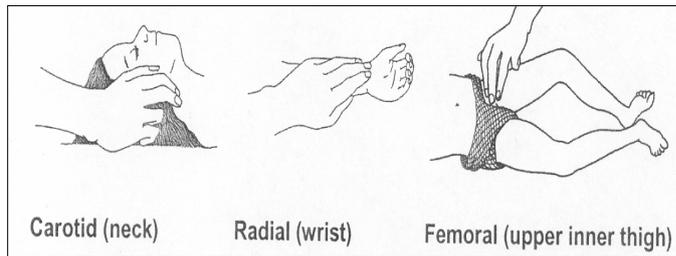
TEMPERATURE



Danger Signs: Watch for increasing pulse and respirations, fast or difficult breathing, sudden increase or decrease in temperature, rectal temperature below 35.5°C, and other changes in condition. See Danger Signs and normal ranges of pulse and respiration rates listed in the Inpatient Care Job Aids.

6.1. Measure Pulse Rate

Find the child's pulse in one of the following places:



Count pulses (beats) per minute, or count pulses per 30 seconds and multiply by 2. Record pulses (beats) per minute on the Monitoring Record in the CCP or in the temperature charts currently used in the inpatient wards.

6.2. Measure Respiratory Rate

Watch the child's chest while he or she is quiet. Count breaths per minute. **Count for a full minute, as breathing may be irregular.**

Look for breathing movement anywhere on the child's chest or abdomen. Usually you can see breathing movement even when a child is dressed. If you cannot see the movement easily, ask the mother to lift the child's shirt. If the child starts to cry, ask the mother to calm the child before you start counting.

Record breaths per minute on the Monitoring Record of the CCP.

6.3. Take Temperature

As discussed in **Module 3, Initial Management**, rectal temperature is preferred, if possible. Steps for taking temperature are discussed in that module.



Timing breaths

A graph is used for recording temperature on the Monitoring Record so that increases and decreases can easily be seen. Along the bottom of the graph, enter the times at which monitoring will be done (at 4-hour intervals). When a temperature is taken, write an 'X' or large dot on the line above the time and across from the temperature. You may connect the points with a line.

6.4. Recognise Danger Signs

Changes in Pulse, Respiration, and Temperature

The following increases in pulse or respiratory rate should be confirmed to determine if there is a problem.

- If pulse increases by 25 or more beats per minute, confirm in 30 minutes.*
- If respiratory rate increases by 5 or more breaths per minute, confirm in 30 minutes.*

* If on intravenous (IV) fluids, confirm in 10 minutes and watch closely.

If the above increases in pulse AND respiratory rates are BOTH confirmed, they are a danger sign. Together, these increases suggest an infection or heart failure from over-hydration due to feeding or rehydrating too fast. Call a physician for help. Stop feeds and Rehydration Solution for Malnutrition (ReSoMal), and slow fluids until a physician has checked the child.

If only the respiratory rate increases, determine if the child has fast breathing, which may indicate pneumonia. If the child is under 2 months of age, a rate of 60 breaths per minute or more is considered fast. If the child is from 2–11 months of age, a rate of 50 breaths per minute or more is considered fast. If the child is 1–5 years of age, a rate of 40 breaths per minute or more is considered fast.

If only the pulse rate increases, there is no cause for concern, as the increase may be the result of many reasons, such as fear or crying.

If a child's rectal temperature drops below 35.5°C or the axillary temperature drops below 35°C, the child is hypothermic and needs re-warming. Have the mother hold the child next to her skin or use a heater or lamp (with caution). Be sure the room is warm (25°–30°C if possible) and the child is covered. Hypothermia may be a sign of infection. If the temperature drops suddenly, call a physician.

Increases in temperature can also indicate infection.

Call a physician for help if there is a sudden increase or decrease in temperature. Changes in temperature can easily be seen on the temperature graph on the Monitoring Record of the CCP. Notice the changes in temperature on the example of the Monitoring Record on page 22.

Summary of Danger Signs Related to Pulse, Respiration, and Temperature

	Danger sign:	Suggests:
Pulse and Respiration	Confirmed increase in pulse rate of 25 or more beats per minute, along with confirmed increase in respiratory rate of 5 or more breaths per minute	Infection OR Heart failure (possibly from over-hydration due to feeding or rehydrating too fast)
Respiration only	Fast breathing: <ul style="list-style-type: none"> • ≥ 60 breaths/minute in an infant under 2 months • ≥ 50 breaths/minute in an infant 2–11 months • ≥ 40 breaths/minute in a child 12 months up to 5 years 	Pneumonia
Temperature	Any sudden increase or decrease Axillary temperature $< 35^{\circ}\text{C}$ or rectal temperature $< 35.5^{\circ}\text{C}$	Infection Hypothermia (possibly due to infection, a missed feed, or child being uncovered)

Carefully watch any child with an infection, such as pneumonia, sepsis, ear infection, or urinary tract infection. Keep children with infections near the nurses' station so they can be easily watched. If a child has diarrhoea or a rash, keep the child separate from the other children, if possible. For example, isolate the child behind a screen or keep him or her in a separate area. Wash your hands after handling these children.

In addition to watching for increasing pulse or respiration and changes in temperature, watch for other danger signs, such as:

- Anorexia (loss of appetite)
- Change in mental state (e.g., becoming lethargic)
- Jaundice (yellowish skin or eyes)
- Cyanosis (tongue/lips turning blue from lack of oxygen)
- Difficult breathing
- Difficulty feeding or waking (drowsy)
- Abdominal distension
- Appearance or reappearance of oedema
- Large weight changes (> 5 mg/kg/day)
- Increased vomiting
- Petechiae (bruising)

Alert a physician if any of these danger signs appear. See the job aid **Danger Signs for the Management of Severe Acute Malnutrition in Children under 5 in Inpatient Care** for a summary.

7. Continue Care at Night

Many deaths in children with SAM occur at night because a feed is omitted or the child becomes uncovered and cold. It is extremely important that enough staff are assigned to work at night and that they are properly trained.

Night staff must:

- Keep each child covered to prevent hypothermia
- Feed each child according to schedule during the night (at first this will be every 2 hours); this will involve gently waking the child to feed
- Take measurements of pulse, respiration, and temperature every 4 hours
- Watch carefully for danger signs and call a physician if necessary



SHORT ANSWER EXERCISE

The following questions relate to the example of the Monitoring Record on page 22. The child monitored is 2 years old.

1. What were the child's temperature, respiratory rate, and pulse rate at 14:00 on Day 2?

_____ °C _____ breaths/minute _____ beats/minute

2. What is the trend for the child's temperature over Days 1 through 3? (Tick one answer.)

_____ a. There are sharp increases in temperature.
_____ b. The temperature rises slowly and steadily.
_____ c. The temperature stays below normal.

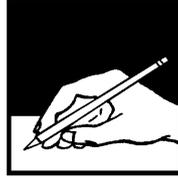
3. Has there been any significant change in the child's pulse rate? If so, when?

4. Has there been any significant change in the child's respiratory rate? If so, when?

5. At 22:00, the nurse finds that the child has a rectal temperature of 38° C, a pulse rate of 100 beats per minute and a respiratory rate of 45 breaths per minute (confirmed after 30 minutes). Enter this information on the Monitoring Record.

6. Are there any danger signs? If so, what are they? Should the nurse call a physician?

Compare your answers to this exercise to the answers given on page 44.



Exercise C

In this exercise, you will make entries on a Daily Care page and Monitoring Record of a CCP. You will use the Daily Care page that you set up for Lani in **Exercise B**. Obtain a blank Monitoring Record from the supply in your classroom.

Pretend that you are the nurse who cares for Lani on her first day in the ward. At the times shown below, you give Lani her medications and/or monitor her progress. Make appropriate entries on the Daily Care page and Monitoring Record. For example, sign your initials or record results of monitoring.

Additional information about feeding is provided in italics. You do not need to record this information.

Day 1

8:00 *Lani is given her first feed of F-75. It is recorded on the 24-Hour Food Intake Chart.*

You give Lani 1.75 ml ampicillin and 1.3 ml gentamicin through her heparinised IV cannula.

You give her 5 mg folic acid and 200,000 IU vitamin A.

You put one drop of chloramphenicol in her left eye.

Her ear is draining, and you gently wick it with a clean cloth.

Since Lani is ill, you do not bathe her, but you dab potassium permanganate solution on the worst patches of dermatosis, and you cover the raw areas with ointment and gauze.

9:00 You check Lani's pulse, respiratory rate, and temperature. Her pulse rate is 100 beats per minute, her respiratory rate is 35 breaths per minute, and her rectal temperature is 38° C.

10:00 *Lani is given her second feed of F-75. It is recorded on the 24-Hour Food Intake Chart.*

12:00 *Lani is given her third feed of F-75. It is recorded on the 24-Hour Food Intake Chart.*

13:00 You check Lani's pulse, respiratory rate and temperature. Her pulse rate is 105 beats per minute, her respiratory rate is 35 breaths per minute and her rectal temperature is 38° C.

14:00 *Lani is given her fourth feed of F-75. It is recorded on the 24-Hour Food Intake Chart.*

You give Lani 1.7 ml ampicillin IV.

You put one drop of chloramphenicol in her left eye.

15:00 *The shift changes. Now pretend that you are the nurse on the next shift.*

16:00 *Lani is given her fifth feed of F-75. It is recorded on the 24-Hour Food Intake Chart.*

17:00 You check Lani's pulse, respiratory rate and temperature. Her pulse rate is 110 beats per minute, her respiratory rate is 35 breaths per minute, and her rectal temperature is 37.3° C.

18:00 *Lani is given her sixth feed of F-75. It is recorded on the 24-Hour Food Intake Chart.*

Answer the following questions.

1. At 20:00 Lani will be fed again. At that time what else should be given to Lani?
2. When should Lani's pulse rate, respiratory rate, and temperature next be monitored?
3. In addition to feeding, what should be done for Lani at 02:00?

When you have finished this exercise, please discuss your answers with a facilitator.



Exercise D

In this exercise, you will review several Monitoring Records and identify any danger signs.

Case 1 – Lani

You will remember that Lani was admitted to Inpatient Care with an ear infection and fever. You began Lani's Monitoring Record in the last exercise. Lani's continuing Monitoring Record for the first 2 days is on the next page. Review her Monitoring Record, then answer the questions below.

1. What happens to Lani's temperature at 5:00 on Day 2?
2. Is this temperature change a danger sign? Why or why not?
3. What might be a cause of the temperature change?
4. Do Lani's pulse and respiratory rates indicate any danger signs?
5. What should be done for Lani at 5:00?

Case 2 – Carla

Carla is 2 years old and was admitted to Inpatient Care with severe wasting and diarrhoea. She took ReSoMal orally for 2 hours. Then she began taking ReSoMal and F-75 in alternate hours. She did not take enough F-75 by mouth, so now she is being fed by nasogastric tube (NGT). She still has some diarrhoea and is given ReSoMal after each loose stool.

Review Carla's Monitoring Record on the next page and answer the questions below.

1. Does Carla's temperature graph indicate any danger sign? If yes, what is the danger sign?
2. Do Carla's pulse and respiratory rates indicate any potential danger sign? If yes, what is the danger sign?
3. What should be done in 30 minutes?
4. In 30 minutes, Carla's pulse rate is 125 and her respiratory rate is 45. What should the nurse do?
5. What is a possible reason for the increase in Carla's pulse and respiratory rates?

Case 3 – Bijouli

Bijouli is 2 years old. He has severe wasting (mid-upper arm circumference [MUAC] 11.2 cm) with oedema (++) but has no obvious medical complications or infections on admission to Inpatient Care. He is prescribed a routine course of amoxicillin for 5 days.

Review Bijouli's Monitoring Record on the next page and answer the questions below.

1. What happens to Bijouli's temperature during the night of Day 2 and morning of Day 3? Does this indicate a danger sign?
2. Does the record of Bijouli's pulse rates suggest any danger sign? Why or why not?
3. Does the record of Bijouli's respiratory rates suggest any problem? Why or why not?
4. Should the physician be alerted?
5. The nurse notes that Bijouli has chest in-drawing. What could be the problem? What treatment should be given to Bijouli?

When you have finished this exercise, please discuss your answers with a facilitator.

8. Prepare and Maintain a Weight Chart

How to weigh a child was explained in **Module 2, Principles of Care**. Remember to weigh the child at about the same time each day, about 1 hour before or after a feed.

After weighing the child each day, record the child's weight on the Daily Care page of the CCP. Then plot the child's weight on the Weight Chart included in the CCP. The Weight Chart shows the child's progress toward discharge weight, any loss of weight due to oedema and/or failure to improve.

An example of a completed weight chart is shown on page 37. Study the example as you read the instructions below for preparing and maintaining a Weight Chart.

1. Label the vertical axis of the graph with a range of weights that includes the child's starting weight and desired discharge weight and allows for some weight loss as well as weight gain. Each horizontal line on the graph should represent a difference of 0.1 kg.
 - If the child has no oedema, label the axis so that the starting weight will be near the bottom, but allow a little space below for possible weight loss.
 - If the child has oedema, allow more space for weight loss (up to 30%) by placing the starting weight higher on the axis. As a general guideline, allow for up to:
 - 1 kg weight loss if mild (+) or moderate (++) oedema
 - 2 kg weight loss if severe (+++) oedema and child is ≤ 7 kg
 - 3 kg weight loss if severe (+++) oedema and child is > 7 kg
2. Use the job aid **Guidance Table to Determine Target Weight for Discharge from Management of Severe Acute Malnutrition for Children 6–59 Months** to determine the child's desired discharge weight. Mark the desired discharge weight with a horizontal line across the chart.
3. Each day, plot the child's weight on the chart. Plot the starting weight above Day 1, the next day above Day 2, etc. Mark each point with an 'X' or large dot so that it shows up clearly.
4. Connect the points for the daily weights to see the child's progress.
5. To highlight the day that RUTF and/or F-100 is begun (the first day of transition), draw and label an arrow pointing to the weight for that day.

Example of Weight Chart for a Boy with No Oedema

Name: _____ Sex: M F Age (months): _____ Date of Admission: _____ Time: _____ Hospital ID Number: _____

WEIGHT CHART

Weight on admission: 6.0 kg

Bilateral pitting oedema on admission:
0 + ++ +++

Desired weight if full recovery in inpatient care (Target weight), 15% weight gain of admission weight or weight free of oedema:

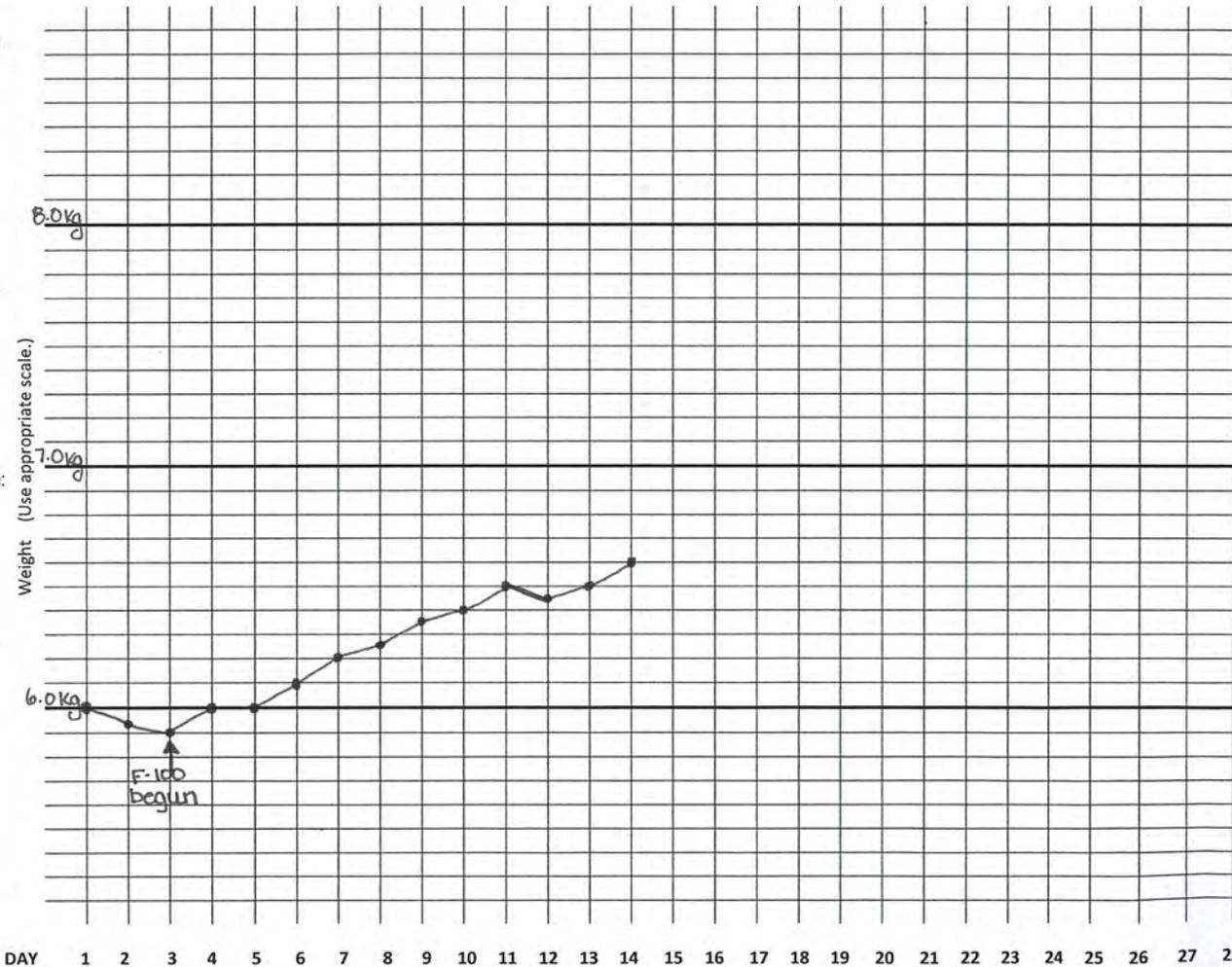
6.9 kg

Weight at referral to outpatient care:

_____ kg

Weight at discharge if treatment until full recovery in inpatient care:

_____ kg



The chart on page 39 shows a child who lost a little weight during the first few days on F-75, but then began to gain steadily after transition to F-100.

Note: *If possible, the child is referred to Outpatient Care after stabilisation and is not required to attain the target weight while in Inpatient Care; he or she will do so in Outpatient Care.*



SHORT ANSWER EXERCISE

An example of a partially completed Weight Chart for a girl with mild (+) oedema is on the next page. The child's starting weight is 5.3 kg. Her MUAC was 11.4 cm. Since she has mild oedema, space should be allowed for a 1.0 kg weight loss. To allow for this loss, the vertical axis is labelled so that 4.0 kg is at the bottom.

1. Look up the desired discharge weight for the child. Enter the desired discharge weight on the blank line above the chart, and mark it with a bold horizontal line on the chart.
2. Plot the weights for the next several days on the chart and connect them with a line.

Day 11 weight: 5.1 kg

Day 12 weight: 5.2 kg

Day 13 weight: 5.3 kg

3. What was the child's lowest weight? On what day did this occur?
4. Why did the child lose weight?
5. Has the child made progress?

Note: The child probably could have been referred to Outpatient Care after stabilisation, by Days 11, 12, and 13, and does not require attaining the target weight while in Inpatient Care; she will do so while in Outpatient Care.

Compare your answers to those given on page 44 at the end of the module.

Example of Weight Chart for a Girl with Mild Oedema (+)

Name: _____ Sex: M F Age (months): _____ Date of Admission: _____ Time: _____ Hospital ID Number: _____

WEIGHT CHART

Weight on admission: 5.3 kg

Bilateral pitting oedema on admission:
0 + ++ +++

Desired weight if full recovery in inpatient care (Target weight), 15% weight gain of admission weight or weight free of oedema:

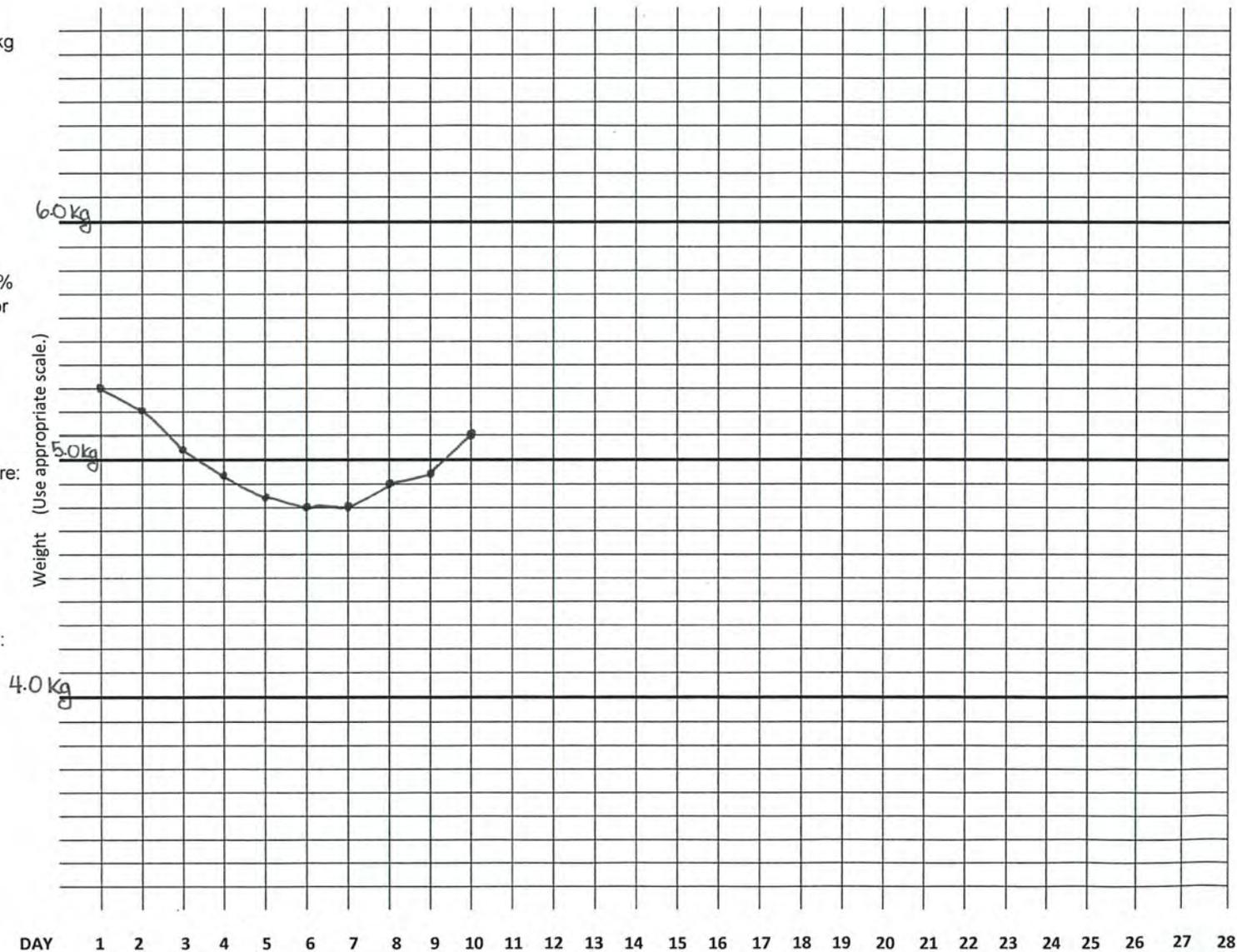
_____ kg

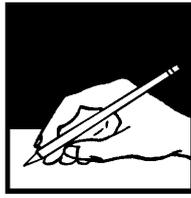
Weight at referral to outpatient care:

_____ kg

Weight at discharge if treatment until full recovery in inpatient care:

_____ kg





Exercise E

In this exercise, you will prepare a Weight Chart for Daniel, a boy admitted with oedema in both feet (+) and severe wasting. Daniel's weight on admission is 10.1 kg. His MUAC was 11.1 cm. Enter this information in the blanks beside the weight chart on page 42.

1. There are no Outpatient Care services for SAM in Daniel's district. He therefore has to attain the desired target weight in Inpatient Care. What is Daniel's desired discharge weight? Enter this weight in the appropriate blank beside the weight chart.
2. When labelling the vertical axis of Daniel's weight chart, how much weight loss should one allow for?
3. Label the vertical axis of Daniel's weight chart. Be sure that the range of weights includes the starting weight and the discharge weight, and allows for weight loss. Let each row of the weight chart represent 0.1 kg.
4. Mark Daniel's desired discharge weight with a bold line across the chart.
5. Plot Daniel's admission weight (10.1 kg) on the chart above Day 1. Then plot the weights given below for Days 2–14. Connect the points.

Day 2: 10.05 kg

Day 3: 9.8 kg

Day 4: 9.6 kg

Day 5: 9.4 kg

Day 6, transition to RUTF/F-100: 9.2 kg

Day 7, transition: 9.2 kg

Day 8, transition: 9.3 kg

Day 9, free feeding on F-100: 9.4 kg

Day 10: 9.6 kg

Day 11: 9.7 kg

Day 12: 9.65 kg

Day 13: 9.8 kg

Day 14: 9.9 kg

Name: DANIEL Sex: **M** **F** Age (months): _____ Date of Admission: _____ Time: _____ Hospital ID Number: _____

WEIGHT CHART

Weight on admission: _____ kg

Bilateral pitting oedema on admission:

0 + ++ +++

Desired weight if full recovery in inpatient care (target weight), 15% weight gain of admission weight or weight free of oedema:

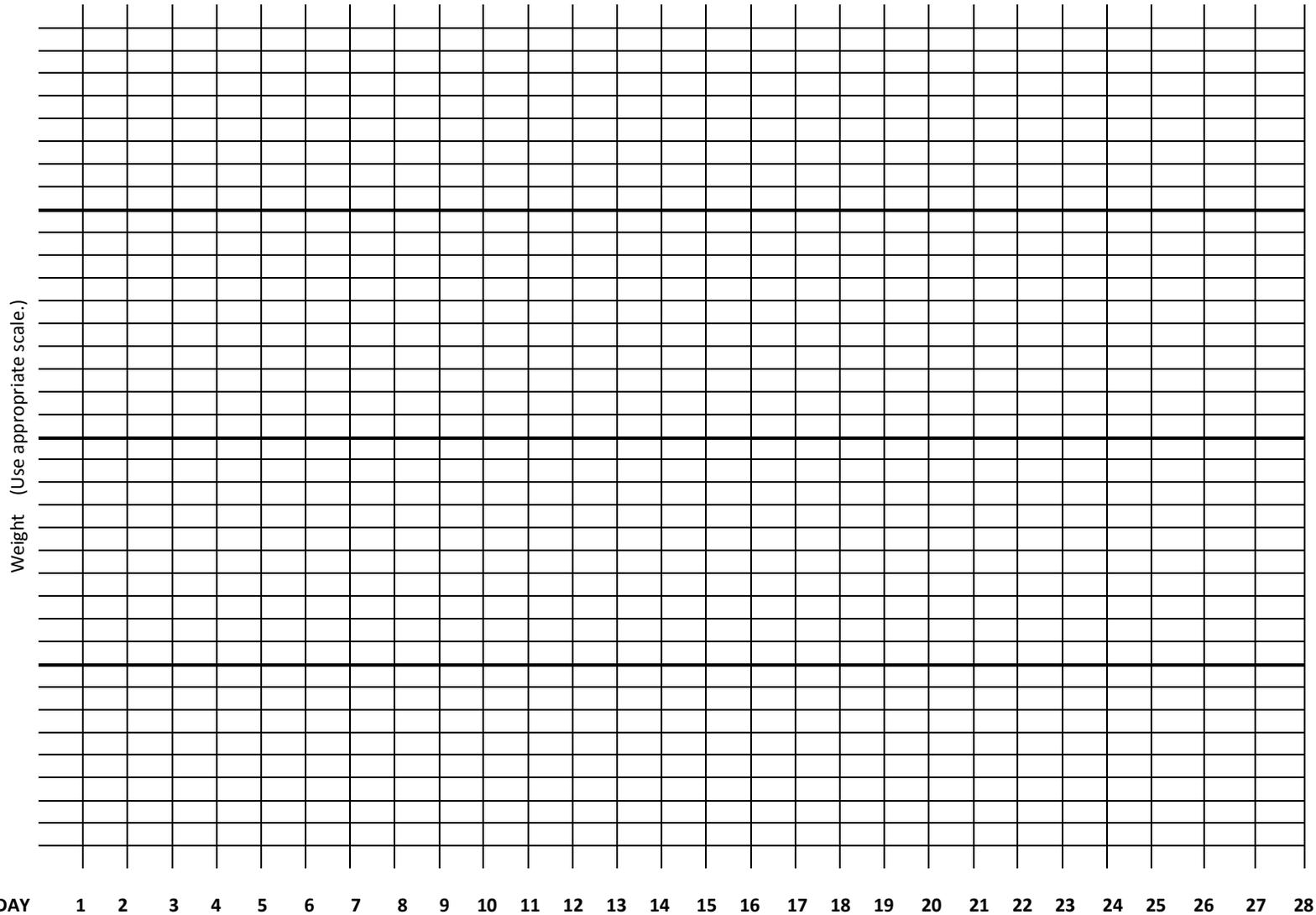
_____ kg

Weight at referral to outpatient care:

_____ kg

Weight at discharge if treatment until full recovery in inpatient care:

_____ kg



Answers to Short Answer Exercises

Page 4

1. Answers b, c, and d should be ticked.
2. Answers a, b, c, and e should be ticked.
3. Answer b should be ticked. Answers a and d may be appropriate in certain circumstances. If the mother is extremely tired, it may be best to let her sleep and feed the child yourself. If several mothers can be trusted to take turns feeding and sleeping, then answer d may be appropriate.

Answer c would make the mother feel guilty and afraid, and would never be appropriate.

Page 11

1. Yes, the child should be given a dose of 200,000 IU on Day 15.
2. After 4 weeks in treatment or upon discharge, 100,000 IU oral.
3. Yes, vitamin A by IM (if available) or orally should be given on Days 1, 2, and 15 (or upon discharge)
4. Give Georgio's first dose of 200,000 IU orally or 100,000 IU by IM injection.

Give the second dose of 200,000 IU orally on Day 2.

Note: Give the third dose of 200,000 IU orally on Day 15.

5. Yes, Dalia should be given a dose on Day 1 at the hospital since she has corneal clouding.

No, she should not be given a dose on Day 2 because that would be the third day in a row to receive vitamin A.

Yes, she should be given a dose on Day 15.

If you have any questions about the vitamin A schedule, please see a facilitator.

Page 27

1. 36.4°C
30 breaths/minute
92 beats/minute
2. Answer b should be ticked.
3. There has been no significant change in the child's pulse rate.
4. Yes, the respiratory rate increased from 35 to 40 beats per minute between 10:00 and 14:00 on Day 4.
5. A temperature of 38°C, a pulse rate of 100 beats/minute and a respiratory rate of 45 breaths/minute should be entered on the Monitoring Record.
6. Yes, there is a danger sign. There is a sudden increase in temperature. Also, the respiratory rate has again increased by 5 breaths per minute and is at 45, which is considered fast breathing for a 2-year-old. The physician should be called.

Page 38

1. The desired discharge weight for a girl who is 5.3 kg upon admission is 5.5 kg, note that if a child has bilateral pitting oedema, the desired discharge weight (15% weight gain of admission weight) is only calculated when the child loses oedema. This weight should be marked with a bold line on the weight chart. See the example weight chart below.
2. A reduced version of the chart is on the next page.
3. 4.8 kg on Days 6 and 7
4. The child lost weight due to loss of oedema fluid.
5. Yes, the child has made progress in two ways. First, she lost her oedema, and her weight fell to her true weight of 4.8 kg. Then she put on new tissue and her weight increased to 5.3 kg.

Example of a Weight Chart for a Girl with Mild Oedema (+)

Name: _____ Sex: M F Age (months): _____ Date of Admission: _____ Time: _____ Hospital ID Number: _____

WEIGHT CHART

Weight on admission: 5.3 kg

Bilateral pitting oedema on admission:
0 + ++ +++

Desired weight if full recovery in inpatient care (Target weight), 15% weight gain of admission weight or weight free of oedema:

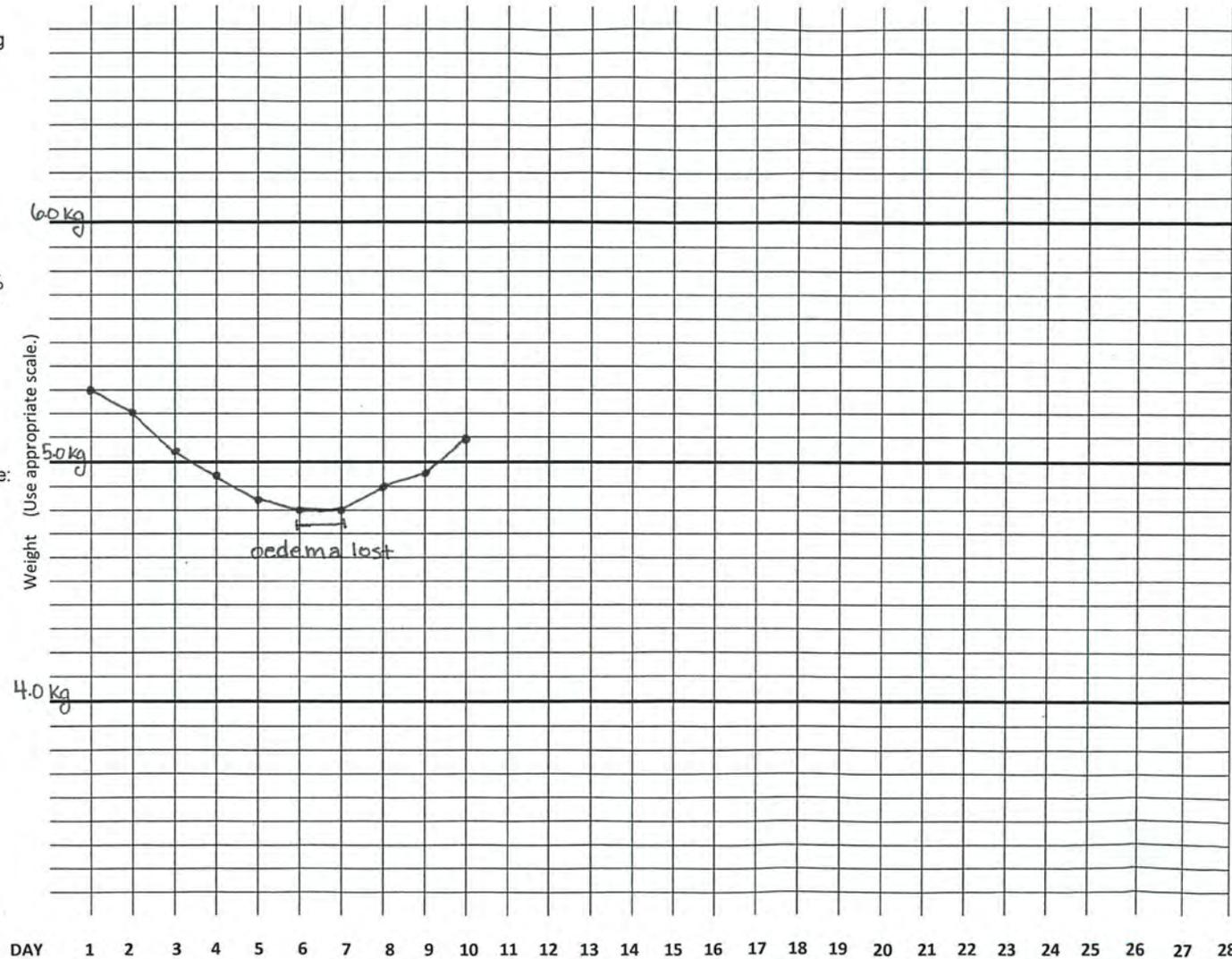
5.5 kg

Weight at referral to outpatient care:

_____ kg

Weight at discharge if treatment until full recovery in inpatient care:

_____ kg



Note: The child probably could have been referred to Outpatient Care after stabilisation, by Days 11, 12, and 13, and does not require attaining the target weight while in Inpatient Care; she will do so while in Outpatient Care.