

National Guidelines for the management of acute malnutrition among children under five and pregnant and lactating women



Nutrition Wing
Ministry of Health
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Save the Children®
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These guidelines are a living document and will be subject to revision as new evidence and best practices emerge.

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FORWARD

Malnutrition in Pakistan contributes to high morbidity among pregnant and lactating women and morbidity and mortality among children under five. Many cases of acute malnutrition become severe and complicated due to delays in case detection and presentation at health facilities. Management of severe acute malnutrition has mostly been facility based, in paediatric wards and Stabilisation/Therapeutic feeding centres (SCs/TFCs) which requires a prolonged stay, posing difficulties for most families (and especially women), and as a result there are high default rates and relapses which are exacerbated by challenging socio economic and environmental factors.

The Ministry of Health recognises that malnutrition is a problem which has not been tackled as yet and requires a comprehensive integrated public health approach to address it. The challenging operating environment means that it is essential to improve coverage and access and bring services close to where people live. The MoH is in the process of adopting community based management of acute malnutrition (CMAM) approach which has been widely used globally and has technical inputs from WHO, WFP and UNICEF. CMAM has been successfully implemented in Pakistan in Khyber Pakhtunkhwa, Punjab and Balochistan. The MoH aims to integrate CMAM into ongoing routine health services for children under five and pregnant and lactating women and to scale up CMAM throughout the country.

These guidelines have been developed to standardize the delivery of services. The protocols provide guidance to health care providers and community health workers. The guidelines will help improve early case detection and referral, case management and improve outcomes among malnourished children. I appreciate the efforts of the technical group that has made contributions in the development of these National Guidelines and hopefully once they are operationalised it will contribute in achieving the Millennium Development Goals.

Professor Dr.Rashid Joona
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ACKNOWLEDGEMENT

The National Guidelines for the Management of Acute Malnutrition among children under five, pregnant and lactating women have finally been approved by the Ministry of Health after an exhaustive process of technical review and consultations with relevant stakeholders. The process of development of these National Guidelines has taken a period of approximately two years and has had technical inputs from UNICEF, Save the Children US, WHO, Valid International, WFP, Pakistan Paediatric Association, Federal and Provincial nutrition focal persons. I would like to express my gratitude to all the partners who have contributed to this process and also highlight the efforts of the former DDG's of Nutrition Wing (Dr. Zahid Larik, Dr. Haroon Jehangir) in initiating the process.

Save the Children has been engaged in the process to develop national CMAM guidelines for Pakistan since the first consensus meeting in Karachi in March 2008. Following this initial consensus meeting, the first draft was developed and then the process was revived again and a technical working group meeting on the draft guidelines was called for in November 2008. Following the meeting in November, Save the Children updated the available draft guidelines in 2009 in line with technical inputs and recommendations from UNICEF and WHO. The final draft was reviewed by national and international experts (Valid International). I would like to extend my gratitude to my colleagues Ms. Sarita Neupane and Dr. Shahid Mehboob Awan (UNICEF) and Mr. Paul Binns (Valid International) for their hard work and technical inputs in the development of these guidelines.

MOH and UNICEF organized a three day technical meeting to finalize and endorse the guidelines which was facilitated by Ms. Caroline Tanner (Save the Children US). This was followed by another consultative meeting with the purpose to seek inputs from the provincial counterparts, paediatricians and nutritionists on the operational aspects of the CMAM guidelines. The Director General Health attended the meeting and stressed on the need to elevate nutrition on the national agenda for health and emphasized the urgent need to tackle the issue of acute malnutrition in Pakistan given the persistently high rates of wasting.

I would also take this opportunity to highlight the persistent efforts and technical support of my team at the Nutrition Wing (Dr. Sherbaz Khan, Mr. Yaqoob Qureshi, Dr. Aliya Kashif and Dr. M. Suleman Qazi) in the development of these Guidelines.

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ABBREVIATIONS & TERMS

Acute Malnutrition	Wasting and/or oedematous malnutrition defined as MUAC <125mm or presence of bilateral pitting oedema. Acute malnutrition maybe moderate (MAM) or severe (SAM)
Caretaker	Parent or guardian of the malnourished child
Community Health Worker	Lady Health Workers (LHW), Community Midwives (CMW), Female Welfare Workers (FWW), health nutrition promoters who work in the community
Community Volunteer	Community mobilizer at local level
CMAM	Community Based Management of Acute Malnutrition
DHIS	District Health Information System
F75	Therapeutic milk used in phase 1 of treatment for severe malnutrition
FI00	Therapeutic milk used in transition phase and phase 2 of the treatment of severe malnutrition
Health Care Provider	Qualified health worker at health facility
IMNCI	Integrated Management of Newborn and Childhood Illnesses
Inpatient care	Twenty four hour medical care for children with SAM with complications
IV	Intravenous
LHW	Lady Health Worker
LHV	Lady Health Visitor
MAM	Moderate Acute Malnutrition (MUAC<125mm)
MUAC	Mid Upper Arm Circumference
NG	Naso-gastric Tube
OTP	Out-patient Therapeutic Programme
PLW	Pregnant and Lactating Women
Resomal	Oral rehydration solution for severely malnourished patients
RUTF	Ready to Use Therapeutic Food for treatment of SAM. RUTF may be imported or locally produced according to international and national specifications
RUSF	Ready to Use Supplementary Food for treatment of MAM
SAM	Severe Acute Malnutrition (MUAC<115mm and/or bilateral oedema)
SFP	Supplementary Feeding Programme
Transfer	Child is transferred from one programme component to another (e.g. OTP to inpatient care)
W/L	Weight for Length (used for infants < 6 months)

Section One:
Community Outreach

Community outreach is essential to maximise the effectiveness of a CMAM programme. It is essential for early case finding which means that children can be treated effectively as outpatients. The community should fully understand the purpose of the programme and why it is important to identify and treat malnourished children. Effective links between health facilities and the community are essential to ensure that malnourished children are appropriately identified, referred and followed up. Community providers are on the front line and are well placed to explore and address some of the reasons why children become malnourished in the first place.

The purpose of community outreach is to:

- Promote understanding and ownership of the programme.
- Increase programme coverage.
- Strengthen active case finding, referral and follow up.
- Understand reasons why people do not access services (barriers to access) and reasons for absence and default so that they can be addressed).
- Link prevention of malnutrition and treatment of malnutrition at the community level, so that while children are being effectively treated, the underlying causes can also be addressed.

Protocols and reference sheets

Annex 1: Measuring malnutrition (need a picture of a colour coded tape)

Annex 2: Referral slip from community provider to health facility

Annex 3: Home visit form

Basic requirements for community outreach

WHO conducts community outreach: Community outreach is usually the role of community providers – this includes Lady Health Workers, Lady Health Visitors and community health workers. Community volunteers can also be recruited to assist with case finding and follow up.

WHERE: Community outreach takes place at the community level. Community providers should be present at OTP to assist health care providers and to ensure effective linkages between the health facility and community.

WHEN: Active case finding and follow up is ongoing. Community meetings with key stakeholders and focus group discussions with community members and/or the caretakers for children in the programme can be held periodically to raise awareness about the programme and to investigate any issues such as high default.

Basic supplies

- MUAC tapes
- Referral slips in duplicate copy
- Home visit form

Understanding the community structures and perceptions

It is essential to understand and have information on community structures (formal and informal), key stakeholders (community leaders, religious leaders, traditional practitioners and community based organisations). It is important to know who makes key decisions and who is responsible for children as well as community attitudes to health and malnutrition. The following information is required:

- Local terms for malnutrition and perceived causes and common solutions
- Identification of key community leaders and other influential people
- Identification of existing structures and community based organizations/groups
- Formal and informal channels of communication that are known to be effective
- Attitudes and health seeking behaviours
- Existing nutrition and health interventions in the community

Community dialogue

It is important to directly engage the community from the outset. This can be done initially through meetings with community and religious leaders. Other key community members should also be included. Mothers of young children should be included so that there is full representation of all those concerned with the health of young children.

- Engage in discussion with the community to talk about the problem of malnutrition, causes and possible solutions
- Discuss the programme and how it works
- Agree on relevant groups, organisations, structures to be involved in the programme. This may include the recruitment of volunteers to help with case finding and follow up
- Develop clear roles and responsibilities

Train community providers in core functions

Community providers should be trained to identify, refer and follow up malnourished children. Training can be done in one or two days. Frequent refresher training will be required. Training should include:

- Program aim and target population
- Basic information on the causes, identification and treatment of malnutrition
- Practice in identification of oedema and wasting (use of MUAC tape)
- Case finding
- Case referral
- Health and nutrition education (prevention)

Case finding and referral

In order to reach as many malnourished children as possible, community providers must actively identify children who need care and refer them for treatment. Children can be screened through;

- House to house visits
- Screening at health facilities and outreach programs
- Screening at community meetings, health campaigns in the community and at other opportunities
- Growth monitoring sessions, health facilities, paediatric wards

It is important to include mothers and caretakers of children in the programme. Mothers/caretakers who have seen their malnourished children recover are very motivated and will encourage others to

seek treatment. Some mothers/caretakers will emerge as leaders and can play an active role in case finding and in some cases in follow up.

Children are identified as malnourished using MUAC and assessment for oedema. The criteria used are the same as the admission criteria for OTP and SFP. This should ensure that children referred by community providers are admitted to the programme. A simple referral slip is used (Annex 2). This should be done in duplicate copy so that one copy is given to the caretaker and the other is kept for the record.

Finding		Action
6-59m	MUAC < 115mm (RED)	Refer to OTP
6-59 months	Bilateral pitting oedema	Refer to OTP
6-59 months	MUAC 115mm - < 125mm (YELLOW)	Refer to SFP (if available)
Pregnant and lactating women	MUAC <210mm	Refer to SFP (if available)
Infants < 6months*	-Visibly wasted infants -Infants with oedema -Infants too weak or feeble to suckle	Refer to OTP/health facility for evaluation

* Low birth weight infants, premature infants and infants failing to thrive require an evaluation by a health care provider and should be referred to the health facility.

Issues in identification and referral of malnourished children

- A key challenge is to ensure that community providers refer only those children who should be admitted. It is therefore essential that they are well trained to use MUAC and assess oedema. When children are referred from the community and then health care providers find that they do not meet the admission criteria, problems of rejection can result. If there are large numbers of children referred from the community to OTP or SFP who do not meet the admission criteria, this must be immediately addressed by training and discussion with community providers.
- In widely dispersed communities, volunteers may have to travel large distances to visit remote villages. This should be considered when developing an outreach strategy. A transport stipend may need to be included.
- In emergency situations or where there are large numbers of volunteers working for different agencies, case finding should be coordinated.

Follow-up visits

Community providers play an important role in tracing children who are absent or have defaulted and encouraging the caretakers to return. Children who have static weight or have lost weight also require follow up at home. In order for follow up to be effective, there must be good linkage between the health facility and community providers. Community providers should be present at the OTP day to facilitate this link. A simple home visit form can be completed in duplicate. (Annex 2)

- To ensure linkages between health care providers (health facility) and the community
- Conduct home visits when a child is absent or defaulted or if there are other reasons for follow up as determined by the health care provider
- Ensure children are referred for further care/other programs
- Give feedback to health care providers

Section Two:
Outpatient Therapeutic Programme (OTP)

The Outpatient Therapeutic Programme (OTP) is treatment at home for children with severe acute malnutrition with appetite and without medical complications. The majority (about 85%) of severely malnourished children without complications can be treated at home without the need for referral to inpatient care. The mother/caretaker visits the health facility or OTP point every week or two weeks with their child for a medical check up and to receive a weekly (or fortnightly) supply of ready to use therapeutic food (RUTF) which is specially designed and prepared for severely malnourished children.

OTP should be operated in as many health facilities as possible and should be incorporated into existing health services as a component of routine services for children under five. This ensures good geographic coverage so that as many malnourished children as possible can access treatment.

Children can be admitted to OTP at any time if they present at the health facility. They should be treated at the time they present and then asked to come back on the designated OTP day. They will then come to the health facility every week or two weeks until they are discharged.

Screening and referral to OTP

Active case finding of acutely malnourished children should take place at the community level. Community health workers and community volunteers will carry out active case and will identify and refer acutely malnourished children to the health facility. Screening in the community is done using the same criteria as admission criteria for OTP (MUAC <115mm or presence of bilateral oedema). If there is a supplementary feeding programme, the referral criteria from the community will be MUAC 115- <125mm (Yellow). The child should be checked again at the health facility to ensure the accuracy of the referral. If referrals are consistently inaccurate, action should be taken to ensure the community health worker/volunteer understands the admission criteria and measuring technique.

Screening and referral to OTP may occur in a number of ways:

- Referrals by community health workers and volunteers after screening for acute malnutrition using MUAC and checking for oedema. The community health worker will give the mother/caretaker a referral slip with the MUAC and/ oedema status marked and ask the caretaker to take the child to the health facility.
- Referrals by health care providers at the health facility level or from other health and nutrition programmes, such as a growth monitoring, paediatric ward, inpatient care and supplementary feeding programmes.
- Self-referral – child is brought to health facility directly by caretaker without referral from community health workers or volunteers.

Basic requirements for OTP

- **WHO is qualified to run OTP:** A skilled, trained health care provider must run the OTP.
- **WHERE:** OTP can be operated at basic health unit (BHU), regional health facility (RHC) and at hospital level. OTP may also be run in tents or in the open in acute emergencies or disaster situations. OTP should be linked to health facilities wherever possible.
- **WHEN:** Where the treatment of SAM is integrated into local primary health services or the caseload is low, the OTP beneficiaries may be seen as part of the normal clinical caseload in the health facility. Children can be admitted at any time. The follow up visits continue on a weekly basis until the child is ready for discharge. OTP follow up sessions may operate on a designated day every week

OTP can also be held every two weeks in situations WHEN

- Poor access or long distances to the health facility makes it difficult for caretakers.
- The caseload of children is very large and weekly OTP sessions would overburden health caretakers.

Note: If the child has poor appetite or a clinical condition requiring close monitoring, the child should come weekly until they are stable (clinically well and have good appetite for RUTF).

What you will need to run an OTP session

Basic equipment and supplies for OTP

Basic equipment	Basic supplies
<ul style="list-style-type: none"> ▪ Weighing scales ▪ MUAC tapes ▪ Thermometer ▪ Time watch ▪ Scissors ▪ Clean water for drinking (jug and cups) ▪ Water and soap for hand-washing 	<ul style="list-style-type: none"> ▪ OTP cards ▪ Ration card for the mother/caretaker ▪ Transfer slips- from OTP to inpatient care ▪ Referral slip-from OTP to supplementary feeding where it exists ▪ List of inpatient treatment sites ▪ List of other OTP / SFP sites in the area (if SFP is available) ▪ Essential medicines as required in the routine medical protocol for OTP ▪ RUTF

Protocols and reference sheets

*Protocols and reference sheets can be found in a separate pack at the back of these guidelines. These can be copied and printed in large quantities. Protocols marked with an asterisk * should be laminated for easy reference at the health facility.*

Annex 1: Anthropometric measurement techniques

Annex 4: Target weight gain for discharge

Annex 5: OTP card (Enrolment details: Outpatient therapeutic programme)

Annex 6: Action protocol (OTP)*

Annex 7: OTP transfer and referral slips

Annex 8: Key messages for OTP*

Annex 9: Routine medical protocol for OTP*

Annex 10: RUTF ration for OTP)*

Annex 11: OTP ration card for caretakers

Annex 12: Iron and Folic acid doses

Annex 13: Malaria protocol for OTP

Annex 14: Additional medicines for severe acute malnutrition in OTP

Annex 15: Paracetamol and metronidazole doses

Enrolment in OTP

WHO should be enrolled in OTP?

Severely acutely malnourished children aged 6-59 months with appetite (ability to eat RUTF) and without medical complications who meet the enrolment criteria. Infants less than 6 months cannot eat RUTF therefore severely malnourished infants < 6 months should be referred to inpatient care since they require supervised specific treatment.

Other cases such as:

- *Mothers/caretakers who refuse transfer to inpatient care. Where the mother/caretaker refuses transfer to inpatient care despite advice and counselling, the child should be carefully monitored in the OTP and followed up by community health workers.*

Others reasons for OTP enrolment:

- *Transfer from inpatient care:* Children who have been transferred from the OTP to inpatient care because of complications and then return to OTP are already included in the programme. Children who present directly at inpatient care and are then transferred for continued treatment in OTP are counted as newly enrolled in the OTP.
- *Transfer from other OTP site:* Families moving from one area to another should plan the move with clinical staff. Treatment of referred cases may continue in the new OTP until discharge criteria are met.
- *Return after default:* Children who return after defaulting (absent more than 3 weeks or absent more than 2 visits if OTP is every two weeks). Returning defaulters are readmitted if they still fulfil the admission criteria.

Table 2: Enrolment criteria for OTP

Category	Criteria (any of the following):
Children 6-59 months	MUAC <115mm
	Bilateral pitting oedema grade + or ++
	Mother/caretaker refuses inpatient care despite advice*
Other reasons for OTP enrolment	
Transfer from inpatient care or other OTP site	Child returns to OTP after transfer to in-patient care after treatment or is referred to OTP after inpatient care or from another OTP site**
Return after default	Children who return after default continue their treatment if they still fulfil the enrolment criteria for OTP

*If the mother/caretaker refuses inpatient care despite advice, keep child in OTP and monitor closely with follow up in the community with home visits until the child is stable.

**Infants < 6 months who have completed treatment in inpatient care require monitoring in OTP. They do not receive RUTF. Mothers/caretakers of infants who refuse inpatient care despite advice require very careful monitoring at home.

Enrolment procedure steps for health care providers at OTP

STEP 1: Triage urgent cases

- Identify and treat urgent cases first.
- Offer water on arrival to all cases. Sugar water (10% sugar) should be given if sugar is available. Two teaspoons of sugar/100ml of water or 20 teaspoons in 1 litre of water.

STEP 2: Anthropometric (MUAC, weight, and oedema) assessment

- Measure MUAC (Annex 1).
- Check for oedema (Annex 1).
- Measure weight.
- Calculate the target weight using the 15% weight gain chart. For Children admitted with oedema the baseline weight should be taken AFTER oedema has disappeared. (Annex 4).

- If the child meets the criteria for enrolment, complete the admission section of the OTP card and assign the child a number and note this on the card (Annex 5).

Continue with STEP 3 If the child **does not meet the criteria for OTP**, decide if the child requires medical treatment or is eligible for SFP.

If child is moderately acutely malnourished (MUAC 115- <125):

Refer to the closest SFP (if SFP is available) and counsel the caretaker accordingly. Note weight and MUAC measurements and any treatment given on a referral slip to SFP (Annex 7). If SFP is not available refer to other ongoing community health and nutrition programs and health education and communication interventions (IEC).

If child does not meet criteria but requires medical treatment:

Refer to the outpatient department immediately for check-up and treatment.

STEP 3: Medical Assessment

A skilled trained health care provider must assess the child’s medical condition. The assessment includes taking a history of the child’s condition from the caretaker and a full medical examination to rule out medical complications that may require that the child is transferred to inpatient care.

- Take a medical and dietary history and record results on the OTP card.
- Conduct a physical examination, and record results on the OTP card.
- Use the Action Protocol to determine if there are any medical complications (Annex 6).
- If the child has one or more medical complications transfer the child to inpatient care.
- If the child has no medical complications go to STEP 4.

STEP 4: Appetite Test

The child’s appetite must be assessed to see if the child will eat the RUTF necessary for recovery. Ask the caretaker to wash her/his hands and the child’s hands with soap. Show the caretaker how to use the RUTF. Give the mother/caretaker the RUTF and ask the caretaker to give the RUTF to the child and watch to see if the child eats the RUTF. This is called an “appetite test”

Appetite	Observation	Action
Good	Child takes the RUTF eagerly	Child may continue in OTP
Poor	Child takes RUTF with persistent encouragement	Child may continue in OTP but must be observed carefully for any weight loss or clinical deterioration
Refused	Child refuses RUTF even after persistent encouragement	Transfer to inpatient care

If the child is reluctant to eat the RUTF, the caretaker and child should move to a quiet and private area to encourage the child to take the RUTF, while the health care provider watches. This may take up to one hour. It is essential that the health care provider observe the child eating at least two small

spoonfuls of RUTF before the child can be accepted for OTP. Care must however be taken to ensure the child is not forced to eat.

STEP 5: Decide if the child should continue in OTP or be transferred to inpatient care

If the child refuses to eat RUTF or has any medical complications he/she should be referred to inpatient care. Infants less than 6 months who meet the criteria (visibly wasted, have oedema or are too feeble to suckle effectively) should also be referred to inpatient care.

If the child meets criteria for transfer to inpatient care:

- Explain the situation to the caretaker.
- Advise the caretaker to keep the child warm and give frequent small amounts of 10% sugar water and if possible give the first antibiotic dose.
- Complete a transfer slip (OTP to inpatient care) to the nearest inpatient unit. Give one copy to the caretaker and keep one copy for your file (Annex 7).
- Note the transfer to inpatient care on the OTP care and file it under “Transfers to Inpatient Care.”
- Inform the community health worker/volunteer of child’s transfer to inpatient care.

STEP 6: Enrolment in OTP

Children may be enrolled **directly into the OTP** if they have appetite (pass the appetite test) and have no medical complications. Explain the program and treatment to the caretaker:

- The purpose of the treatment/programme.
- Explain to the caretaker any action that will need to be taken at home and any advice for care at home.
- Explain how RUTF should be used using the key messages (Annex 8). Emphasise that CLEAN drinking water should be available to the child at all times. RUTF makes the child thirsty.
- If the mother is still breastfeeding, advise her to give the RUTF to the child *after* breast-feeding. Emphasise that RUTF is vital for the recovery of the child and should not be shared.
- Instruct the caretaker that she/he will need to bring the child back to the health facility every week (or two weeks) for medical check-ups, to be weighed to see that the child is getting better and to get the RUTF rations.
- Advise the caretaker to return to the OTP clinic immediately if the child refuses to eat RUTF or becomes ill.
- Give medicines according to routine drug protocol (Annex 9). *See medical treatment section.*
- Check immunisation status. If required immunisations have not been given, refer the child for immediate immunisation.
- Provide RUTF ration by weight using the RUTF protocol (Annex 10). Double the amount of RUTF provided if your OTP is operating every two weeks or there are planned absences.
- Fill out the Ration Card and give it to the caretaker. She/he should bring the card back every week or two weeks (Annex 11).
- Tell the caretaker when she/he should come back for the next OTP visit (date and time). Make it clear that the child should be brought back to the health facility at any time if the child’s conditions deteriorate.
- Complete the OTP card and keep in your file under “Children Enrolled in OTP.”

NUTRITION TREATMENT USING RUTF IN OTP

Nutritional treatment in OTP is given through ready to use therapeutic food (RUTF). RUTF is a pre-packaged energy and nutrient dense paste which is specifically designed for the rehabilitation of SAM. RUTF contains a specific micronutrient formula, which is designed for the effective rehabilitation of severely malnourished children. It is made to the same formulation as F100 and can therefore be used as a replacement for F100. ¹ RUTF provides approximately 545 Kcal per 100g. The amount of RUTF given to a child is based on weight (175 - 200 kcal/kg/day). A simple reference chart is used to determine how much RUTF to give each day and per week (Annex 10).

RUTF may be imported or locally produced. RUTF contains all of the energy and nutrients to meet the nutritional needs of the child and does not require any cooking or preparation. RUTF does not contain water and cannot be contaminated. For these reasons RUTF can be successfully and safely used at home for the treatment of SAM. RUTF used in OTP must be approved by the Ministry of Health and meet national standards.

Key information messages are given to the caretakers of children admitted to OTP on how to use the RUTF including the importance of regular feeding in small amounts and the need for plenty of clean drinking water. These messages are important. The caretaker should repeat back the key messages to the health care provider to make sure the messages have been understood.

CAUTION

Ready to use therapeutic food (RUTF) is an energy and nutrient dense paste especially designed for the rehabilitation of severe acute malnutrition. This should not be confused with other pastes packaged in sachets or pots which look like RUTF. Other nutrient dense pastes such as ready to use food for children (RUF-C) are designed for the prevention of acute malnutrition. These products **MUST NOT be used instead of RUTF for the treatment of SAM.**

Medical treatment in OTP

Routine medicines are given to all children enrolled in OTP.

- Treatment is based on the principles of drug treatment for severe acute malnutrition and is based on IMNCl and national protocols.
- Where possible medicines should be given as a single dose so that the health care provider can observe them being taken.
- First line antibiotic is Amoxicillin. Amoxicillin dose is according to national protocols. The health care provider should give the first dose of Amoxicillin at admission to the OTP. A clear explanation should be provided to the caretaker on how to continue treatment of antibiotics at home. The caretaker should then repeat the instructions back to the health care provider to make sure they have been well understood.
- Mebendazole (or Albendazole) is given as a single dose on the **second visit to OTP**.
- Vitamin A is given at admission except for those who have received vitamin A **in the last one month**.
- Measles vaccine is given to all children above 6 months **at the 4th week of treatment**. The Health care provider should encourage the vaccination of all other eligible unvaccinated children in the household. This will reduce the mortality risk of the unvaccinated child

¹ Imported RUTF is made from peanut paste, milk powder, vegetable oil and sugar. A specifically designed micronutrient mix is added. The RUTF is made to the same formulation as F100 and is designed to meet the special needs of severely acutely malnourished children

- Iron and folic acid is not given routinely in the OTP as RUTF contains sufficient iron and folic acid to treat mild to moderate anaemia. If anaemia is identified it may be treated according to IMNCI guidelines however treatment should begin only after 14 days in the programme with evidence of weight gain and good appetite(Annex 12). Additional supplements of iron and folate should not be given routinely.
- Cases of severe anaemia should be transferred to inpatient care.
- Malaria treatment is given in malarial areas according to the national malaria protocol (Annex 13).
- Additional medicines may be prescribed to treat other medical problems for children with severe acute malnutrition in OTP. (Annex 14).
- **Children who have been transferred from inpatient care should not receive routine medications that have already been administered in inpatient care.** Check the OTP card and transfer or referral slip from the inpatient care unit for details of the medications that have already been given.
- All children should be referred for other routine childhood vaccinations. Check the child's vaccination card.

OTP FOLLOW UP VISITS

Children should attend the OTP every week or two weeks to have a medical check-up and to receive their supply of RUTF. The health care provider at the health facility should record the information on the OTP card during each follow up visit.

Procedure for follow up (weekly or every two week visits until discharge)

- Clean water for hand washing and for drinking should be available at the OTP.
- MUAC, weight and assessment for oedema are taken every week.
- If there is an issue with attendance due to distance or other reasons, it might be necessary to ask the caretaker to come to OTP every two weeks (if this is the case, amount of RUTF given needs to be adjusted).
- Appetite test is done at every follow up visit.
- Conduct the medical check up and medical/dietary history (illness in the previous week/ two weeks and RUTF or other food eaten) at every follow up visit. Record this on the OTP card.
- Follow the Action Protocol to determine if there are complications and determine if there is a need to transfer to inpatient care or if follow up by a community health worker or community volunteer is needed at home.
- Children should be transferred to inpatient care at any time during treatment in the OTP according to the Action Protocol if:
 - Medical condition deteriorates.
 - Increase in bilateral pitting oedema.
 - Weight loss on three consecutive OTP sessions.
 - Static weight (no weight gain) after five OTP sessions.
 - Target weight has not been reached after 3 months in the program.
- Children should be followed up in the community according to action protocol if:
 - They have lost weight on two consecutive visits
 - They are in the programme for three weeks with no weight gain or with weight fluctuating between small gains and losses. They should receive special attention during medical assessment.

- Complete doses of routine medicine according to routine medical protocols.
- Any additional medications given during follow up visits should be noted on the OTP card.
- Complete the OTP card and ration card.

Follow up visits at home

Community health workers or volunteers should visit caretakers and children at home if the health care provider determines that there is a need for close monitoring of the child between visits to the OTP.

- At least one health care provider at each OTP facility should be responsible for coordinating screening and follow up visits with the community health worker/volunteers. After the OTP distribution, she/he reviews the child's monitoring card with the assigned community worker and highlights areas for special attention during home visits.
- Community health workers/volunteers should record follow-up visits in an exercise book and report the findings to the responsible health care provider.
- Children should receive a follow-up visit according to the Action Protocol if:
 - Child has lost weight on two consecutive visits.
 - Weight or medical condition does not improve within 3 weeks (static weight or loss of weight).
 - Child was initially treated in inpatient care.
 - The child has been absent or defaulted from the programme.

HEALTH EDUCATION IN OTP

- OTP presents a good opportunity for health education. When a child is first admitted to the OTP, the key messages about how to give RUTF, routine medicines and basic hygiene messages should be clearly understood. No other messages are given at this time to avoid overloading the caretaker with too much information.
- Simple messages can be developed for use in the OTP and in the community that complement the key messages and attempt to address some of the underlying reasons for the child becoming malnourished in the first place. In some contexts these messages may already exist and can be adapted (for infant and young child feeding breastfeeding and complementary feeding messages). Every attempt should be made to use the same or similar messages that are given out in other existing programmes.
- It is essential that messages be reinforced by practice. These messages should focus on: basic hygiene such as hand washing, the importance of frequent and active feeding and what local foods to give young children; identifying malnutrition (when to bring children to OTP); management of diarrhoea and fever and recognising danger signs.
- Before discharge, children enrolled in the OTP should begin to transition to appropriate high energy nutrient rich local foods including oil/ghee. Community health workers should ensure that the mother/caretaker knows what foods to give the child, how to prepare local foods and how often to feed the child before the child leaves the OTP. It will also help the child adjust slowly from eating mostly RUTF to eating mostly local foods.

In addition to the key messages on RUTF, three essential messages (must be given and practiced at OTP)

- Hand-washing with soap before eating and after defecation.
- Exclusive breastfeeding (for 6 months) and introduction and use of appropriate complementary foods using local foods.
- Continued feeding during illness.

EXIT CRITERIA FROM OTP

Table 3: Exit criteria for OTP

Category	Criteria
Cured	MUAC >115mm Clinically well And 15% weight gain And No oedema for two consecutive visits (if admitted with oedema)
Defaulted	Absent for 3 consecutive visits (OTP is every week) Absent for 2 consecutive visits (OTP is every two weeks)
Died	Died during time registered in OTP
Not recovered*	Has not reached exit criteria within 4 months.

*Before this time, children should have been followed up at home. Children who have had weight loss for 3 consecutive weeks or have not gained weight for 5 consecutive weeks must be transferred to inpatient care according to the Action Protocol. Children who have not met the exit criteria after 3 months should be referred for medical attention.

Exit procedure

- Explain to the caretaker that the child is recovered (or if not recovered why her/she is being discharged).
- Note the final outcome on the OTP card and file the card under “Children discharged cured” or “non-recovered.”
- Advise the caretaker to take the child to the nearest OTP or health facility if the child refuses to eat or has any of the following:
 - High fever
 - Frequent watery stools with blood or diarrhoea lasting more than 4 days
 - Difficult or fast breathing
 - Vomiting
 - Development of oedema
- Counsel the mother/caretaker on good nutrition and appropriate use of local foods, hygiene and feeding practices and the importance of continued breastfeeding for children less than 2 years.
- Ensure the caretaker understands how to use any medications that have been given / prescribed.
- Refer to a Supplementary Feeding Programme (SFP) if available. Explain that the child will remain in SFP for 2 months. Provide a referral slip to SFP (Annex 7). If SFP is not available refer to other ongoing community health and nutrition programs and health education and communication interventions (IEC).

- Children who have not recovered (not met the exit criteria) after four months in the programme should be sent to the SFP and/or other support programmes.

Section Three: Inpatient Care

In-patient care provides treatment for children 6 to 59 months who are severely acutely malnourished who do not have an appetite and/or have medical complications. These children require a short period of time in inpatient care in order to stabilize their condition. The management of severe acute malnutrition with complications in inpatient care follows the WHO protocols for Phase one.² Once stabilised, the child can continue their treatment in OTP. Average length of stay in inpatient care is 4-7 days. This will depend on the severity of the complications. Infants less than 6 months who are severely acutely malnourished or are unable to breast-feed also require specialised treatment in inpatient care.

Inpatient care should be located in a health facility where 24-hour care can be provided (a hospital or a health facility with in-patient facilities). Inpatient care should be incorporated into existing health services as a component of routine services for children under five. Skilled personnel who have received the appropriate training to manage these cases are required to run inpatient care. Close supervision of these children is necessary.

Cleanliness and hygiene are essential as these children are particularly vulnerable and sub-standard conditions can lead to high mortality. The inpatient facility must include a room or kitchen where therapeutic milk can be safely prepared on site.

The purpose of inpatient care:

For children 6 to 59 months without appetite or with medical complications:

- To stabilise any medical complications so that the child can start nutritional rehabilitation. If a child starts nutritional rehabilitation *without* stabilising any complications there is a high risk of mortality. Once the complications have been stabilised, children are referred to OTP to continue their rehabilitation at home.
- The caretaker of the child should stay with the child while he/she is in inpatient care.

For infants less than 6 months:

- For breast-fed infants: To feed the infant and stimulate breast-feeding until the infant can be fed on breast-milk alone.
- For non-breast-fed infants: To nutritionally rehabilitate the infant.

Screening and referral to inpatient care

Children may arrive at the in-patient care facility through a number of ways:

- Transfers from OTP. The health care provider at OTP has used the Action Protocol and determined that the child has complications and requires transfer to inpatient care.
- Referrals by health care providers e.g. at health facility or hospital level.
- Self-referral – child is brought directly to the inpatient facility by the caretaker.

Basic requirements for inpatient care

WHO is qualified to run inpatient care: The staff at the inpatient care facility should include the following:

² Management of severely malnourished children in inpatient care follows WHO protocols for **Phase I treatment**. Alongside these protocols, you may also refer to the following:

WHO. *Management of severe acute malnutrition: A manual for physicians and senior health workers*. Geneva 1999

WHO. *Management of the child with a serious infection or severe malnutrition*. Geneva, 2000

WHO. *Guidelines for the inpatient treatment of severe acute malnutrition*. Geneva 2003

- Trained medical staff with the ability to treat the medical complications e.g. a skilled nurse or medical doctor with experience in the inpatient treatment of severe acute malnutrition
- Assistant staff – these should provide 24 hour cover and should have the necessary skills to be able to take vital signs, administer the appropriate medication and monitor / record the intake of therapeutic milk
- Staff responsible for keeping the facility clean
- Staff who can prepare the therapeutic milk

WHERE: Inpatient care will usually be in a district hospital or health facility where inpatient capacity is available. In an emergency it can also be established anywhere where:

- Children can stay for 24 hours a day
- The appropriately skilled personnel are available
- Clean water is available
- Milk preparation area available (for boiling water)

The environment must be clean. Clean bedding and mosquito nets (in malarial areas) must be provided. Plenty of clean blankets are also required.

WHEN: Children stay in in-patient care until the medical complications are treated and they have re-gained appetite. On average this is 4-7 days.

What you will need to run inpatient care

Basic equipment and supplies for inpatient care

Basic equipment	Basic supplies
<ul style="list-style-type: none"> ▪ Weighing scales ▪ Infant scales (20g accuracy) ▪ Height/length board (for infants < 6 months) ▪ MUAC tapes ▪ W/H tables (for infants < 6 months)) ▪ Calculator ▪ Clean water for drinking ▪ Water and soap for hand-washing ▪ Kitchen equipment to prepare feeds ▪ Cleaning products ▪ Jugs and cups for therapeutic milk ▪ Beds and bedding(including blankets) ▪ Mosquito nets (in malarial areas) 	<ul style="list-style-type: none"> ▪ Inpatient patient cards ▪ Inpatient register ▪ Transfer slips from inpatient to OTP ▪ List of OTP sites in catchment area ▪ Essential medicines and medical equipment ▪ Nutritional products for in-patient care (F75, F100) ▪ RUTF ▪ ReSoMal (for rehydration) ▪ Food for caretakers

Protocols and reference sheets

*Protocols and reference sheets can be found in a separate pack at the back of these guidelines. These can be copied and printed in large quantities. Protocols marked with and * should be laminated for easy reference at the inpatient facility.*

Annex 1: Anthropometric measurement techniques

Annex 4: Target weight gain for discharge *

Annex 10: RUTF ration for OTP*

Annex 12: Iron and Folic acid doses

Annex 13: Malaria protocol for OTP

Annex 16: History and examination form for use in inpatient care

Annex 17: Inpatient care card

Annex 18: Routine medicine for children with acute malnutrition (>6 months): in-patient care*
Annex 19: Treatment of Complication in the severely malnourished child
Annex 20: Amount of F75 to give in phase I (inpatient care)*
Annex 21: Amount of F100 to give in transition phase
Annex 22: Recipes for F75 and F100
Annex 23: Transfer slip from inpatient care to OTP
Annex 26: Routine medicines for acute malnutrition in infants < 6 months: in-patient care*

Admission to inpatient care

Who should be admitted to inpatient care:

- Severely acutely malnourished children aged 6-59 months without appetite and /or with medical complications who meet the admission criteria.
- Infants aged less than 6 months with severe acute malnutrition or infants unable to breast feed and are failing to thrive.

Others reasons for in-patient admission:

Readmission: Children who have been discharged from in-patient care and then meet the criteria for enrolment again.

Return after default: Children who return after defaulting (have left the facility for 2 consecutive days).

Table 4: Admission criteria for inpatient care

Category	Criteria
Children 6-59 months	<p>Any of the following:</p> <p>Bilateral pitting oedema +++ or Marasmic-Kwashiorkor (= W/H < -3 SD or MUAC < 115mm with any grade of oedema)</p> <p>Or MUAC < 115mm or W/H < -3 SD or bilateral oedema + / ++ WITH any of the following complications</p> <ul style="list-style-type: none"> ▪ Anorexia, no appetite for RUTF ▪ Vomits everything ▪ Hypothermia $\leq 35.5^{\circ}\text{C}$ ▪ Fever $\geq 38.5^{\circ}\text{C}$ ▪ Severe pneumonia ▪ Severe dehydration ▪ Severe anaemia ▪ Not alert (very weak, lethargic, unconscious, fits or convulsions) ▪ Conditions requiring IV infusion or NG tube feeding
Infants < 6 months	<p>Infant is too <i>weak or feeble</i> to suckle effectively (independently of his/her weight-for-length).</p> <p>or W/L (weight-for-length) < - 3 SD (in infants ≥ 45 cm)</p> <p>or Visible severe wasting in infants < 45 cm</p> <p>or Presence of bilateral oedema</p>
Other reasons for inpatient enrolment	
Readmission	Children previously discharged from in-patient care but meets inpatient care enrolment criteria again
Return after default	Children who return after default (away from in-patient care for 2 consecutive days) if they meet the admission criteria

Children 6-59 months

Admission procedure

STEP 1: Triage urgent cases

- Identify and treat urgent cases first
- Give sugar water 10% to all children who arrive (2 teaspoons of sugar per 100ml water or 20 teaspoons in one litre of water)

STEP 2: Anthropometric (MUAC, weight, and oedema) assessment

Measurements need to be taken to confirm measurements and for monitoring purposes even if they have been taken elsewhere.

- Measure MUAC (Annex 1).
- Check for oedema and measure the grade (Annex 1).
- Measure weight (Annex 1).
- Calculate target weight using 15% weight gain chart (**only necessary if there is no OTP and child must remain in inpatient care**).

If the child is **not malnourished**, but the child is sick refer the child for further medical investigation.

STEP 3: Medical Assessment

The child must be thoroughly assessed by a skilled trained health care provider (even if a medical examination has been conducted elsewhere). The transfer slip from OTP will provide information on the findings of other health caretakers and this information should be carefully noted and recorded. The assessment includes taking a history of the child's condition from the mother/caretaker and a full medical examination to determine the exact medical condition of the child (Annex 16).

- Take a medical and dietary history and conduct and physical examination (Annex 16)
Record results on the inpatient card (Annex 17).
- If severe oedema and marasmic-kwashiorkor is absent and if the child has appetite and no medical complications:
- Refer moderately acutely malnourished children to SFP (if it is available).
- Refer severely acutely malnourished children to OTP if available (must have an appetite for RUTF).
- Complete a transfer slip to OTP (Annex 23).

STEP 4: Inpatient care admission

- Explain the situation to the caretaker and make sure he/she consents to stay in in-patient care.
- Fill out an inpatient card.
- Assign a number (use the same number on the transfer slip if child is from OTP).
- Keep the child warm. Use blankets and a hat.

STEP 5: Give routine medicine

Routine medicines are given to all children admitted to in-patient care if they have not already been given in OTP. See Annex 18 (routine medicines in inpatient care).

Note the following:

- First dose of antibiotics is given in OTP. Where this has not been done, children should receive amoxicillin as first line. Routine antibiotics are given to all children on admission to inpatient care. **Second line antibiotics are used according to clinical judgement.** Children not responding to amoxicillin plus gentamycin should receive chlorenphenicol/cephalosporin
- Malaria treatment if symptomatic/tested according to national protocols (Annex 13).
- Mebendazole/Abendazole) should be given ON EXIT if patient is discharged to OTP or on day 7 if the child is still in inpatient care.
- It is not advisable to give additional zinc as there is enough in the F75 milk and in RUTF. If a local dietary preparation is used then check the zinc content.
- Measles vaccination for unvaccinated children should be given to children admitted to inpatient care from 6 months of age: Second dose should be given at the OPT at week 4. If there is no OTP and the child will complete treatment in the inpatient facility, the second dose may be given on discharge.

STEP 6: Assess and treat any complications

During the full medical examination, particular attention should be given to assessment of the following conditions which are closely associated with severe acute malnutrition.

- Dehydration
- Septic shock
- Congestive heart failure
- Hypoglycaemia
- Severe Anaemia
- Hypothermia
- Dermatitis of kwashiorkor

Treatment of the complications listed above can be found in Annex 19.

Children with other underlying medical conditions may present as severely malnourished. Severely malnourished children should first be treated according to the protocol for the management of severe acute malnutrition. Those that fail to respond to this treatment should be referred for further medical investigation. Care should be taken in prescribing drugs to severely malnourished children. They have abnormal kidney and liver function and changed levels of enzymes necessary to metabolize and excrete drugs. Drugs for HIV and TB can damage the liver and pancreas. Therefore nutritional treatment should occur first and the administration of these drugs delayed until metabolism has returned to normal.

CAUTION:

The routine use of IV fluids is strongly discouraged: IV fluids should only be used to resuscitate severely acutely malnourished children from hypovolaemic collapse (shock). IV fluids should only be used by a skilled health worker who is experienced in the care of severely malnourished children.

Pediatric doses: Care should be taken in the calculation of weight related paediatric dosing of medications.

STEP 7: Start nutritional treatment with F75

Most of the severely acutely malnourished children who fulfill the criteria for in-patient care have infections, impaired liver and intestinal function, and problems related to imbalance of electrolytes when first enrolled. They are unable to tolerate the usual amounts of dietary protein, fat and sodium. It is important to begin feeding these children with a diet that is low in these nutrients.

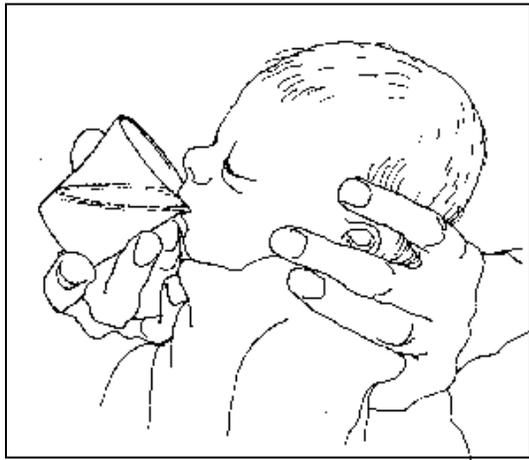
- F75 therapeutic milk is a product that has been especially designed for use with the treatment of complicated cases of severe acute malnutrition. Energy density of F75 is 75kcal/100ml (this is equivalent to 100kcal/bodyweight/day)
- F75 is given at regular intervals throughout the day (135ml/kg/day). Depending on the capacity of the inpatient facility, this should be eight times a day at three hour intervals over 24 hours or five to six feeds at regular intervals throughout the day.
- Amounts of F75 to give are shown in Annex 20.
- Use pre-packaged commercially available F75 whenever possible. Where this is not available, F75 can be prepared locally. Recipe for locally prepared F75 can be found in Annex 22.
- If the child is breastfed, encourage the mother to continue breastfeeding. Breastfed children should be offered breast-milk before giving F75 and always on demand.
- Treatment using F75 usually takes 2-3 days

Preparation of commercially prepared F75

- Add one packet (410g) of F75 to two litres of boiled slightly warm water and mix.
- Where a few children are being treated use the red scoop in the packet (20ml of water per one red scoop).

Feeding techniques in inpatient care

Feeding technique and communication with caretakers



Muscle weakness and slow swallowing in severely malnourished children makes aspiration and pneumonia common. The child should sit on the caretaker's lap against her/his chest (see picture). F75 should be given by cup. **Bottles should NEVER be used.** The child should not be force fed. Other food should not be given and this must be clearly communicated to caretakers. Giving other food can be dangerous.

It is important to communicate clearly with caretakers so that they fully understand the treatment and how to feed their children. Caretakers may be anxious about the child. Caretakers should be engaged as much as possible in the care of the children. Meal times should

be sociable so that caretakers can talk to and support each other. Nurses and assistants should correct any faulty feeding techniques.

Meals for caretakers should be provided in a separate area if possible.

Naso-gastric tube feeding

Naso-gastric tube feeding (NGT) is used when the child is not taking sufficient diet by mouth. This is defined as intake less than 75% of the prescribed diet of 100 Kcal / kg / day. The reasons for use of an NG tube are:

- Taking less than 75% of the prescribed diet per 24 hours
- Pneumonia with rapid respiration rate
- Painful lesions of the mouth
- Cleft palate or other physical deformity
- Disturbances of consciousness

F75 by mouth should be tried every day patiently before use of NGT. The use of the NGT should not normally exceed 3 days.

Monitoring the condition of the child

Children who require in-patient care can deteriorate quickly. It is essential to monitor them closely so that any deterioration in their clinical condition can be picked up rapidly. Ensure that all the following information is completed on the in-patient care.

Monitoring the child in inpatient care

Measurements to be taken AT EACH FEED	Measurements to be taken TWICE DAILY	Measurements to be taken and recorded ONCE DAILY
<ul style="list-style-type: none"> ▪ Amount of F75 feed the child takes ▪ Any occurrence of vomiting / regurgitation of the feed 	<ul style="list-style-type: none"> ▪ Body temperature ▪ Respiration rate ▪ Pulse 	<ul style="list-style-type: none"> ▪ Weight ▪ Oedema(grade assessed daily) ▪ Frequency and type of stools ▪ Amount and frequency of vomiting ▪ Dehydration ▪ Respiration/chest drawing in ▪ Cough ▪ Liver size ▪ Extremities ▪ Palmer pallor

Transition Phase

Children can start on RUTF when:

Any complication has been treated, oedema has resolved or decreased to at least I+ **and** the child begins to have an appetite.

- If the child initially refuses RUTF, continue to offer every day (without forcing) until it is accepted.
- It may take a few days to develop appetite for RUTF. If RUTF cannot be eaten, F100 should be given until the child develops appetite to eat sufficient RUTF. RUTF should be offered.
- Give RUTF according to the weight of the child (Annex 10). RUTF Plenty of clean water should be given to the child to drink. Breast-fed children should be always offered breast milk before RUTF.
- It is common for the children to get some change in stool frequency when they change diet from F75 to RUTF. This does not need to be treated unless the child loses weight.
- The child should be able to eat at least 75% of RUTF (according to weight) for 1-2 days before he/she is eligible for exit from in-patient care and transferred to OTP.
- The child can be discharged from inpatient care if they can eat 75% of the RUTF ration and complications are resolved.

Use of F100

- F100 (100kcal/100ml) can be used in the transition phase if the child does not yet have appetite for RUTF or where RUTF is not available.
- F100 should be given to children > 6 months of age about 6 times a day according to body weight (200ml/kg/day). Amount to give (volume according to weight) is shown in Annex 20.
- F100 should not be used at home.
- Use pre-packaged commercially available F100. Where this is not available, F100 may be prepared locally. Use the recipe given in Annex 22.

Preparation of commercially prepared F100

- Add one packet (456g) of F100 to 2 litres of boiled water.
- Where a few children are being treated, use the red scoop in the packet (20ml of water per one red scoop).

CAUTION

F100 should be given full strength EXCEPT for infants under 6 months. These infants should receive F100 diluted (F100D)

Children and infants with oedema should be given F75 until the oedema has resolved.

When the child's condition is failing to improve (failure to respond)

The following criteria suggest failure to respond:

If a child is failing to respond then the underlying causes must be investigated and addressed appropriately and recorded on the inpatient card.

The underlying cause may be associated with the treatment facility or a specific problem with the individual child. Common causes of failure to respond are shown in Box 4.

Primary failure to respond:

- Failure to regain appetite by day 4 after admission
- Failure to start to lose oedema by day 4 after admission
- Oedema still present at day 10 after admission
- Failure to gain more than 5g/kg/d by day 10

If a child is failing to respond then the underlying causes must be investigated and addressed appropriately and recorded on the inpatient card.

The underlying causes may be associated with the treatment facility or a specific problem with the individual child. Common causes of failure to respond are shown in Box 4.

Common causes of failure to respond to treatment in inpatient care

Problems with treatment facility	Problems with individual children
<ul style="list-style-type: none"> ▪ Poorly trained staff ▪ Poor environment for malnourished children (including poor hygiene and risk for cross infection) ▪ Inaccurate weighing machines ▪ Therapeutic milk prepared or given wrongly ▪ Failure to complete the inpatient care correctly 	<ul style="list-style-type: none"> ▪ In sufficient food being given ▪ Food taken by siblings or caretaker ▪ Caretaker giving child his/her own food ▪ Vitamin or mineral deficiency ▪ Malabsorption ▪ Psychological trauma (particularly in crisis in situations and displacement. ▪ Rumination ▪ Infection especially diarrhoea, dysentery, pneumonia, tuberculosis, urinary infection, otitis media, malaria, HIV, hepatitis. ▪ Other serious underlying disease e.g. congenital abnormalities, neurological damage, inborn errors of metabolism

Health and nutrition education and play

Mothers/caretakers will spend 24 hours a day in in-patient care. This provides a good opportunity for mothers and caretakers to support each other and for health care providers and assistants to determine and address some of the reasons why the child became severely malnourished and to seek to prevent this from re-occurring.

Simple messages can be developed for use in inpatient care (as in OTP) that attempt to address some of the underlying reasons for the child becoming malnourished in the first place. In some contexts these messages may already exist and can be adapted (for infant and young child feeding breastfeeding and complementary feeding messages). Every attempt should be made to use the same or similar messages that are given out in other existing programmes.

It is essential that messages are reinforced by practice. These messages should focus on: basic hygiene such as hand-washing, the importance of frequent and active feeding and what local foods to give young children; identifying malnutrition (when to bring children to SC/OTP); management of diarrhoea and fever and recognising danger signs.

Three essential messages (must be given and practiced)

- Hand-washing with soap before eating and after defecation
- Exclusive breastfeeding (for 6 months) and introduction and use of appropriate complementary foods
- Continued feeding during illness

Play stimulation can also speed the recovery of the malnourished child. Play therapy is intended to develop language skills and motor activities aided by simple toys. It should take place in a relaxed and stimulating environment. Storytelling and music can also help create a relaxed and stimulating environment.

Discharge from inpatient care

Discharge criteria for inpatient care depends on whether there is an OTP for the child to continue treatment.

Where there is OTP

Children should be discharged from in-patient care and transferred back to OTP when:

- There are no medical complications.
- Appetite returned - the child has taken at least 75% of the prescribed RUTF ration for at 1-2 consecutive days.
- Oedema is resolving and has reduced to at least 1+.
- Weight gain for 2 consecutive days.

Where there is no OTP

Option 1: Establish an OTP at the inpatient site. Children should return to the OTP site every week or two weeks.

Option 2: The child should remain in inpatient care and continue on RUTF until discharge criteria has been reached. Treatment protocol for the rehabilitation phases and discharge criteria are the same as OTP.

Other reasons for exit

- Died: Child died while in inpatient care.
- Defaulted: Child defaulted (absent for two consecutive days).
- Medical referral (child was referred to hospital for medical assessment).

Table 5: Discharge criteria from inpatient care (children 6-59 months)

Category	Criteria
Discharge to OTP	<ul style="list-style-type: none"> ▪ There are no medical complications ▪ Appetite has returned (the child has taken at least 75% of the prescribed RUTF ration for at least 1-2 consecutive days) ▪ Oedema is resolving and has reduced to 1+ ▪ Weight gain for 2 consecutive days
Discharge when there is no OTP	MUAC >115mm Clinically well And 15% weight gain And No oedema for two consecutive visits (if admitted with oedema)
Other reasons for exit	
Died	Child died while in inpatient care
Defaulter	Child is absent from in-patient care for 2 consecutive days
Medical referral out of programme	Where the medical condition of the child requires referral out of in-patient care e.g. to referral hospital

Exit Procedure

Where there is OTP

- Explain the situation to the mother/caretaker.
- Explain to the mother /caretaker that her child will continue treatment in the OTP. If the mother/caretaker has been transferred from OTP, then he/she will continue the treatment at the same OTP.[and inform local community providers If the child has not been transferred from OTP, inform the caretaker where the OTP is. (You should have a list of the OTP's operational in your catchment area).
- Complete a transfer slip including relevant details of treatment and drugs given (Annex 22) and give the top copy to the mother/ caretaker and keep a copy in the file.
- Complete routine medications. Give de-worming treatment on exit from in-patient care if not previously received in out-patient care. (Annex 18).
- Give the mother/caretaker enough RUTF to last until the next OTP session (see Annex 10 for RUTF quantities by weight).

Where there is No OTP

- Establish an OTP at the hospital/inpatient site. If this is not possible or there is no possibility that the child will be able to return to the OTP, then the child should remain in inpatient care and continue RUTF until discharge criteria has been reached. Treatment protocol and discharge criteria are the same as OTP.
- If the caretaker refuses to return to the OTP or to stay in inpatient care, provide one-two weeks supply of RUTF and ask her/him to return with the child for a follow up visit.
- Tell the mother/caretaker to take the child to the nearest health facility if the child's condition deteriorates.

Infants less than 6 months

Severely malnourished infants less than 6 months special care and should be treated in inpatient care. All infants less than 6 months of age have special dietary needs because they metabolically more vulnerable and have higher water requirements than older infants. Supporting exclusive breastfeeding is the cornerstone of management and longer term survival of infants.

Infants are particularly vulnerable, to avoid cross-infection. Where possible keep mothers and babies in a separate room or if this is difficult in a separated area. Mothers will learn from and support each other so mother to mother support should be encouraged.

The purpose of treatment includes:

- Improving and re-establishing breastfeeding where possible.
- Appropriate therapeutic feeding.
- Nutritional, psychological, and medical care for the mothers/caretakers of infants.

Malnourished infants should be admitted to inpatient care when:

The infant is too weak or feeble to suckle effectively independently of the weight and length (this should be determined through a thorough assessment of breastfeeding).

or

W/L is < than – 3 SD (children > 45cm)

or

Visible wasting in infants < 45cm

or

Presence of bilateral oedema

Procedure for management

Managing the malnourished breastfed infant < 6 months

STEP 1: Take anthropometric measurements

- Measure the weight. Use appropriate scales (with accuracy to at least 20g). Infants should be weighed naked because weight of clothes can make a big difference to the small changes in weights seen in such small infants.
- Measure length if > 45cm (Annex 1).

STEP 2: Medical assessment

- Conduct a medical assessment for signs of illness.

STEP 3: Assess the breastfeeding (positioning, attachment and suckling)

- Infants who are too weak to suckle effectively should be enrolled in-patient care. Breastfeeding (positioning, attachment and suckling) should be assessed as part of the general assessment.

STEP 4: Admit the infant

- The infant should be admitted if he/she meets the enrollment criteria).
- Complete an in-patient card (Annex 17).
- The mother/caretaker and the infant should be placed away from other children as infants are particularly vulnerable to cross-infection.
- Keep the infant warm. Put a hat on the infant if possible and place the child on the front of the mother/caretaker with her arms wrapped round the child (skin to skin technique). Wrap the mother and baby in blankets together.

- Give a hot drink given to the mother to increase the heat she makes in her skin to warm her infant.

STEP 5: Treat complications

Any complications such as hypothermia, hypoglycemia, dehydration, infection, septic shock should be treated. Check carefully to avoid over-treatment, particularly of dehydration, as fluid overload is dangerous.

See Annex 19 for treatment of complications.

STEP 6: Give routine medical treatment

Give to all infants < 6 months routine medical treatment (Annex 26).

STEP 7: Provide supplemental therapeutic feeding for breast-fed infants

The aim of nutritional treatment is to:

- Stimulate breast-feeding.
- Supplement the child until breast milk is sufficient to allow the child to grow properly.
- Treatment is based on **the Supplemental Suckling Technique (SST)**. This is a technique that allows the infant to take supplemental milk through a tube attached to the breast as well as suckling at the breast. The SST stimulates the production of breastmilk through continuous suckling (see SST below).
- It is important to put the child to the breast as often as possible.
- The therapeutic milk used in the SST is **F100 diluted (F100D)**.
- **Infants with oedema should be given F75. When the oedema has resolved switch to F100 dilute.**

Preparation of F100 dilute and how much to give

CAUTION !:

-Use ONLY commercially produced F100 which has been diluted. Where F100 diluted is not available, use the same quantities of commercial infant formula diluted according to the instructions on the tin. Home prepared milk-based feeds/modified animal milk recipes are not suitable for malnourished infants under 6 months and should not be used.

-Infants less than 6 months with oedema should be given F75 NOT F100 diluted. When the oedema has resolved they should be changed to F100 diluted or infant formula.

-Do not use RUTF for infants less than 6 months.

Preparation

Preparation of F100 diluted

One packet (456g) of F100 in 2.7ml of water (instead of the standard 2 litres) to make F100 dilute.

For small quantities of F100 dilute:

Use 100 ml of F100 already prepared and add 35 ml of water (gives 135ml).

Use 200 ml of F100 already prepared and add 70 ml of water (gives 270 ml).

How much to give

Table 6: F100 diluted to give for infants during SST

Weight (kg)	MI of diluted F100/feed (8 feeds/day)
Diluted F100	
<=1.2kg	25
1.3-1.5	30
1.6-1.7	35
1.8-2.1	40
2.2-2.4	45
2.5-2.7	50
2.8-2.9	55
3.0-3.4	60
3.5-3.9	65
4.0-4.4	70

Giving F100 diluted (F100-D) using SST

- On admission immediately give one feed.
- Give 3-hourly feeds. If the infant is very ill give feeds every two hours.
- **The quantity is NOT increased as the infant starts to gain weight.**
- If the infant is not able to suckle, give feeds by cup, dropper, syringe, or naso-gastric tube.
- At each feed try the supplementary suckling technique before using other methods, only use these methods if infant is not taking milk by supplementary suckling.

Supplemental Suckling Technique (SST)

Supplemental milk (F100 diluted) is given using a tube the same size as an n°8 nasogastric tube (if this is not available use the next best tube). The infant suckles and stimulates the breast, and at the same time draws the supplement through the tube. Mothers should sit in a quiet place and should be given support. Another mother who is using the technique successfully is the best person to demonstrate the technique to others. The mother should be relaxed. Too many instructions about the correct positioning or attachment positions can often distress the mother.

Use the SST as follows:

- Cut a small hole in the side of the tube, near the end of the part that goes into the infant's mouth (this is in addition to the hole at the end). This helps the flow of milk.



- F100 diluted is put in a cup. The mother holds it
- The end of the tube is put in the cup
- The tip of the tube is put on the breast at the nipple and the infant is offered the breast in the normal way so that the infant attaches

properly. Some mothers find it better to tape the tube to the breast.

- When the infant suckles on the breast, with the tube in his mouth, the milk from the cup is sucked up through the tube and taken by the infant.
- At first an assistant needs to help the mother by holding the cup and the tube in place.
- The assistant should encourage the mother. After some time, mothers usually manage to hold the cup and tube without assistance.
- At first, the cup should be placed at about 5 to 10cm below the level of the nipple so the milk does not flow too quickly and distress the infant and the weak infant does not have to suckle excessively to take the milk. As the infant becomes stronger the cup should be lowered progressively to about 30cm below the breast.
- Raising or lowering the cup determines the ease with which the infant gets the supplement: for very weak infants it can be at the level of the infant's mouth. If it is above this level there is danger of aspiration.
- It may take one or two days for the infant to get used of the tube and the taste of the mixture of milks, but it is important to persevere
- After feeding, the tube is flushed through with clean water using a syringe and then spun rapidly to remove the water. If possible the tube can then be left exposed to direct sunlight.

Monitoring the infant

- **Supplementation is not increased during the time in the inpatient facility.** If there is an increase in weight this is due to increased quantity of breast milk.
- Weigh the baby daily with a graduated scale to within 20g.

When the baby is gaining weight at 20g /day:

- Decrease the quantity of F100 diluted to one half of the maintenance intake
- If the weight gain is maintained (10g/day) then stop the supplement and continue on breast milk alone.
- The breast should be offered 1/2 - 1 hour before giving the therapeutic feed when the baby is more likely to be hungry and so more likely to suckle.

If possible keep the child in inpatient care for 2 days on breast milk alone to make sure he/she continues to gain weight.

If weight is not maintained

- Increase the amount given to 75% of the maintenance amount for 2-3 days.

When to stop SST

Continue to give the full amount of supplementary milk as well as breast milk until:

- Any oedema has disappeared
- The infant's appetite improves
- There is evidence of breast milk production (milk can be expressed, breasts feel fuller). This usually occurs about two to seven days after initial re-feeding begins. As the infant's general condition improves, s/he will start to show an interest in taking milk including taking the supplementary milk quickly, and finishing all feeds, sucking on the syringe, suckling the breast more strongly, or lapping from a cup.

Care of mothers

The rehabilitation of the baby is related to the well-being of the mother, it is therefore essential to care for the mother. Mothers and babies should sit in a separate room or in a corner where they can support each other. Health care providers and assistants should communicate clearly with mothers regarding the care and treatment of their infants and provide patient and continuous support.

- Check mother's MUAC and the presence of oedema. MUAC <210 and/or nutritional oedema indicates that the mother is acutely malnourished. Acutely malnourished mothers should be given RUTF (2-3 sachets/day) if sufficient supplies are available. Refer to SFP (if this is available).
- Do not make the mother feel guilty for the state of her child or blame her for giving other foods.

Strongly reassure the mother that the SST works and that she will get enough milk herself to make her baby better.

- Encourage and teach correct positioning and attachment for breastfeeding.
- Treat any breast infections (mastitis).
- Be attentive to her and introduce her to the other mothers.
- She should drink at least 2 litres of water per day.
- She must eat enough - about 2500kcal/day.
- The mother who is admitted in the centre with her child should receive Vitamin A: If the child is above 6 weeks: give 200,000 IU.
- Micronutrient supplementation should be given to the mother. The quality of the breast milk depends upon the mother's nutritional status. It is critical that the mother is properly fed during her stay in inpatient care with her infant.

Exit Criteria

Breast-fed infants less than 6 months being breast-fed can be discharged when:

- The infant is gaining weight (10g/day) on breast milk alone after the SST has been used.
- There is no medical problem.
- No oedema

The infant should be transferred to OTP where they can continue to be monitored.

- Complete a transfer slip (Annex 23). The mother and infant should be followed up at home by a community health care provider. During the follow up visits:
- Monitor the infant's weight gain and general health
- Assess breastfeeding practice and provide support if needed
- Assess the health and well being of the mother and address any issues
- Refer to the health center if necessary

Managing infants < 6months who are not breast fed

When there is no prospect of being breastfed, the malnourished infant should be treated according to the standard protocol with the following modifications.

Phases of treatment

Stabilisation phase (Phase I)

- Wasted infants < 6 months can be given F100 diluted in Phase I. Infants with oedema should be given F75.
- The amounts of F100 diluted to give are shown in Table 7. Babies should receive feeds at 3 hourly intervals or 2 hourly intervals if the infant is very ill.

- **Babies should be fed by cup, dropper or naso-gastric tube. Bottles and teats should NEVER be used.**

Monitor the infant in Phase I as follows:

- Record how much feed the infant takes, whether the infant vomits.
- Body temperature is measured twice per day.
- Assess clinical signs daily (see Box 3).
- Take weight daily using scales graduated to 20g. Record and weight loss. **There will be no weight gain during the stabilization phase.**
- Assess oedema daily.

Continue to give the full volume of milk until:

- Any oedema has disappeared.
- The baby's appetite has improved.

When these criteria are met, the infant can progress to transition phase.

Transition phase

- During the transition phase only F100 diluted should be given. The volume of feed is increased by approximately 30% (Table 7). The duration of this phase is on average about 4-5 days.
- Continue to monitor the child. Infants should start to gain weight during this phase.

Rehabilitation phase

- The volume of feed can be increased by another 30%. See Table 7.
- If the infant is still hungry after having taken all the feed, give more. Increase the feeds by 5 ml per feed.
- Involve the caretaker of the infant. Show the caretaker how to prepare breast milk substitute feeds and how to clean utensils carefully. The caretaker should give the feeds under supervision while the infant is still in in-patient care so that staff can see that he/she is confident and can prepare and give feeds correctly.
- Continue feeds until the infant gains weight. Once the infant has gained weight for 5 consecutive days begin to introduce breast milk substitute

Table 7: Amount of F100 dilute to give to non-breasted infants < 6months by phase

Weight	Stabilisation phase	Transition phase	Rehabilitation phase
	ml of F100 diluted per feed 8 feeds/day	ml of F100 diluted per feed 6-8 feeds/day	ml of F100 diluted or breast milk substitute per feed 6-8 feeds/day
< =1.5kg	30	40	60
1.6-1.8	35	45	70
1.9-2.1	40	55	80
2.1-2.4	45	60	90
2.5-2.7	50	70	100
2.8-2.9	55	75	110
3.0-3.4	60	80	120
3.5-3.9	65	85	130
4.0-4.4	70	90	140

Exit criteria

Infants less than 6 months with no prospect of bring breast fed can be discharged from in-patient care when:

- Steady weight gain for 5 consecutive days.

AND

- The infant is taking breast milk substitute successfully.
- The caretaker is able to give feed correctly.
- Close follow-up after exit from in-patient care is essential for these infants to ensure weight gain is maintained. Transfer the caretaker and the infant to OTP so that the infant can be monitored in the OTP. Complete a transfer slip to OTP. Follow up visits by community health care providers should continue for 3 months.

At each follow-up visit:

- Monitor the infant's weight gain and general health.
- Monitor the use of breast milk substitute.
- Advise and demonstrate the appropriate use of complementary foods.
- Give supportive care to caretaker of the infant.

Section Four:
Supplementary Feeding Programme (SFP)

Supplementary feeding programs provide treatment for children aged 6-59 months with moderate acute malnutrition. SFP provides take home food rations and routine medical treatment every two weeks or every month. SFP often includes acutely malnourished pregnant and lactating women. SFP also includes children discharged from OTP and in some cases children discharged from inpatient care (where there is no OTP). This is known as *targeted SFP* (children and pregnant and lactating women are admitted according to specific entry criteria).

Sometimes SFP may include all children under a certain age (for example all children under 3 years) or all pregnant and lactating women irrespective of whether they are acutely malnourished. This is known as *blanket SFP*. Blanket SFP may be implemented during an emergency for a defined time period when the prevalence of acute malnutrition is high and general food rations are inadequate.

SFP is not always available outside of NGO programs and outside of an emergency context. Moderate acute malnutrition may be managed through interventions other than SFP. This includes community-based programmes such as Positive Deviance/Hearth (PD-Hearth) and health education and communication interventions (IEC).

The purpose of SFP is to:

- Reduce mortality and morbidity among children 6 to 59 months.
- Prevent deterioration in the nutritional status of acutely moderately malnourished children (or all children under a certain age) for a defined time period.
- Prevent deterioration in the nutritional status of pregnant and lactating women for a defined time period.

SFP PROVIDES TREATMENT FOR:

- Children aged 6 to 59 months with moderate acute malnutrition with appetite and without medical complications.
- Acutely malnourished pregnant women in the second and third trimester.
- Acutely malnourished lactating women whose child is less than 6 months old.

Infants less than 6 months are not included in SFP. If the infant is moderately acutely malnourished without complications and the mother is breastfeeding, the mother should be included in the SFP (as a lactating woman) and the mother supported to continue to breastfeed. If the infant is moderately acutely malnourished with complications and/or there are problems with suckling and the infant is unable to breastfeed well, the infant should be referred to inpatient care and the mother enrolled in the SFP as a lactating woman.

Protocols and reference sheets

Protocols and reference sheets can be found in a separate pack at the back of these guidelines. These can be copied and printed in large quantities. Protocols marked with an asterisk * should be laminated for easy reference at the health facility.

Annex 1: Anthropometric measurement techniques

Annex 12: Iron and Folic acid doses

Annex 24: SFP Ration Card

Annex 25: Referral slip from SFP to OTP

Annex 27: SFP routine medicines

Screening and referral to SFP

Active case finding of acutely malnourished children should take place at community level. Community health workers and community volunteers will carry out active case and will identify and refer acutely malnourished children to the health facility. Screening in the community is done using the same criteria as admission criteria a supplementary feeding programme. The referral criteria from the community will

be **MUAC <125mm**. Pregnant and lactating women should be referred from the community and admitted with **MUAC <210mm**.

Children and women should be checked again at the health facility or SFP site to ensure the accuracy of the referral. If referrals are consistently inaccurate, action should be taken to ensure the community health worker/volunteer understands the admission criteria and measuring technique.

Those eligible to be enrolled in the SFP may arrive through different mechanisms:

- Referrals by community health workers and volunteers after screening for acute malnutrition using MUAC and checking for oedema. The LHW or volunteer will give the mother/caretaker a referral slip with the MUAC status marked and ask the caretaker to take the child to the health facility.
- Referrals by health care providers at the health facility level or from other health and nutrition programmes, such as a growth monitoring, paediatric ward, inpatient care and supplementary feeding programmes.
- Self-referral – child is brought to health facility directly by caretaker without referral from community health workers or volunteers.
- Severely acutely malnourished children that have successfully completed treatment in OTP and moderately malnourished children with complications that have successfully completed treatment in in-patient care will be referred to SFP for follow-up.

Basic requirements for SFP

WHO is qualified to run SFP: SFP is operated by a nurse or LHV.

WHERE: SFP can be operated anywhere. It should be near an OTP site but should be kept separate from the OTP to avoid crowding of the OTP.

WHEN: SFP sessions should operate every month on a designated day. SFP can also be held every two weeks. SFP must be held every two weeks when premix is used (a mix of dry blended food and oil) because the premix will go rancid after two weeks.

Basic equipment and supplies for SFP

Basic equipment	Basic supplies
<ul style="list-style-type: none"> ▪ Weighing scales ▪ MUAC tapes ▪ Clean water for drinking (jug and cups) ▪ Water and soap for hand-washing 	<ul style="list-style-type: none"> ▪ SFP Ration cards ▪ Registration book for children 6 months to 5 years ▪ Registration book for pregnant and lactating women ▪ Transfer slip to OTP ▪ Key messages for SFP ▪ Essential medicines as required in the routine medical protocol for SFP ▪ Water, cup and spoon to give medicines ▪ Supplementary ration

Enrolment in SFP

WHO should be enrolled in SFP?

- Moderately acutely malnourished children aged 6-59 months with appetite (ability to eat) and without medical complications who meet the enrolment criteria.
- Acutely malnourished pregnant women in the second or third trimester.
- Acutely malnourished lactating women whose child is less than 6 months old.
- Children discharged from OTP.

Others reasons for SFP enrolment:

- *Children discharged from OTP:* Children who have completed treatment in OTP should be enrolled in SFP.
- *Readmission:* Children who have been discharged from SFP and then meet the criteria for enrolment again are counted as new enrollees.
- *Return after default:* Children who return after defaulting (absent more than one visit if SFP is every month or two visits if SFP is every two weeks).

Table 9: Enrolment in SFP

Category	Criteria
Children 6-59 months*	MUAC = 110mm < 125mm (Yellow)
Pregnant (2nd or 3rd trimester) and lactating women (whose child is less than 6 months old)	MUAC < 210mm
Other reasons for SFP enrolment	
Discharged from OTP	Severely acutely malnourished child is transferred to SFP after completion of treatment in OTP
Readmission	Children or pregnant or lactating women previously discharged from SFP but meet SFP admission criteria again
Return after default	Children or pregnant or lactating women who return after default (absent more than one visit if SFP is every month or more than 2 visits if SFP is every two weeks)

Enrolment procedure steps

STEP 1: Anthropometric (MUAC, weight, oedema) assessment

- Measure MUAC (Annex 1).
- Check for oedema (Annex 1). If there is bilateral oedema refer to OTP. For pregnant women if oedema is present refer for medical assessment.
- Measure weight (children only)
- Assess for bilateral pitting oedema

If the child meets the criteria for OTP (severely acutely malnourished) refer to the nearest OTP.

If the child or the pregnant/lactating woman meets the criteria for SFP continue with Step 2.

STEP 2: Enrolment in SFP

- Explain to the caretaker that their child needs to be enrolled in the programme and why. Explain the purpose of the treatment/programme to pregnant/lactating women.
- Register the child or pregnant or lactating woman in a registration book.
- Complete the admission section of the SFP ration card (Annex 24) and assign a number.

STEP 3: Routine medication

Routine medicines (vitamin A, mebendazole and iron) are given to all children and pregnant and lactating women admitted to SFP. See Annex 27 for the routine medical protocol for SFP.

- Vitamin A given to all children on enrolment (unless they have received vitamin A in the last one month).
- Children referred from OTP, or other health facility where Vitamin A has already been given should not be given vitamin A.
- Children showing clinical signs of vitamin A deficiency should be referred to the nearest health facility for treatment according to WHO guidelines.
- Vitamin A is NOT given to pregnant women. Lactating women receive Vitamin A post partum (6 weeks after delivery) only.
- Mebendazole/Albendazole is given to all children aged 12-59 months on enrolment.
- Iron is given to children on admission if there are signs of anaemia. If there is severe anaemia, refer to inpatient care.
- Iron/folate is given to all pregnant and lactating women on admission.
- Measles vaccine is given to all unvaccinated children above 6 months of age.
- Record the medications given in the registration book.

STEP 4: Give SFP ration

Nutritional treatment in SFP is given through a take home supplementary ration. This is intended to supplement the diet taken at home. Ration levels are normally determined by the national/local government according to needs and available resources (see nutritional treatment in SFP).

- The supplementary ration is given to the mother/caretaker to take home.
- Mothers/caretaker should bring containers to carry the ration or these should be provided.
- Ensure the SFP card is completed (the mother / caretaker takes the card home and brings it back next visit).

STEP 5: Give key messages

- Clear advice must be given to mothers/caretakers on how to prepare the ration.
- Where possible, preparation and cooking demonstrations should be given at the SFP site or in the community.
- Ensure the mother/caretaker understands that the ration is intended for the malnourished individual and is not to be shared.
- Explain how to store the ration safely.

- Make sure the mother/caretaker knows when to return to the SFP.

Nutritional treatment in SFP

The ration in SFP is intended to supplement the diet at home and to provide sufficient energy and nutrient density to allow for rehabilitation. The ration should provide 1000-1200 kcal/person/day with 10-12% energy from protein. Rations in SFP programs usually consist of an imported or locally produced blended food such as corn Soy Blend (CSB), wheat soy blend (WSB). Most blended foods are fortified with vitamins and minerals. They contain about 350-400kcal/100g. Oil should also be included in the ration. This is essential to ensure adequate energy. Oil should be fortified with Vitamin A.

A typical basic ration for moderately acutely malnourished children consists of:

Daily ration:	200-300 g blended food/person/day and 25-30 g of oil/person/day
Ration for two weeks:	3-5 kg blended food and 300-450g of oil
Ration for one month:	6-10kg blended food and 600-900g oil

Other commodities such as sugar, powdered milk, pulses and high energy biscuits may be added to the ration depending on what is available. Sugar is already included to some blended foods. Where available, sugar can be added to blended food to increase palatability and energy.

Milk powder cannot be distributed alone. It must be mixed with a blended food before distribution.

Blended foods can be mixed with oil, sugar and/or powdered milk prior to distribution. This is known as **premix**. The aim in using premix is to ensure that rations (particularly high value commodities such as oil) do not end up being used for general household use or being sold on the market. However, the process of pre-mixing can be time consuming. It also reduces the shelf life of the ration. Once oil is mixed with blended food, it will last a maximum of two weeks before going rancid.

Ready to use supplementary food (RUSF) may be used in place of dry blended foods for the treatment of MAM. RUSF is highly energy and nutrient dense and does not require cooking. It is also light in weight making it easy to transport and distribute.

Ready to use food for children (RUF-C) is a concentrated nutrient dense paste which is used for the prevention of acute malnutrition. It may be packed in cartons or in sachets. It may be used for a defined period of time in a blanket distribution to all children 6-24 or 36 months. It can also be used in general ration.

SFP follow-up visits

- Children and mothers should attend the SFP every month or every two weeks for monitoring and to receive their supplementary ration.
- Each visit the MUAC and weight is measured, the oedema checked.
- Children with apparent medical complications should be referred to in-patient care (or the nearest health facility if this is not practical).
- If the child has not gained weight after two consecutive monthly visits or after three two weekly visits or if the child is losing weight at any visit refer him/her for a medical check up at the nearest in-patient care or health facility.
- Children who are admitted to SFP and then deteriorate and meet entry criteria for OTP should be transferred to OTP (Annex 25).

Health education in SFP

- SFP presents a good opportunity for health education. Clear information should be given on how to use the ration in a hygienic manner and how and when it should be consumed. Practical preparation

and cooking demonstrations should be given at the SFP site/in the community. The gathering of large numbers of mothers and caretakers is a good opportunity for health education.

- Simple messages can be developed for use in the SFP and in the community that attempt to address some of the underlying reasons for the child or mother becoming malnourished in the first place. In some contexts these messages may already exist and can be adapted (for infant and young child feeding breastfeeding and complementary feeding messages). Every attempt should be made to use the same or similar messages that are given out in other existing programmes.
- It is essential that messages are reinforced by practice. These messages should focus on: basic hygiene such as hand-washing, the importance of frequent and active feeding and what local foods to give young children; identifying malnutrition; management of diarrhoea and fever and recognising danger signs.

Three essential messages (must be given and practiced at SFP)

- Hand-washing with soap before eating and after defecation.
- Exclusive breastfeeding (for 6 months) and introduction and use of appropriate complementary foods.
- Continued feeding during illness.

Exit criteria from SFP

Children can be discharged from SFP when:

- MUAC>125mm
- And**
- Minimum of two months of stay in SFP

Pregnant and lactating women can be discharged from SFP when:

- MUAC>210mm
- And**
- Minimum of two months of stay in SFP

Other reasons for exit:

- Died: Child died during time they were registered in SFP.
- Defaulted: Absent more than two consecutive visits if SFP is monthly or 3 consecutive visits if SFP is operating every two weeks.
- Not recovered: Children who do not meet discharge criteria after 4 months in program.

Children who do not recover and do not meet exit criteria after 3 months in the SFP should be referred for further medical investigation to determine underlying causes.

Table: 10: Exit criteria for SFP

Category	Criteria
Cured Children 6-59 months*	MUAC>125mm AND Minimum 2 months stay in the programme
Cured Pregnant and lactating women	MUAC>210mm AND Minimum of 2 months stay in programme Or When infant reaches 6 months
Defaulted	Absent for 2 consecutive visits if SFP is monthly or 3 consecutive visits if SFP is every 2 weeks

Died	Died during time registered in SFP
Non-response	Child has not reached discharge criteria within 4 months

Section Five:
Monitoring and Reporting

IT IS IMPORTANT TO KNOW IF THE PROGRAMME IS MAKING PROGRESS TOWARDS OBJECTIVES. MONITORING HELPS YOU KNOW WHAT IS WORKING WELL AND WHAT IS NOT WORKING AND WHERE THERE MAY BE GAPS. MANAGEMENT AND INFORMATION SYSTEMS MUST BE SIMPLE TO MINIMISE THE DEMANDS ON PROGRAMME STAFF, BUT PROVIDE SUFFICIENT USEFUL INFORMATION TO ENSURE PROGRAMME EFFECTIVENESS AND TO ALLOW PROGRAMME MANAGERS TO MAKE DECISIONS AND ANY ADJUSTMENTS. TO MONITOR A CMAM PROGRAMME EFFECTIVELY YOU WILL NEED TO MONITOR THE INDIVIDUAL CHILD AND MONITOR THE PERFORMANCE AND EFFECTIVENESS OF THE PROGRAMME AS A WHOLE:

Individual child: Individual children should be tracked as they are transferred between different components to ensure that enrolment; exit and treatment procedures are followed and documented correctly. This is done by ensuring OTP and inpatient cards and transfer slips are filled out properly.

Programme: Data on admissions and exits (statistical data) should be compiled monthly at the SFP, OTP and inpatient sites. The monthly reports will then be sent to the District Health Office or equivalent so that reports from all programme sites can be compiled.

Information can also be collected from the affected communities, beneficiaries of the programme and others who are involved in the programme (stakeholders). This will help programme managers better understand possible issues in the programme such as high default or low coverage.

Protocols and reference sheets

Protocols and reference sheets can be found in a separate pack at the back of these guidelines. These can be copied and printed in large quantities.

Annex 28: Monthly report format

Annex 29: Performance indicators and calculating rates

Annex 30: Supervision checklist

Table 11: Definition of terms used in monitoring and reporting

Term	Inpatient	OTP	SFP
Recovered	Discharged to OTP once stabilised	Meets exit criteria	Meets exit criteria
Absent		Missed one or more visits	Missed one or more visits
Default	Absent more than 2 days	Absent 3 consecutive weeks or 2 consecutive weeks if OTP is operating every 2 weeks	Absent 2 consecutive visits if SFP is every month or 3 consecutive visits if SFP is every 2 weeks
Death	Died when in inpatient care	Died while registered in OTP	Died while registered in SFP
Non recovered(non responder)	Does not meet exit criteria after 14 days in inpatient care	Does not meet exit criteria after 4 months in OTP	Does not meet exit criteria after 4 months in SFP
Readmission	Discharged from inpatient and once again meets admission criteria. Treated as new admission	Discharged recovered from OTP and once again meets admission criteria. Treated as new admission	Discharged recovered from SFP and once again meets admission criteria. Treated as new admission
Medical transfer		Transferred for medical investigation	Transferred for medical investigation
Moved in Transfer from inpatient care to OTP		Transferred to OTP after discharge from inpatient care	
Moved in Return after default		Defaulted and then returns within 2 months to complete treatment.	Defaulted and then returns to complete treatment.
Moved out Transfer to inpatient care from OTP		Transferred from OTP to inpatient care	

Monitoring the individual child

OTP CARDS

- Anthropometric, medical and nutritional information for each child is entered on the OTP card by health staff. Regular review of the cards by health facility staff and during supervisory visits will help ensure that correct procedures are being followed. It is essential that the OTP cards are stored and filed properly for the system to work.
- OTP cards are kept in a file at the health facility. The cards should be kept in plastic sleeves and stored in files: File 1 for children currently in the OTP and File 2 for exits from OTP (this includes those who have not fully exited but are ‘pending’ such as transfers and defaulters who may return). If the numbers in the programme are large, it may be necessary to have a separate file for children recovered (discharged cured). Files should be organised into sections with file dividers as shown below.
- The number of cards in the file represents the number of children currently in the program. At the end of the OTP day, this can be checked against tally sheets to ensure that reporting is correct.

File 1: Children currently in the OTP	File 2: Exits
<p><u>Section 1: Children currently in the OTP</u></p> <p><u>Section 2: Absentees:</u> Children who have missed 1 or 2 weeks</p> <p><u>Section 3: Transfers awaiting return:</u> These are children who have been transferred from OTP to inpatient care</p>	<p><u>Section 1: Recovered (discharged cured):</u> Check in this file for any re-admissions</p> <p><u>Section 2: Defaulters:</u> Children who have defaulted may return. If they return, the same card is used</p> <p><u>Section 3: Non-recovered:</u> Children who do not meet discharge criteria after 4 months in OTP</p> <p><u>Section 4: Deaths:</u> Children who have died while in the programme</p>

RATION CARDS FOR OTP AND SFP

The ration card is given to the caregiver to take home. The ration card contains key information about the child and basic information on their progress (weight, height, ration received). This is the caregiver's record of the child's progress. Where possible, the ration card can be attached to the MOH health passport or health card.

NUMBERING SYSTEM

- A registration number is given to each child when the child is first admitted to OTP or inpatient care or SFP. This number should follow the District Health Information System (DHIS).
- In emergency situations, it may not be possible to use the DHIS. The following four part numbering system can be used. 1) the province; 2) the district name or code; 3) the health facility name or code; 4) the child's individual number; 5) the program component where the child was first admitted.

Numbering system example

NWFP/77/88/999/OTP

NWFP: Province

77: The two digit code for the district

88: The two digit code for the health facility

999: Child's individual allocated number

OTP: The programme component where the child started treatment.

- ALL records concerning the child should follow the same numbering system. This includes OTP, SFP and inpatient cards, registration books, ration cards and transfer slips. Other relevant registration numbers (such as those given at other health facilities or hospitals, should also be recorded on the OTP cards.
- Returning defaulters retain the same number as they are still suffering from the same episode of malnutrition. Their treatment continues on the same monitoring card.
- Readmissions (meet admission criteria after being discharged cured) are given a new number and new card as they are now suffering from another episode of malnutrition and therefore require full treatment again.

Monitoring and tracking children

Different staff and in some cases different agencies may manage different programme components. It is essential that there is contact between the staff managing the various components to ensure children are admitted and transferred with adequate information.

Transfers to inpatient care: The OTP card remains in the exit file at the OTP site/health facility under ***Transfers awaiting return***. If a child is transferred from OTP to inpatient care and does not return to OTP after one or two weeks, community health workers and community volunteers should find out what has happened to the child. If a child dies while in inpatient care or defaults, this information should be recorded on the OTP card and filed in the correct place.

Defaulters: The OTP card remains in the exit file under at the OTP site/health facility under: ***Defaulters***. Defaulters (should be followed up by community health workers and volunteers. The caretaker should be encouraged to return. If the child does not return the reason for default should be investigated by community health workers and volunteers and the information reported back to the health care provider and recorded on the card. This may help health care providers address the problem of the individual child but also see if the issue is represents a broader problem for the programme as a whole. For example if several children repeatedly default due to distance, it might make sense to operate the OTP every two weeks rather than weekly.

Deaths: The OTP card should be is filed in the exit file under ***Deaths***. If a child dies in the SFP, OTP or inpatient care a record should be kept of their symptoms and suspected diagnosis. In OTP and SFP this information is often collected by community health workers and volunteers. The information should be recorded on the card. It can help identify problems with treatment and the use of the action protocol.

Children who are not responding and need follow up: When children are not responding well in the programme and follow up visits are needed according to the Action Protocol (for instance the child has lost weight), community health workers and volunteers should feed-back information regarding the possible reasons for non-recovery to the health care provider. The health care provider should record this on the child's card. This information can be used to make decisions about whether to transfer the child.

COLLECTION OF DATA FOR THE MONTHLY STATISTICS REPORT

Basic routine programme data should be collected and reported every month as follows:

Children entering the programme

Children who enter the program to begin nutritional treatment are new enrollees. They are divided into the following groups:

- Wasted children (MUAC, W/H)
- Children with oedema
- *Transfers from inpatient care to OTP:* Children who return to OTP after inpatient care continue their treatment in OTP. On the reporting form these cases are noted in the column called 'Moved in'.
- *Return after default: Children who return to OTP or SFP after default:* Children who have defaulted and return within 2 months to continue treatment. On the reporting from these cases are noted under the column 'Moved in'.

These groups together =Total enrolment

Exits

Children who are no longer in the programme

- Number discharged recovered
- Number of deaths
- Number of defaults
- Number non recovered
- Medical transfers
- *Transfers to inpatient care from OTP:* Children who are transferred from OTP to inpatient care are not considered exits. They will return to OTP once they are stabilised in inpatient care. On the reporting form these cases are noted under the column 'Moved out.'

These groups together=total exits

Total at the end of the month = Total at the beginning of the month+ total admissions –total discharges.

Completing the monthly report

- Programme data can be compiled on a weekly basis on tally sheets
- Programme data should be compiled every month in a monthly report format. Each OTP, inpatient and SFP site should complete a report. Tally sheets may be used on a weekly basis to compile data. The tally sheets can then be used to compile the monthly report. See Annex 28. The monthly report formats for OTP, inpatient care and SFP can be found in Annexes 18, 17 and 27.
- Reports must be filled in accurately. Cases should not be double counted. Some staff may find it useful to use to fill the reporting format in weekly and then compile the weekly data into a monthly report.
- The data from each site should be compiled into a monthly report for the whole programme. This can be done on paper or using an Excel spreadsheet.

Using the monthly reports to determine program performance

- The monthly report can be used to fill out a report form (Annex 28).
- Programme outcomes (numbers of children recovered, deaths, defaults and non-recovered) can be compared to international minimum standards. This will tell you if your programme is performing well and according to international standards. Outcomes can be illustrated into a graph.
- The monthly report should be reviewed by the health facility team during monthly meetings. In many cases the supervisor or supervisory team from the district health office will be responsible for reviewing programme performance at health facility level.
- Meetings with community and programme beneficiaries can be held to find out more about the reasons for specific issues that such as a high default or cultural barriers to access. This can be done through Focus Group Discussions (FGDs). Focus groups should be carefully selected to ensure that specific issues are discussed by the appropriate community representatives.

COLLECTION OF ADDITIONAL INFORMATION

Additional information may be gathered from community health workers and community volunteers and through discussions with caregivers of children and other community members.

Readmissions: This can help programme planners understand the situation outside of the programme. Interventions may be needed at household level to avoid high readmission rates. It may also indicate children are discharged too early.

- **Cause of death.** Information on causes of death should be recorded on the child's cards. Compiling this information can help identify problems with treatment and use of action protocols and where training and supervision may be needed.
- **Reasons for default and non recovery:** Compilation of this information can help identify common problems for default and non-recovery. Common reasons for non-recovery may include high infectious disease prevalence, sharing of food in the household, poor water and sanitation. It may indicate the need for stronger programme linkages with other sectors.
- **Mapping:** Simple mapping can also be done. This will help determine where most of the admissions are coming from and can help determine if more sites should be opened. This will help programme managers better understand possible issues in the programme such as high default or low coverage.

Determining coverage

- Case coverage is one of the most important indicators of how well a programme is meeting needs. You may have a very good quality programme with very few deaths, low default and high recovery rates, but if you are only reaching 30% of the children who need treatment then your programme cannot be considered successful. The aim is to achieve both quality and good coverage.
- Case coverage is expressed as a percentage. If there are 100 acutely malnourished children living in a programme area and 70 of them are in the programme, then coverage is 70%.
- Coverage is usually determined through conducting a coverage survey. Coverage surveys should ideally be conducted every 6 months. Coverage surveys can reveal a lot of information about why children do not attend the program, why some may be excluded and possible barriers to access. However coverage surveys are costly and require specially trained staff. Simple mechanisms to gauge coverage levels can be used in on a continual basis to monitor the programme.

Supervision

Responsibilities and role of the Supervisor (or supervisory team)

- Responsibility for supervision of various components of the CMAM programme or the programme as a whole should be established during the planning stages. Supervisors are responsible for ensuring the programme is running smoothly and overall programme quality. The Supervisor should be able to pick up on errors and correct them as well as address any issues that arise in the programme.
- Supervision visits may be conducted by the District Health Management Team or equivalent and may be part of an integrated supervisory visit.
- Supervisors should be responsible for ensuring that cards are filled in and filed correctly. Supervisory visits should include review of the OTP cards particularly the cards of children who have died, defaulted and those not responding to treatment. The Supervisor should ensure that admission and discharges are made according to the protocol and that treatment protocols are performed correctly. The supervisor should check that the action protocol is properly followed so that cases are transferred and followed up where appropriate.
- Supervisors should work closely with the health care providers, community health workers and community volunteers at the health facility to ensure that any issues in programme delivery, follow up (outreach visits) or in the management of individual children can be identified and followed up.
- Supervisors and health workers and community health workers and volunteers should have monthly meetings to discuss any programme issues. This should cover the issues below. See Annex Supervision checklist.
 - Any issues in program management. This should include a review of the caseload number and if this is manageable for the number of staff available. Any expected increases/decreases in the caseload because of season or sudden population influx should be discussed.
 - Factors that may affect attendance or might mean an adjustment in OTP schedule.
 - Staff issues.
 - Supply issues and planning.
 - A review of deaths in OTP and inpatient care to identify any problems.
 - A review of defaulters, children failing to gain weight.
 - A review of transfers to ensure effective tracking between components.
 - Issues in the community that may affect access and uptake of services.
 - A review of monitoring and reporting systems.
 - Review of weekly and monthly reports.

ANNEXURE

ANNEX I: ANTHROPOMETRIC MEASUREMENT TECHNIQUES

CHECKING FOR BILATERAL OEDEMA

Bilateral oedema is the sign of Kwashiorkor. Kwashiorkor is *always* a severe form of malnutrition. Those children are at high risk of mortality and need to be treated in a therapeutic feeding programme urgently.

In order to determine the presence of oedema, normal thumb pressure is applied to the both feet for three seconds. If a shallow print persists on the both feet, then the child presents oedema. Only children with bilateral oedema are recorded as having nutritional oedema.

**You must test for oedema with finger pressure
you cannot tell by just looking**



Grading of oedema

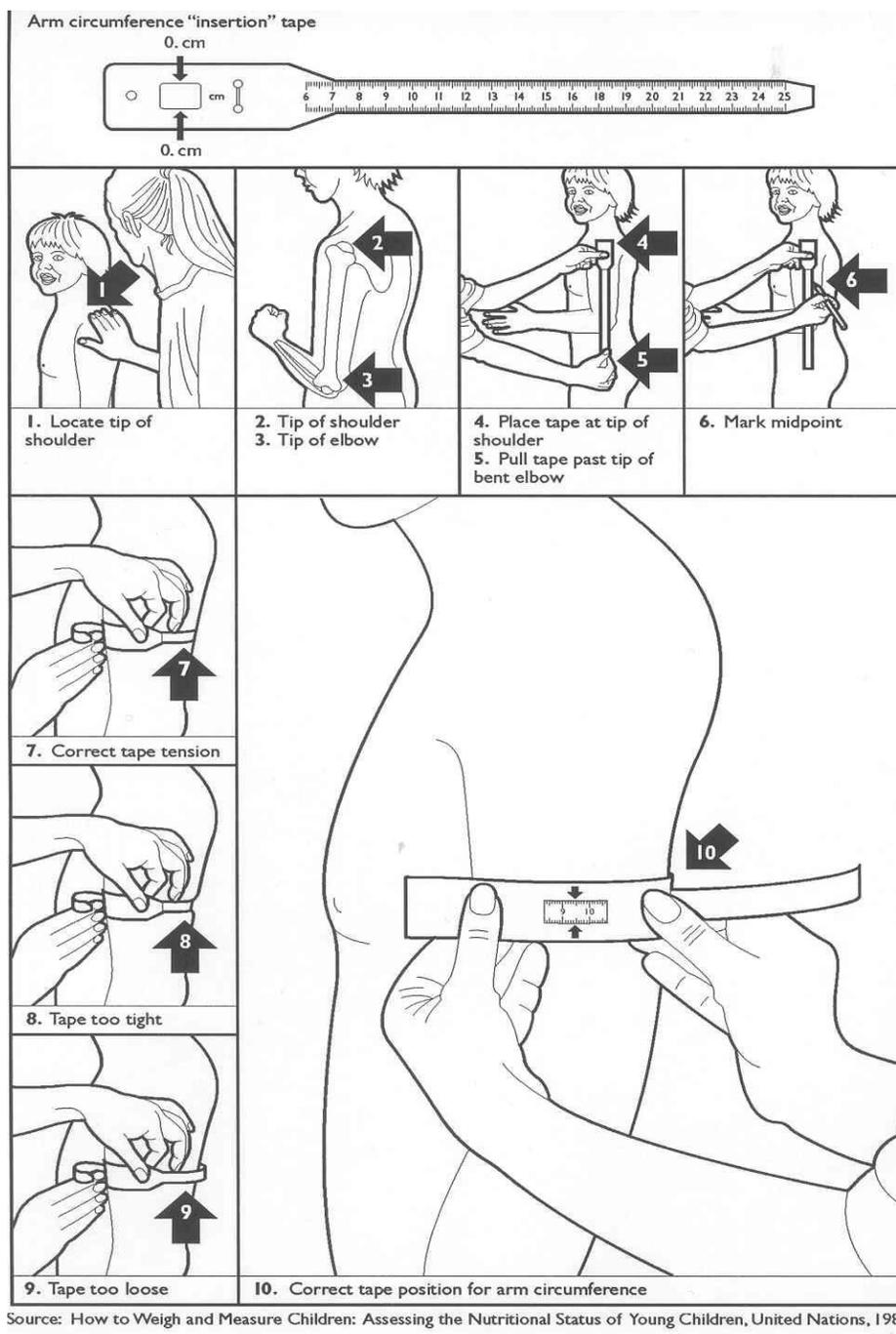
Grades of Oedema	Definition
Absent	Absent
Grade +	Mild: both feet/ankles
Grade + +	Moderate: both feet, plus lower legs, hands, or lower arms
Grade + + +	Severe: generalized oedema including both feet, legs, hands, arms and face

Measuring Mid Upper Arm Circumference (MUAC)

The MUAC is used to see if the child is malnourished or not.

1. Keep your work at eye level. Sit down when possible. Very young children can be held by their mother during this procedure. Ask the mother to remove clothing that may cover the child's left arm.
2. Calculate the midpoint of the child's left upper arm by first locating the tip of the child's shoulder (arrows 1 and 2) with your finger tips. Bend the child's elbow to make the right angle (arrow 3). Place the tape at zero, which is indicated by two arrows, on the tip of the shoulder (arrow 4) and pull the tape straight down past the tip of the elbow (arrow 5). Read the number at the tip of the elbow to the nearest centimetre. Divide this number by two to estimate the midpoint. As an alternative, bend the tape up to the middle length to estimate the midpoint. A piece of string can also be used for this purpose. Mark the midpoint with a pen on the arm (arrow 6).
3. Straighten the child's arm and wrap the tape around the arm at the midpoint. Make sure the numbers are right side up. Make sure the tape is flat around the skin (arrow 7).
4. Inspect the tension of the tape on the child's arm. Make sure the tape has the proper tension (arrow 7) and is not too tight or too loose (arrows 8 and 9). Repeat any step as necessary.
5. When the tape is in the correct position on the arm with correct tension, read and call out the measurement to the nearest 0.1 cm (arrow 10).
6. Immediately record the measurement.

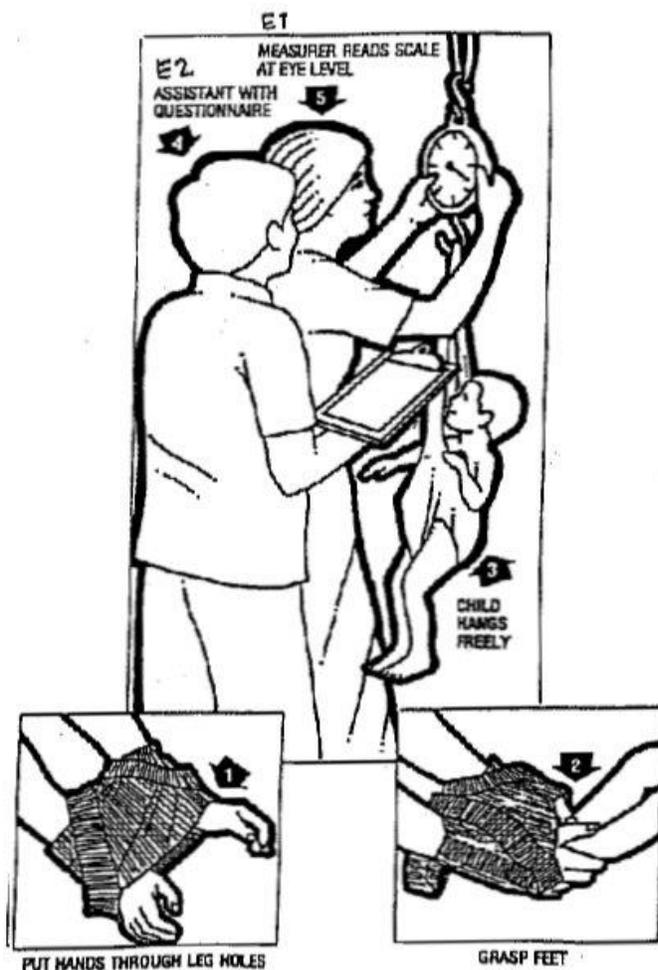
Using a MUAC tape



Measuring weight

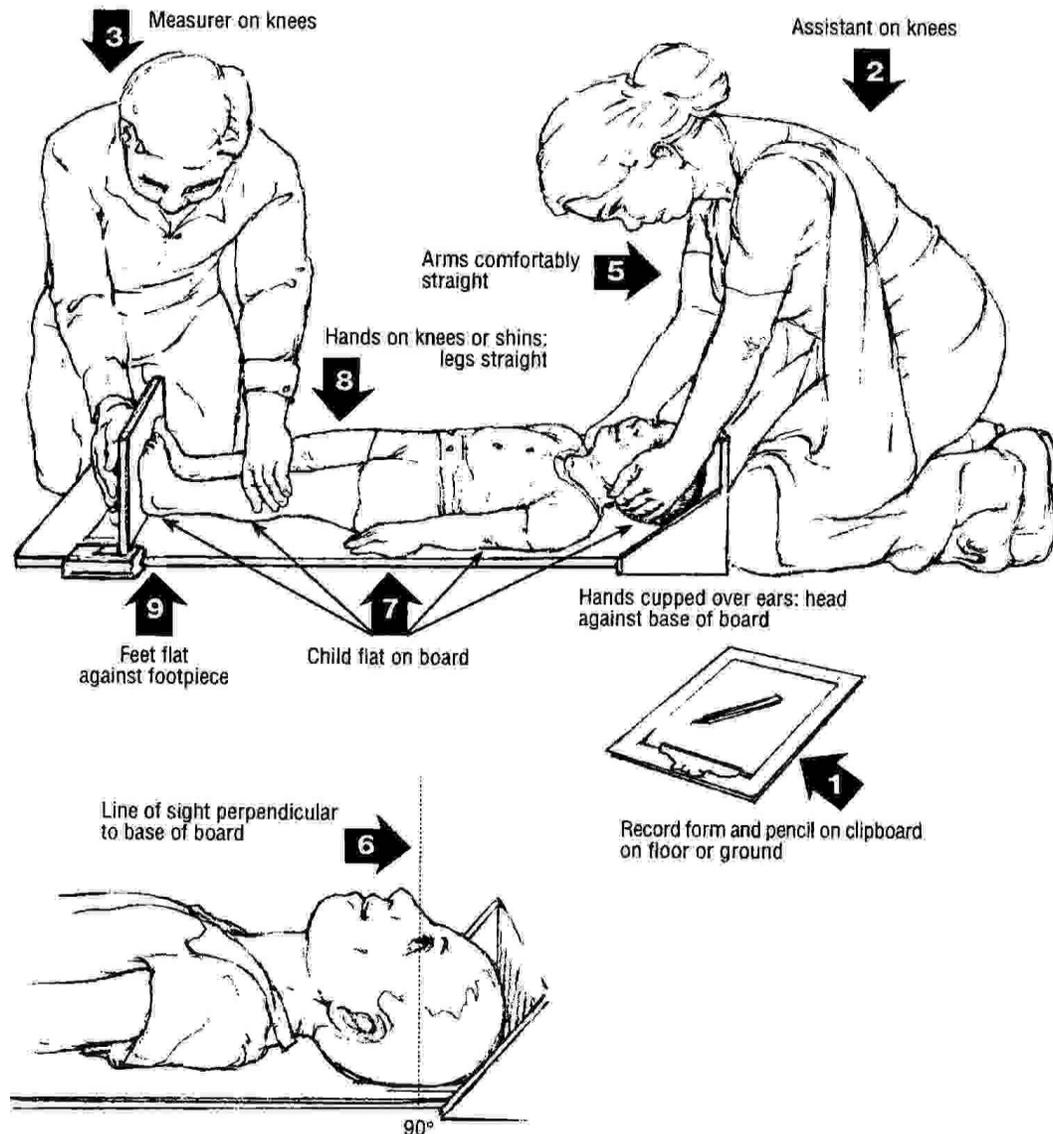
Children are weighed by using a 25 kg hanging spring scale graduated by 0.100 kg. Do not forget to re-adjust the scale to zero with the empty weighing pants hanging before each weighing

Place the child undressed in the pants. When the child is steady, record, record the measurement to the nearest 100 grams. The frame of the scale should be at eye level. When it is not possible to undress the child, the weight of the clothes has to be deducted from the measurement. Each day, the scales must be checked by using a known weight in order to guarantee their good functioning

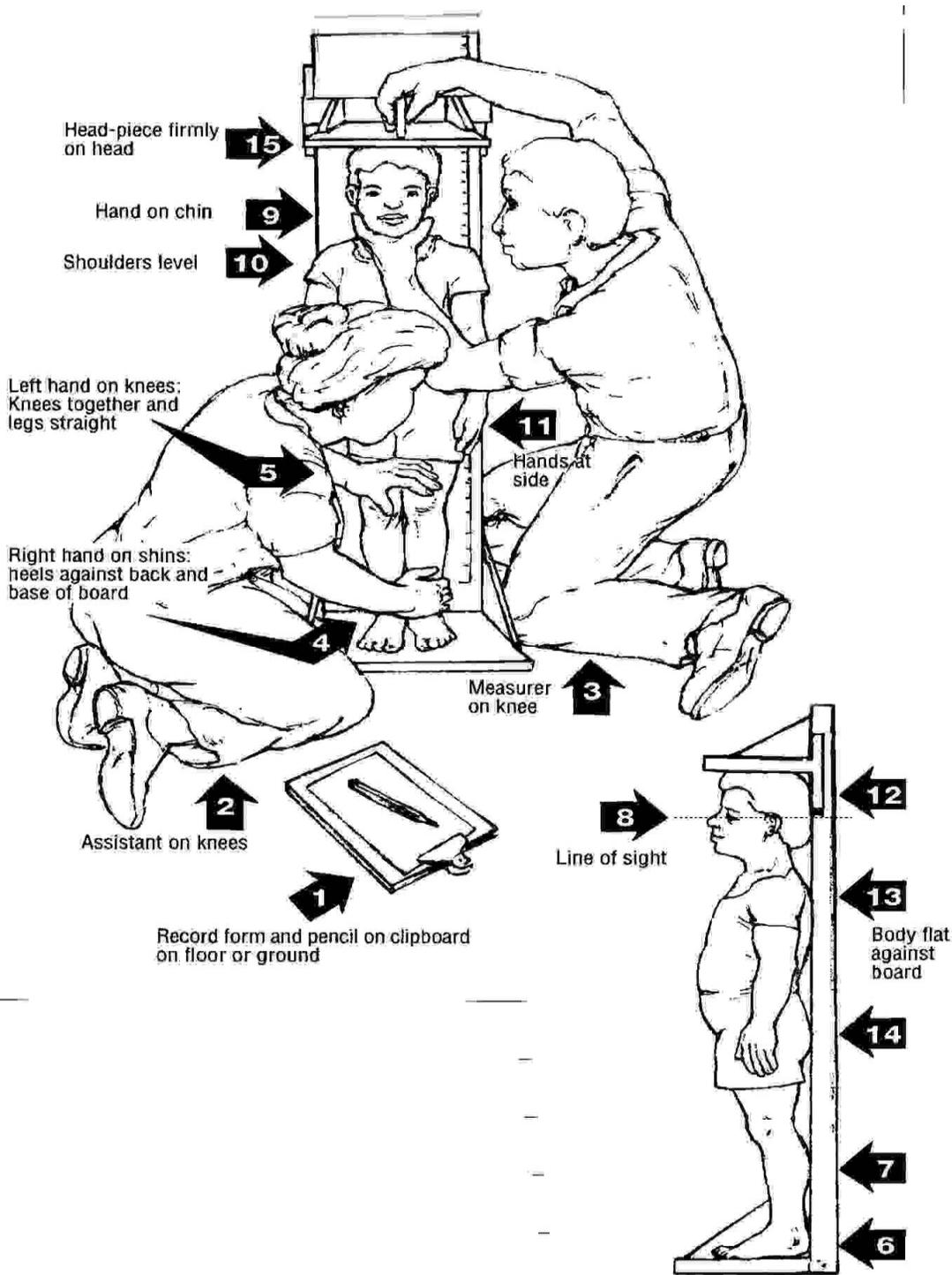


Taking height and length

For children less than 85 cm, the measuring board is placed on the ground. The child is placed, lying along the middle of the board. The assistant holds the sides of the child's head and positions the head until it firmly touches the fixed headboard with the hair compressed. The measurer places his hands on the child's legs, gently stretches the child and then keeps one hand on the thighs to prevent flexion. While positioning the child's legs, the sliding foot' plate is pushed firmly against the bottom of the child's feet. To read the measure, the foot' plate must be perpendicular to the axis of the board. The height is read to the nearest 0.1 centimetre.



For children more than 85 cm, the measuring board is fixed upright where the ground is level. The child stands, upright in the middle, against the measuring board. The child's head, shoulders, buttocks, knees, heels are held against the board by the assistant, while the measurer positions the head and the cursor. The height is read to the nearest 0.1 centimetre.



Calculating weight for height % of median

Example: For a child of 80.5 cm and weighing 8.7 kg, reference tables give a median weight for a child of this height of 10.9 kg: | Weight-for-height = $(8.7/10.9) \times 100 = 80\%$

How to use the weight/height ratio tables?

Example: a child is 63 cm tall and weighs 6.5 kg

- Take the table, look in the 1st column and look for the figure 63 (=height).
- Take a ruler or a piece of card place it under the figure 63 and the other figures on the same line.
- On this line find the figure corresponding to the weight of the child, in this case 6.5.
- Look to see what column this figure is in. In this case it is in the WEIGHT NORMAL column. In this example the child’s weight is normal in relation to his height. He is therefore growing normally.

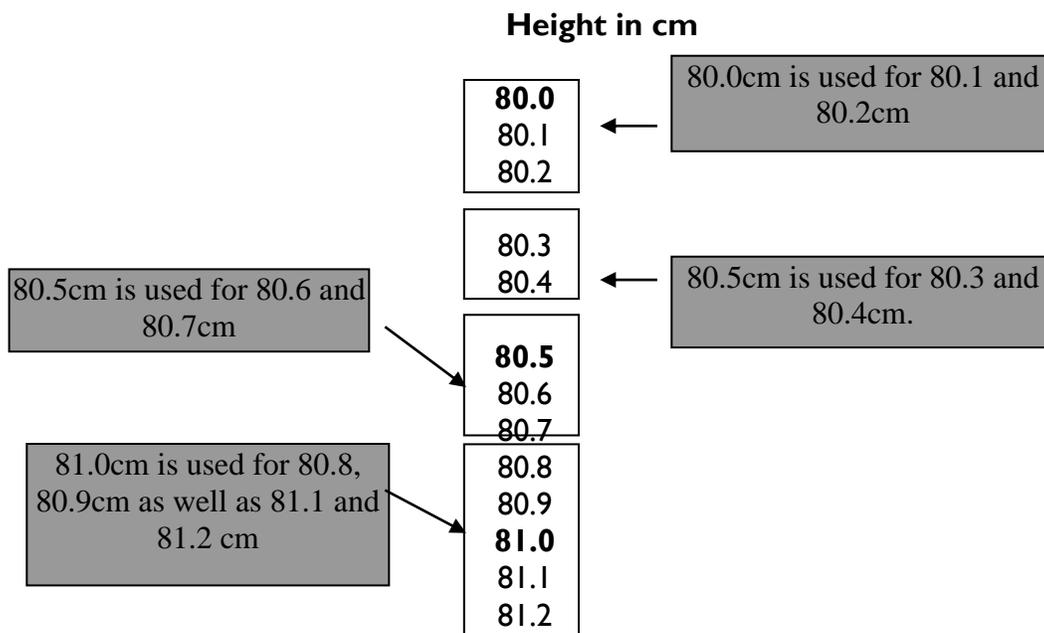
Example: a child is 78 cm tall and weighs 8.3 kg

This child is in the 80% column. He is too thin in relation to his height. He is malnourished.

NOTE: It may be that the weight or the height is not a whole number.

Example: height 80.4 cm and weight 7.9 kg. These 2 figures are not in the table.

For the height: The height measurement has to be rounded to the nearest 0.5cm, as it is in the following example.



For the weight: Looking at the table, for a height of 80.5 cm the weight is 7.9 kg. This is between 7.6 and 8.1 kg. Conclusion, to express the fact that the child is between these 2 weights, write down that this child’s percentage is between 70 and 75%.

Annex 2: Community provider's referral slip

Referral slip to: OTP SFP		
CHILDS NAME _____ Village _____		
CHILD AGE _____ No. _____		House
CARETAKER NAME _____ Tehsil/Taluka _____		
Date _____		
MUAC <115 (RED)	MUAC <125 (YELLOW)	OEDEMA Yes No
Other findings:		

Annex 3: Home visit record form

Reason for home visit:	Absence	Default	Follow up
Registration number _____			
OTP site _____			
CHILDS NAME _____			
Village _____			
CHILD AGE _____			House
No. _____			
CARETAKER NAME _____			
Tehsil/Taluka _____			
Date of visit _____			
Findings: Defaulted, dead, other (specify)			
Community provider's name: _____			

Annex 4: Target weight gain for discharge (WHO/UNICEF Joint Statement, 2009)

Weight on admission or weight free of oedema	Target weight 15% weight gain
4.1	4.7
4.3	4.9
4.5	5.2
4.7	5.4
4.9	5.6
5.1	5.9
5.3	6.1
5.5	6.3
5.7	6.6
5.9	6.8
6.1	7.0
6.3	7.2
6.5	7.5
6.7	7.7
6.9	7.9
7.1	8.2
7.3	8.4
7.5	8.6
7.7	8.9
7.9	9.1
8.1	9.3
8.3	9.5
8.5	9.8
8.7	10.0
8.9	10.2
9.1	10.5
9.3	10.7
9.5	10.9

Weight on admission or weight free of oedema	Target weight 15% weight gain
10.7	12.3
10.9	12.5
11.1	12.8
11.3	13.0
11.6	13.2
11.7	13.5
11.9	13.7
12.1	13.9
12.3	14.1
12.5	14.4
12.7	14.6
12.9	14.8
13.1	15.1
13.3	15.3
13.5	15.5
13.7	15.8
13.9	16.0
14.1	16.2
14.3	16.4
14.5	16.7
14.7	16.9
14.9	17.1
15.1	17.4
15.3	17.6
15.5	17.8
15.7	18.1

Annex 5: OTP Card (Enrollment Details of Outpatient Therapeutic Program)

Name					Reg. N°				
Village					Thaluka				
Age (months)		Sex	M	F	Date of Admission				
Admission	Direct from Community		From SFP	From in-patient	Readmission (Relapse)		In-patient Refusal		
Admission Anthropometry									
Weight (kg)		Height (cm)		weight-for-height median (%)		MUAC (mm)			
Admission Criteria	Oedema	MUAC <115mm	<70% weight-for-height			Other (specify)			
History									
Diarrhoea	Yes	No			Stools / Day	1-3	4-5	>5	
Vomiting	Yes	No				Passing Urine		Yes	No
Cough	Yes	No				If oedema, how long swollen?			
Appetite	Good	Poor	None			Breastfeeding		Yes	No
Dietary history									
Reported Problems									
Physical Examination									
Respiration Rate (# min)	<30	30 - 39	40 - 49	50+		Chest In-drawing	Yes	No	
Temperature (°C)						Conjunctiva	Normal	Pale	
Eyes	Normal	Sunken	Discharge		Dehydration	None	Moderate	Severe	
Ears	Normal	Discharge			Mouth	Normal	Sores	Candida	
Lymph Nodes	None	Neck	Axilla	Groin		Disability	Yes	No	
Skin problems	None	Scabies	Peeling	Ulcers / Abscesses		Extremities	Normal	Cold	
Routine Admission Medication									
admission: Drug	Date	Dosage		Drug	Date	Dosage			
Vitamin A				Anti Malarial					

Amoxicillin						
2nd visit:				4th visit	Date	
Albendazole				Measles		
Other Medication						
<i>Drug</i>	<i>Date</i>	<i>Dosage</i>		<i>Drug</i>	<i>Date</i>	<i>Dosage</i>

Annex 6: Action Protocol (OTP)

To determine the need for transfer to inpatient care or outreach visit: On admission and on each follow up visit

SIGN	TRANSFER TO INPATEINT CARE	OUTREACH VISIT
APPETITE	Refuses to eat or has difficulty taking/ swallowing RUTF	Eats less than ¾ of the RUTF by third visit
OEDEMA	Grade +++ Marasmic- Kwashiorkor	Oedema persisting
VOMITING	Increase in oedema or development of oedema Intractable vomiting	
TEMPERATURE	Fever >39°C/102F Hypothermia <35°C/95F	General medical deterioration
RESPIRATORY RATE (rr) AND FAST BREATHING (according to IMNCI guidelines for age)	>60 respirations/minute under two months >50 respirations/minute from 2-12 months >40respirations/minute from 1-5 years >30respirations/minute for over 5 years Any chest drawing in	
HYDRATION STATUS	Poor urine output Caretaker states that child has history of acute diarrhoea and vomiting and/or sunken eyes	
ANAEMIA	Very pale, severe palmer pallor, difficulty breathing	
SUPERFICIAL INFECTION	Extensive infection requiring IM treatment	
SKIN	Extensive/ open skin lesions/infection	
ALERTNESS	Very weak, lethargic, unconscious Fits or convulsions	
NEED FOR INFUSION OR NG TUBE	Any condition that requires infusion or NG tube feeding	
WEIGHT CHANGES	Weight loss for 3 consecutive weeks Static weight for 5 consecutive weeks	Weight loss for 2 consecutive weeks Static weight for 3 consecutive weeks
RETURN FROM INPATEINT CARE/REFUSES INPATEINT CARE		Return from inpatient care or refuses inpatient care (for two weeks)
MALNOURISHED INFANTS < 6 MONTHS OR < 3KG	Require supervised and special treatment	Return from inpatient care or refuses inpatient care (until discharge)
NOT RECOVERING	If not recovered after 3 months refer to hospital for investigation	
ABSENCE		Absent for 2 weeks

Annex 7: OTP Transfer and Referral Slips

Transfer slip from OTP to inpatient care for severe acute malnutrition with complications			
Name _____	Age: _____	Sex: _____	Registration Number: _____
Village _____	Tahluka: _____	House No. _____	Tel No. _____
Date of admission to OTP: _____			
Admission information: Weight _____ MUAC: _____ Height _____ WHM _____			
Oedema (circle) + ++ +++			
Transfer from: _____ (Name of Health Center/OTP)			
Transfer to: _____ (Name of Hospital)			
Date of transfer: _____			
Reason for transfer (circle): Anorexia (no appetite) Medical Complications : Oedema No weight gain Other:			
Treatment given:			
Transferred by (name of doctor or nurse) _____			

Referral Slip from OTP to Supplementary Feeding Programme

Name _____ Age: _____ Sex: _____ Registration
Number: _____

Village _____ Tahluka: _____ House No. _____ Tel
No. _____

Date of admission to OTP: _____

Admission information: Weight _____ MUAC: _____ Height _____ WHM _____

Oedema (circle) + ++ +++

Transfer from: _____ (Name of Health Center/OTP)

Transfer to: _____ (Name of SFP site)

Date of transfer: _____

Reason for referral (circle): Discharged from OTP : Meets criteria for SFP but not OTP : Pregnant/lactating mother

Treatment given:

Transferred by (name of doctor or nurse) _____

Annex 8: Key Messages for OTP

- RUTF is food and medicine for malnourished children only. It should not be shared
 - Sick children often don't want to eat. Give small regular meals of RUTF and encourage the child to eat often (8 times a day is possible)
 - Your child should have XX amount of RUTF a day
 - RUTF is the only food your child needs to recover during the time in OTP
 - Breastfeed before giving RUTF. Young children should continue to breast feed regularly
 - Always offer plenty of breast milk or clean water to drink while eating RUTF. RUTF makes children thirsty and your child will need to drink more than normal.
 - Use soap to wash your child's hands before eating if possible.
 - Keep food clean and covered
 - When a child has diarrhea, never stop feeding. Give extra food and extra clean water.
-

Notes:

The caretaker should be asked to repeat back the messages to check they have been understood.

As the child nears the end of their treatment in OTP, other foods can be given in addition to the RUTF.

These messages are basic essential messages for OTP. They can be supplemented with other health and education messages during follow up visits and in the community.

Annex 9: Routine medical protocol for OTP

Drug	When	Age/Weight	Prescription	Dose
VITAMIN A*	At admission	6 months to < 1 year	100 000 IU	Single dose on admission.
		≥ 1 year	200 000 IU	
AMOXYCILLIN	At admission	2-12 months (4-10kg)	Syrup 125 mg 5ml	3 times/day for 5 days
		12months-5 years (10-19kg)	Syrup 125mg 10ml	
ANTI MALARIAL	At admission in malarial areas or if symptoms	All beneficiaries > 2 months old	See malaria protocol	On admission
MEBENDAZOLE**	Second visit	< 1 year	DO NOT GIVE	None
		12-23 months	250 mg	Single dose on second visit
		≥ 2 years	500 mg	
MEASLES VACCINATION	On week 4	From 9 months	Standard	Once on week 4
IRON/FOLIC ACID ***	On day 14 for mild/moderate anaemia	> 2 months old	See iron/folic acid protocol	Give one dose daily for 14 days

* **VITAMIN A:** Do not give, if the child has already received Vitamin A in the last one month.

** **ALBENDAZOLE:** Albendazole may be used instead of Mebendazole: < 1 year: DO NOT GIVE; 12-23 months: 200mg; ≥2 years 400mg

*****IRON/FOLIC ACID:** Not to be given routinely. Where there is moderate anaemia as identified by some palmar pallor give iron/folic acid after 14 days in the programme and not before (see protocol). For severe anaemia refer to inpatient care.

Annex 10

Ready to Use Therapeutic Food (RUTF) rations for OTP

Weight kg	Sachets/Day	Sachets/Week	Sachets/2 weeks
3 - 3.4	1 ¼	9	18
3.5 - 3.9	1 ½	11	22
4 - 5.4	2	14	28
5.5 – 6.9	2 ½	18	36
7.0 – 8.4	3	21	42
8.5 – 9.4	3 ½	25	50
9.5 – 10.4	4	28	56
10.5 – 11.9	4 ½	32	64
≥ 12	5	35	70

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Annex 12: Iron and Folic Acid Doses

IRON/FOLIC ACID DOSAGES		
Give one dose daily for 14 days		
AGE or WEIGHT (KG) of child	IRON/FOLATE TABLET Ferrous sulfate 200 mg + 250 mcg folate	IRON SYRUP Ferrous fumarate 100 mg per 5 ml
2 - 4 months (4 - <6 kg)		1.00 ml
4 - 12 months (6 - <10 kg)		1.25 ml
12 months - 3 years (10 - <14 kg)	1/2	2.00 ml
3 - 5 years (14 - 19 kg)	1/2	2.5 ml

Annex I3: Malaria Protocol for OTP

First line	Chloroquine
Second line	Sulfadoxine + Pyrimethamine

Using Chloroquine in OTP

- Explain to the mother that she should watch her child carefully for 30 minutes after giving a dose of chloroquine.
- If the child vomits within 30 minutes, she should repeat the dose and return to the clinic for additional tablets.
- Explain that itching is a possible side effect of the drug, but is not dangerous.

Dose for first and second line

AGE or WEIGHT	Chloroquine Give for 3 days									Sulfadoxine + Pyrimethamine Give single dose in clinic
	TABLET (150 mg base)			TABLET (100 mg base)			SYRUP (50 mg base per 5 ml)			TABLET (500 mg sulfadoxine+25 mg pyrimethamine)
	DAY 1	DAY 2	DAY 3	DAY 1	DAY 2	DAY 3	DAY 1	DAY 2	DAY 3	Single dose
2- 12 months (4 - <10 kg)	½	1/2	1/2	1	1	1/2	7.5 ml	7.5 ml	5.0 ml	1/2
12 months - 3 years (10 - <14 kg)	1	1	1/2	1 1/2	1 1/2	1/2	15.0 ml	15.0 ml	5.0 ml	1
3 - 5 years (14 - 19 kg)	1 1/2	1 1/2	1/2	2	2	1				1

Annex 14: Additional Medicines for Severe Acute Malnutrition in OTP

Name of Product	When	Prescription	Special Instructions
CEPHALOSPORIN	To be given as second line antibiotic for children not responding to amoxicillin i.e.: continued fever that is not due to malaria.	See separate protocol	
METRONIDAZOLE	For the treatment of all bloody diarrhea and diarrhea that has lasted for more than 7 days	See separate protocol	Give 3 times a day for 5 days
TETRACYCLINE EYE OINTMENT	For treatment of eye infection.	Apply 3 times a day, morning, afternoon and at night before sleep	Wash hands before and after use. Wash eyes before application. Continue for 2 days after infection has gone.
NYSTATIN	For treatment of candida.	100,000 units (1 ml) 4 times a day after food (use dropper and show the carer how to use it)	Continue for 7 days
PARACETAMOL	For children with fever over 39°C/102F		Single dose only - do NOT give to take home.
BENZYL BENZOATE	For treatment of scabies.	Apply over whole body. Repeat without bathing on following day. Wash off 24 hours later.	Avoid eye contact. Do not use on broken or secondary infected skin.
WHITFIELDS	For treatment of ringworm or other fungal infections of the skin.	Apply twice a day	Continue treatment until condition has completely resolved.
GENTIAN VIOLET	For treatment of minor abrasions or fungal infections of the skin.	Apply on lesion	Can be repeated at next visit and continued until condition resolved.
SULFADOXINE PYRIMETHAMINE	2nd line anti-malarial treatment for children who have not responded to first line	See separate protocol	Give single dose in clinic

Annex 15: Paracetamol and Metronidazole doses

Paracetamol

For severely malnourished children use with extreme caution

Give one time treatment only and start antibiotic or anti-malarial immediately. Monitor child - if the fever is greater than 39°C/102F, where possible, refer to inpatient care. If inpatient care is not possible, give a single dose of Paracetamol and tepid sponge the child until fever subsides. Return to clinic if high fever continues at home.

Give a single dose immediately (stat dose) for symptomatic treatment of fever.

SYRUP - 125 mg / 5 ml

TABLETS - 100 mg

Weight of Child kg	Dose		
< 4.0	25 mg	(1 ml)	single dose
4.0 - 8.0	60 mg	(2.5 ml)	single dose
8.0 - 15.0	120 mg	(5 ml)	single dose
> 15.0	240 mg	(10 ml)	single dose

Weight of Child kg	Dose		
< 4.0	25 mg	(¼ tablet)	single dose
4.0 - 8.0	50 mg	(½ tablet)	single dose
8.0 - 15.0	100 mg	(1 tablet)	single dose
> 15.0	200 mg	(2 tablets)	single dose

NOTE: Always check label on bottles for dosages and dilution of syrups as this can change between different manufacturers.

Give ONE DOSE only and start antibiotic or antimalarial.

Metronidazole

For the treatment of amoebic dysentery

Give 3 times a day for 5 days

SYRUP - 125 mg / 5 ml

WEIGHT	DOSE
< 4.0 kg	<i>do not give</i>
4.0 - 7.9 kg	62.5 mg (2.5 ml) <i>TDS</i>
8.0 - 14.9 kg	125 mg (5 ml) <i>TDS</i>
15.0 - 35.0 kg	250 mg (10 ml) <i>TDS</i>

TABLETS - 200 mg

WEIGHT	DOSE
< 4 kg	<i>do not give</i>
4.0 - 5.9 kg	50 mg (¼ tablet) <i>TDS</i>
6.0 - 11.9 kg	100 mg (½ tablet) <i>TDS</i>
12.0 - 15.9 kg	150 mg (¾ tablet) <i>TDS</i>
16.0 - 35.0 kg	200 mg (1 tablet) <i>TDS</i>
> 35.0 kg	400 mg (2 tablets) <i>TDS</i>

Hair

Normal/easily plucked/balding

Annex 17: INPATIENT CARE CARD

In-patient care facility		Registration Number				Referred From	
	Name			Age	Sex		Admission Criteria

ANTHROPOMETRIC CHART	DATE	1	2	3	4	5	6	7	8	9	10	11	12	
	Height (cm)													
	Weight (kg)													
	weight-for-height (%)													
	MUAC (cm)													
	Oedema (+ ++ +++)													
HISTORY	Diarrhoea	Yes	No	Stools / Day			1-3	4-5	>5	Passing Urine			Yes	No
	Vomiting	Yes	No	Cough			Yes	No	If oedema, how long swollen?					
	Appetite	Good	Poor	None	Breastfeeding		Yes	No	Dietary history					
	Reported Problems													

ROUTINE MEDICINES	DATE	1	2	3	4	5	6	7	8	9	10	11	12
	Amoxicillin											7-10 days	
	Chloroquine												
	Sulphadoxine – pyrimethamine												

TESTS

Annex 18: Routine medicines for children with acute malnutrition (>6 months) in inpatient care

Name of Product	When	Age/Weight	Prescription	Dose
VITAMIN A*	Day 1	6 months to < 1 year	100 000 IU	Single dose on day 1. (for treatment of vit A deficiency see 'Additional medicines section')
		≥ 1 year	200 000 IU	
ANTIBIOTIC	From day 1	All beneficiaries	See protocol	1st line: Amoxicillin or Ampicillin 2nd line: Add gentamycin or cephalosporin 3rd line: individual medical decision
ANTI MALARIAL	From day 1 in malarial areas or if symptoms	All beneficiaries > 2 months old	See malaria protocol	Give on admission
ALBENDAZOLE**	On exit	< 1 year	DO NOT GIVE	None
		12-23 months	200 mg	Single dose on exit
		≥ 2 years	400 mg	
MEASLES VACCINATION	On day 1 and on exit	From 9 months	Standard	Once on day 1 and once on day of exit
FOLIC ACID ***	On day 1 if anaemia	All beneficiaries	5mg	Single dose on day 1

* **VITAMIN A:** Do not give, if the child has already received Vitamin A in the last one month.

** **ALBENDAZOLE:** can be given again after 3 months if signs of re-infection appear.

*****FOLIC ACID:** Not to be given routinely. Where there is anaemia give folic acid on day 1. If child is taking sulfadoxine-pyrimethamine then give once malaria treatment complete.

A severely malnourished child without appetite and/or with medical complications must be referred to inpatient care.

DEHYDRATION

Misdiagnosis and incorrect treatment for dehydration is the commonest cause of death in malnourished children.

Many of the signs that are normally used to assess dehydration are unreliable in a child with acute malnutrition, making it difficult or impossible to detect dehydration reliably or determine its severity.

Severely acutely malnourished children are deficient in potassium and have abnormally high levels of sodium, therefore **standard Oral Rehydration Solution (ORS) must not be used.** Instead a Rehydration Solution for Malnutrition (ReSoMal) is used.

CAUTION: IV infusions should be rarely used as children can quickly suffer from fluid overload and can ReSoMal should never be given freely.

Breastfeeding should be continued wherever possible during re-hydration therapy.

Diagnosis of dehydration in the marasmic child

- **Do not** use the skin pinch test to diagnose dehydration – in marasmus skin normally lies in folds and is inelastic.
- **Do not** assume that malnourished children with sunken eyes have dehydration – in marasmus eyes are normally sunken without any dehydration.

The main diagnosis of dehydration comes from the HISTORY rather than the examination
There needs to be:

- A definite history of significant fluid loss – usually diarrhoea which is clearly like water and frequent with sudden onset within the past few hours or days.
- A history of a recent change in the child's appearance. If the eyes are sunken, the mother/caretaker must say that the eyes have become sunken since the diarrhoea began
- The child must not have oedema.

Diagnosis of shock with dehydration in the marasmic child

When there is definite dehydration based on the history and the examination and:

- A weak or absent radial pulse.
- Cold hands or feet.

Then the child is going into shock. When, in addition to the above signs there is also decrease in level of consciousness so that the child is semi-conscious or cannot be roused. This is severe shock.

Diagnosis of dehydration in the child with Kwashiorkor (odematus malnutrition)

Oedematous patients cannot be dehydrated though they are frequently hypovolaemic. This is due to dilation of blood vessels with a low cardiac output. If a child with kwashiorkor has definite watery diarrhoea and the child is deteriorating clinically (with excessive weight loss more than 2% of the body weight per day) then the fluid lost can be replaced using 30ml of ReSoMal per watery stool.

Treatment of dehydration in the marasmic child

Wherever possible children should be rehydration orally as the use of IV fluids can lead to fluid overload very easily resulting in the death of the child.

IV infusions should only be used where there is severe shock with loss of consciousness from confirmed dehydration.

Management is based on an accurate measurement of weight. Weight of the child should be taken on an infant scale or a hanging scale for older children. Clothing (except underclothes) should be removed.

Use ReSoMal to treat rehydration in acutely malnourished children. This usually comes in ready prepared packets which are mixed with water. Where pre-packaged ReSoMal is not available, it can be made as follows:

ReSoMAL recipe

Ingredient	Quantity
Standard WHO -ORS	One packet (1 litre packet)
CMV (mineral-vitamin mix)	1 red scoop (6g)
Sucrose (sugar)	50g
Water	2000ml (two litres)

During re-hydration breastfeeding should not be interrupted.

ReSoMal should be administered as follows:

First 2 hours:

- Give 5ml/kg of ReSoMal every 30 minutes. Children who can drink may be given the required amount as sips or by spoon every few minutes. Malnourished children are weak and quickly become exhausted, so they may not continue to take enough fluid voluntarily. If this occurs, the solution should be given by NG tube at the same rate.

See ReSoMal protocol below

Every 30 minutes assess

- Clinical signs of improvement.
- Clinical signs of over-hydration, especially signs of heart-failure (e.g. respiration rate).

As the child gains weight during re-hydration there should be clinical improvement and the signs of dehydration should disappear. ReSoMal should be stopped when:

- The respiratory and pulse rates increase;
- The jugular veins become engorged; or
- There is increasing oedema (e.g. puffy eyelids).

If there is resolution of the signs of diarrhoea and weight gain stop ReSoMal and start the child on F75

After 2 hours make a thorough assessment:

- If there is continued weight loss then increase rate of administration of ReSoMal by 10ml/kg/hour
Reassess after one hour.
- If there is no weight gain then increase the rate of ReSoMal by 5ml/kg/hour

Reassess after one hour.

- If there is weight gain and deterioration of the child's condition, the diagnosis of dehydration was wrong. Stop ReSoMal and start the child on F75.

Starting F75

When there is resolution of the signs of diarrhoea and weight gain stop ReSoMal and start the child on F75

F 75 can usually be introduced within 2-3 hours of starting re-hydration. ReSoMAL and F75 can be given alternately for a few hours if there is still some dehydration and continuing diarrhoea.

Assessing target weight for rehydration with watery diarrhoea
Weight loss is generally 2-5% of body weight Do not attempt to increase body weight by more than 5% in conscious children If there is weight gain of up to 5% of body weight with ReSoMal rehydration therapy, the dehydrated child will show dramatic improvement and treatment can continue with F 75.

Treatment of shock from dehydration in the marasmic child

If there is definite dehydration (a history of fluid losses, a change in the appearance of the eyes and the patient has **all** of the following:

- Semi-conscious or unconscious.
- Rapid weak pulse.
- Cold hands and feet.

The child should be treated with IV fluids. Use one of the following solutions (in order of preference):

- Half-strength Darrow's solution with 5% glucose (dextrose).
- Ringer's lactate solution with 5% glucose.
- 0.45% (half-strength) saline with 5% glucose.
- Give 15 ml/kg IV over the first hour and monitor the child carefully for signs of over hydration.
- If there is improvement repeat the 15ml/kg IV over the next hour.
- If there is still no improvement assume the child has septic shock.
- As soon as the child regains consciousness or the pulse rate drops to a normal level, stop the IV fluids and treat the child orally or by NG tube with 10ml/kg of ReSoMal per hour. Continue the protocol above for oral rehydration.

Resomal protocol

To be used **ONLY** after careful diagnosis of dehydration (history and clinical signs).

Monitor regularly

If respiratory rate increases or there is increasing oedema (e.g. of eyelids) or neck veins become distended, stop ReSoMal. Reassess after the first hour.

Weight of Child kg	First 30 Minutes ml	Second 30 Minutes ml	2nd Hour ml
2.0 - 2.9	10	10	20
3.0 - 3.9	15	15	30
4.0 - 4.9	20	20	40

5.0 - 5.9	25	25	50
6.0 - 6.9	30	30	60
7.0 - 7.9	35	35	70
8.0 - 8.9	40	40	80
9.0 - 9.9	45	45	90
10.0 - 10.9	50	50	100
11.0 - 11.9	55	55	110
12.0 - 12.9	60	60	120
13.0 - 13.9	65	65	130
14.0 - 14.9	70	70	140
15.0 - 15.9	75	75	150

Dehydration and septic shock are difficult to differentiate in a child with severe malnutrition. Most of the signs of true dehydration are seen in septic shock. A careful history and clinical examination can usually lead to the correct diagnosis and appropriate treatment.

Diagnosis of septic shock

- A fast weak pulse with:
- Cold peripheries (hands and feet)
- Altered consciousness
- Absence of signs of heart failure.

Incipient septic shock: The child is usually limp, apathetic and profoundly anorexic, but is neither thirsty nor restless.

Developed septic shock: The superficial veins, such as the external jugular and scalp veins are dilated rather than constricted. The veins in the lungs may also become engorged, making the lungs stiffer than normal. For this reason the child may groan, grunt, have a shallow cough and appear to have difficulty breathing. As shock worsens, kidney, liver, intestinal or cardiac failure may occur. There may be vomiting of blood mixed with stomach contents (“coffee-ground vomit”), blood in the stool, and abdominal distension with “abdominal splash”. When a child reaches this stage, survival is unlikely.

Treatment of septic shock

- Give broad-spectrum antibiotics

-Second and third line together

-For developed septic shock consider third line antibiotics, antifungal treatment and anti-staphylococcal treatment

- Keep the child warm to prevent or treat hypothermia
- Receive sugar-water by mouth or naso-gastric tube as soon as the diagnosis is made (to prevent hypoglycaemia)
- The child should not be handled any more than is essential for treatment. Nor should the child be washed or bathed; after the child has defecated, his or her bottom can be cleaned with a damp cloth.

Incipient septic shock: Give the child F75 by NG tube

Developed septic shock: If the patient is unconscious give:

- Begin IV rehydration immediately with one of the following:
 - half-strength Darrow’s solution with 5% glucose (dextrose)
 - Ringer’s lactate solution with 5% glucose²
 - 0.45% (half-normal) saline with 5% glucose.²
- Give 15 ml/kg per hour.
- Monitor every 10 minutes for signs of over-hydration and congestive heart failure:
 - Increasing respiratory rate
 - Development of grunting
 - Increased liver size
 - Vein engorgement

- If signs of congestive heart failure develop or the child does not improve after 1 hour of IV therapy, give a blood transfusion (10ml/kg slowly over at least 3 hours). If blood is not available, give plasma. During the blood transfusion, nothing else should be given, so as to minimize the risk of congestive heart failure. If congestive heart failure develops (e.g. distension of the jugular veins, increasing respiratory rate or respiratory distress), give a diuretic (the most appropriate choice is furosemide (1 mg/kg) and slow the rate of transfusion.
- If there are signs of liver failure (e.g. purpura, jaundice, enlarged tender liver), give a single dose of 1mg of vitamin K1 intramuscularly.

As soon as the radial pulse becomes strong and the child regains consciousness, Start F 75

CAUTION: Steroids, epinephrine or nikethamide are of no value and should never be used.

Heart failure

This is usually a complication of over-hydration (especially when an IV infusion or standard ORS solution is given), very severe anaemia, blood or plasma transfusion, or giving a diet with high sodium content.

Diagnosis of heart failure

- Clinical deterioration with weight gain
 - A sudden increase in liver size
 - Tenderness developing over the liver
 - An increase in respiration rate
- An acute increase in respiration of more than 5 breaths per minute (particular during rehydration treatment)
 - 50 breaths per minute up to 1 year of age
 - >40 in children 1 – 5 years
 - Respiration that has or develops a ‘grunting’ sounds during each expiration
 - Crepitations or rales in the lungs
 - Prominent superficial and neck veins
 - Engorgement of the jugular vein
 - Increase of oedema or reappearance of oedema during treatment
 - A rapid pulse,
 - Cold hands and feet
 - Cyanosis of the fingertips and under the tongue.

Heart failure must be differentiated from respiratory infection and septic shock, which usually occur within 48 hours of admission, whereas heart failure usually occurs somewhat later.

Treatment for heart failure

- Stop **all** oral intake and IV fluids. The treatment of heart failure takes precedence over feeding the child. No fluid should be given until the heart failure is improved, even if this takes 24–48 hours. Small amounts of sugar water can be given orally to prevent hypoglycaemia.
- Give a diuretic IV. The most appropriate choice is furosemide (1 mg/kg).
- Do not give digitalis unless the diagnosis of heart failure is unequivocal (jugular venous pressure is elevated) *and* the plasma potassium level is normal. In that case, 5mg/kg of body weight of digoxin may be given IV as a single dose, or orally, if the IV preparation is not available.
- If heart failure is associated with severe anaemia, the treatment of the heart failure takes precedence over the treatment of anaemia. A patient in heart failure should not be transfused unless there is experience and the necessary facilities to deal with exchange transfusion.
- Children with oedema can go into heart failure without a gain in weight, if the expanded circulation is due to oedema fluid being mobilised from the tissues to the vascular space. Initial over-treatment can lead to death several days later from heart failure when intracellular sodium (marasmus and oedematous malnutrition) and oedema fluid are being mobilised. All children have a fall in Hb during the early phase in treatment. This is known as “dilutional anaemia” and should not be transfused.

Hypoglycaemia

Hypoglycaemia can be a sign of infection or can occur when the child has to travel far to reach the in-patient care facility. Sugar water should be given to children on arrival at the health facility.

Hypoglycaemia and hypothermia often occur together. Check for hypoglycaemia whenever hypothermia is found.

Frequent feeds will usually prevent hypoglycaemia occurring.

Diagnosis of hypoglycaemia

There are often no signs of hypoglycaemia. One sign that does occur in malnourished children is eye-lid retraction (gives a staring appearance to the eyes or causes the child to sleep with his/her eyes open).

Treatment of hypoglycaemia

If the patient is conscious or can be roused and is able to drink:

- Give 50 ml of 10% glucose or sucrose (sugar). **Or**
- Give F-75 diet by mouth

If the child is losing consciousness, cannot be aroused or has convulsions:

- Give IV sterile 10% glucose (5ml/kg), followed by 50ml of 10% glucose or sucrose by naso-gastric tube.

When the child regains consciousness:

- Immediately begin giving F-75 diet.
- Continue frequent oral or NG feeding with F-75 diet to prevent a recurrence.
- All children with suspected hypoglycaemia should also be given the second line antibiotic.

The response to treatment is rapid. If a very lethargic or unconscious child does not respond with treatment, there is another cause for the clinical condition which must be found and treated.

Diagnosis of severe anaemia

If the haemoglobin concentration is less than 40 g/l or the packed-cell volume is less than 12%, the child has very severe anaemia, which can cause heart failure.

Treatment of severe anaemia

Children with very severe anaemia need a blood transfusion.

- Give 10 ml of packed red cells or whole blood per kg of body weight *slowly* over 3 hours.
- It is particularly important that the volume of 10 ml/kg is not exceeded in severely malnourished children. If the severely anaemic child has signs of cardiac failure, transfuse packed cells (5-7 ml/kg) rather than whole blood.
- **Ensure that blood is screened for Hepatitis B, C and for HIV**
- All children should be fasted during and for at least 3 hours after a blood transfusion
- If the child is dehydrated and has severe anaemia – treat the dehydration first. If the blood is to be given for anaemia it should be given during the first 24 hours after admission. Children who receive blood for anaemia should not be getting ReSoMal.
- **Where a blood transfusion is not available**, the health care provider only has the option of giving folic acid on admission and giving iron once the child has an appetite and is gaining weight (usually after 1 4days). The following doses should be given:

Age Group	Dose	Duration
< 2 years	25 mg iron + 100-400 µg folic acid daily	3 months
2-12 years	60 mg iron + 400 µg folic acid daily	3 months

CAUTION:

Increasing anaemia and heart failure or respiratory distress is a sign of fluid overload and an expanding plasma volume – **the heart failure is not being caused by the anaemia**; these patients should never be given a straight transfusion of blood or even packed cells

Do not give iron during the initial phase of treatment, as it can have toxic effects and may reduce resistance to infection.

Monitoring the child with severe anaemia

Monitor for signs of transfusion reactions. If any of the following signs develop during the transfusion, stop the transfusion:

- Fever
- Itchy rash
- Dark red urine
- Confusion
- Shock

Monitor the respiratory rate and pulse rate every 15 minutes. If either of them rises, transfuse more slowly. Following the transfusion, if the Hb remains less than 4 g/dl or between 4 and 6 g/dl in a child with continuing respiratory distress, **DO NOT** repeat the transfusion within 4 days. In mild or moderate anaemia, oral iron should be given for two months to replenish iron stores **BUT this should not be started** until the child has an appetite and is gaining weight (usually after 14 days).

Hypothermia

Severely malnourished children are highly susceptible to hypothermia. The room where children are treated should be warm especially at night (between 28 and 32°C). There should be adequate blankets. Windows and doors should be shut at night.

Diagnosis of hypothermia

- Rectal temperature below <35.5°C/<96F
- Under arm temperature < 35 °C/95F

Treatment of hypothermia

- Use the skin to skin technique for children with a caretaker. Place the child on the front of the mother / caretaker with the mothers / caretakers arms wrapped round the child. The mother / caretaker and the child are wrapped in blankets together. Give hot drinks to the mother / caretaker so her skin gets warmer
- Put a hat on the child as most heat is lost through the head
- Do not use a hot water bottle – this is too dangerous
- Place a heater or lamp nearby
- Ensure that the room is not cold
- Treat for hypoglycaemia and give second line antibiotic.
- Monitor body temperature during re-warming.

Dermatosis presents in children with severe kwashiorkor. It often spontaneously resolves with nutritional treatment. The zinc supplement contained in the nutritional treatment is particularly important in these children, as they are usually severely zinc deficient.

Diagnosis of dermatosis

- Hypo-or hyperpigmentation
- Desquamation
- Ulceration (spreading over limbs, thighs, genitalia, groin, and behind the ears)
- Lesions (resembling severe burns) often with secondary infection, including *Candida*

Treatment of dermatosis

- Atrophy of the skin in the perineum leads to severe nappy dermatitis, especially if the child has diarrhoea. The nappy area should be left uncovered. If the nappy area becomes colonized with *Candida* spp., it should be treated with nystatin ointment or cream (100000 IU (1 g)) twice daily for 2 weeks and the child should be given oral nystatin (100 000 IU four times daily).
- In other affected areas, application of zinc and castor oil ointment, petroleum jelly or paraffin gauze dressings helps to relieve pain and prevent infection.
- Bathe the affected areas in 1% potassium permanganate solution for 10–15 minutes daily. This dries the lesions, helps to prevent loss of serum, and inhibits infection.
- Polyvidone iodine, 10% ointment, can also be used. It should be used sparingly, however, if the lesions are extensive, as there is significant systemic absorption.
- All children with kwashiorkor-related dermatosis should receive systemic antibiotics

Treatment

- Give first and second line antibiotic treatment by intra-muscular injection.
- Consider adding third line antibiotics.
- Stop all other drugs that may be causing toxicity (such as metronidazole).
- Give a single IM injection of magnesium sulphate (2ml of 50% solution).
- Pass an NG tube and aspirate the contents of the stomach, then 'irrigate' the stomach with isotonic clear fluid (5% dextrose or 10% sucrose – the solution does not need to be sterile). Do this by introducing 50 ml of solution into the stomach and then gently aspirating all the fluid back again. This should be repeated until the fluid that returns from the stomach is clear.
- Put 5ml/kg of sugar-water (10% sucrose solution) into the stomach and leave it there for one hour. Then aspirate the stomach and measure the volume that is retrieved. If the volume is less than the amount that was introduced then either a further dose of sugar-water should be given or the fluid returned to the stomach
- There is frequently gastric and oesophageal candidiasis: give oral nystatin suspension or fluconazole.
- Keep the child warm.

If the child's level of consciousness is poor, give intravenous glucose.

- Do not put a drip up at this stage. Monitor the child carefully for 6 hours, without giving any other treatment.
- Improvement is measured first by a change in intestinal function – decrease in the distension of the abdomen, visible peristalsis seen through the abdominal wall, return of bowel sounds, decreasing size of gastric aspirates – and second by improvement in the general condition of the child

If there is intestinal improvement then start to give small amounts of F75 by NG tube (half the recommended quantity) – subsequently adjust by the volumes of gastric aspirated.

If there is no improvement after 6 hours then:

- Consider putting up an IV drip. It is very important that the fluid given contains adequate amounts of potassium. Sterile Potassium Chloride (20 mmol/l) should be added to all solutions that do not contain potassium. If it is available use one-fifth normal saline in 5% dextrose, otherwise use Ringer-Lactate in 5% dextrose or half-strength saline in 5% dextrose. **The drip should be run VERY SLOWLY - the amount of fluid that is given should be NO MORE THAN 2 to 4 ml/kg/h.**
- Start to give the first and second line antibiotics intravenously.
- When the gastric aspirates decrease so that one half of the fluid given to the stomach is absorbed, discontinue the IV treatment and continue with oral treatment only.

Annex 20: Amount of F75 to Give In Phase I (Inpatient Care)

Recommendation: Provide F75 feeds every 3 hours for the first 1- 2 days and move to six feeds a day if there is no vomiting or diarrhoea.

F75 contains: 75 kcal/100 ml and 0.9 g protein/100 ml. 130 ml of F75 = 100kcal

Weight of child (kg)	Volume of F-75 per feed (ml) ^a			Daily total (130 ml/kg)
	Every 2 hours (12 feeds)	Every 3 hours (8 feeds)	Every 4 hours (6 feeds)	
2.0	20	30	45	260
2.2	25	35	50	286
2.4	25	40	55	312
2.6	30	45	55	338
2.8	30	45	60	364
3.0	35	50	65	390
3.2	35	55	70	416
3.4	35	55	75	442
3.6	40	60	80	468
3.8	40	60	85	494
4.0	45	65	90	520
4.2	45	70	90	546
4.4	50	70	95	572
4.6	50	75	100	598
4.8	55	80	105	624
5.0	55	80	110	650
5.2	55	85	115	676
5.4	60	90	120	702
5.6	60	90	125	728
5.8	65	95	130	754
6.0	65	100	130	780
6.2	70	100	135	806
6.4	70	105	140	832
6.6	75	110	145	858
6.8	75	110	150	884
7.0	75	115	155	910
7.2	80	120	160	936
7.4	80	120	160	962
7.6	85	125	165	988
7.8	85	130	170	1014
8.0	90	130	175	1040
8.2	90	135	180	1066
8.4	90	140	185	1092
8.6	95	140	190	1118
8.8	95	145	195	1144
9.0	100	145	200	1170
9.2	100	150	200	1196
9.4	105	155	205	1222
9.6	105	155	210	1248
9.8	110	160	215	1274
10.0	110	160	220	1300

Annex 2I: Amount of F100 To Give In Transition Phase

Give F100 **full strength** to children in transition (where RUTF is not available). Provide 6 feeds/day.

CAUTION: F100 full strength is NOT given to infants less than 6 months or less than 3kg. These infants should be given F100 diluted.

Weight(kg)	6 feeds/day
3-3.4	80
4-4.4	85
4.5-4.9	95
5-5.4	110
5.5-5.9	120
6-6.9	140
7-7.9	160
8-8.9	180
9-9.9	190
10-10.9	200
11-11.9	230
12-12.9	250
13-13.9	275
14-14.9	290
15-19.9	300
20-24.9	320
25-29.9	350
30-39.9	370
40-60	400

Annex 22: Recipes for F75 and F100

Recipe for locally prepared F75

Type of milk	Milk (g)	Eggs (g)	Sugar (g)	Oil (g)	Cereal powder (g)	CMV* Red scoop =6g	Water (ml)
Dry skim milk	25	0	70	27	35	2	1000
Dry whole milk	35	0	70	20	35	2	1000
Fresh cow (or goat) milk	280	0	65	20		2	1000
Whole eggs	0	80	70	20	40	2	1000

*CMV=special mineral and vitamin powder mix designed for the treatment of severe acute malnutrition. This can be obtained from Nutriset. This should be used wherever possible. Where this is not available use the mineral and vitamin mix recipes below. Add 20ml of mineral mix and 140ml of vitamin mix

How to prepare the recipe:

- Cereal powder should be cooked for about 10 minutes.
- Add the milk, sugar, and oil to the cereal powder
- Add some water and mix.
- Boil mixture for 5–7 minutes.
- Allow to cool, then add the mineral mix and vitamin mix and mix again.
- Make up the volume to 1000 ml with water.

Recipe for locally prepared F100

Type of milk	Milk (g)	Eggs (g)	Sugar (g)	Oil (g)	CMV* Red scoop =6g	Water (ml)
Dry skim milk	80	0	50	60	2	1000
Dry whole milk	110	0	50	30	2	1000
Fresh cow (or goat) milk	900	0	50	25	2	1000
Whole eggs	0	220	90	35	2	1000

Recipes for mineral solution and vitamin mix used in the preparation of F75

Mineral solution

Weigh the following ingredients and make up to 1000 ml. Add 20 ml of electrolyte/mineral solution to the recipe for F75 above.

Substance	Amount
Potassium Chloride: KCl	89.5 g
Tripotassium Citrate: C ₆ H ₅ K ₃ O ₇ .H ₂ O	32.4 g
Magnesium Chloride: (MgCl ₂ · 6H ₂ O)	30.5 g
Zinc Acetate: Zn(CH ₃ COO) ₂ .2H ₂ O	3.3 g
Copper Sulphate: CuSO ₄ .5H ₂ O	0.56 g
Sodium selenate*	10 mg
Potassium iodide*	5 mg
Water: Make up to	1000 ml

* If it is not possible to accurately weigh these small amounts, these substances can be omitted. The solution can be stored at room temperature (or fridge where possible). It is added to the milk at a concentration of 20 ml/liter.

- Dissolve the ingredients in cooled boiled water.
- Discard if it turns cloudy.
- Make fresh each month.
- Store the solution in sterilized bottles

Vitamin Mix

Vitamin	Amount per litre of liquid diet
Water soluble:	
Thiamine (vitamin B1)	0.7 mg
Riboflavin (vitamin B2)	2.0 mg
Nicotinic acid	10 mg
Pyridoxine (vitamin B6)	0.7 mg
Cyanocobalamin (vitamin B12)	1 µg
Folic acid	0.35 mg
Ascorbic acid (vitamin C)	100 mg
Pantothenic acid (vitamin B5)	3 mg
Biotin	0.1 mg
Fat soluble:	
Retinol (vitamin A)	1.5 mg
Calciferol (vitamin D)	30 µg
α-Tocopherol (vitamin E)	22 mg
Vitamin K	40 µg

Annex 23: Transfer Slip from Inpatient Care to OTP

Transfer slip from inpatient care to OTP

Name _____ Age: _____ Sex: _____
Registration Number: _____

Village _____ Tahluka: _____ House No. _____
Tel No. _____

Date of admission : _____

Admission information: Weight _____ MUAC: _____ Height _____ WHM _____

Oedema (circle) + ++ +++

Transfer from: _____ (Name of Health Center/Hospital)

Transfer to: _____ (Name OTP)

Date of transfer: _____

Treatment given:

Infant < 6 months: Describe treatment given and follow up required:

Transferred by (name of doctor or nurse) _____

Annex 24: SFP RATION CARD

Mother's Name		Registration Number	/ / SFP																	
Child's Name		Sex (M/F)																		
Date of Admission		Age (months)																		
SFP location		Address																		
Date																				
MUAC (cm)																				
Weight (kg)																				
Height (cm)																				
Weight-for-height %																				
Ration (type and quantity)																				

SFP RATION CARD (Cont.)

Mother/Child's Name		Registration Number	/ / SFP																	
Date																				
MUAC (cm)																				
Weight (kg)																				
Height (cm)																				
Weight-for-height %																				

Ration (type and quantity)																				
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Annex 25: Referral slip from SFP to OTP

Referral slip from Supplementary Feeding Programme (SFP) to OTP	
Name _____ Age: _____ Sex: _____	
Registration Number: _____	
Village _____ Tahluqa: _____ House No. _____	
Tel No. _____	
Date of admission to SFP: _____	
Admission information: Weight _____ MUAC: _____ Height _____ WHM _____	
Oedema (circle) + ++ +++	
Transfer from: _____ (Name of SFP site)	
Transfer to: _____ (Name of OTP site)	
Date of transfer: _____	
Reason for referral (circle): No appetite or complications or oedema +++ Meets criteria for OTP (MUAC<115 or oedema +, ++):	
Treatment given:	
Transferred by _____	

Annex 26: Routine Medicines for Acute Malnutrition in Infants < 6 Months: In-Patient Care

Routine medicines for acutely malnourished infants (<6 months) in inpatient care				
Name of Product	When	Age/Weight	Prescription	Dose
VITAMIN A*	On day 1	All infants	50 000 IU	Single dose on admission.
AMOXICILLIN	At admission	All beneficiaries > 2 kg	See protocol	3 times a day for 7 days
ANTI MALARIAL Chloroquine	At admission in malarial areas or if symptoms	All beneficiaries > 2 months old	See protocol	Once a day for 3 days.
IRON SYRUP (Ferrous fumarate 100 mg per 5 ml)	On week 4	2 months to 4 months	1.0 ml	Give one dose on day 1
		4 months to 6 months	1.25 ml	
FOLIC ACID	On day 1	All infants	5 mg	Give one dose on day 1

* **VITAMIN A:** Do not give, if the child has already received Vitamin A in the last one month.

Annex 27: SFP Routine Medicines

- Essential medicines as required in the routine medical protocol for SFP

Routine medicines (vitamin A, mebendazole and iron) are given to all children and pregnant and lactating women admitted to SFP. See Annex 25 for the routine medical protocol for SFP.

- Vitamin A given to all children on enrolment (unless they have received vitamin A in the last one month).
 - Children referred from OTP, or other health facility where Vitamin A has already been given should not be given vitamin A.
 - Children showing clinical signs of vitamin A deficiency should be referred to the nearest health facility for treatment according to WHO guidelines.
 - Vitamin A is NOT given to pregnant women. Lactating women receive Vitamin A post partum (6 weeks after delivery) only.
 - Mebendazole/Albendazole is given to all children aged 12-59 months on enrolment.
 - Iron is given to children on admission if there are signs of anaemia. If there is severe anaemia, refer to inpatient care.
 - Iron/folate is given to all pregnant and lactating women on admission.
 - Measles vaccine is given to all unvaccinated children above 6 months of age.
- Record the medications given in the registration book

Annex 28: Monthly report format

1. Performance indicators

% discharged cured (recovered)_____

% of deaths_____

% of defaults_____

% non-responders_____

Compare performance indicators to SPHERE minimum standards. Present this as a pie chart.

SPHERE % discharged cured >75%
 % of deaths < 10%
 % of defaults <15%

% coverage > 50%
Reported after a coverage survey (if a coverage survey is planned)

2. Program outputs

Total number of admissions_____

Total number of exits_____

Number of relapse (re-admissions) in OTP_____

Number of children referred to inpatient care_____

Number of children treated in inpatient care_____

No of deaths in inpatient care_____

No of cases relapsed (re-admission) in inpatient care_____

No of medical referrals_____

Analysis

Reasons for default

Actions taken to address absences and default

Program issues (supply issues, barriers to access, staff problems, community issues, security concerns, anticipated increases in caseload)

Annex 29: Performance Indicators and Calculating Rates

Performance indicators and appropriate benchmark Indicators for the management of severe acute malnutrition (SAM) and moderate acute malnutrition (MAM)

Performance indicators		
	SPHERE	CMAM
% Recovered	> 75 %	>75%
% Defaulted	< 15 %	<15%
% Died	< 10 % (SAM) < 3% (MAM)	<10%
% Coverage	>50% (rural) >70% (urban)	>50%
Optional indicators		
Length of stay		Average LOS 62 days
Rate of weight gain	>8g/kg/day	5g/kg/day*

*A weight gain of 5g/kg/day is a suggested guideline (WHO, 2005) for community-based programmes.

Calculating rates

Recovery rate Total no. of children recovered x 100/Total no. of exits

Defaulter rate Total no. of defaulters_x 100/Total no. of exits

Death rate Total no. of deaths x 100/Total no. of exits

Non responder rate No. of Non responders/total exits

Weight gain and length of stay: Average weight gain and length of stay is calculated for recovered children in the SFP and OTP. Use a sample of 30 discharged children. Divide wasted children and children with oedema.

Average length of stay (days) calculated as:

$$\frac{\text{Sum of length of stay (days) for each cured child}}{30 \text{ recovered children}}$$

Average weight gain (g/kg/day) is calculated as:

For each individual: $\frac{\text{Discharge weight(g)} - \text{minimum weight(g)}}{\text{Minimum weight (kg) x no. of days between date of minimum weight and discharge day}}$

For 30 children: $\frac{\text{Total individual weight gains}}{\text{Total No of individuals}}$

Annex 30: Supervision checklist

Name of supervisor: _____

Date _____

Village _____

U.C: _____

Tehsil/Taluka: _____

	Quality(poor, average, good)	Discussed with staff (Y/N)	Comments/actions taken
Anthropometry			
Oedema assessed accurately			
MUAC measured accurately			
Height measured accurately			
Weight for height calculated accurately			
Supplementary feeding program (SFP)			
Enrolment procedures and criteria correct			
SFP routine medicines available and given correctly			
Registration in SFP recorded accurately			
SFP ration card filled out accurately			
Exit procedure and criteria correct			
Key messages given correctly			
Outpatient therapeutic program(OTP)			
Enrolment procedures and criteria correct			
Admission history recorded accurately on OTP card			
Medical examination performed correctly and recorded			
Appetite test conducted correctly			
Routine medicines given correctly			
Action protocol used correctly			
Children correctly referred to inpatient care			
OTP card filled correctly			
RUTF available and given correctly			
Key messages given correctly			
Follow up history and examination performed correctly			
Reasons for follow up identified correctly			
Links between health facility and community established			
Children absent or defaulted followed			

up in community			
Non responders referred for medical investigation			
Exit procedures and criteria correct			
Inpatient care			
Therapeutic milk (F 75 and F 100) given correctly			
Medical history and examination performed correctly			
Complications treated correctly			
Infants < 6months managed correctly			
children transferred to OTP appropriately			
Inpatient cards filled correctly			
Community outreach			
Active case finding conducted by community providers			
Children referred accurately from the community			
Community leaders understand purpose of the program			
Children absent, defaulted are followed up			
Monitoring and reporting			
Number system used correctly			
Cards filed correctly			
Transfer slips filled out correctly			
Monthly reports filled out correctly and on time			
Supplies, Equipment and Organization			
Break in supplies (yes/no)			
Stocks stored correctly			
Necessary equipment and supplies available (yes/no)			
OTP/SFP well organized			
Staff capacity sufficient to manage case load (yes/no)			