How to use the guidelines

Who should use these guidelines?

The guidelines should be used by:

- Community health workers, as a guide for conducting community outreach activities, active case finding, and referral from the community and follow up.
- Health care providers responsible for the care and treatment of acutely malnourished children, as a step by step guide for health care providers to implement an outpatient therapeutic program (OTP), inpatient care or a supplementary feeding program (SFP) program and to ensure appropriate referral and tracking mechanisms.
- Policy makers and programme managers including NGOs responsible for programs and policy related to the management of acutely malnourished children.
- Supervisors responsible for monitoring and reporting on any component of CMAM.

When to use these guidelines

The guidelines should be used for both planning and implementing any of the CMAM components. The guidelines provide clear steps for implementing the following program components:

- Community outreach
- Outpatient Therapeutic Program (OTP)
- Inpatient care (stabilisation in hospital, health facility or TFC)
- Supplementary Feeding Programme (SFP)

How to use these guidelines

The guidelines provide clear step by step actions. Protocols are provided in the annexes. The protocols can be pulled out and copied so that they are easy to use and follow. The protocols are based on current national protocols.

An overview of CMAM

The guidelines focus on integration of the management of acute malnutrition into ongoing routine health services for children under five. The guidelines, however, should also be used by NGOs working in collaboration with the MOH in the emergency context. In Pakistan, the community based management of acute malnutrition (CMAM) approach includes acutely malnourished children under five and acutely malnourished pregnant and lactating women in supplementary feeding programmes. The CMAM approach consists of four components: community outreach; outpatient therapeutic programme (OTP), inpatient care and supplementary feeding programme. These components are described briefly below.

Community outreach: The community is sensitised so that they are aware of malnutrition, how to identify and treat it. This stimulates understanding and participation. Malnourished children are identified using colour coded mid upper arm circumference (MUAC tapes) and simple techniques to identify nutritional oedema. They are given a referral slip to the health facility. Some children will require follow up at home. Community health workers follow up with children who are absent, default or have other problems with their treatment and recovery.

Outpatient therapeutic program (OTP): Children with severe acute malnutrition (SAM) WITH appetite for Ready to Use Therapeutic Food (RUTF) and without complications are treated with ready to use therapeutic food (RUTF) and routine medications. Treatment is at home with regular visits to the health facility. The child comes to the health facility every week or two weeks for a medical check up and to receive RUTF. Children without appetite (defined as inability to eat RUTF) and/or with complications are transferred to inpatient care until stabilized. They then continue their treatment at home in OTP. On discharge from OTP, children should be referred to SFP. The majority of children (>85%) can be treated successfully at home without any need for inpatient care.

Inpatient care: Children without appetite and with complications are treated in inpatient care until stabilized. Children may present at inpatient care without being transferred from OTP. Wherever possible these children are referred to OTP once they are stabilized. Where there is no OTP, children are treated in inpatient care using RUTF until they meet the discharge criteria.

Supplementary feeding program (SFP): Children with moderate acute malnutrition are provided dry take home rations 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). SFP is not always available outside of NGO programs and emergency context.

Transfer between components: Good coordination and communication between inpatient and out-patient care and with community providers is essential to make sure children do not get lost. Careful monitoring and tracking helps prevent this. Transfer slips in duplicate copies are used between OTP and inpatient care. Community are informed when a child is transferred from OTP to inpatient care or when a child is absent / defaulted in OTP so that they can follow up the child and mother/caretaker at home and investigate the reasons.

Fig 1: CMAM components

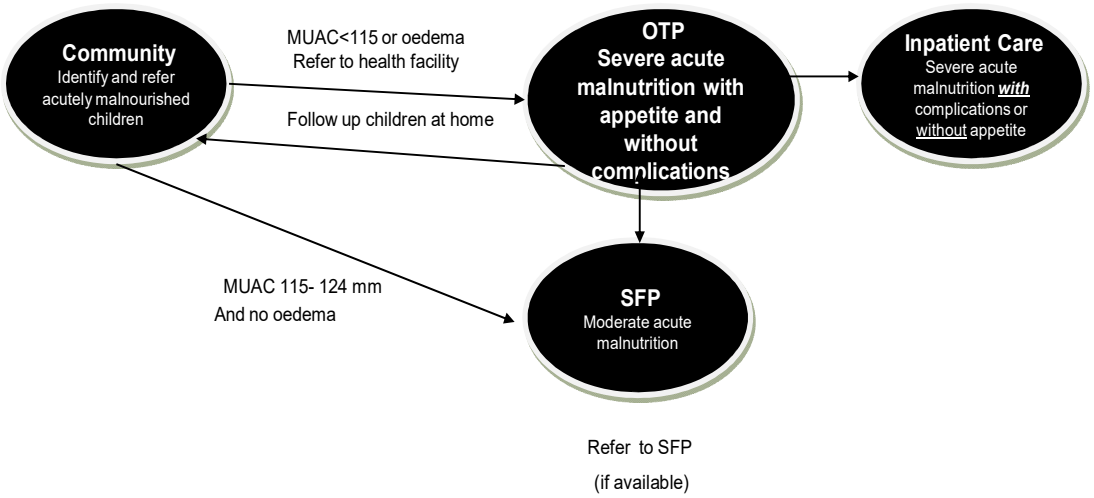

Community
Identify and refer acutely malnourished children
MUAC<115 or oedema
Refer to health facility
Follow up children at home
OTP
Severe acute malnutrition with appetite and without complications
Inpatient Care
Severe acute malnutrition with complications or without appetite
MUAC 115- 124 mm
And no oedema
SFP
Moderate acute malnutrition
Refer to SFP
(if available)

Table 1: Enrolment and exit criteria for inpatient care, OTP and SFP[1]

<table>
<tr><th>Inpatient care
<u>Children 0 - 59 months</u></th><th>OTP
<u>Children 6-59 months</u></th><th>SFP
<u>Children 6-59 months</u></th></tr>
<tr><td>Any of the following:
-Bilateral pitting oedema +++
-Marasmic-Kwashiorkor (MUAC <115mm with any grade of oedema)
<u>WITH</u> any of the following complications:
Anorexia, no appetite for RUTF
Vomits everything
Hypothermia ≤35.5°c
Fever ≥38.5°c
Severe pneumonia
Severe dehydration
Severe anaemia
Not alert (very weak, lethargic, unconscious, fits or convulsions)
Conditions requiring IV infusion or NG tube feeding</td><td rowspan="3">MUAC<115mm
or
Bilateral pitting oedema
+ and ++

AND ALL OF FOLLOWING:
Appetite
Clinically well
Alert</td><td rowspan="2">MUAC 115mm -<125 mm
and
No bilateral pitting oedema

AND
Appetite
Clinically well
Alert</td></tr>
<tr><td><u>Pregnant women</u>
Second and third trimester
MUAC <210mm</td></tr>
<tr><td>Infants < 6 months

Severely malnourished infants <6 months who meet the criteria are treated in inpatient care. See section on infants</td><td><u>Lactating Women</u>

MUAC <210mm
and infant is under 6 months</td></tr>
<tr><td colspan="3">Exit Criteria</td></tr>
</table>

[1] WHO growth standards and the identification of severe acute malnutrition in infants and children. A joint statement of WHO and UNICEF. 2009.

Transfer to OTP when: ▪ Appetite returned (eats at least 75% of RUTF) ▪ Medical complications controlled/resolved ▪ Oedema reduced(to at least 1+) ▪ Weight gain for 2 consecutive days	▪ MUAC > 115mm ▪ Clinically well **AND** > 15 % weight gain **AND** No oedema (for two consecutive visits)	**<u>Children 6-59 months</u>** ▪ MUAC>125mm ▪ Clinically well **AND** Minimum 2 months stay in the programme **<u>Pregnant and lactating women</u>** MUAC>210mm Infant reaches 6 months

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

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
▪ Weighing scales ▪ MUAC tapes ▪ Thermometer ▪ Time watch ▪ Scissors ▪ Clean water for drinking (jug and cups) ▪ Water and soap for hand-washing	▪ 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. [2] 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).

2 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

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 IMNCI 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
- 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.

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.[3] 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:

- 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

[3] 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

- 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
▪ 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)	▪ 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 1 (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	Any of the following: Bilateral pitting oedema +++ or Marasmic-Kwashiorkor (= W/H < -3 SD or MUAC <115mm with any grade of oedema) **Or** MUAC <115mm **or** W/H < -3 SD **or** bilateral oedema + / ++ **<u>WITH</u> any of the following complications** ▪ Anorexia, no appetite for RUTF ▪ Vomits everything ▪ Hypothermia ≤35.5°c ▪ Fever ≥38.5°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	Infant is too *weak or feeble* to suckle effectively (independently of his/her weight-for-length). **or** W/L (weight-for-length) < - 3 SD (in infants <u>≥</u> 45 cm) **or** Visible severe wasting in infants < 45 cm **or** Presence of bilateral oedema
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

<u>Admission procedure</u>

<u>STEP 1: Triage urgent cases</u>

- 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 Annex18 (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.

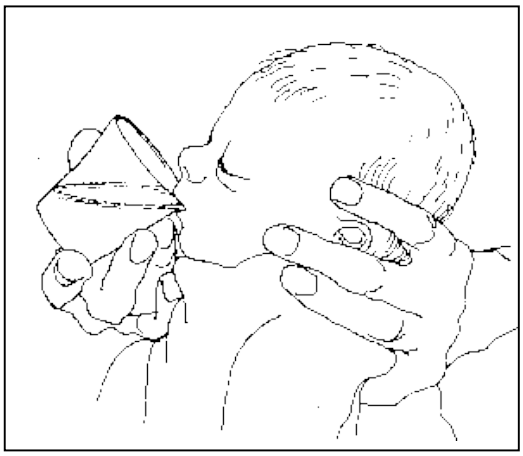
- F75 therapeutic milk is a product that has been especially designed for use with the treatment of complicated cases of severe acute malnutrition. Energy density of F75 is 75kcal/100ml (this is equivalent to 100kcal/bodyweight/day)
- F75 is given at regular intervals throughout the day (135ml/kg/day). 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-gastic 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**
▪ Amount of F75 feed the child takes ▪ Any occurrence of vomiting / regurgitation of the feed	▪ Body temperature ▪ Respiration rate ▪ Pulse	▪ 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 1+ **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 looses weight.
- The child should be able to 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 muse 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 than5g/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
▪ 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	▪ 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	▪ 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 of 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)	Ml 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 it 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 in 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 is 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 1)

- Wasted infants<6 months can be given F100 diluted in Phase 1. 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 1 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.

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
▪ Weighing scales ▪ MUAC tapes ▪ Clean water for drinking (jug and cups) ▪ Water and soap for hand-washing	▪ 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 enrolees.
- *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 to 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 or3 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

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 an 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

Section 1: Children currently in the OTP Section 2: Absentees: Children who have missed 1 or 2 weeks Section 3: Transfers awaiting return: These are children who have been transferred from OTP to inpatient care	Section1: Recovered (discharged cured): Check in this file for any re-admissions Section 2: Defaulters: Children who have defaulted may return. **If they return, the same card is used** Section 3: Non-recovered: Children who do not meet discharge criteria after 4 months in OTP Section 4: Deaths: Children who have died while in the programme

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 fist 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 enrolees. 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 ***unde***r 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 complied 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 on 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 maybe 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.