



Government of Malawi  
Ministry of Health

# INTERIM GUIDELINES

**FOR THE MANAGEMENT OF ACUTE MALNUTRITION  
IN ADOLESCENTS AND ADULTS**

unicef 

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**MARCH 2006**

# FOREWORD

Malnutrition remains a major challenge in the country that is compounded by the high prevalence of HIV and AIDS. The Ministry of Health, in collaboration with various partners provide a number of services to prevent, control and treat malnutrition. However the interventions have, for a long time, been targeting children below five years of age, pregnant and lactating women and in some cases the school age. Adults and adolescents have always been considered at low risk of developing malnutrition, hence they were excluded from most of the nutrition programmes and from the existing National Guidelines for Management of Malnutrition. However, with the advent of HIV, AIDS, TB and related infections, malnutrition has become common among adults and adolescents.

An increasing number of People Living With HIV, AIDS and those with TB present with moderate and severe acute malnutrition that need proper treatment. These interim guidelines, therefore, have been developed to guide service providers in proper management of acute malnutrition in adolescents and adults. The purpose of the guidelines is to standardise the management of acute malnutrition in adolescents and adults in the various health services delivery points. The guidelines provide clear protocols for effective treatment of acute malnutrition which can easily be followed by Health workers and other service providers in provision of outpatient and in patient care to the clients. The guidelines are expected to improve case management and outcome among the clients.

The guidelines have been developed through a process of technical consultation of local experts through workshops, telephones and email, external experts through email, reports and telephone. It has also been developed based on the National Guidelines for Management of child malnutrition and other relevant documents. They will be reviewed after one year from May,2006 in order to incorporate comments, lessons learnt and emerging issues.

The Ministry is, therefore, appealing to all service providers involved in treatment of moderate and severe acute malnutrition in adolescents and adults in the country to use these guidelines. The Ministry is further appealing to the Hospital Directors, District Health Officers and various partners to support operationalisation of the guidelines.

The Ministry is very grateful to UNICEF, National AIDS Commission and Action Against Hunger for their technical and Financial support for the development of the guidelines. Several other organisations that contributed to the guidelines technically are also highly acknowledged.

**Dr. W.O.O. Sangala**  
**SECRETARY FOR HEALTH**

# INTRODUCTION

The interim guidelines for the management of acute malnutrition in adults and adolescents have been developed in response to the increasing number of adolescents and adults presenting with moderate and severe acute malnutrition. The guidelines provide simple and well defined protocols for treating adolescents and adults that present with malnutrition as both inpatients and outpatients.

The guidelines became necessary due to the introduction of a National wide Nutrition care, support and treatment programme that has been integrated in the ART scale up plan. The Nutrition programme became necessary due to high prevalence of malnutrition especially among People Living with HIV and AIDS and those infected with TB. HIV, AIDS and related infections increase nutritional needs of the body which become difficult to meet due to reduced food intake, absorption and increased nutrient losses. Thus HIV, AIDS and related infections compound the problem of malnutrition among PLWHAs and TB clients. Hospital reports indicated high mortality within the first three months of initiating Anteretroviral Treatment among the PLHWAs. Malnutrition is one possible cause of the high mortality.

The nutrition component was integrated in the ART scale up plan in order to provide appropriate counselling for adoption of good nutrition behaviours and healthy lifestyles among the ART clients and other PLWHAs. The Nutrition component also includes provision of treatment for acute malnutrition among the ART clients, PLWHAs and TB patients. The Nutrition treatment is expected to reduce mortality related to malnutrition and improve client adherence to ART. These guidelines have been developed to guide service providers in proper management of the malnutrition in adolescents and adults in order to provide quality and standardised care and treatment to the clients throughout the country.

## **WHO SHOULD USE THESE GUIDELINES**

The guidelines should be used by Health workers, Nutritionists and other service providers that are responsible for management of malnutrition in adolescents and adults in the ART clinics, TB ward, OPD, Medical ward and other relevant Health service delivery points. The guidelines can be used among adolescents and adults with acute malnutrition including ART clients, PLWHAS and TB patients. An adolescent in these guidelines refers to a girl or boy who is 12-18 years of age. Those below 12 years should be treated using the National Guidelined for management of acute malnutrition in children.

## **WHEN SHOULD THE GUIDELINES BE USED**

The guidelines should be used by service providers for provision of both in-patient and out patient treatment of acute malnutrition among ART clients, PLWHAs, TB patients and other adolescents and adults for admission in the nutrition programme. The guidelines provide criteria for admission as out patient or in-patient. They should also be used in prescribing treatment and monitoring as well as following up the client for compliance and response to treatment or complications that may set in. The guidelines also provide discharge criteria for the clients.

## **HOW TO USE THE GUIDELINES**

The guidelines should be used as a tool for screening and admitting clients, and prescribing treatment in close collaboration with other health care providers such as clinicians in order provide effective medical management of infections and complications. These guidelines are for the management of malnutrition outside of the normal Nutrition Rehabilitation Unit (NRU), Supplementary Feeding Programme (SFP), Community Therapeutic Care (CTC) or Out Patient (OTP), however linkage should be made to these existing programmes where they exist for effective follow up of the clients.

## Acronyms and Abbreviations

<b>AIDS</b>	Acquired immunodeficiency Syndrome
<b>ART</b>	Antiretroviral therapy
<b>ARV</b>	antiretroviral
<b>BMI</b>	Body mass index
<b>CTC</b>	Community therapeutic care
<b>CSB</b>	Corn Soya Blend
<b>DHO</b>	District Health Office
<b>HIV</b>	Human immunodeficiency virus
<b>MOH</b>	Ministry of Health
<b>MUAC</b>	Mid upper arm circumstanes
<b>NG</b>	Naso gastric
<b>NRU</b>	Nutrition Rehabilitation Unit
<b>OPC</b>	Office of the President and Cabinet
<b>OTP</b>	Out patient therapeutic programme
<b>RUTF</b>	Ready to use therapeutic food
<b>SFP</b>	Supplementary food programme
<b>TB</b>	Tuberculosis
<b>W/H</b>	Weight for height

# ACKNOWLEDGEMENTS

The guidelines were developed with financial support from the National AIDS Commission (Global Fund) and UNICEF and their support is deeply appreciated. The Ministry would, further, like to express its sincere gratitude to all those who contributed in different capacities to the development and production of these guidelines.

The former Director of Clinical Services, Dr. Rex Mpazanje and Former Deputy Director of Clinical services (Nutrition), Theresa Banda are recognised in a special way for their policy guidance. The Ministry is also highly indebted to Catherine Mkangama, Chief Nutritionist (MoH) and Susan Thurstans, RN, (Action Against Hunger) for their leadership and technical guidance during the whole process of drafting, pretesting and producing the final version of these interim guidelines.

The guidelines were made technically sound due to tremendous contributions from the following team of experts:

McCallum Sibande	OPC HIV and nutrition
Tapiwa Nguluke (Principal Nutritionist)	MOH
Roger Mathisen (Clinical Nutritionist)	UNICEF
Charlotte Walford (Nutritionist)	Family health international
Sylvester Kathumba (District Nutritionist)	MOH, Dowa DHO
Dr James Bunn (Paediatrician/Nutritionist)	College of Medicine, QECH
Mieke Moens	MSF-Belgium
Dr Roger Teck	MSF-Belgium
Dr Paluku Bahwere	Valid international
Dr Joep van Oosterhout	College of Medicine, Dept. of Medicine
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Taonga Mwenifumbo (RN)	Action Against Hunger
Phillimon Phiri (RN)	Action Against Hunger
Veronica Mkwanda	MOH, Thyolo DHO
Zinaumaleka Nkhono (Clinical Officer)	Lighthouse, Kamuzu Central Hospital)
Nelson Magongwa	MSF-Belgium
Macdonald Ndekha	College of Medicine, Community Health
Katherine Schwarz (Nutritionist)	Zomba Central Hospital

# ADMISSION AND DISCHARGE CRITERIA

## Admission criteria

### Adults

#### Severe malnutrition

- BMI <16
- OR Presence of bilateral oedema with MUAC <21.9cm (oedema should be assessed by a clinician for medical causes)
- OR MUAC < 19cm (to be used only if BMI cannot be taken)

#### Moderate malnutrition

- BMI 16-16.9
- OR MUAC 19 - 21.9cm (to be used only if BMI cannot be taken)

### Pregnant and lactating women

#### Severe malnutrition

- MUAC <19cm

#### Moderate malnutrition (where SFP is not present)

- MUAC 19 - 21.9cm

### Adolescents 12-18 years

#### Severe malnutrition

- W/H <70%
- OR Presence of bilateral oedema (oedema should be assessed by a clinician for medical causes)

#### Moderate malnutrition

- W/H 70-79%

Children <12 years old should be treated according to the National Guidelines for the Management of Severe and Moderate Acute Malnutrition (NRU, OTP, CTC and SFP)

## Discharge criteria

### Adults

- BMI of 18.5
- AND Bilateral oedema has gone for 10 consecutive days
- OR MUAC 23cm (to be used only if BMI can not be taken)



## **Pregnant and lactating women up to 6 months after delivery**

- MUAC 23cm

## **Adolescents 12-18 years**

- W/H >85%
- AND Bilateral oedema has gone for 10 consecutive days

# TREATMENT OF OUTPATIENTS

All ambulatory adult and adolescent patients should be treated as outpatients. The following guidelines should be followed for these patients.

An approved ready to use therapeutic food (RUTF) is a high caloric food fortified with vitamins and minerals. It can be consumed straight away and no preparation is needed. It should be used in combination with a normal diet

## **Treatment of severe malnutrition**

- Treatment up to BMI 17
  - 2 pots of RUTF (260g, 2700 kcal) per day
  - 6 sachets of RUTF (92g, 3000 kcal) per day

Once patients achieve a BMI of 17, or MUAC 22cm (if BMI can not be taken, or W/H >70% (if adolescents) they should be transferred to the treatment of moderate malnutrition

## **Treatment of moderate malnutrition**

- Treatment
  - 1 pot of RUTF (260g, approx 1500 kcal) per day OR
  - 3 sachets RUTF (92g per sachet, 1500 kcal) per day OR
  - 9kg of Likuni Phala (containing 10% sugar) and one litre of vegetable oil per month (1500 kcal per day)

## **Outpatient follow up**

Patients should usually be followed up monthly. It is often helpful to see patients initiating treatment two weeks after starting, particularly in the case of severe malnutrition. It is also important to plot their weight gain as it gives clear picture of progress made. Outpatient follow up should be coordinated with other clinic visits. If patients fail to gain weight within the first 2-4 weeks see page 9.

All patients who are not responding after three months should be reviewed by a clinician. If medically indicated treatment can continue for up to six months after initiation, or if HIV infected up to three months after commencing ART.

# TREATMENT OF INPATIENTS

Those patients who have good appetite may be treated with RUTF using the same criteria as for ambulatory patients.

Those patients requiring NG feeding, cannot tolerate RUTF or are severely ill, require a milk based diet similar to that used for children in the NRU. Milk based F75 and F100 feeds are given in two phases.

Patients should be weighed twice weekly.

## Phase 1

### Diet

Severely malnourished people need special feeds. Therapeutic milk, F75 (100ml = 75kcal), is used to stabilise patients in phase 1.

The first phase:

- Treat infections and other urgent medical problems
- Provide sufficient energy and nutrients to stop further loss of muscle and fat tissue
- Correct fluid and electrolyte imbalance

Give at least 5-6 feeds per day. Frequent feeds help prevent hypoglycaemia and hypothermia. Night feeds may be helpful, particularly with NG tube feeding.

### Preparation of F75

Mix one packet of F75 with 2 litres of cooled boiled water to make 2400ml of formula.

If pre-packaged F75 is not available refer to the guidelines for the management of severe acute malnutrition for alternative recipes.

### Amounts to give

Give the amounts in the table below to each patient unless receiving IV fluids in which case amounts should be reviewed. Intravenous fluids are discouraged in severe malnutrition as they have little nutritional value, and can cause fluid overload.

For patients who weigh less than 15 kg, refer to guidelines for the management of severe acute malnutrition, ideally in an NRU.

Class of weight (kg)	8 feeds per day ml for each feed	6 feeds per day	5 feeds per day
15.0-19.9	260	300	400
20.0-29.9	300	350	450
30-60	350	400	500

If the patient develops increasing respiratory distress, consider fluid overload and refer to a clinician, and the guidelines for the management of severe acute malnutrition.

During phase 1, patients should not eat any other foods or fluids, unless they have diarrhoea. Where patients in this phase have diarrhoea oral rehydration solutions should be given, ideally ReSoMal as this has less sodium.

The guidelines for the management of severe acute malnutrition give further detail on recognising these potential complications during initial refeeding.

## Transition Phase

F75 does not contain enough energy and protein for rapid weight gain so it is important to change to F100 as soon as the person is ready. The amount of F100 is controlled during the transition phase to avoid the risk of heart failure.

RUTF may be introduced at this stage in addition to F100 so patients are familiar with it when they reach phase two. Give 1 pot (or 3 sachets) of RUTF over the 2 day transition period as a taste dose. The patient is not required to finish the RUTF.

## Criteria for changing from phase 1 to transition phase:

- ▶ Return of appetite (easily finishes feeds)

## Diet

The only change that is made to the nutritional treatment on moving from phase 1 to the transition phase is a change from F75 to F100. The number of feeds, their timing and the volume given remains exactly the same in the transition phase as in phase 1.

F100 (100ml = 100kcal) is used in the transition phase.

## Preparation

Mix one packet of F100 with 2 litres of cooled boiled water to make 2400ml of formula.

If pre-packaged F100 is not available refer to the guidelines for the management of severe acute malnutrition for alternative recipes.

## Amounts to give

Give the amounts in the table below to each patient unless receiving IV fluids in which case amounts should be reviewed.

Class of weight (kg)	8 feeds per day ml for each feed	6 feeds per day	5feeds per day
15-19.9	260	300	400
20-29.9	300	350	450
30-60	350	400	500

Patients should normally move to phase 2 after two days. Patients with NG feeding tubes should remain on transition phase quantities but these should be reviewed if NG feeding continues for more than two weeks.

### Criteria to move back from transition phase to phase 1

- ▶ If any signs of fluid overload develop
- ▶ If tense abdominal distension develops
- ▶ If the patient gets significant re-feeding diarrhoea so that there is weight loss

### Phase 2

The aim of phase 2 is to achieve rapid weight gain and rebuild lost tissues. This requires more energy, protein and micronutrients than were needed for phase 1. F100 is high energy milk and is given at this time. If F100 is made in the NRU, use the F100 without iron added.

### Amounts to give

Give the amounts in the table below to each patient

F100 (ml) per feed phase 2 for 6 & 5 feeds

Class of weight (kg)	MI per feed 6 feeds per 24 hours	MI per feed 5 feeds per 24h
15.0-19.9	550	650
>20	750	900

If clinically indicated, give one tablet of iron/folic acid (e.g. Fefol) (200mg) or ferrous sulphate (200mg) per day in phase 2.

### Phase 2 using approved RUTF

If inpatients are well and can tolerate solid food, RUTF should be used in phase 2 instead of F-100. The treatment is the same as per for outpatients and should be used alongside a normal diet.

Amounts to give

Give the amounts below to each patient

- Treatment up to BMI 17
  - 2 pots of RUTF (260g, 2700 kcal) per day
  - 6 sachets of RUTF (92g, 3000 kcal) per day

Once patients achieve a BMI of 17 or MUAC 22cm (if BMI can not be taken), or W/H >80% they should be transferred to treatment for moderate malnutrition

# MEDICAL TREATMENTS

It is important to be aware of the symptoms and presentation of complications which can occur with acute malnutrition so that effective referral can be made to a clinician or nurse. All inpatients should be referred to a clinician or nurse in case of suspected septic shock, hypoglycaemia, hypothermia, fluid overload or malaria

It is expected that many patients will be on antibiotics already, but where this is not the case it is advised all patients are given a broad spectrum antibiotic such as amoxicillin (500mg tds) or cotrimoxazole (960mg bd) for 7 days to treat bacterial infections which may not be clinically apparent. In addition patients should in phase 2 receive albendazole (400mg single dose) as a treatment for intestinal worms.

It is essential that patients are advised to have an HIV test, as a positive test result can indicate eligibility for cotrimoxazole prophylaxis and ART. Many emaciated patients in Malawi may in fact have advanced HIV immune suppression (WHO stage III and IV), therefore HIV associated diseases should be suspected in any deterioration, or poor response to therapy.

## **Preparing inpatients for transfer to outpatient treatment**

Physical stimulation is important in severely malnourished adolescents and adults. Severely malnourished adults may have some muscle atrophy because they have been unable to walk whilst severely ill. Physical therapy may therefore be beneficial to facilitate full mobility.

Following discharge, patients should be referred to an RUTF provider clinic within one month for continuation of care until the discharge criteria have been met. Some specialised clinics (e.g. ARV and TB services) may routinely be able to provide RUTF after discharge.

## **Failure to respond**

Failure to respond to treatment in adults and adolescents is usually due to an unrecognized underlying illness, a nutrient deficiency or refusal to follow the treatment regimen.

## **Usual causes of failure to respond**

- Problems with the treatment facility
  - Poor sanitary environment
  - Insufficient or poorly trained staff
  - Inaccurate weighing equipment
  - Food prepared or given incorrectly
- Problems of individual patients
  - Insufficient food given or sharing RUTF with others
  - Vitamin or mineral deficiency
  - Active HIV associated disease
  - Malabsorption

Other serious conditions and underlying diseases can delay weight gain,

especially, diarrhoea, dysentery, pneumonia, tuberculosis, urinary tract infection, otitis media, malaria, and hepatitis/cirrhosis, particularly where these have not been recognised, or successfully treated. It is sensible to offer VCT to all patients where the cause for malnutrition is not obvious.

Cancer patients, burns victims, HIV and TB infected patients in general have higher energy requirements and therefore recovery may be slower.

### **Discharge from a nutrition programme**

In preparation for discharge (once patients have met the discharge criteria on page 3, nutrition education and counselling should be provided using the Ministry of Health tools. These include:

- Nutrition education and counselling flip charts
- Nutrition education and counselling manual
- Six food group posters
- Nutrition education resource kit for Malawi
- Food and crop diversification resources

Nutrition education and counselling can be conducted as part of group sessions, or with individual patients and their guardians.

Linkages should be made with institutions and organisations providing other services. If patients have not been tested for HIV they should be encouraged to go for VCT. Other referrals may include social welfare, targeted food distributions, prevention of parent to child transmission, home based care, opportunistic infection and antiretroviral treatment providers in order to provide holistic care to the severely malnourished patient.

### **Registration and reporting**

A good registration system allows both close monitoring and successful management of individuals. It also allows effective planning to ensure sufficient supplies. It provides information for the compilation of appropriate indicators and statistics to monitor the effectiveness and the impact of the programme.

Tasks:

1. Register the patient in the nutrition register (annex 1).
2. Fill in the patient nutrition master card (annex 2)
3. Explain how the treatment will be organised
  - a. Reasons for admission to the programme
  - b. Principles of treatment
  - c. The treatment care plan (regular attendance, food for patients only etc...)

### **Monitoring and reporting**

The collection of monthly reports allows for regular monitoring of the programme. This is an important part of all programmes and allows supervisors to assess the programmes efficiency and effectiveness.

The monthly report form can be seen in annex 3







Follow up anthropometry				Follow up anthropometry				Follow up anthropometry				Outcome - provide date when changed from alive and on treatment				Length of stay	Comments
Date	Weight	MUAC	BMI / W/H	Date	Weight	MUAC	BMI / W/H	Date	Weight	MUAC	BMI / W/H	cured	death	default	Discharged before reaching target criteria		

Cured, discharged after reaching target criteria; death, died whilst on treatment; defaulter, did not attend for 2 consecutive visits; discharged before reaching the target criteria; transfer, patient transferred to another clinic

# Annex 2 patient master card

PATIENT'S NAME

CLINIC

VILLAGE

TA

DISTRICT

ID NUMBER

REFERRED FROM

AGE

SEX

Interpretation of BMI

≥ 25      Overweight  
 18.5 to 24.9      Normal range  
 17 to 18.4      Possibly malnourished (at risk)  
 16 to 16.9      Moderate wasting  
 <16      Severe wasting

Interpretation of W/H

85 to 100%      Normal range  
 80 to 84%      Possibly malnourished (at risk)  
 70 to 79%      Moderate wasting  
 <70%      Severe wasting

Distribution	Date	Height cm	Weight kg	MUAC cm	Oedema	BMI	W/H%	Type and amount of treatment			
								RUTF g	CSB and oil kg/l	F75 ml	F100 m
Admission											
Discharge											

Cured

Date:

Length of stay \_\_\_\_\_ days

Died

Date:

Defaulted

Date:

Non Response

Date:

Transferred

Date:

# ANNEX 3 MONTHLY REPORT



Ministry of Health

Age group	Total beginning of the month	Admissions						MUAC <19cm	MUAC <21.9 & bilateral oedema	oedema	MUAC 19 - 21.9	W/H <70%	W/H 70-79%	Transferred out to moderate	Transferred in from severe	cured	Outcomes / discharges				LOS (length of stay)	Total end of month		
		BMI <16	BMI 16 - 16.9	MUAC <21.9 & bilateral oedema	oedema	MUAC 19 - 21.9	W/H <70%										W/H 70-79%	death	def	transfer			Discharged before reaching target criteria	
Adults																								
Adolescents																								
Pregnant and lactating women																								
Total																								

Send a copy of this report to the Ministry of Health Zone Officers, WFP and UNICEF before the 5th day of each month



