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99475

Integrated Management of Childhood Illness (IMCI)

Complementary Course

PARTICIPANT'S MANUAL:

IDENTIFY TREATMENT

Prepared by World Education for BASICS
(Basic Support For Institutionalizing Child Survival)
Zambia Child Health Project, a USAID-Funded Project

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IMCI CLASSIFICATIONS AND TREATMENTS

CLASSIFICATIONS		*TREATMENTS*
1	**SEVERE PNEUMONIA OR VERY SEVERE DISEASE**	A child with this classification is seriously ill He needs urgent referral to a hospital for treatments such as oxygen, a bronchodilator or injectable antibiotics Before the child leaves your clinic, give the first dose of an appropriate antibiotic
2	**PNEUMONIA**	Treat this classification with an appropriate antibiotic Show the mother how to give the antibiotic Advise her when to return for follow-up and when to return immediately Details of when to return immediately will be discussed later in this component
3	**NO PNEUMONIA COUGH OR COLD**	A child with this classification does not need an antibiotic The antibiotic will not relieve the child's symptoms It will not prevent the cold from developing into pneumonia But the mother brought her child to the clinic because she is concerned about her child's illness Give the mother advice about good home care Teach her to soothe the throat and relieve the cough with a safe remedy such as warm tea with sugar Advise the mother to watch for fast or difficult breathing and to return if either one develops A child with this classification normally improves in one to two weeks However, a child who has a chronic cough (a cough lasting more than 30 days) may have tuberculosis, asthma, whooping cough or another problem Refer the child with a chronic cough to hospital for further assessment
4	**SEVERE DEHYDRATION**	A child with this classification needs fluids quickly Treat with IV (intravenous) fluids That the Plan C box on the *TREAT* chart describes how to give fluids to children with this classification

IMCI CLASSIFICATIONS AND TREATMENTS	
CLASSIFICATION	*TREATMENT*
5 **SOME DEHYDRATION**	Treat the child with ORS solution In addition to fluid, the child needs food This treatment is described in the Plan B box on the *TREAT* chart However, Plan B takes hours to complete If the child has another severe classification, refer the child urgently instead of giving Plan B at the clinic The mother should give sips of ORS on the way
6 **NO DEHYDRATION**	This child needs extra fluid to prevent dehydration A child who has this classification needs home treatment The 3 rules of home treatment are 1 Give extra fluid 2 Continue feeding 3 When to return This treatment is described in the Plan A box on the *TREAT* chart
7 **SEVERE PERSISTENT DIARRHOEA**	Children with this classification need special attention to help prevent loss of fluid They may also need a change in diet They may need laboratory tests of stool samples to identify the cause of the diarrhoea Treat the child's dehydration before referral unless the child has another severe classification Treatment of dehydration in children with severe disease can be difficult These children should be treated in hospital

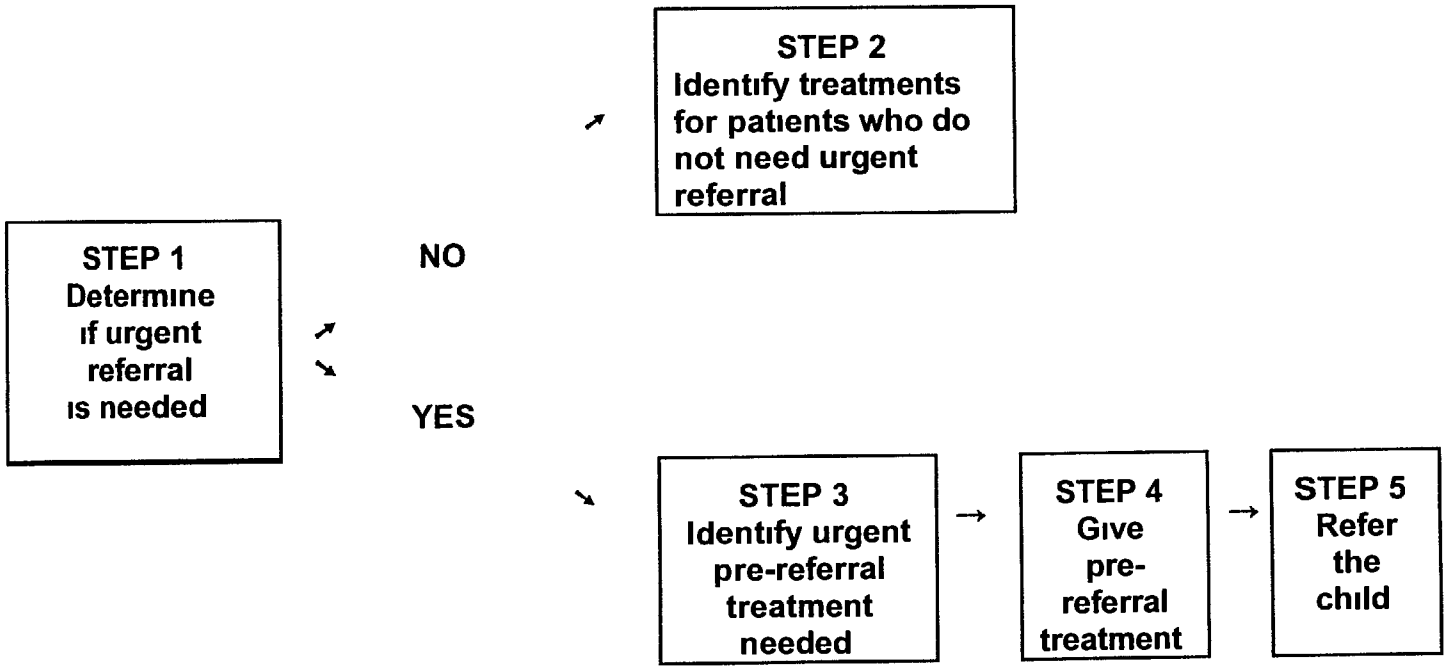
IMCI CLASSIFICATIONS AND TREATMENTS	
CLASSIFICATION	*TREATMENT*
8 **PERSISTENT DIARRHOEA**	Special feeding is the most important treatment for persistent diarrhoea Feeding recommendations for persistent diarrhoea are explained in *Counsel the Mother* (they are on the "Food Box")
9 **DYSENTERY**	Give an antibiotic recommended for *Shigella* in your area You can assume that *Shigella* caused the dysentery because • *Shigella* cause about 60% of dysentery cases seen in clinics • *Shigella* cause nearly all cases of life-threatening dysentery Finding the actual cause of the dysentery requires a stool culture It can take at least 2 days to obtain the laboratory test results
10 **VERY SEVERE FEBRILE DISEASE**	A child with fever and any General Danger Sign or stiff neck may have meningitis, severe malaria (including cerebral malaria) or sepsis It is not possible to distinguish between these severe diseases without laboratory tests Before referring urgently, you will give several treatments for the possible severe diseases Give the child an injection of quinine for malaria Also give the first dose of an appropriate antibiotic for meningitis or other severe bacterial infection You should also treat the child to prevent low blood sugar Also give paracetamol if there is a high fever

IMCI CLASSIFICATIONS AND TREATMENTS	
CLASSIFICATION	*TREATMENT*
11 **MALARIA**	Treat with an oral antimalarial Also give paracetamol to a child with high fever (axillary temperature of 38 5°C or above) A fever that persists every day for more than 7 days may be a sign of typhoid fever or other severe disease If the child's fever has persisted every day for more than 7 days, refer the child for additional assessment
12 **SEVERE COMPLICATED MEASLES**	Treat the child with vitamin A Vitamin A deficiency contributes to some of the complications such as corneal ulcer Any vitamin A deficiency is made worse by the measles infection Also give the child the first dose of an appropriate antibiotic Some complications of measles are due to bacterial infections If there is clouding of the cornea, or pus draining from the eye, apply tetracycline ointment If it is not treated, corneal clouding can result in blindness Ask the mother if the clouding has been present for some time and if it was previously treated If it was, you do not need to refer the child again for this sign
13 **MEASLES WITH EYE OR MOUTH COMPLICATIONS**	Treating the child with vitamin A will help correct any vitamin A deficiency and decrease the severity of the complications Teach the mother to treat the child's eye infection or mouth ulcers at home Treating mouth ulcers helps the child to more quickly resume normal feeding
14 **MEASLES**	All children with this classification should receive vitamin A

IMCI CLASSIFICATIONS AND TREATMENTS	
CLASSIFICATION	*TREATMENT*
15 MASTOIDITIS	This child needs treatment with injectable antibiotics He may also need surgery Before the child leaves for hospital, give the first dose of an appropriate antibiotic Also give one dose of paracetamol if the child is in pain
16 ACUTE EAR INFECTION	Give an appropriate antibiotic Give paracetamol to relieve the ear pain (or high fever) If pus is draining from the ear, dry the ear by wicking
17 CHRONIC EAR INFECTION	Most bacteria that cause this classification are different from those which cause acute ear infections For this reason, oral antibiotics are not usually effective against chronic infections Do not give repeated courses of antibiotics for a draining ear The most important and effective treatment for this classification is to keep the ear dry by wicking Teach the mother how to dry the ear by wicking
18 NO EAR INFECTION	The child needs no additional treatment
19 SEVERE MALNUTRITION OR SEVERE ANAEMIA	Children with this classification are at risk of death from pneumonia, diarrhoea, measles, and other severe diseases These children need urgent referral They may need special feeding, antibiotics or blood transfusions Before the child leaves for hospital, give the child a dose of vitamin A

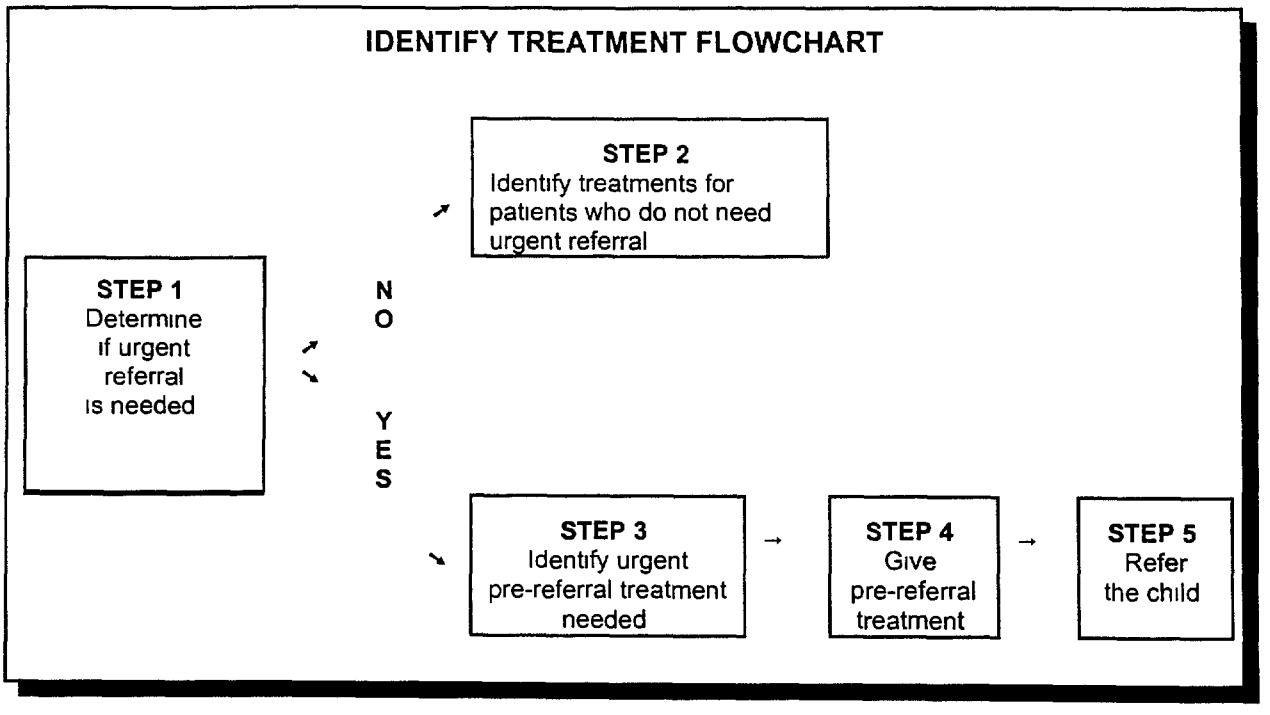
IMCI CLASSIFICATIONS AND TREATMENTS		
20	**ANAEMIA OR VERY LOW WEIGHT OR GROWTH FALTERING**	Assess the child's feeding and counsel the mother about feeding her child according to the recommendations in the FOOD box on the COUNSEL THE MOTHER chart A child with some palmar pallor needs to be treated with iron Also give an antimalarial to the child Hookworm and whipworm infections contribute to anaemia because the loss of blood from the gut results in iron deficiency Give the child mebendazole Only give mebendazole if the child with anaemia is 2 years of age or older and has not had a dose of mebendazole in the last 6 months Advise the mother of a child with some palmar pallor to return for follow-up in 14 days A child who is very low weight should return for follow-up in 1 month
21	**NO ANAEMIA AND NOT VERY LOW WEIGHT AND GROWTH NOT FALTERING**	If the child is less than 2 years of age, assess the child's feeding Counsel the mother about feeding her child according to the recommendations in the FOOD box on the COUNSEL THE MOTHER chart Children less than 2 years of age have a higher risk of feeding problems and malnutrition than older children even if they have no clinical signs of malnutrition and even if they are not very low weight for age

IDENTIFY TREATMENT FLOWCHART



CASE STUDIES

Read the Case Studies below Then tick (✓) the steps from the IDENTIFY TREATMENT FLOWCHART that the health worker would need to follow Refer to the TREATMENT column in your Chart Booklet as necessary



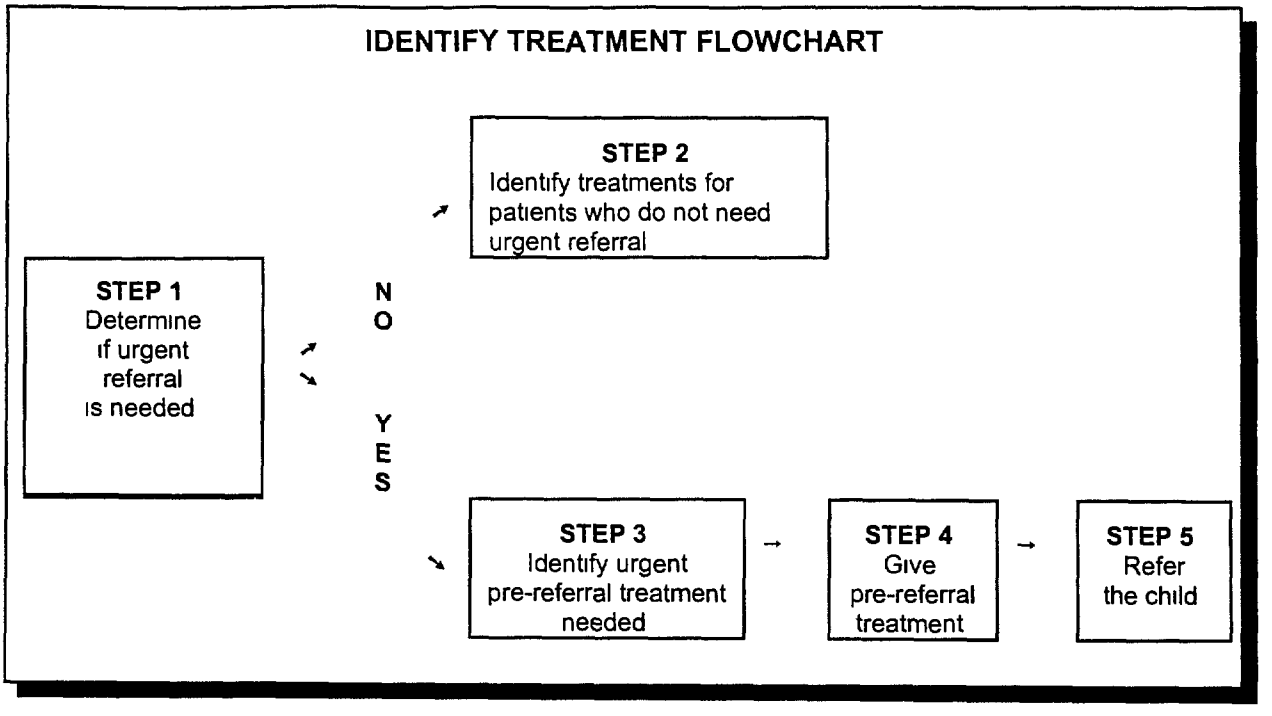
CASE STUDY CHANDA

Chanda is a four-month old boy He has no General Danger Signs, but he has COUGH OR DIFFICULT BREATHING and has chest indrawing He is classified as having SEVERE PNEUMONIA OR VERY SEVERE DISEASE

Which IDENTIFY TREATMENT steps should the health worker follow for Chanda?

___1 ___2 ___3 ___4 ___5

CASE STUDIES



CASE STUDY SARAH

Sarah is a three-year old girl She has no General Danger Signs She is classified as having MALARIA, CHRONIC EAR INFECTION, and NO ANAEMIA AND NOT VERY LOW WEIGHT AND GROWTH NOT FALTERING

Which IDENTIFY TREATMENT steps should the health worker follow for Sarah?

___1 ___2 ___3 ___4 ___5

REFERRAL IN IMCI

WHAT IS A "REFERRAL FACILITY?"

- In IMCI, the term "hospital" is a facility with inpatient beds, supplies, and the experience to treat the very sick child
- If health workers work in a health facility with inpatient beds, referral may mean admission to the inpatient department of your facility

PRE-REFERRAL TREATMENTS

- If the child must be referred urgently, the health worker should use the ASSESS and CLASSIFY Chart or the Chart Booklet to help decide which treatments to do before referral Some treatments, such as wicking the ear, are not necessary before referral

WHEN REFERRAL IS NOT POSSIBLE

- If there is no hospital in the health worker's area, the health worker may make some decisions differently than those that are described in the training The health worker should only refer a child if s/he expects that the child will actually receive better care than the care that can be provided at the health worker's facility

IMCI GENERAL RULES FOR TREATING SEVERE CLASSIFICATIONS

1	Severe classifications require urgent referral to hospital
2	No treatment should be given that would unnecessarily delay referral
3	In some cases, the health worker should give the sick child a single, quick dose of medicine before urgent referral (this is a "pre-referral treatment")

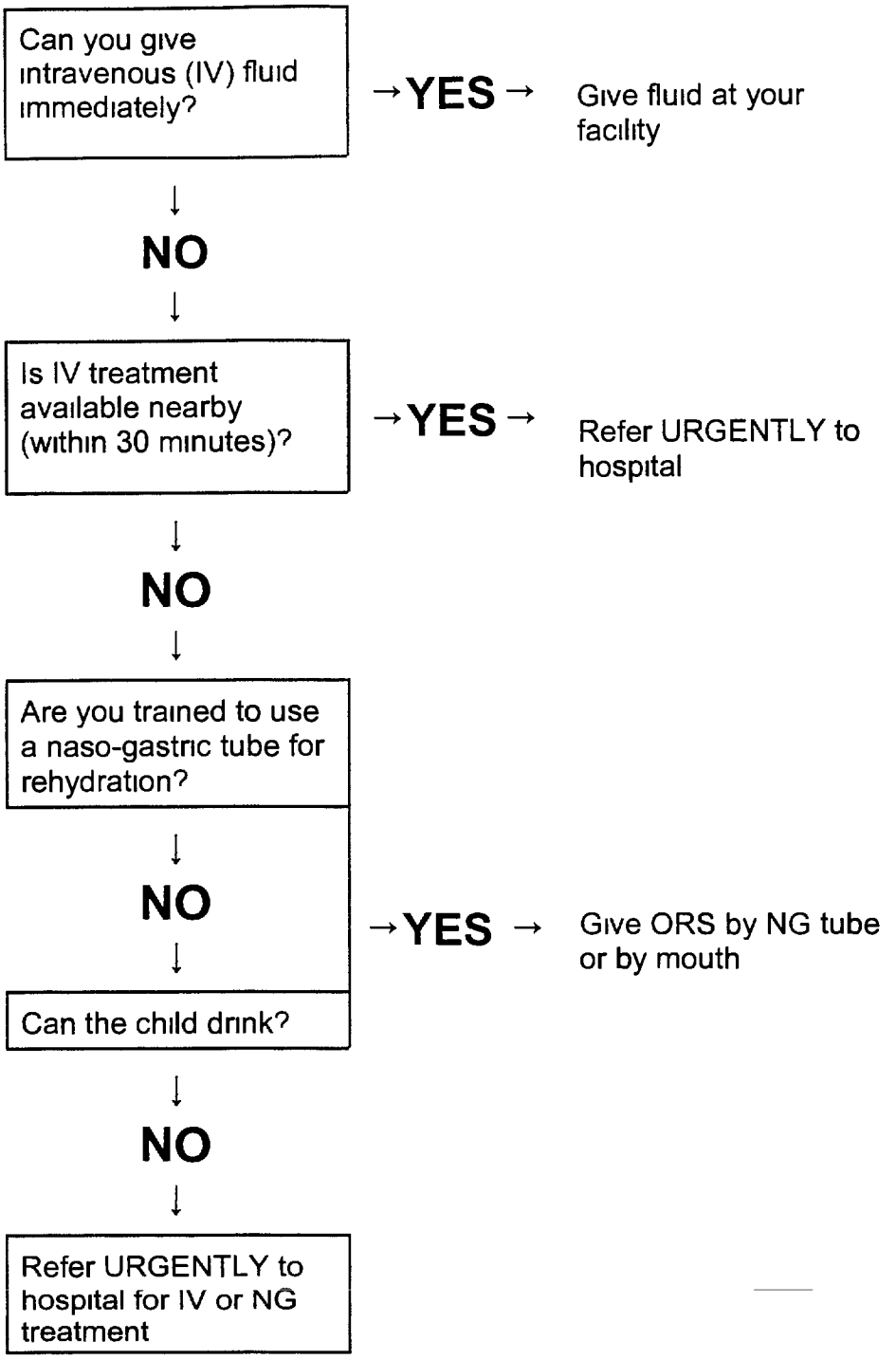
There are two important EXCEPTIONS to this general rule They are

1 SEVERE DEHYDRATION
2 SEVERE PERSISTENT DIARRHOEA

SEVERE DEHYDRATION	▸ *If child has no other severe classification* *- Give fluid for severe dehydration (Plan C)* *OR* ***If child also has another severe classification*** ***-Refer URGENTLY to hospital with mother giving frequent sips of ORS on the way*** ***Advise the mother to continue breastfeeding*** ▸ ***If child is 2 years or older and there is cholera in your area, give antibiotic for cholera***

SEVERE PERSISTENT DIARRHOEA	▸ *Treat dehydration before referral unless the child has another severe classification* ▸ *Refer to hospital*

DECISIONS INVOLVED IN PLAN C



You will learn Plan C in the next Component Plan C includes reassessment for dehydration after fluid treatment (if you can successfully rehydrate the child, referral will not be necessary)

DECIDE IF URGENT REFERRAL IS NECESSARY

In this exercise you will decide whether or not urgent referral is needed Tick YES or NO

1 Chileshe is a 2-year-old girl She has no General Danger Signs Chileshe has

MALARIA
ACUTE EAR INFECTION
NO ANAEMIA AND NOT VERY LOW WEIGHT AND GROWTH NOT FALTERING
no other classifications

Does Chileshe need urgent referral? ___ YES ___ NO

---

2 Chanda is a 4-month-old boy He has no General Danger Signs He has

SEVERE PNEUMONIA OR VERY SEVERE DISEASE
MALARIA
no other classifications

Does Chanda need urgent referral? ____ YES ___ NO

---

3 Kabamba is a 7-month-old girl She has one General Danger Sign she is lethargic

She also has

SEVERE DEHYDRATION
no other classifications

Does Kabamba need urgent referral? ___ YES ___ NO

DETERMINING IF URGENT REFERRAL IS NECESSARY

4 Kasonde is a 3-year-old girl She is unconscious She has no other classifications

Does Kasonde need urgent referral? ____ YES ___ NO

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5 Mambo is an 11-month-old girl She has no General Danger Signs She has

PNEUMONIA
ACUTE EAR INFECTION
NO ANAEMIA AND NOT VERY LOW WEIGHT AND GROWTH NOT FALTERING
no other classifications

Does Mambo need urgent referral? ___ YES ____ NO

---

6 Chilufya is a 9-month-old boy He is lethargic He has

Diarrhoea with SEVERE DEHYDRATION
MALARIA
NO ANAEMIA AND NOT VERY LOW WEIGHT AND GROWTH NOT FALTERING
no other classifications

The clinic can provide IV therapy
Does Chilufya need urgent referral? ___ YES ___ NO

SICK CHILD RECORDING FORM FOR VEDA

Study the following Sick Child Recording Form for Veda The health worker referred to the "Identify Treatment" column of the ASSESS & CLASSIFY chart and listed the treatments needed on the back of the form

Veda does not need referral as she has no General Danger Signs and no severe classifications She will be treated at the clinic

Notice that the earliest definite follow-up visit was entered in the appropriate space on the form

MANAGEMENT OF THE SICK CHILD AGE 2 MONTHS UP TO 5 YEARS

Child s Name Veda Age 18 mos. Weight 11 kg Temperature 38.5 C

ASK What are the child s problems? cough, fever Initial Visit? ✓ Follow up Visit? __

ASSESS (Circle all signs present)		CLASSIFY
CHECK FOR GENERAL DANGER SIGNS NOT ABLE TO DRINK OR BREASTFEED VOMITS EVERYTHING CONVULSIONS	LETHARGIC OR UNCONSCIOUS	General danger sign present? Yes___ No ✓ **Remember to use danger sign when selecting classifications**
DOES THE CHILD HAVE COUGH OR DIFFICULT BREATHING? Yes ✓ No__ • For how long? 4 Days	• Count the breaths in one minute 46 breaths per minute (Fast breathing?) • Look for chest indrawing • Look and listen for stridor or wheezing	Pneumonia
DOES THE CHILD HAVE DIARRHOEA? Yes__ No ✓ • For how long?___Days • Is there blood in the stool?	• Look at the child s general condition Is the child Lethargic or unconscious? Restless and irritable? • Look for sunken eyes • Offer the child fluid Is the child Not able to drink or drinking poorly? Drinking eagerly thirsty? • Pinch the skin of the abdomen Does it go back Very slowly (longer than 2 seconds)? Slowly?	
DOES THE CHILD HAVE FEVER? (by history/feels hot/temperature 37 5 C or above) Yes ✓ No__ • For how long? 2 Days • If more than 7 days has fever been present every day? • Has child had measles within the last 3 months? No	• Look or feel for stiff neck Look for signs of MEASLES • Generalized rash and • One of these cough runny nose or red eyes	Malaria
If the child has measles now or within the last 3 months	• Look for mouth ulcers If Yes are they deep and extensive? • Look for pus draining from the eye • Look for clouding of the cornea	
DOES THE CHILD HAVE AN EAR PROBLEM? Yes__ No ✓ • Is there ear pain? • Is there ear discharge? If Yes for how long? __Days	• Look for pus draining from the ear • Feel for tender swelling behind the ear	
THEN CHECK FOR MALNUTRITION AND ANAEMIA	• Look for visible severe wasting • Look for palmar pallor Severe palmar pallor? Some palmar pallor? • Look for oedema of both feet • Determine weight for age Very Low____ Not Very Low ✓ • Check for growth faltering	No Anaemia Not Very Low Weight Growth Not Faltering
CHECK THE CHILD'S IMMUNIZATION STATUS Circle immunizations needed today BCG OPV 0 DPT 1 OPV 1 DPT 2 OPV 2 DPT 3 OPV 3 (Measles)		Next immunization on (Date) _____
CHECK WHETHER THE CHILD SHOULD RECEIVE VITAMIN A No		
ASSESS CHILD'S FEEDING if child has ANAEMIA OR VERY LOW WEIGHT or GROWTH FALTERING or is less than 2 years old • Do you breastfeed your child? Yes___ No ✓ If Yes how many times in 24 hours? 0 times Do you breastfeed during the night? Yes __ No ✓ • Does the child take any other food or fluids? Yes ✓ No___ If Yes what food or fluids? milk, water, juice, cereal, meat, fruits, vegetables How many times per day? 4 times What do you use to feed the child? cup If very low weight for age or growth faltering How large are servings? ____ Does the child receive his own serving? Yes Who feeds the child and how? feeds herself • During this illness has the child s feeding changed? Yes __ No ✓ If Yes how?		Feeding Problems None

ASSESS THE CHILD'S OTHER PROBLEMS

ASSESS THE MOTHER'S HEALTH NEEDS

- Do you have any health problems? Yes___ No___
- Do you want help with family planning? Yes___ No___
- Did you bring your maternal health card? Yes___ No___
  May I please look at it? Yes___ No___

IDENTIFY TREATMENTS FOR CHILDREN WHO DO NOT NEED URGENT REFERRAL

When recording treatments for any child, it is important to

- Fold the "Classify" column of the Sick Child Recording Form so that you can see it while looking at the back of the form
- Look at the *ASSESS & CLASSIFY* chart to find the treatments needed for each of the child's classifications
- List each treatment needed on the back of the Sick Child Recording Form

IDENTIFY TREATMENTS FOR CHILDREN WHO DO NOT NEED URGENT REFERRAL

FOLLOW UP

If several different times are specified for follow-up, you will look for the earliest definite time (A definite time is one that is NOT followed by the word "if") For example

"Follow-up in 2 days" gives a definite time for follow-up

"Follow-up in 2 days if fever persists" is not definite The child only needs to come back if the fever persists

Record the earliest definite time for follow-up in the appropriate space on the back of the Sick Child Recording Form This is the follow-up visit to tell the mother about (Also tell her about any earlier follow-up that may be needed if a condition such as fever persists)

If the child has	**Return for follow-up in**
PNEUMONIA DYSENTERY MALARIA if fever persists MEASLES WITH EYE OR MOUTH COMPLICATIONS	2 days
PERSISTENT DIARRHOEA ACUTE EAR INFECTION CHRONIC EAR INFECTION FEEDING PROBLEM ANY OTHER ILLNESS, if not improving	5 days
PALLOR	14 days
VERY LOW WEIGHT FOR AGE OR GROWTH FALTERING	30 days

IDENTIFY TREATMENTS FOR CHILDREN WHO DO NOT NEED URGENT REFERRAL

FOLLOW-UP FOR NUTRITIONAL PROBLEMS

- A child classified with PALLOR should return to the clinic for follow-up in 14 days in order for the health worker to
  - check the child again and see if the child's condition is improving
  - give the child more iron
- A child with a FEEDING PROBLEM should return to the clinic for follow-up in 5 days to
  - check the child's condition
  - ensure that the mother has made the feeding changes the health worker recommended
  - give the mother more counseling, if necessary
- Additional follow-up is needed in 30 days for a child with VERY LOW WEIGHT OR GROWTH FALTERING This follow-up involves
  - weighing the child
  - re-assessing feeding practices
  - giving any further advice needed

If the clinic has a regular session reserved for counseling about feeding, follow-up visits for FEEDING PROBLEM or VERY LOW WEIGHT OR GROWTH FALTERING can be scheduled for that time

IDENTIFY TREATMENTS FOR CHILDREN WHO DO NOT NEED URGENT REFERRAL

WHEN TO RETURN IMMEDIATELY

Advise mother to return immediately if the child has any of these signs	
Any sick child	• Not able to drink or breastfeed • Becomes sicker • Develops a fever
If child has NO PNEUMONIA COUGH OR COLD also return if	• Fast breathing • Difficult breathing
If child has Diarrhoea, also return if	• Blood in stool • Drinking poorly

NOTES If the child already has fever, you do not need to tell the mother to return immediately for fever

If a child with DIARRHOEA already has blood in the stool, you do not need to tell the mother to return immediately for blood, just for drinking poorly

PRACTICE IDENTIFYING TREATMENTS FOR PATIENTS WHO DO NOT NEED URGENT REFERRAL

1	Namakao is 15 months old She has no General Danger Signs She has PNEUMONIA NO ANAEMIA AND NOT VERY LOW WEIGHT AND GROWTH NOT FALTERING Namakao has received BCG and three doses of both DPT and OPV She last received vitamin A at age 8 months

a What treatments are needed for her PNEUMONIA?

b Look in the "Identify Treatment" column for NO ANAEMIA AND NOT VERY LOW WEIGHT AND GROWTH NOT FALTERING Does Namakao need a feeding assessment?

c What immunization does Namakao need today?

d Should Namakao receive vitamin A?

e What is the earliest definite time for Namakao to return for follow-up?

f What are the signs to return immediately?

PRACTICE IDENTIFYING TREATMENTS FOR PATIENTS WHO DO NOT NEED URGENT REFERRAL

2 Masauso is 2 years old He has no General Danger Signs He has

Diarrhoea with SOME DEHYDRATION
DYSENTERY
MALARIA (fever 37 5°C in clinic, fever present for 2 days)
NO ANAEMIA AND NOT VERY LOW WEIGHT AND GROWTH NOT FALTERING
Masauso has completed his immunizations He received vitamin A last when he was 20 months old

a What treatments are needed for SOME DEHYDRATION?

b What treatments are needed for DYSENTERY?

c What treatments are needed for MALARIA?

d Look in the "Identify Treatment" column for NO ANAEMIA AND NOT VERY LOW WEIGHT AND GROWTH NOT FALTERING Does Masauso need a feeding assessment?

e Should Masauso receive Vitamin A?

f What is the earliest definite time for Masauso to return for follow-up?

g What are the signs to return immediately?

Mubita

3 The Sick Child Recording Form for Mubita follows Study the front of the form, then fold over the classifications and list the treatments on the back

Note Mubita has never had a dose of mebendazole Mubita has never received vitamin A before There is a sufficient supply of vitamin A at your health facility

MANAGEMENT OF THE SICK CHILD AGE 2 MONTHS UP TO 5 YEARS

Child s Name Mubita Age 3 yrs. Weight 16 kg Temperature 38.5 C

ASK What are the child s problems? ear hurts Initial Visit? ✓ Follow up Visit? __

ASSESS (Circle all signs present) **CLASSIFY**

CHECK FOR GENERAL DANGER SIGNS NOT ABLE TO DRINK OR BREASTFEED VOMITS EVERYTHING CONVULSIONS LETHARGIC OR UNCONSCIOUS	General danger sign present? Yes___ No ✓ **Remember to use danger sign when selecting classifications**
DOES THE CHILD HAVE COUGH OR DIFFICULT BREATHING? Yes ✓ No __ • For how long? 4 Days • Count the breaths in one minute 44 breaths per minute (Fast breathing?) • Look for chest indrawing • Look and listen for stridor or wheezing	Pneumonia
DOES THE CHILD HAVE DIARRHOEA? Yes __ No ✓ • For how long? ___Days • Is there blood in the stool? • Look at the child s general condition Is the child Lethargic or unconscious? Restless and irritable? • Look for sunken eyes • Offer the child fluid Is the child Not able to drink or drinking poorly? Drinking eagerly thirsty? • Pinch the skin of the abdomen Does it go back Very slowly (longer than 2 seconds)? Slowly?	
DOES THE CHILD HAVE FEVER? (by history/feels hot/temperature 37 5 C or above) Yes ✓ No __ • For how long? 2 Days • If more than 7 days has fever been present every day? • Has child had measles within the last 3 months? No • Look or feel for stiff neck Look for signs of MEASLES • Generalized rash and • One of these cough runny nose or red eyes	Malaria
If the child has measles now or within the last 3 months • Look for mouth ulcers If Yes are they deep and extensive? • Look for pus draining from the eye • Look for clouding of the cornea	
DOES THE CHILD HAVE AN EAR PROBLEM? Yes ✓ No __ • Is there ear pain? • Is there ear discharge? If Yes for how long? 2 Days • Look for pus draining from the ear • Feel for tender swelling behind the ear	Acute Ear Infection
THEN CHECK FOR MALNUTRITION AND ANAEMIA • Look for visible severe wasting • Look for palmar pallor Severe palmar pallor? Some palmar pallor? • Look for oedema of both feet • Determine weight for age Very Low____ Not Very Low ✓ • Check for growth faltering	No Anaemia, Not Very Low Weight, Growth Not Faltering
CHECK THE CHILD'S IMMUNIZATION STATUS Circle immunizations needed today BCG OPV 0 DPT 1 OPV 1 DPT 2 OPV 2 DPT 3 OPV 3 Measles	Next immunization on (Date) _____
CHECK WHETHER THE CHILD SHOULD RECEIVE VITAMIN A	
ASSESS CHILD S FEEDING **if child has ANAEMIA OR VERY LOW WEIGHT or GROWTH FALTERING or is less than 2 years old** • Do you breastfeed your child? Yes___ No___ If Yes how many times in 24 hours?____times Do you breastfeed during the night? Yes __ No __ • Does the child take any other food or fluids? Yes___ No___ If Yes what food or fluids?_____ How many times per day? ___times What do you use to feed the child?_____ If very low weight for age or growth faltering How large are servings? _____ Does the child receive his own serving? ___ Who feeds the child and how?_____ • During this illness has the child s feeding changed? Yes __ No __ If Yes how?	Feeding Problems

ASSESS THE CHILD'S OTHER PROBLEMS

ASSESS THE MOTHER'S HEALTH NEEDS

- Do you have any health problems? Yes___ No___
- Do you want help with family planning? Yes___ No___
- Did you bring your maternal health card? Yes___ No___
  May I please look at it? Yes___ No___

PRACTICE IDENTIFYING URGENT PRE-REFERRAL TREATMENTS

*In this exercise you will practice identifying urgent pre-referral treatments Remember that these are in **bold** print on the ASSESS & CLASSIFY chart*

1 Lamei is a 15-month-old girl She has no General Danger Signs She has NO PNEUMONIA COUGH OR COLD, MASTOIDITIS, NO ANAEMIA AND NOT VERY LOW WEIGHT, and no other classifications

Lamei needs urgent referral for MASTOIDITIS Following is a list of treatments for all of Lamei's classifications Tick the ***urgent, pre-referral treatment(s)***

a ____ Soothe the throat and relieve the cough with a safe remedy
b ____ Advise the mother when to return immediately
c ____ Follow-up in 5 days if not better
d ____ Give first dose of an appropriate antibiotic
e ____ Give first dose of paracetamol for pain
f ____ Refer URGENTLY to hospital
g ____ Assess the child's feeding and counsel the mother on feeding If feeding problem, follow-up in 5 days

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2 Chandra is an 18-month-old girl She has no General Danger Signs She has NO SIGNS OF DEHYDRATION, PERSISTENT DIARRHOEA, SEVERE MALNUTRITION OR SEVERE ANAEMIA, and no other classifications

Chandra needs referral for SEVERE MALNUTRITION OR SEVERE ANAEMIA Following is a list of treatments for all of Chandra's classifications Tick the ***urgent, pre-referral treatment(s)***

a ____ Give fluid and food to prevent dehydration (Plan A)
b ____ Advise the mother when to return immediately
c ____ Advise the mother on feeding a child who has persistent diarrhoea
d ____ Follow-up in 5 days
e ____ Follow-up in 5 days if not improving
f ____ Give vitamin A
g ____ Refer URGENTLY to hospital

PRACTICE IDENTIFYING URGENT PRE-REFERRAL TREATMENTS

3 Oko is a 2-year-old boy He is lethargic He has a fever of 39°C The health worker classifies Oko as having VERY SEVERE FEBRILE DISEASE and CHRONIC EAR INFECTION He has some palmar pallor so is classified as having ANAEMIA, although he is not very low weight He has never had a dose of mebendazole

Oko needs referral for VERY SEVERE FEBRILE DISEASE Following is a list of treatments for all of Oko's classifications Tick the ***urgent, pre-referral treatments***

a ____ Give quinine for severe malaria (first dose)
b ____ Give first dose of an appropriate antibiotic
c ____ Treat the child to prevent low blood sugar
d ____ Give one dose of paracetamol in clinic for high fever (38 5°C or above)
e ____ Refer URGENTLY to hospital
f ____ Dry the ear by wicking
g ____ Follow-up in 5 days
h ____ Assess the child's feeding and counsel the mother on feeding If feeding problem, follow up in 5 days
I ____ Give iron
j ____ Give oral antimalarial
k ____ Give mebendazole
l ____ Advise mother when to return immediately
m ____ Follow-up in 14 days (for pallor)

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4 Markita is 4 years old She is lethargic She is classified as having diarrhoea with SEVERE DEHYDRATION and SEVERE MALNUTRITION OR SEVERE ANAEMIA She has no other classifications She is able to drink She lives in an area where there is cholera

Markita needs referral for her severe classifications Tick the ***urgent, pre-referral treatments***

a ____ Provide ORS for the mother to give in frequent sips on the way Advise mother to continue breastfeeding
b ____ Give antibiotic for cholera
c ____ Give vitamin A
d ____ Refer URGENTLY to hospital

MANAGEMENT OF THE SICK CHILD AGE 2 MONTHS UP TO 5 YEARS

Child s Name Mukaka Age 15 mos. Weight 9 kg Temperature 39 C

ASK What are the child s problems? very sick, rash Initial Visit? ✓ Follow up Visit? __

ASSESS (Circle all signs present)		CLASSIFY
CHECK FOR GENERAL DANGER SIGNS NOT ABLE TO DRINK OR BREASTFEED VOMITS EVERYTHING CONVULSIONS	LETHARGIC OR UNCONSCIOUS	General danger sign present? Yes___ No ✓ **Remember to use danger sign when selecting classifications**
DOES THE CHILD HAVE COUGH OR DIFFICULT BREATHING? Yes ✓ No__ • For how long? 3 Days	• Count the breaths in one minute 38 breaths per minute Fast breathing? • Look for chest indrawing • Look and listen for stridor or wheezing	No Pneumonia, Cough or Cold
DOES THE CHILD HAVE DIARRHOEA? Yes__ No ✓ • For how long?___Days • Is there blood in the stool?	• Look at the child s general condition Is the child Lethargic or unconscious? Restless and irritable? • Look for sunken eyes • Offer the child fluid Is the child Not able to drink or drinking poorly? Drinking eagerly thirsty? • Pinch the skin of the abdomen Does it go back Very slowly (longer than 2 seconds)? Slowly?	
DOES THE CHILD HAVE FEVER? (by history/feels hot temperature 37 5°C or above) Yes ✓ No__ • For how long? 3 Days • If more than 7 days has fever been present every day? • Has child had measles within the last 3 months?	• Look or feel for stiff neck Look for signs of MEASLES • Generalized rash and • One of these cough runny nose or red eyes	Malaria
If the child has measles now or within the last 3 months	• Look for mouth ulcers If Yes are they deep and extensive? • Look for pus draining from the eye • Look for clouding of the cornea	Severe Complicated Measles
DOES THE CHILD HAVE AN EAR PROBLEM? Yes__ No ✓ • Is there ear pain? • Is there ear discharge? If Yes for how long? __Days	• Look for pus draining from the ear • Feel for tender swelling behind the ear	
THEN CHECK FOR MALNUTRITION AND ANAEMIA	• Look for visible severe wasting • Look for palmar pallor Severe palmar pallor? Some palmar pallor? • Look for oedema of both feet • Determine weight for age Very Low____ Not Very Low ✓ • Check for growth faltering	No Anaemia Not Very Low Weight Growth not Faltering
CHECK THE CHILD'S IMMUNIZATION STATUS Circle immunizations needed today BCG OPV 0 DPT 1 OPV 1 DPT 2 OPV 2 DPT 3 OPV 3 Measles		Next immunization on (Date) _____
CHECK WHETHER THE CHILD SHOULD RECEIVE VITAMIN A		
ASSESS CHILD'S FEEDING **if child has ANAEMIA OR VERY LOW WEIGHT or GROWTH FALTERING or is less than 2 years old** • Do you breastfeed your child? Yes___ No___ If Yes how many times in 24 hours?____times Do you breastfeed during the night? Yes __ No __ • Does the child take any other food or fluids? Yes___ No___ If Yes what food or fluids?_____ How many times per day? ___times What do you use to feed the child?_____ If very low weight for age or growth faltering How large are servings? _____ Does the child receive his own serving? ___ Who feeds the child and how?_____ • During this illness has the child s feeding changed? Yes __ No __ If Yes how?		Feeding Problems

ASSESS THE CHILD'S OTHER PROBLEMS

ASSESS THE MOTHER'S HEALTH NEEDS

- Do you have any health problems? Yes___ No___
- Do you want help with family planning? Yes___ No___
- Did you bring your maternal health card? Yes___ No___
  May I please look at it? Yes___ No___

MANAGEMENT OF THE SICK CHILD AGE 2 MONTHS UP TO 5 YEARS

Child s Name Dalso Age 12 mos. Weight 10 kg Temperature 38 C

ASK What are the child s problems? Cough, very weak Initial Visit? ✓ Follow up Visit? __

ASSESS (Circle all signs present) **CLASSIFY**

CHECK FOR GENERAL DANGER SIGNS NOT ABLE TO DRINK OR BREASTFEED VOMITS EVERYTHING CONVULSIONS (LETHARGIC) OR UNCONSCIOUS	General danger sign present? Yes ✓ No ___ **Remember to use danger sign when selecting classifications**
DOES THE CHILD HAVE COUGH OR DIFFICULT BREATHING? Yes ✓ No __ • For how long? 6 Days • Count the breaths in one minute 52 breaths per minute (Fast breathing?) • Look for (chest indrawing) • Look and listen for stridor or wheezing	Severe Pneumonia or Very Severe Disease
DOES THE CHILD HAVE DIARRHOEA? Yes ✓ No __ • For how long? ___ Days • Is there blood in the stool? • Look at the child s general condition Is the child (Lethargic) or unconscious? Restless and irritable? • Look for (sunken eyes) • Offer the child fluid Is the child Not able to drink or (drinking poorly?) Drinking eagerly thirsty? • Pinch the skin of the abdomen Does it go back Very slowly (longer than 2 seconds)? (Slowly?)	Severe Dehydration
DOES THE CHILD HAVE FEVER? (by history/feels hot (temperature 37 5°C or above)) Yes ✓ No __ • For how long? 2 Days • If more than 7 days has fever been present every day? • Has child had measles within the last 3 months? No • Look or feel for stiff neck Look for signs of MEASLES • Generalized rash and • One of these cough runny nose or red eyes	Very Severe Febrile Disease
If the child has measles now or within the last 3 months • Look for mouth ulcers If Yes are they deep and extensive? • Look for pus draining from the eye • Look for clouding of the cornea	
DOES THE CHILD HAVE AN EAR PROBLEM? Yes __ No ✓ • Is there ear pain? • Is there ear discharge? If Yes for how long? __ Days • Look for pus draining from the ear • Feel for tender swelling behind the ear	
THEN CHECK FOR MALNUTRITION AND ANAEMIA • Look for visible severe wasting • Look for palmar pallor Severe palmar pallor? Some palmar pallor? • Look for oedema of both feet • Determine weight for age Very Low ___ Not Very Low ✓ • Check for growth faltering	No Anaemia Not Very Low Weight Growth not Faltering
CHECK THE CHILD'S IMMUNIZATION STATUS Circle immunizations needed today BCG OPV 0 DPT 1 OPV 1 DPT 2 OPV 2 DPT 3 OPV 3 (Measles)	Next immunization on (Date) _____
CHECK WHETHER THE CHILD SHOULD RECEIVE VITAMIN A	
ASSESS CHILD'S FEEDING **if child has ANAEMIA OR VERY LOW WEIGHT or GROWTH FALTERING or is less than 2 years old** • Do you breastfeed your child? Yes ___ No ___ If Yes how many times in 24 hours? ___ times Do you breastfeed during the night? Yes __ No __ • Does the child take any other food or fluids? Yes ___ No ___ If Yes what food or fluids? ___ How many times per day? ___ times What do you use to feed the child? ___ If very low weight for age or growth faltering How large are servings? ___ Does the child receive his own serving? ___ Who feeds the child and how? ___ • During this illness has the child s feeding changed? Yes __ No __ If Yes how?	Feeding Problems

ASSESS THE CHILD'S OTHER PROBLEMS

ASSESS THE MOTHER'S HEALTH NEEDS

- Do you have any health problems? Yes ___ No ___
- Do you want help with family planning? Yes ___ No ___
- Did you bring your maternal health card? Yes ___ No ___
  May I please look at it? Yes ___ No ___

IDENTIFY URGENT PRE-REFERRAL TREATMENT NEEDED

When a child needs urgent referral, you must quickly identify and begin the most urgent treatments for that child The following are **urgent** treatments They are in **bold** print on the *ASSESS & CLASSIFY* chart You will give just the first dose of the drugs before referral

- Give an appropriate antibiotic
- Give quinine for severe malaria
- Give vitamin A
- Treat the child to prevent low blood sugar This involves giving breastmilk, milk, or sugar water as described on the *TREAT* chart
- Give an oral antimalarial
- Give paracetamol for high fever (38 5°C or above) or pain from mastoiditis
- Apply tetracycline eye ointment (if clouding of the cornea or pus draining from eye)
- Provide ORS solution so that the mother can give frequent sips on the way to the hospital

Do not delay referral to give non-urgent treatments such as wicking the ear or oral iron treatment If immunizations are needed, do not give them before referral Let hospital personnel determine when to give immunizations This will avoid delaying referral

STEPS IN THE REFERRAL PROCESS

1 Explain to the caretaker why the referral is needed Ask the caretaker if she is able to take the child now If she says she cannot, or is hesitant to take the child, try to find out why

2 Calm the caretaker's fears and help her resolve her problems

3 Write a referral note for the caretaker to take with her to hospital Tell her to give it to the health worker there

The following information should be included in the referral note

- The name and the age of the child
- The date of the referral
- Description of the child's problems
- The reason for the referral (symptoms and signs leading to severe classification)
- Treatment that you have given the child
- Any other information that the health worker at the hospital needs to know in order to care for the child, such as earlier treatments of the illness
- Your name and the name of your clinic or health facility

4 Give the caretaker any supplies and instruction needed to care for the child on the way to hospital

The following supplies or instructions should be given to the caretaker for caring for the child on the way to the hospital

- If the hospital is far, give the caretaker additional doses of antibiotics and tell her when to give them during the trip (according to the dosage schedule on the TREAT Chart) If you think that the caretaker will not actually go to hospital, give her a full course of antibiotics, and teach her how to give them

- Tell the caretaker how to keep the young child warm during the trip

- Advise the caretaker to continue breastfeeding

- If the child has SOME or SEVERE DEHYDRATION and can drink, give the caretaker ORS solution and ask her to give the child sips frequently on the way

- If the child has VERY SEVERE FEBRILE DISEASE and is not able to breastfeed, give the caretaker breastmilk substitute or sugar water to give to the child on the way

SICK CHILD RECORDING FORM FOR KAMFWA

Study the INTEGRATED MANAGEMENT OF THE SICK CHILD AGE 2 MONTHS UP TO 5 YEARS Recording Form for Kamfwa (Note that Kamfwa is 4 months old and is exclusively breastfed) Then answer the questions on Flipchart #12

MANAGEMENT OF THE SICK CHILD AGE 2 MONTHS UP TO 5 YEARS

Child s Name Kamfwa Kaoma Age 4 mos. Weight 7 kg Temperature 38 C

ASK What are the child s problems? cough Initial Visit? ✓ Follow up Visit? __

ASSESS (Circle all signs present) **CLASSIFY**

CHECK FOR GENERAL DANGER SIGNS NOT ABLE TO DRINK OR BREASTFEED VOMITS EVERYTHING CONVULSIONS LETHARGIC OR UNCONSCIOUS	General danger sign present? Yes___ No ✓ **Remember to use danger sign when selecting classifications**
DOES THE CHILD HAVE COUGH OR DIFFICULT BREATHING? Yes ✓ No__ • For how long? 6 Days • Count the breaths in one minute 54 breaths per minute (Fast breathing?) • Look for (chest indrawing) • Look and listen for stridor or wheezing	Severe Pneumonia or Very Severe Disease
DOES THE CHILD HAVE DIARRHOEA? Yes ✓ No__ • For how long? 2 Days • Is there blood in the stool? No • Look at the child s general condition Is the child Lethargic or unconscious? Restless and (irritable?) • Look for sunken eyes • Offer the child fluid Is the child Not able to drink or drinking poorly? Drinking eagerly thirsty? • Pinch the skin of the abdomen Does it go back Very slowly (longer than 2 seconds)? Slowly?	No Dehydration
DOES THE CHILD HAVE FEVER? (by history/feels hot (temperature 37 5 C or above)) Yes ✓ No__ • For how long? 3 Days • If more than 7 days has fever been present every day? • Has child had measles within the last 3 months? No • Look or feel for stiff neck Look for signs of MEASLES • Generalized rash and • One of these cough runny nose or red eyes	Malaria
If the child has measles now or within the last 3 months • Look for mouth ulcers If Yes are they deep and extensive? • Look for pus draining from the eye • Look for clouding of the cornea	
DOES THE CHILD HAVE AN EAR PROBLEM? Yes__ No ✓ • Is there ear pain? • Is there ear discharge? If Yes for how long? __ Days • Look for pus draining from the ear • Feel for tender swelling behind the ear	
THEN CHECK FOR MALNUTRITION AND ANAEMIA • Look for visible severe wasting • Look for palmar pallor Severe palmar pallor? Some palmar pallor? • Look for oedema of both feet • Determine weight for age Very Low___ Not Very Low ✓ • Check for growth faltering	No Anaemia Not Very Low Weight Growth not Faltering
CHECK THE CHILD'S IMMUNIZATION STATUS Circle immunizations needed today BCG OPV 0 DPT 1 OPV 1 (DPT 2) (OPV 2) DPT 3 OPV 3 Measles	Next immunization on (Date) 15-8-96
CHECK WHETHER THE CHILD SHOULD RECEIVE VITAMIN A	
ASSESS CHILD'S FEEDING **if child has ANAEMIA OR VERY LOW WEIGHT or GROWTH FALTERING or is less than 2 years old** • Do you breastfeed your child? Yes___ No___ If Yes how many times in 24 hours?___times Do you breastfeed during the night? Yes __ No __ • Does the child take any other food or fluids? Yes___ No___ If Yes what food or fluids?___ How many times per day? ___times What do you use to feed the child?___ If very low weight for age or growth faltering How large are servings? ___ Does the child receive his own serving? ___ Who feeds the child and how?___ • During this illness has the child s feeding changed? Yes __ No __ If Yes how?	Feeding Problems

ASSESS THE CHILD'S OTHER PROBLEMS

ASSESS THE MOTHER'S HEALTH NEEDS

- Do you have any health problems? Yes___ No___
- Do you want help with family planning? Yes___ No___
- Did you bring your maternal health card? Yes___ No___
  May I please look at it? Yes___ No___

TREAT

Remember to refer any child who has a danger sign and no other severe classification

Return for follow-up in _____

Advise mother when to return immediately

Give any immunizations needed today _____

Feeding advice _____

REFERRAL NOTE FOR KAMFWA

Write a referral note for Kamfwa Kaoma to a hospital Use today's date and the current time Use your own name as that of the health worker

REFERRAL NOTE

CASE STUDY MARGARET

Margaret is 18 months old She became sick a week ago She developed fever, lost her appetite and began to cough

Margaret's mother bought some chloroquine 3 days ago and has given Margaret a whole tablet each day Still Margaret has a fever and now is very sleepy When her mother makes her eat, Margaret cries weakly For the last few days, the mother has been afraid to feed Margaret because she is so sleepy and seems to have trouble swallowing The mother is afraid the child will choke on the food Margaret stopped breastfeeding 4 months ago when her mother became pregnant

Margaret's assessment shows the following

Her axillary temperature is 39° C She weighs 8 kg She is very lethargic, waking only for a few seconds before falling asleep again She has not had convulsions She is not able to drink now because she is so lethargic Her breathing rate is 52 beats per minute She has intercostal indrawing but no lower chest wall indrawing and no stridor She does not have diarrhoea

The health worker does not think Margaret's neck is stiff She has no runny nose and no rash Margaret does not have an ear problem

Margaret is thin but does not have visible wasting She has some palmar pallor When the health worker presses on her feet, there is no oedema Margaret is up to date on her immunizations

The health worker classifies Margaret as SEVERE PNEUMONIA OR VERY SEVERE DISEASE, VERY SEVERE FEBRILE DISEASE and ANAEMIA

The nearest hospital is a day's journey away and the mother cannot go there Her husband is away and she must care for her other children She also does not think that there are drugs at the hospital and she has no money to pay for her food there

Margaret cannot be referred, but she can stay with her mother at the house of an aunt who lives near the clinic The mother will bring the child for injections

If you were the health worker caring for Margaret, what would you do?

ANNEX E

If referral is not possible you should do whatever you can to help the family care for the child To help reduce deaths in severely ill children who cannot be referred, you may need to arrange to have the child stay in or near the clinic where he may be seen several times a day If not possible, arrange for visits at home

Annex E describes treatment to be given for specific severe disease classifications when the very sick child cannot be referred It is divided into 2 parts "Essential Care" and "Treatment Instructions Recommendations on How to Give Specific Treatment for Severely Ill Children Who Cannot Be Referred"

To use the annex, first find the child's classifications and note the essential care required Then refer to the boxes on the *TREAT THE CHILD* chart *and* the instructions in the second half of the annex Because it may be difficult to treat a child at specific times during the day in clinic or at home, the Treatment Instructions include 6-hour, 8-hour, and 12-hour dosing schedules for giving various drugs

Remember that you must also give treatment for the non-severe classifications that you identified These treatments should be marked on the Sick Child Recording Form For example, if the child has SEVERE PNEUMONIA and MALARIA, you must treat the MALARIA *and* follow the guidelines in Annex E to treat the SEVERE PNEUMONIA

Although only a well-equipped hospital with trained staff can provide optimal care for a child with a very severe illness, following these guidelines may reduce mortality in high risk children where referral is not possible

ANNEX E INDEX

ESSENTIAL CARE CHILD AGE 2 MONTHS UP TO 5 YEARS

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Essential Care for SEVERE PNEUMONIA OR VERY SEVERE DISEASE

1 Give Antibiotic Treatment

It is essential that children with SEVERE PNEUMONIA OR VERY SEVERE DISEASE receive antibiotic treatment

- If the child has **mild chest indrawing and does not appear to be in respiratory distress**, give oral cotrimoxazole

  See the child each day Make sure the child is getting better If the child does not get better, give intramuscular (IM) chloramphenicol instead of oral cotrimoxazole

- If the child has a **general danger sign or severe chest indrawing but does *not* have the classification VERY SEVERE FEBRILE DISEASE**, give IM chloramphenicol

  If IM chloramphenicol is not available, give IM benzylpenicillin If neither IM chloramphenicol or benzylpenicillin is available, give the first- or second-line oral antibiotic for pneumonia, as specified on the *TREAT* chart If the child vomits, repeat the dose

  Treat with IM chloramphenicol until the child has improved Then continue with oral chloramphenicol Treat the child for 10 days total

- If the child also has the classification **VERY SEVERE FEBRILE DISEASE**, follow the essential care instructions for this classification below Give benzylpenicillin ***and*** chloramphenicol ***and*** quinine

2 Give a Bronchodilator

If the child is wheezing and you have a bronchodilator, give it [1]

---

[1] Instructions are provided in *Acute Respiratory Infection in Children Case Management in Small Hospitals in Developing Countries A manual for doctors and other senior health workers* (1990) WHO/ARI/90 5

3 Treat Fever

If the child has an axillary temperature of 38 5°C or above, give paracetamol every 6 hours This is especially important for children with pneumonia because fever increases consumption of oxygen

4 Manage Fluids Carefully

Children with PNEUMONIA or VERY SEVERE DISEASE can become overloaded with fluids If they can drink, give fluids by mouth However, children with PNEUMONIA or VERY SEVERE DISEASE often lose water during a respiratory infection, especially if there is fever Therefore, give fluids, but give them cautiously

Encourage the mother to continue breastfeeding if the child is not in respiratory distress If the child is too ill to breastfeed but can swallow, have the mother express milk into a cup and slowly feed the child the breastmilk with a spoon

Encourage the child to drink If the child is not able to drink, either use a dropper to give the child fluid very slowly or drip fluid from a cup or a syringe without a needle Avoid using a NG tube if the child is in respiratory distress Wait until the next day if there is no other option

FLUIDS IN SEVERE PNEUMONIA OR VERY SEVERE DISEASE

AGE	Approximate amount of milk or formula to give	Total amount in 24 hours
Less than 12 months	5 ml/kg/hour	120 ml/kg
12 months up to 5 years	3 - 4 ml/kg/hour	72 - 96 ml/kg

Avoid giving fluids intravenously **unless** the child is in shock A child in shock has cold extremities, a weak and rapid pulse, and is lethargic

5 Manage the Airway

Clear a blocked nose A blocked nose can interfere with feeding Use a plastic syringe (without needle) to gently suck any secretions from the nose Dry or thick, sticky mucous can be loosened by wiping with a soft cloth moistened with salt water Help the child to cough up secretions

6 Keep the Infant Warm

Small infants lose heat rapidly, especially when wet Feel the infant's hands and feet They should be warm To maintain the body temperature, keep the sick infant dry and well wrapped If possible, have the mother keep her infant next to her body, ideally between her breasts A hat or bonnet will prevent heat loss from the head If possible, keep the room warm

Essential Care for SEVERE PERSISTENT DIARRHOEA

1 Treat Dehydration Using the Appropriate Fluid Plan

2 Advise Mother How to Feed Child with Persistent Diarrhoea

See the box on the *COUNSEL THE MOTHER* chart For infants less than 4 months, exclusive breastfeeding is very important If the mother has stopped breastfeeding, help her relactate (or get help from someone who knows how to counsel on relactation)

3 Give Vitamins and Minerals

Give supplementary vitamins and minerals every day for 2 weeks Use a multi-vitamin containing a broad range of vitamins and minerals, including at least twice the recommended daily allowance of folate, vitamin A, zinc, magnesium, iron and copper

4 Identify and Treat Infection

Some children with PERSISTENT DIARRHOEA have infections such as pneumonia, sepsis, urinary tract infection, ear infection, dysentery, and amoebiasis These require specific antibiotic treatment If **no** specific infection is identified, do ***not*** give antibiotic treatment because routine treatment with antibiotics is not effective

5 Monitor the Child

See the mother and the child each day Monitor the child's feeding and treatments and the child's response Ask what food the child eats and how much Ask about the number of diarrhoeal stools Check for signs of dehydration and fever

Once the child is feeding well and has no signs of dehydration, see the child again in 2 to 3 days If there are any signs of dehydration or problems with the changes in feeding, continue to see the child every day Help the mother as much as possible

Essential Care for VERY SEVERE FEBRILE DISEASE

1 Give Antibiotic and Antimalarial Treatment

A child with VERY SEVERE FEBRILE DISEASE needs treatment for both meningitis and severe malaria (in low or high risk malaria areas) Do ***not*** try to decide whether the child has meningitis or severe malaria Treat for both possibilities

- ***For meningitis***, give both IM chloramphenicol ***and*** benzylpenicillin

  It is preferable to give an injection every 6 hours If this is not possible, use the 8-hour or the 12-hour dosing schedule (see Treatment Instructions)

  Give both antibiotics by injection for at least 3-5 days If the child has improved by this time, switch to oral chloramphenicol The total treatment duration should be 10 days

- ***For SEVERE MALARIA***, give quinine

  If you do not have quinine, give an oral antimalarial (if possible, the second-line oral antimalarial) In low risk malaria areas, do ***not*** give quinine to infants less than 4 months of age It is very unlikely that they have malaria

2 Manage Fluids Carefully

The fluid plan depends on the child's signs

- If the child also has **diarrhoea with SEVERE DEHYDRATION, but has no stiff neck and no SEVERE MALNUTRITION OR SEVERE ANAEMIA**, give fluids according to Plan C

  The general danger sign which resulted in the classification VERY SEVERE FEBRILE DISEASE may have been due only to dehydration Rehydrate, and then completely reassess and reclassify the child The reassessment and reclassification of the child after rehydration may lead to a change in treatment plan if the child no longer is classified as VERY SEVERE FEBRILE DISEASE If the child rapidly loses his danger signs

with rehydration, do ***not*** continue treatment with quinine, benzylpenicillin and chloramphenicol

- If the child has **VERY SEVERE FEBRILE DISEASE with a stiff neck or bulging fontanelle**, restrict fluids The child may have meningitis Be careful to restrict the amount of fluid as follows

FLUIDS IF MENINGITIS SUSPECTED **(stiff neck or bulging fontanelle)**

AGE	Approximate amount of milk or formula to give	Total amount in 24 hours
Less than 12 months	3 3 ml/kg/hour	80 ml/kg/day
12 months up to 5 years	2 5 ml/kg/hour	60 ml/kg/day

Avoid giving intravenous fluids

If the child is vomiting everything or not able to drink or breastfeed, give fluid by NG tube

If you do not know how to use an NG tube and the child is able to swallow, use a dropper to give the child fluid very slowly, or drip fluid from a cup or a syringe (without needle)

- If the child has **SEVERE MALNUTRITION**, give fluids as described under Essential Care for SEVERE MALNUTRITION

3 Treat the Child to Prevent Low Blood Sugar

See Treatment Instructions

Essential Care for SEVERE COMPLICATED MEASLES

1 Manage Measles Complications

Management depends on which complications are present

- If the child has **mouth ulcers**, apply half-strength (0 25%) gentian violet Help the mother feed her child If the child cannot swallow, feed the child by NG tube Treat with IM chloramphenicol
- If the child has **corneal clouding**, be very gentle in examining the child's eye Treat the eye with tetracycline eye ointment carefully Only pull down on the lower lid and do not apply pressure to the globe of the eye Keep the eye patched gently with clean gauze
- Also treat **other complications of measles, such as pneumonia, diarrhoea, ear infection**

2 Give Vitamin A

Give 3 doses of vitamin A Give the first dose on the first day and the second dose on day 2 Give the third dose in 1 month

3 Feed the Child to Prevent Malnutrition

Essential Care for MASTOIDITIS

Give IM benzylpenicillin and IM chloramphenicol Treat for 10 days total Switch to oral chloramphenicol after 3-5 days

Essential Care for SEVERE MALNUTRITION

Children with SEVERE MALNUTRITION need specially prepared food with mineral supplements that are usually only available at a hospital or nutrition rehabilitation centre Try to refer the child to one of these locations

While you are waiting to refer the child

1 Give Antibiotic Treatment

Give antibiotics even if the child does not have signs of infection In SEVERE MALNUTRITION, the usual signs of infection are often absent For example, fever may not be present The severely malnourished child with PNEUMONIA may not breathe as fast as a well-nourished child and may not show lower chest wall indrawing Therefore, it is important to treat all severely malnourished children with antibiotics when you first start to give special feeding

- If the child has **no specific signs of infection**, give oral cotrimoxazole for 5 days
- If the child has **a low temperature (less than 35 5°C) or an elevated temperature (more than 37 5°C), ear or skin infection, general danger signs, PNEUMONIA, SEVERE PNEUMONIA OR VERY SEVERE DISEASE, or VERY SEVERE FEBRILE DISEASE**, give IM benzylpenicillin and IM gentamicin Also treat for malaria in high risk malaria areas

  If the child does not improve within 48 hours, add IM chloramphenicol

2 Continue Breastfeeding Frequently, Day and Night

3 Feed the Child

This child must be fed frequently, if necessary by NG tube The choices of food depend on what is available

First choice Give a modified milk diet made of dried skim milk (DSM), sugar and oil Start with a modified milk containing 25 grams (g) dried skim milk, 100 g sugar, 30 g vegetable oil and enough water to make up to 1000 ml Mix the milk, sugar and oil to a paste Slowly add warm boiled water to make a total volume of 1000 ml [2]

These modified milk feeds have reduced lactose They can be given to a child with SEVERE MALNUTRITION who also has PERSISTENT DIARRHOEA

The severely malnourished child is very fragile and needs small frequent feeds Gradually increase the volume of the feed and gradually decrease the feeding frequency Help the mother feed the child as often as possible It is important that the child continue to receive as many feeds as possible at night (at least twice during the night) Many severely malnourished children die during the night when they are not fed and kept warm

The ideal feeding schedule is as follows

DAYS	FREQUENCY	VOLUME/KG/FEED	VOLUME/KG/DAY
1 - 2	every 2 hours	11 ml	130 ml
3 - 5	every 3 hours	16 ml	130 ml
6 - 7+	every 4 hours	22 ml	130 ml

If the child has a good appetite and no oedema, you may only need to feed him for one day at each level

Second choice Give good complementary foods such as thick porridge with added oil Avoid foods that contain too much lactose (that is, more than 40 ml whole milk/kg/day) or added salt Do ***not*** add salt to the food

Use the same feeding schedule as above

[2] Other alternative modified milk diets are unsweetened evaporated full-fat milk (120 ml and 100 g of sugar and 20 ml oil), fresh cow s milk (300 ml and 100 g sugar and 20 ml oil) or skimmed, unsweetened evaporated milk (120 ml and 100 g sugar and 30 ml oil) For all recipes, add warm, boiled water to make 1000 ml

4 Replace Essential Minerals

Add 0 5 ml/kg of potassium chloride solution to each feed [3] Give 2 ml of 50% magnesium sulfate solution[4] once by IM injection

5 Give Iron When Child's Appetite Returns

If the child has anaemia, do ***not*** start iron treatment until the child's appetite returns Before this, iron can make an infection worse

6 Manage Diarrhoea with Dehydration Carefully

Children with SEVERE MALNUTRITION and diarrhoea with SOME or SEVERE DEHYDRATION may not be as dehydrated as the signs indicate The slow skin pinch, sunken eyes, lethargy or irritability may be due to SEVERE MALNUTRITION

ORS solution contains too much salt and too little potassium for children with SEVERE MALNUTRITION Mix an ORS packet with **2** litres of water (instead of 1 litre of water) Then add 50 g of sugar (or 10 level teaspoons) and 45 ml of potassium chloride solution [3] Mix carefully

Rehydrate more slowly than normal Monitor the child carefully If the child's breathing rate and heart rate increase when he is being rehydrated, this may mean that too much fluid has been given too quickly Stop giving the fluid Resume giving fluid when the rates have slowed

7 Monitor the Child's Temperature

Keep the child warm Make sure the child is covered at all times, especially at night

If the rectal temperature is below 35 5°C, place the infant on the mother's bare abdomen Cover a child with a blanket or place a heater nearby Make sure the child is clothed and wearing a hat or bonnet It is especially important to feed this child every 2 hours until he is stable Give IM antibiotics for possible sepsis

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[3] From stock solution containing 100 g KCl per litre

[4] 50% magnesium sulfate solution has 4 mEq Mg per ml

Essential Care for SEVERE ANAEMIA

A child with severe anaemia is in danger of heart failure

1 **Give Iron By Mouth**

2 **Give Antimalarial, If High or Low Malaria Risk**

Treat with an effective antimalarial In areas with some resistance to the first-line oral antimalarial, give the second-line oral antimalarial

Also give mebendazole, if hookworm or whipworm is a problem in your area

3 **Feed The Child**

Give good complementary foods

4 **Give Paracetamol If Fever Is Present**

Give paracetamol every 6 hours

5 **Give Fluids Carefully**

Let the child drink according to his thirst Do ***not*** give IV or NG fluids

Essential Care for Cough More Than 30 Days

1 Give First-line Antibiotic for PNEUMONIA

If the child has not been treated recently with an effective antibiotic for PNEUMONIA, give an antibiotic for 5 days

2 Give Salbutamol

If the child is wheezing or coughing at night, or there is a family history of asthma, give salbutamol for 14 days

3 Weigh the Child and Inquire about Tuberculosis (tb) in the Family

4 See the Child in Follow-up in 2 Weeks

If there is no response to the antibiotic (with or without salbutamol) or if the child is losing weight, try again to refer to hospital If referral is still not possible, begin TB treatment Refer to the national TB guidelines

Essential Care for Convulsions (current convulsions, not by history during this illness)

1 Manage the Airway

Turn the child on his side to reduce the risk of aspiration Do ***not*** try to insert an oral airway or keep the mouth open with a spoon or spatula Make sure that the child is able to breathe If secretions are interfering with breathing, insert a catheter through the nose into the pharynx and clear the secretions with suction

2 Give Diazepam[5] Followed by Paraldehyde

See Treatment Instructions

3 If High Fever Present, Lower the Fever

Give paracetamol and sponge the child with tepid water

4 Treat the Child to Prevent Low Blood Sugar

See Treatment Instructions

[5] A common brand name of diazepam is valium

Essential Care for POSSIBLE SERIOUS BACTERIAL INFECTION

This young infant may have pneumonia, sepsis or meningitis

1 GIVE IM BENZYLPENICILLIN AND IM GENTAMICIN

If meningitis is suspected (based on a bulging fontanelle, lethargic or unconscious, or convulsions), substitute IM ampicillin for benzylpenicillin if it is available Treat for 14 days total

If meningitis is not suspected, treat for at least 5 days Continue the treatment until the infant has been well for at least 3 days

When the infant's condition has improved substantially, substitute an appropriate oral antibiotic such as amoxycillin for IM benzylpenicillin or IM amoxycillin However, continue to give IM gentamicin until the minimum treatment has been given

If there is no response to the treatment after 48 hours, or if the infant's condition deteriorates, then give chloramphenicol Avoid chloramphenicol in premature infants

2 Keep the Young Infant Warm (See instructions on page 121, item 6 and page 128, item 7)

3 Manage Fluids Carefully

The mother should breastfeed the infant frequently If the infant has difficulty breathing or is too sick to suckle, help the mother express breastmilk Feed the expressed breastmilk to the infant by dropper (if able to swallow) or by NG tube 6 times per day Give 20 ml of breastmilk per kilogram of body weight at each feed Give a total of 120 ml/kg/day

If the mother is not able to express breastmilk, prepare a breastmilk substitute or give diluted cow's milk with added sugar, as described in section 3 1 of the module *Counsel the Mother*

4 Treat the Child to Prevent Low Blood Sugar

See Treatment Instructions

TREATMENT INSTRUCTIONS

RECOMMENDATIONS

Three dosing schedules for drugs are provided in this annex The schedules are for every 6 hours (or four times per day), every 8 hours (or three times per day), and every 12 hours (or twice per day) **Choose the most frequent schedule that you are able to provide** For IM gentamicin, the only options are twice and three times per day If you are able to give benzylpenicillin four times per day, then give the gentamicin twice per day (with every other dose of benzylpenicillin)

Ideally, the treatment doses should be evenly spaced Often this is not possible due to difficulty giving a dose during the night Compromise as needed, spreading the doses as widely as possible

Some treatments described below are impractical for a mother to give her child at home without frequent assistance from a health worker, for example, giving injections or giving frequent feedings as needed by a severely malnourished child In some cases, a health worker may be willing to care for the child at or near his home or in the clinic to permit the frequent care necessary In other cases, it is simply not practical to give the child the treatments that he needs

Benzylpenicillin -

The first choice is to give IM benzylpenicillin IM ampicillin can be substituted for benzylpenicillin

If you are not able to give IM benzylpenicillin or IM ampicillin, give oral amoxycillin

Gentamicin -

Give IM gentamicin every 8 hours If you are not able to give it every 8 hours, then give it every 12 hours

If gentamicin is not available, give young infants with POSSIBLE SERIOUS BACTERIAL INFECTION both benzylpenicillin and chloramphenicol

Chloramphenicol -

Give IM chloramphenicol for 5 days Then switch to an oral antibiotic to complete 10 days of antibiotic treatment

If you are not able to give IM antibiotic treatment, but oral chloramphenicol is available, give oral chloramphenicol by mouth or NG tube Give every 6 hours, if possible

Give Intramuscular Quinine for Severe Malaria

FOR CHILDREN BEING REFERRED WITH VERY SEVERE FEBRILE DISEASE

- Check which quinine formulation is available in your clinic
- Give first dose of intramuscular quinine and refer child urgently to hospital

IF REFERRAL IS NOT POSSIBLE

- Give first dose of intramuscular quinine
- The child should remain lying down for one hour
- Repeat the quinine injection at 4 and 8 hours later, and then every 12 hours until the child is able to take an oral antimalarial Do not continue quinine injections for more than 1 week

AGE or WEIGHT	INTRAMUSCULAR QUININE	
	150 mg/ml* (in 2 ml ampoules)	300 mg/ml* (in 2 ml ampoules)
2 months up to 4 months (4 - < 6 kg)	0 4 ml	0 2 ml
4 months up to 12 months (6 - < 10 kg)	0 6 ml	0 3 ml
12 months up to 2 years (10 - < 12 kg)	0 8 ml	0 4 ml
2 years up to 3 years (12 - <14 kg)	1 0 ml	0 5 ml
3 years up to 5 years (14 - 19 kg)	1 2 ml	0 6 ml

Give first dose of quinine Repeat the IM quinine injection at 4 and 8 hours later These 3 injections are the loading dose

Then either give quinine (the same dose as above) every 12 hours or give quinine every 8 hours (using the 8-hour dosing schedule) Stop the IM quinine when the child is able to take an oral antimalarial

The injections of quinine should not continue for more than 1 week Too high of a dosage can cause deafness and blindness, as well as irregular heartbeat (which may cause to cardiac arrest)

The child should remain lying down for one hour after each injection as the child's blood pressure may drop The effect stops after 15 - 20 minutes

When the child can take an oral antimalarial, give a full dose according to national guidelines for completing the treatment of severe malaria In most countries, the oral antimalarial recommended is sulfadoxine-pyrimethamine

If the malaria risk is low, do ***not*** give quinine to a child less than 4 months of age

DOSING SCHEDULE - INTRAMUSCULAR AND ORAL DRUGS EVERY 6 HOURS (or 4 times per day)

AGE or WEIGHT	IM CHLORAMPHENICOL Dose 20 mg/kg To vial containing 1000 mg add 5 0 ml sterile water = 5 6 ml at 180 mg/ml	BENZYLPENICILLIN Dose 50 000 units/kg To vial containing 600 mg (or 1 000 000 units)		ORAL CHLORAMPHENICOL Dose 20 mg/kg	
		add 2 1 ml sterile water = 2 5 ml at 400 000 units/ml	add 3 6 ml sterile water = 4 0 ml at 250 000 units/ml	SYRUP 125 mg/5 ml suspension (palmitate)	CAPSULE 250 mg
1 kg		0 1 ml	0 2 ml		
2 kg	0 2 ml	0 2 ml	0 4 ml	1 5 ml (¼ tsp)	¼
3 kg	0 3 ml	0 4 ml	0 6 ml	2 5 ml (½ tsp)	¼
4 kg	0 4 ml	0 5 ml	0 8 ml	3 0 ml (½ tsp)	¼
5 kg	0 5 ml	0 6 ml	1 0 ml	4 0 ml (¾ tsp)	½
4 months up to 9 months (6 - <8 kg)	0 8 ml	0 8 ml	1 5 ml	5 0 ml (1 tsp)	½
9 months up to 12 months (8 - <10 kg)	1 0 ml	1 2 ml	2 0 ml	7 5 ml (1½ tsp)	¾
12 months up to 3 years (10 - <14 kg)	1 2 ml	1 5 ml	2 5 ml	10 0 ml (2 tsp)	1
3 years up to 5 years (14 - 19 kg)	1 8 ml	2 0 ml	3 5 ml	12 5 ml (2½ tsp)	1

DOSING SCHEDULE - INTRAMUSCULAR DRUGS EVERY 8 HOURS (or 3 times per day)

AGE or WEIGHT	CHLORAMPHENICOL Dose 30 mg/kg	BENZYLPENICILLIN Dose 70 000 units/kg		GENTAMICIN (10 mg/ml solution) Dose 2 5 mg/kg	QUININE Dose 10 mg/kg	
	To vial containing 1000 mg add 5 0 ml sterile water = 5 6 ml at 180 mg/ml	To vial containing 600 mg (or 1 000 000 units) add 2 1 ml sterile water = 2 5 ml at 400 000 units/ml	add 3 6 ml sterile water = 4 0 ml at 250 000 units/ml		150 mg/ml	300 mg/ml
1 kg		0 2 ml	0 3 ml	0 25 ml	0 07 ml	0 03 ml
2 kg	0 3 ml	0 3 ml	0 6 ml	0 50 ml	0 13 ml	0 07 ml
3 kg	0 5 ml	0 5 ml	0 8 ml	0 75 ml	0 2 ml	0 1 ml
4 kg	0 7 ml	0 7 ml	1 1 ml	1 0 ml	0 3 ml	0 13 ml
5 kg	0 8 ml	0 9 ml	1 4 ml	1 25 ml	0 3 ml	0 17 ml
4 months up to 9 months (6 - <8 kg)	1 2 ml	1 2 ml	2 0 ml	1 8 ml	0 4 ml	0 2 ml
9 months up to 12 months (8 - <10 kg)	1 5 ml	1 6 ml	2 5 ml	2 2 ml	0 6 ml	0 3 ml
12 months up to 3 years (10 - <14 kg)	2 0 ml	2 0 ml	3 5 ml	3 0 ml	0 8 ml	0 4 ml
3 years up to 5 years (14 - 19 kg)	2 5 ml	3 0 ml	4 5 ml	4 0 ml	1 2 ml	0 6 ml

DOSING SCHEDULE - INTRAMUSCULAR and ORAL DRUGS EVERY 12 HOURS (or 2 times per day)

AGE or WEIGHT	IM CHLORAMPHENICOL Dose 40 mg/kg To vial containing 1000 mg add 5 0 ml sterile water = 5 6 ml at 180 mg/ml	BENZYLPENICILLIN Dose 100 000 units/kg To vial containing 600 mg (or 1 000 000 units)		GENTAMICIN (10 mg/ml solution) Dose 3 0 mg/kg	ORAL CHLORAMPHENICOL Dose 40 mg/kg	
		add 2 1 ml sterile water = 2 5 ml at 400 000 units/ml	add 3 6 ml sterile water = 4 0 ml at 250 000 units/ml		SYRUP 125 mg/5 ml suspension (palmitate)	CAPSULE 250 mg
1 kg		0 2 ml	0 4 ml	0 3 ml		
2 kg	0 5 ml	0 4 ml	0 8 ml	0 6 ml	3 0 ml (½ tsp)	½
3 kg	0 7 ml	0 8 ml	1 2 ml	0 9 ml	5 0 ml (1 tsp)	½
4 kg	0 9 ml	1 0 ml	1 6 ml	1 2 ml	6 0 ml (1¼ tsp)	½
5 kg	1 1 ml	1 2 ml	2 0 ml	1 5 ml	8 0 ml (1½ tsp)	1
4 months up to 9 months (6 - <8 kg)	1 5 ml	1 8 ml	3 0 ml	2 0 ml	10 0 ml (2 tsp)	1
9 months up to 12 months (8 - <10 kg)	2 0 ml	2 5 ml	4 0 ml	2 8 ml	15 0 ml (3 tsp)	1
12 months up to 3 years (10 - <14 kg)	2 5 ml	3 0 ml	5 0 ml	3 5 ml	20 0 ml (4 tsp)	2
3 years up to 5 years (14 - 19 kg)	3 5 ml	4 0 ml	6 0 ml	5 0 ml	25 0 ml (5 tsp)	3

NOTE See the quinine box on page 134 (from *TREAT* chart) for the quinine dose to give every 12 hours

Treat the Child to Prevent Low Blood Sugar -

If the child is conscious, follow the instructions on the *TREAT* chart Feed the child frequently, every 2 hours, if possible

If the child is unconscious and you have dextrose solution and facilities for an intravenous (IV) infusion start the IV infusion Once you are sure that the IV is running well, give 5 ml/kg of 10 % dextrose solution (D10) over a few minutes, or give 1 ml/kg of 50% dextrose solution (D50) by very slow push Then insert an NG tube and begin feeding every 2 hours

Potassium Chloride Solution (100 grams KCl per litre) -

Give 0 5 ml (or 10 drops from a dropper) per kilogram of body weight with each feed Mix well into the feed

Diazepam and Paraldehyde (anticonvulsants) -

Give by rectum

Use a plastic syringe (the smallest available) without a needle Put the diazepam or paraldehyde in the syringe Gently insert the syringe into the rectum Squirt the diazepam or paraldehyde Keep the buttocks squeezed tight to prevent loss of the drug

If both diazepam and paraldehyde are available, use the following schedule

1 Give **diazepam**
2 In 10 minutes, if convulsions continue, give **diazepam** again
3 In 10 more minutes (that is, 20 minutes after the first dose), if convulsions continue, give **paraldehyde**
4 In 10 more minutes (that is, 30 minutes after the first dose), if convulsions continue, give **paraldehyde** again

This is the preferred treatment It is safer than giving 3 doses of diazepam in a row due to the danger of respiratory depression

If only diazepam is available, use the following schedule

1 Give **diazepam**
2 In 10 minutes, if convulsions continue, give **diazepam** again
3 In 10 more minutes (that is, 20 minutes after the first dose), if convulsions continue and the child is breathing well, give **diazepam** again Watch closely for respiratory depression

If only paraldehyde is available, use the following schedule

1 Give **paraldehyde**
2 In 10 minutes, if convulsions continue, give **paraldehyde** again
3 In 10 more minutes (that is, 20 minutes after the first dose), if convulsions continue, give **paraldehyde** again

DOSAGE TABLE - DIAZEPAM and PARALDEHYDE

AGE or WEIGHT	**DIAZEPAM** (10 mg/2 ml solution) Dose 0 2 0 4 mg/kg Give rectally	**PARALDEHYDE** (1 g/ml solution) Dose 0 15 - 0 3 ml/kg Give rectally
1 month up to 4 months (3 - <6 kg)	0 25 ml (1 25 mg)	1 0 ml
4 months up to 12 months (6 10 kg)	0 5 ml (2 5 mg)	1 5 ml
12 months up to 3 years (10 - <14 kg)	0 5 ml (2 5 mg)	2 0 ml
3 years up to 5 years (14 - 19 kg)	0 75 ml (3 75 mg)	3 0 ml

CASE STUDY MARGARET

The health worker decides that it will be possible to give injections approximately every 8 hours He will give the first injection now (9 am) and the second at 4 pm as the clinic is closing The third injection will be given to Margaret in the late evening when one of the nurses from the clinic visits Margaret at the aunt's house

The health worker immediately gives the following treatments

1 **Benzylpenicillin** - 1 000 000 units with 2 1 ml of sterile water added to get 2 5 ml at 400 000 units/ml

The health worker gives Margaret 1 6 ml by intramuscular injection, based on the 8-hour dosing schedule This same dose will be given to Margaret approximately every 8 hours

2 **Chloramphenicol** 1000 mg vial with 5 ml of sterile water added to get 5 6 ml at 180 mg/ml

The health worker gives Margaret 1 5 ml by intramuscular injection, based on the 8-hour dosing schedule This same dose will be given to Margaret approximately every 8 hours

3 **Quinine** The health worker gives Margaret the initial dose of 0 6 ml of 150 mg/ml The same dose is given 4 and 8 hours later Then the health worker will continue to give Margaret 0 6 ml every 8 hours until she is able to take oral antimalarials

4 **Sugar Water** The health worker gives Margaret 50 ml of sugar water by NG tube

The health worker sends for whole, undiluted cow's milk He crushes a 100 mg paracetamol tablet to mix with the milk He gives Margaret 30 ml of the milk by NG tube every hour during the rest of clinic To the first 30 ml, he adds the paracetamol He repeats the dose in 6 hours

The health worker asks the mother to hold Margaret to keep her warm The mother also adjusts Margaret's hat and blanket so she is covered

When the nurse visits Margaret at her aunt's home in the evening, she slowly gives her 100 ml of the milk by NG tube The nurse does not give more than 100 ml because she is worried that Margaret may vomit if given more The same amount is given when the clinic opens the next morning At that time, Margaret is more alert and able to swallow the fluids that are dripped into her mouth The health worker gives the mother a 10 ml syringe so that she can feed her child this way The health worker tells the mother to try to give Margaret 3 syringe-fulls of milk every hour

Because Margaret is so sick and cannot swallow, the non-urgent treatments, iron and mebendazole, are not given now

After 4 days of treatment, Margaret is alert and her fever is gone She is able to take sips from a cup Because she was already treated with chloroquine, the health worker decides to give sulfadoxine-pyrimethamine (½ tablet, crushed) when stopping the quinine injections He also gives mebendazole 100 mg (5 tablets crushed)

Because the health worker is uncertain whether the VERY SEVERE FEBRILE DISEASE was meningitis or severe malaria, he wants to be sure that all possibilities are adequately treated but needs to stop giving these frequent injections Therefore, he stops the IM chloramphenicol and benzylpenicillin and gives oral chloramphenicol (¾ tablet every 6 hours) He gives this for 6 more days to complete 10 days of treatment

The health worker continues to see Margaret every day for a few more days He wants to make sure that she continues to improve and begins eating, and that the mother is able to give the chloramphenicol 4 times per day

The health worker now reviews with the mother how Margaret was fed before this illness He advises the mother that the child should receive good complementary foods or family foods at least 5 times per day Because he does not want to confuse the mother with too many pills, the health worker decides not start the iron treatment until Margaret finishes the full 10 days of antibiotic treatment

When Margaret and her mother return, the health worker gives the mother a bottle of iron syrup and shows her how to measure ¼ teaspoon He also shows her how to give it to Margaret He tells the mother to give ¼ teaspoon to Margaret every morning He also tells the mother to make sure the syrup is kept out of reach of Margaret and her siblings Then he arranges to see Margaret again in 2 weeks when he will check on her pallor and give the mother more iron syrup