



MODULE I: Integrated Management Of Childhood Illness

- Overview of principles and practice, including noma
- Noma risk factors and prevention
- Noma and nutritional blindness: Early recognition and treatment

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Child Survival Programs for Sahel region and Haiti are in collaboration with University of Maryland Dental School.

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Of the millions of children who die every year before their 5th birthday, most die of a few causes, such as pneumonia, malaria, diarrhoea, measles and malnutrition, often in combination.

Medical science has revealed why those deaths occur and how to prevent them.

The materials needed to save most of the children are inexpensive, portable, safe and can be managed in the communities by trained workers without elaborate facilities.

Many times, health programs have been focused on a single disease, such as malaria.

- Starting in 1992, the World Health Organization and UNICEF started to work on clinical guidelines to help health workers manage the most common diseases in a coordinated systematic manner.
- By 1995, the first version was completed.
- Now over 100 countries have accepted this strategy for promoting child survival.

Named:

**INTEGRATED
MANAGEMENT OF
CHILDHOOD ILLNESS
or
IMCI**

**the program provides a structure for
Assessment,
Classification and
Treatment
from birth to 60 months.**

There are 3 IMCI levels:

- Hospital
- Health Clinic
- Community

For example, IMCI is the basis for:

POCKET BOOK
OF

Hospital

care for children

GUIDELINES FOR THE MANAGEMENT OF
COMMON ILLNESSES WITH LIMITED RESOURCES

**Many economically
underdeveloped
countries have modified
IMCI
guidelines for the care of
children in their
Health Clinics**

The IMCI

**model can also be
followed or adapted to
Child Survival work in
Communities**

IMCI can be modified to meet the health needs of the region.

- In the Sahel and parts of Asia, it is appropriate to incorporate noma into IMCI trainings offered to health workers.
- The IMCI program provides the framework, but must be regularly updated as new information appears.

At the sight of an obviously severely sick child – people instinctively recognize that something is wrong.

But our senses may lead us astray when it comes to assessing the severity of the illness, the diagnosis and for sure the exact treatment will not be known only by intuition.

Those who care for such children need to learn how to evaluate, and classify health problems and need the pathways to choosing treatments.

This first module is for some an introduction and for others a review of systems for assessing, classifying and teaching the most common killer diseases of children, with a focus on diseases caused by malnutrition.

We will learn about how to use simple flow charts or algorithms for primary visits and follow-up with sick children. Also, we will review some guidelines for prevention, follow-up and counseling for the mother.

At this time, pause to examine the IMCI Chart Booklet.

- On your DVD, click on Module I and then 2008 IMCI Booklet.
- Quickly glance through the booklet (48 pages) to familiarize yourself with the materials.
- This booklet is the standard IMCI model that WHO presents.
- Health programs and government Ministries of Health often make changes to adapt the materials to their needs, as MAMA has done.

 World Health Organization <small>Department of Child and Adolescent Health and Development (CAH)</small>		INTEGRATED MANAGEMENT OF CHILDHOOD ILLNESS	
CHILD AGED 2 MONTHS UP TO 5 YEARS ASSESS AND CLASSIFY THE SICK CHILD Assess, Classify and Identify Treatment 2 Check for General Danger Signs 2 Then Ask About Main Symptoms 2 Does the child have cough or difficult breathing? 2 Does the child have diarrhea? 3 Does the child have fever? 4 Does the child have ear problem? 4 Then Check for Malnutrition and Anemia 5 Then Check for Child's Immunization Status 7 Assess Other Problems 7 TREAT THE CHILD Teach the mother to give oral drugs at home: Oral Antibiotic 8 Paracetamol 8 Ciprofloxacin 8 Zinc 8 Co-trimoxazole 8 Bismuthate 8 Teach the Mother to Treat Local Infections at Home Clear the ear by dry wiping and give eardrops 10 Treat for mouth ulcers and throat 10 Soothe throat, relieve cough with safe remedy 10 Treat eye infection 10 Give Preventive Treatments in Clinic Vitamin A 11 Malaria pills 11 Give Emergency Treatment in Clinic only Quinine for severe malaria 12 Injectable Antibiotic 12 Dietsepam for convulsions 12 Treat low blood sugar 13		TREAT THE CHILD, continued Give Extra Fluid for Diarrhoea and Continue Feeding Plan A: Treat for Diarrhoea at Home 14 Plan B: Treat for Severe Dehydration with ORS 14 Plan C: Treat for Severe Dehydration Quickly 15 Give Follow-up Care Pneumonia 16 Dysentery 16 Persistent diarrhoea 16 Malaria 17 Fever-malaria unlikely 17 Malaria with eye or mouth complications 17 Ear infection 18 Feeding problems 18 Anemia 18 Ruber 18 Very Low Weight 18 Severe unresponsiveness 18 COUNSEL THE MOTHER Assess the feeding of sick infants 19 Feeding Recommendations 20 Counsel the mother about feeding Problems 21 Counsel the mother about her own health 22 Advise mother to increase fluids during illness 23 Advise mother when to return to health worker 23 Advise mother when to return immediately 23	
		SICK YOUNG INFANT AGED UP TO 2 MONTHS ASSESS, CLASSIFY AND TREAT THE SICK YOUNG INFANT Assess, Classify and Identify Treatment 24 Check for Severe Disease and Local Infection 24 Then check for Jaundice 25 Then ask: Does the young infant have diarrhoea? 25 Then check for Feeding Problem or Low Weight for Age 27 Then check the young infant's immunization status 28 Assess Other Problems 28 Treat the Young Infant and Counsel the Mother Intramuscular antibiotic 29 Treat the young infant to prevent low blood sugar 29 Keep the young infant warm on the way to hospital 30 Oral antibiotic 30 Treat local infections at home 31 Correct positioning and attachment for breastfeeding 32 Teach mother how to express breast milk 32 Teach mother how to feed by cup 33 Teach the mother to keep the low weight infant warm at home 33 Advise mother to give home care to the young infant 34 Give Follow-up Care for the Sick Young Infant Local Bacterial Infection 35 Jaundice 35 Diarrhoea 35 Feeding Problem 36 Low Weight for age 37 Death 37 Recording Forms: Sick Child 38 Sick young infant 38	

- Principles apply to all care settings.
- Beware that norms of treatment change, for example when patterns of drug sensitivities change, so be vigilant to update your references with new information and new diseases (e.g., HIV/AIDS).
- Take the time to understand the flow charts.
- Don't expect to memorize all of the charts.
- Print entire booklet & complimentary information (dosing, etc.) as reference if you are seeing children in the community.

IMCI is always a work in progress... This course's modifications are in red & include:

- References to Noma and Nutritional Blindness
- Adaptations to the resource poor community setting
- Pages 4a, 4b, 6a, 6b, and 6c are resources that MAMA has added to the IMCI.

Notice Birth to 2 months and 2 months to 5 years are separated

 <p>World Health Organization Department of Child and Adolescent Health and Development (CAH)</p>	<h2>INTEGRATED MANAGEMENT OF CHILDHOOD ILLNESS</h2>	
<p>CHILD AGED 2 MONTHS UP TO 5 YEARS</p> <p>ASSESS AND CLASSIFY THE SICK CHILD</p> <p>Assess, Classify and Identify Treatment</p> <p>Check for General Danger Signs.....2</p> <p>Then Ask About Main Symptoms:</p> <p>Does the child have cough or difficult breathing?.....2</p> <p>Does the child have diarrhoea?.....3</p> <p>Does the child have an ear problem?.....4</p> <p>Does the child have fever?.....4</p> <p>Does the child have an ear problem?.....5</p> <p>Then Check for Malnutrition and Anaemia.....6</p> <p>Then Check the Child's Immunization Status.....7</p> <p>Assess Other Problems.....7</p> <p>TREAT THE CHILD</p> <p>Teach the mother to give oral drugs at home:</p> <p>Oral Antibiotic.....8</p> <p>Ciprofloxacin.....8</p> <p>Iron.....9</p> <p>Co-artemether.....9</p> <p>Bronchodilator.....9</p> <p>Teach the Mother to Treat Local Infections at Home</p> <p>Clear the ear by dry wicking and give eardrops.....10</p> <p>Treat for mouth ulcers and thrush.....10</p> <p>Soothe throat, relieve cough with safe remedy.....10</p> <p>Treat eye infection.....10</p> <p>Give Preventive Treatments in Clinic</p> <p>Vitamin A.....11</p> <p>Mebendazole.....11</p> <p>Give Emergency Treatment in Clinic only</p> <p>Quinine for severe malaria.....12</p> <p>Intramuscular Antibiotic.....12</p> <p>Diazepam for convulsions.....12</p> <p>Treat low blood sugar.....13</p>	<p>TREAT THE CHILD, continued</p> <p>Give Extra Fluid for Diarrhoea and Continue Feeding</p> <p>Plan A: Treat for Diarrhoea at Home.....14</p> <p>Plan B: Treat for Some Dehydration with ORS.....14</p> <p>Plan C: Treat for Severe Dehydration Quickly.....15</p> <p>Give Follow-up Care</p> <p>Pneumonia.....16</p> <p>Dysentery.....16</p> <p>Persistent diarrhoea.....16</p> <p>Malaria.....17</p> <p>Fever— malaria unlikely.....17</p> <p>Measles with eye or mouth complications.....17</p> <p>Ear Infection.....18</p> <p>Feeding problem.....18</p> <p>Anaemia.....18</p> <p>Pallor.....18</p> <p>Very Low Weight.....18</p> <p>Severe uncomplicated malnutrition.....18</p> <p>COUNSEL THE MOTHER</p> <p>Assess the feeding of sick infants.....19</p> <p>Feeding Recommendations.....20</p> <p>Counsel the mother about feeding Problems.....21</p> <p>Counsel the mother about her own health.....22</p> <p>Advise mother to increase fluids during illness.....23</p> <p>Advise mother when to return to health worker.....23</p> <p>Advise mother when to return immediately.....23</p>	<p>SICK YOUNG INFANT AGED UP TO 2 MONTHS</p> <p>ASSESS, CLASSIFY AND TREAT THE SICK YOUNG INFANT</p> <p>Assess, Classify and Identify Treatment</p> <p>Check for Severe Disease and Local Infection.....24</p> <p>Then check for Jaundice.....25</p> <p>Then ask: Does the young infant have diarrhoea?.....26</p> <p>Then check for Feeding Problem or Low Weight for Age.....27</p> <p>Then check the young infant's immunization status.....28</p> <p>Assess Other Problems.....28</p> <p>Treat the Young Infant and Counsel the Mother</p> <p>Intramuscular antibiotics.....29</p> <p>Treat the young infant to prevent low blood sugar.....29</p> <p>Keep the young infant warm on the way to hospital.....30</p> <p>Oral antibiotic.....30</p> <p>Treat local infections at home.....31</p> <p>Correct positioning and attachment for breastfeeding.....32</p> <p>Teach mother how to express breast milk.....32</p> <p>Teach mother how to feed by cup.....33</p> <p>Teach the mother to keep the low weight infant warm at home.....33</p> <p>Advise mother to give home care to the young infant.....34</p> <p>Give Follow-up Care for the Sick Young Infant</p> <p>Local Bacterial Infection.....35</p> <p>Jaundice.....35</p> <p>Diarrhoea.....35</p> <p>Feeding Problem.....36</p> <p>Low Weight for age.....37</p> <p>Thrush.....37</p> <p>Recording Forms: Sick Child.....38</p> <p>Sick young infant.....39</p>

The colored flow charts always follow a format:

- On the left is assessment of signs of illness
- Moving to the right is classification
- Far right is treatment

The Sick Child 2 months to 5 years



ASSESS AND CLASSIFY THE SICK CHILD AGED 2 MONTHS UP TO 5 YEARS



ASSESS

CLASSIFY

IDENTIFY TREATMENT

ASK THE MOTHER WHAT THE CHILD'S PROBLEMS ARE

- Determine whether this is an initial or follow-up visit for this problem.
 - if follow-up visit, use the follow-up instructions on *TREAT THE CHILD* chart
 - if initial visit, assess the child as follows:

CHECK FOR GENERAL DANGER SIGNS

ASK:	LOOK:
<ul style="list-style-type: none"> • Is the child able to drink or breastfeed? • Does the child vomit everything? • Has the child had convulsions? 	<ul style="list-style-type: none"> • See if the child is lethargic or unconscious. • Is the child convulsing now?

A child with any general danger sign needs **URGENT** attention; complete the assessment and any pre-referral treatment immediately so that referral is not delayed.

USE ALL BOXES THAT MATCH THE CHILD'S SYMPTOMS AND PROBLEMS TO CLASSIFY THE ILLNESS.

THEN ASK ABOUT MAIN SYMPTOMS:

Does the child have cough or difficult breathing?

<p>IF YES, ASK:</p> <ul style="list-style-type: none"> • For how long? 	<p>LOOK, LISTEN, FEEL:</p> <ul style="list-style-type: none"> • Count the breaths in one minute. • Look for chest indrawing. • Look and listen for stridor. • Look and listen for wheezing. <p><i>If wheezing and either fast breathing or chest indrawing: Give a trial of rapid acting inhaled bronchodilator for up to three times 15-20 minutes apart. Count the breaths and look for chest indrawing again, and then classify.</i></p>	<p>CHILD MUST BE CALM</p> <p>Classify COUGH or DIFFICULT BREATHING</p>
<p>If the child is:</p> <p>2 months up to 12 months</p> <p>12 months up to 5 years</p>	<p>Fast breathing is:</p> <p>50 breaths per minute or more</p> <p>40 breaths per minute or more</p>	

SIGNS	CLASSIFY AS	TREATMENT <small>(Urgent pre-referral treatments are in bold print)</small>
<ul style="list-style-type: none"> • Any general danger sign or • Chest indrawing or • Stridor in a calm child 	<p>SEVERE PNEUMONIA OR VERY SEVERE DISEASE</p>	<ul style="list-style-type: none"> ➤ Give first dose of an appropriate antibiotic ➤ Refer URGENTLY to hospital*
<ul style="list-style-type: none"> • Fast breathing 	<p>PNEUMONIA</p>	<ul style="list-style-type: none"> ➤ Give oral antibiotic for 3 days ➤ If wheezing (even if it disappeared after rapidly acting bronchodilator) give an inhaled bronchodilator for 5 days** ➤ Soothe the throat and relieve the cough with a safe remedy ➤ If coughing for more than 3 weeks or if having recurrent wheezing, refer for assessment for TB or asthma ➤ Advise the mother when to return immediately ➤ Follow-up in 2 days
<ul style="list-style-type: none"> • No signs of pneumonia or very severe disease 	<p>COUGH OR COLD</p>	<ul style="list-style-type: none"> ➤ If wheezing (even if it disappeared after rapidly acting bronchodilator) give an inhaled bronchodilator for 5 days** ➤ Soothe the throat and relieve the cough with a safe remedy ➤ If coughing for more than 3 weeks or if having recurrent wheezing, refer for assessment for TB or asthma ➤ Advise mother when to return immediately ➤ Follow up in 5 days if not improving

*If referral is not possible, manage the child as described in *Integrated Management of Childhood Illness, Treat the Child, Annex: Where Referral Is Not Possible*, and WHO guidelines for inpatient care.

**In settings where inhaled bronchodilator is not available, oral salbutamol may be the second choice

Assess and Classify the Sick Child Aged 2 months up to 5 years

ASSESS

ASK THE MOTHER WHAT THE CHILD'S PROBLEMS ARE

- Determine whether this is an initial or follow-up visit for this problem.
 - If follow-up visit, use the follow-up instructions on *TREAT THE CHILD* chart
 - If initial visit, assess the child as follows: (next slide)

Assess and Classify the Sick Child (page 2 continued)

CHECK FOR GENERAL DANGER SIGNS

ASK:

- Is the child able to drink or breastfeed?
- Does the child vomit everything?
- Has the child had convulsions?

LOOK:

- See if the child is lethargic or unconscious.
- Is the child convulsing now?

A child with any general danger sign needs URGENT attention; complete the assessment and any pre-referral treatment immediately so that referral is not delayed.

1st in IMCI is Breathing problems

Instructor will go through each section. Class is advised to stay on this page and follow along.



ASSESS AND CLASSIFY THE SICK CHILD AGED 2 MONTHS UP TO 5 YEARS



ASSESS

CLASSIFY

IDENTIFY TREATMENT

ASK THE MOTHER WHAT THE CHILD'S PROBLEMS ARE

- Determine whether this is an initial or follow-up visit for this problem.
 - if follow-up visit, use the follow-up instructions on *TREAT THE CHILD* chart
 - if initial visit, assess the child as follows:

CHECK FOR GENERAL DANGER SIGNS

ASK:	LOOK:
<ul style="list-style-type: none"> • Is the child able to drink or breastfeed? • Does the child vomit everything? • Has the child had convulsions? 	<ul style="list-style-type: none"> • See if the child is lethargic or unconscious. • Is the child convulsing now?

A child with any general danger sign needs **URGENT** attention; complete the assessment and any pre-referral treatment immediately so that referral is not delayed.

USE ALL BOXES THAT MATCH THE CHILD'S SYMPTOMS AND PROBLEMS TO CLASSIFY THE ILLNESS.

THEN ASK ABOUT MAIN SYMPTOMS:

Does the child have cough or difficult breathing?

IF YES, ASK:	LOOK, LISTEN, FEEL:	} CHILD MUST BE CALM
<ul style="list-style-type: none"> • For how long? 	<ul style="list-style-type: none"> • Count the breaths in one minute. • Look for chest indrawing. • Look and listen for stridor. • Look and listen for wheezing. <p><i>If wheezing and either fast breathing or chest indrawing: Give a trial of rapid acting inhaled bronchodilator for up to three times 15-20 minutes apart. Count the breaths and look for chest indrawing again, and then classify.</i></p>	

Classify COUGH or DIFFICULT BREATHING

If the child is:	Fast breathing is:
2 months up to 12 months	50 breaths per minute or more
12 months up to 5 years	40 breaths per minute or more

SIGNS	CLASSIFY AS	TREATMENT <small>(Urgent pre-referral treatments are in bold print)</small>
<ul style="list-style-type: none"> • Any general danger sign or • Chest indrawing or • Stridor in a calm child 	SEVERE PNEUMONIA OR VERY SEVERE DISEASE	<ul style="list-style-type: none"> ➤ Give first dose of an appropriate antibiotic ➤ Refer URGENTLY to hospital*
<ul style="list-style-type: none"> • Fast breathing 	PNEUMONIA	<ul style="list-style-type: none"> ➤ Give oral antibiotic for 3 days ➤ If wheezing (even if it disappeared after rapidly acting bronchodilator) give an inhaled bronchodilator for 5 days** ➤ Soothe the throat and relieve the cough with a safe remedy ➤ If coughing for more than 3 weeks or if having recurrent wheezing, refer for assessment for TB or asthma ➤ Advise the mother when to return immediately ➤ Follow-up in 2 days
<ul style="list-style-type: none"> • No signs of pneumonia or very severe disease 	COUGH OR COLD	<ul style="list-style-type: none"> ➤ If wheezing (even if it disappeared after rapidly acting bronchodilator) give an inhaled bronchodilator for 5 days** ➤ Soothe the throat and relieve the cough with a safe remedy ➤ If coughing for more than 3 weeks or if having recurrent wheezing, refer for assessment for TB or asthma ➤ Advise mother when to return immediately ➤ Follow up in 5 days if not improving

*If referral is not possible, manage the child as described in *Integrated Management of Childhood Illness, Treat the Child, Annex: Where Referral Is Not Possible*, and WHO guidelines for inpatient care.

**In settings where inhaled bronchodilator is not available, oral salbutamol may be the second choice

Assess and Classify the Sick Child (page 2 continued)

THEN ASK ABOUT MAIN SYMPTOMS: Does the child have cough or difficult breathing?

IF YES, ASK:

- For how long?

LOOK, LISTEN, FEEL:

- Count the breaths in one minute.
- Look for chest indrawing.
- Look and listen for stridor.
- Look and listen for wheezing.

Classify COUGH or
DIFFICULT BREATHING

Child must be calm.

If wheezing and either fast breathing or chest indrawing: Give a trial of rapid acting inhaled bronchodilator for up to three times 15-20 minutes apart. Count the breaths and look for chest indrawing again, and then classify.

Assess and Classify the Sick Child (page 2 continued)

If the child is:

2 months up
to 12 months

12 months up
to 5 years

Fast breathing is:

50 breaths per
minute or more

40 breaths per
minute or more

Assess and Classify the Sick Child (page 2 continued)

SIGNS	CLASSIFY AS	TREATMENT (urgent pre-referral treatments are in bold print)
<ul style="list-style-type: none"> • Any general danger sign or • Chest indrawing or • Stridor in a calm child 	SEVERE PNEUMONIA OR VERY SEVERE DISEASE	<ul style="list-style-type: none"> ➤ Give first dose of an appropriate antibiotic ➤ Refer URGENTLY to hospital.*

* If referral is not possible, manage the child as described in **Integrated Management of Childhood Illness**, Treat the Child, Annex: Where Referral Is Not Possible, and WHO guidelines for inpatient care.

Assess and Classify the Sick Child (page 2 continued)

SIGNS	CLASSIFY AS	TREATMENT (urgent pre-referral treatments are in bold print)
<ul style="list-style-type: none"> • Fast breathing 	<p>PNEUMONIA</p>	<ul style="list-style-type: none"> ➤ Give oral antibiotic for 3 days. ➤ If wheezing (even if it disappeared after rapidly acting bronchodilator) give an inhaled bronchodilator for 5 days.** ➤ Soothe the throat and relieve the cough with a safe remedy. ➤ If coughing for more than 3 weeks or if having recurrent wheezing, refer for assessment for TB or asthma ➤ Advise the mother when to return immediately. ➤ Follow-up in 2 days

** In settings where inhaled bronchodilator is not available, oral salbutamol may be the second choice.

Assess and Classify the Sick Child (page 2 continued)

SIGNS	CLASSIFY AS	TREATMENT (urgent pre-referral treatments are in bold print)
<ul style="list-style-type: none"> No signs of pneumonia or very severe disease 	<p>COUGH OR COLD</p>	<ul style="list-style-type: none"> ➤ If wheezing (even if it disappeared after rapidly acting bronchodilator) given an inhaled bronchodilator for 5 days** ➤ Soothe the throat and relieve the cough with a safe remedy. ➤ If coughing for more than 3 weeks or if having recurrent wheezing, refer for assessment for TB or asthma ➤ Advise mother when to return immediately. ➤ Follow up in 5 days if not improving.

** In settings where inhaled bronchodilator is not available, oral salbutamol may be the second choice.

2nd - Diarrhoea

Does the child have diarrhoea?

IF YES, ASK:

- For how long?
- Is there blood in the stool?

LOOK AND FEEL:

- 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?

Classify DIARRHOEA

for DEHYDRATION	Two of the following signs: <ul style="list-style-type: none"> • Lethargic or unconscious • Sunken eyes • Not able to drink or drinking poorly • Skin pinch goes back very slowly. 	SEVERE DEHYDRATION	> If child has no other severe classification: <ul style="list-style-type: none"> - Give fluid for severe dehydration (Plan C) OR <p><i>If child also has another severe classification:</i></p> <ul style="list-style-type: none"> - 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
	Two of the following signs: <ul style="list-style-type: none"> • Restless, irritable • Sunken eyes • Drinks eagerly, thirsty • Skin pinch goes back slowly 	SOME DEHYDRATION	> Give fluid, zinc supplements and food for some dehydration (Plan B) <p>> <i>If child also has a severe classification:</i></p> <ul style="list-style-type: none"> - Refer URGENTLY to hospital with mother giving frequent sips of ORS on the way Advise the mother to continue breastfeeding > Advise mother when to return immediately > Follow-up in 5 days if not improving.
	Not enough signs to classify as some or severe dehydration	NO DEHYDRATION	> Give fluid, zinc supplements and food to treat diarrhoea at home (Plan A) > Advise mother when to return immediately > Follow-up in 5 days if not improving.

and if diarrhoea for 14 days or more	• Dehydration present	SEVERE PERSISTENT DIARRHOEA	> Treat dehydration before referral unless the child has another severe classification > Refer to hospital
	• No dehydration	PERSISTENT DIARRHOEA	> Advise the mother on feeding a child who has PERSISTENT DIARRHOEA > Give multivitamins and minerals (including zinc) for 14 days > Follow up in 5 days

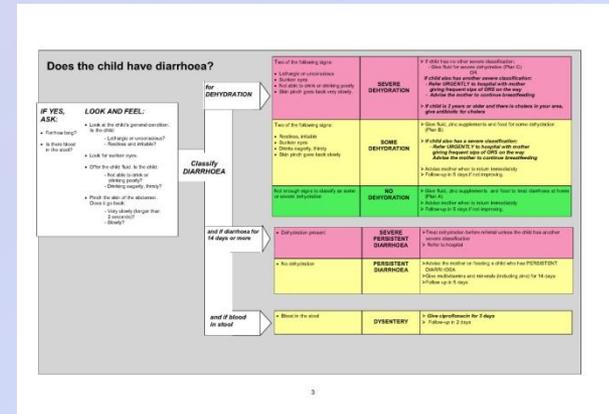
and if blood in stool	• Blood in the stool	DYSENTERY	> Give ciprofloxacin for 3 days > Follow-up in 2 days
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Instructor will go through each section. Class is advised to look at this page and follow along.

Again, follow the pattern in the flow charts, working from left to right:

- **Assessing** symptoms and signs of illness
- **Classifying** severity of illness
- Choosing **Treatment** for illness

Next ask about DIARRHOEA:



- Refer to boxes, inquire about duration and presence of blood.
- After asking, observe: for general and specific signs of danger and dehydration.
- Then classify dehydration and diarrhoea according to the tables.
- Treat according to the severity of the illness.

Assess and Classify the Sick Child (page 3)

DOES THE CHILD HAVE DIARRHOEA?

IF YES, ASK:

- For how long?
- Is there blood in the stool?

LOOK AND FEEL:

- 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?

Assess and Classify the Sick Child (page 3 continued)

CLASSIFY DIARRHOEA: FOR DEHYDRATION

SIGNS	CLASSIFY AS	TREATMENT (urgent pre-referral treatments are in bold print)
<p>Two of the following signs:</p> <ul style="list-style-type: none"> • Lethargic or unconscious • Sunken eyes • Not able to drink or drinking poorly • Skin pinch goes back very slowly 	<p>SEVERE DEHYDRATION</p>	<p>➤ 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</p> <p>➤ If child is 2 years or older and there is cholera in your area, give antibiotic for cholera.</p>

Assess and Classify the Sick Child (page 3 continued)

CLASSIFY DIARRHOEA: FOR DEHYDRATION

SIGNS	CLASSIFY AS	TREATMENT (urgent pre-referral treatments are in bold print)
<p>Two of the following signs:</p> <ul style="list-style-type: none"> • Restless, irritable • Sunken eyes • Drinks eagerly, thirsty • Skin pinch goes back slowly 	<p>SOME DEHYDRATION</p>	<ul style="list-style-type: none"> ➤ Give fluid, zinc supplements and food for some dehydration (Plan B) ➤ If child also has a severe classification: <ul style="list-style-type: none"> - Refer URGENTLY to hospital with mother giving frequent sips of ORS on the way. - Advise the mother to continue breastfeeding. ➤ Advise mother when to return immediately. ➤ Follow-up in 5 days if not improving.

Assess and Classify the Sick Child (page 3 continued)

CLASSIFY DIARRHOEA: FOR DEHYDRATION

SIGNS	CLASSIFY AS	TREATMENT (urgent pre-referral treatments are in bold print)
Not enough signs to classify as some or severe dehydration	NO DEHYDRATION	<ul style="list-style-type: none">➤ Give fluid, zinc supplements and food to treat diarrhoea at home (Plan A).➤ Advise mother when to return immediately.➤ Follow-up in 5 days if not improving.

Assess and Classify the Sick Child (page 3 continued)

CLASSIFY DIARRHOEA:

For **DEHYDRATION** and if **DIARRHOEA** for **14** days or more

SIGNS	CLASSIFY AS	TREATMENT (urgent pre-referral treatments are in bold print)
• Dehydration present	SEVERE PERSISTENT DEHYDRATION	➤ Treat dehydration before referral unless the child has another severe classification. ➤ Refer to hospital.

Assess and Classify the Sick Child (page 3 continued)

CLASSIFY DIARRHOEA:

For **DEHYDRATION** and if **DIARRHOEA** for **14** days or more

SIGNS	CLASSIFY AS	TREATMENT (urgent pre-referral treatments are in bold print)
• No dehydration	PERSISTENT DIARRHOEA	➤ Advise the mother on feeding a child who has PERSISTENT DIARRHOEA . ➤ Give multivitamins and minerals (including zinc) for 14 days ➤ Follow up in 5 days.

Assess and Classify the Sick Child (page 3 continued)

CLASSIFY DIARRHOEA:

For DEHYDRATION and if **BLOOD IN STOOL**

SIGNS	CLASSIFY AS	TREATMENT (urgent pre-referral treatments are in bold print)
• Blood in the stool	DYSENTERY	➤ Give ciprofloxacin for 3 days. ➤ Follow-up in 2 days.

3rd - Fever

Does the child have fever?

(by history or feels hot or temperature 37.5°C** or above)

IF YES:

Decide Malaria Risk: high or low

THEN ASK:

- For how long?
- If more than 7 days, has fever been present every day?
- Has the child had measles within the last 3 months?

LOOK AND FEEL:

- Look or feel for stiff neck.
- Look for runny nose.
- Look for signs of MEASLES
 - Generalized rash and
 - One of these: cough, runny nose, or red eyes.

If the child has measles now or within the last 3 months:

- Look for mouth ulcers. Are they deep and extensive?
- Look for pus draining from the eye.
- Look for clouding of the cornea.

High Malaria Risk

Classify FEVER

Low Malaria Risk

if MEASLES now or within last 3 months, Classify

HIGH MALARIA RISK

<ul style="list-style-type: none"> • Any general danger sign or • Stiff neck. 	VERY SEVERE FEBRILE DISEASE	<ul style="list-style-type: none"> ➢ Give quinine for severe malaria (first dose) ➢ Give first dose of an appropriate antibiotic ➢ Treat the child to prevent low blood sugar ➢ Give one dose of paracetamol in clinic for high fever (38.5°C or above) ➢ Refer URGENTLY to hospital
<ul style="list-style-type: none"> • Fever (by history or feels hot or temperature 37.5°C** or above) 	MALARIA	<ul style="list-style-type: none"> ➢ Give oral co-artemether or other recommended antimalarial ➢ Give one dose of paracetamol in clinic for high fever (38.5°C or above) ➢ Advise mother when to return immediately ➢ Follow-up in 2 days if fever persists ➢ If fever is present every day for more than 7 days, refer for assessment

LOW MALARIA RISK

<ul style="list-style-type: none"> • Any general danger sign or • Stiff neck 	VERY SEVERE FEBRILE DISEASE	<ul style="list-style-type: none"> ➢ Give quinine for severe malaria (first dose) unless no malaria risk ➢ Give first dose of an appropriate antibiotic ➢ Treat the child to prevent low blood sugar ➢ Give one dose of paracetamol in clinic for high fever (38.5°C or above) ➢ Refer URGENTLY to hospital
<ul style="list-style-type: none"> • NO runny nose and NO measles and NO other cause of fever 	MALARIA	<ul style="list-style-type: none"> ➢ Give oral co-artemether or other recommended antimalarial ➢ Give one dose of paracetamol in clinic for high fever (38.5°C or above) ➢ Advise mother when to return immediately ➢ Follow-up in 2 days if fever persists ➢ If fever is present every day for more than 7 days, refer for assessment
<ul style="list-style-type: none"> • Runny nose PRESENT or • Measles PRESENT or • Other cause of fever PRESENT 	FEVER - MALARIA UNLIKELY	<ul style="list-style-type: none"> ➢ Give one dose of paracetamol in clinic for high fever (38.5°C or above) ➢ Advise mother when to return immediately ➢ Follow-up in 2 days if fever persists ➢ If fever is present every day for more than 7 days, refer for assessment

<ul style="list-style-type: none"> • Any general danger sign or • Clouding of cornea or • Deep or extensive mouth ulcers 	SEVERE COMPLICATED MEASLES***	<ul style="list-style-type: none"> ➢ Give Vitamin A treatment ➢ Give first dose of an appropriate antibiotic ➢ If clouding of the cornea or pus draining from the eye, apply tetracycline eye ointment ➢ Refer URGENTLY to hospital
<ul style="list-style-type: none"> • Pus draining from the eye or • Mouth ulcers 	MEASLES WITH EYE OR MOUTH COMPLICATIONS***	<ul style="list-style-type: none"> ➢ Give Vitamin A treatment ➢ If pus draining from the eye, treat eye infection with tetracycline eye ointment ➢ If mouth ulcers, treat with gentian violet ➢ Follow-up in 2 days.
<ul style="list-style-type: none"> • Measles now or within the last 3 months 	MEASLES	<ul style="list-style-type: none"> ➢ Give Vitamin A treatment

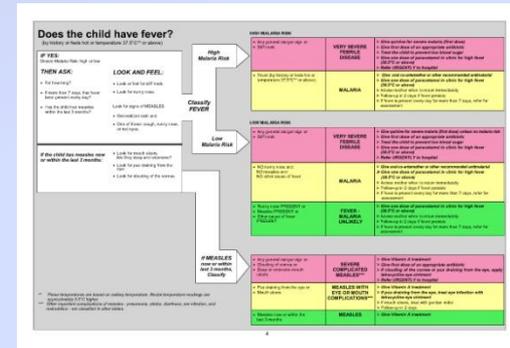
** These temperatures are based on axillary temperature. Rectal temperature readings are approximately 0.5°C higher.

*** Other important complications of measles - pneumonia, stridor, diarrhoea, ear infection, and malnutrition - are classified in other tables.

Instructor will go through each section. Class is advised to look at this page and follow along.

Follow the same pattern for fever, assessing risk of malaria, and measles with complications.

Begin treatments.



- This course will expand upon the treatment for mouth and eye complications of measles.
- In this module and in Module #3 on Oral Health, you will encounter more detailed guidelines for Noma and Nutritional Blindness than are currently in the IMCI format.

Assess and Classify the Sick Child (page 4)

DOES THE CHILD HAVE FEVER?

(by history or feels hot or temperature $37.5^{\circ}\text{C}^{**}$ or above)

IF YES:

Decide Malaria Risk: high or low

THEN ASK:

- For how long?
- If more than 7 days, has fever been present every day?
- Has the child had measles within the last 3 months

LOOK AND FEEL:

- Look or feel for stiff neck.
- Look for runny nose.

Look for signs of MEASLES

- Generalized rash and
- One of these: cough, runny nose, or red eyes.

** These temperatures are based on auxiliary temperature. Rectal temperature reading are approximately 0.5°C higher.

Assess and Classify the Sick Child (page 4 continued)

CLASSIFY FEVER:

HIGH MALARIA RISK

SIGNS	CLASSIFY AS	TREATMENT (urgent pre-referral treatments are in bold print)
<ul style="list-style-type: none">• Any general danger sign or• Stiff neck.	VERY SEVERE FEBRILE DISEASE	<ul style="list-style-type: none">➤ Give quinine for severe malaria (first dose)➤ Give first dose of an appropriate antibiotic➤ Treat the child to prevent low blood sugar.➤ Give one dose of paracetamol in clinic for high fever (38.5C or above)➤ Refer URGENTLY to hospital.

Assess and Classify the Sick Child (page 4 continued)

CLASSIFY FEVER:

HIGH MALARIA RISK

SIGNS	CLASSIFY AS	TREATMENT (urgent pre-referral treatments are in bold print)
• Fever (by history or feels hot or temperature 37.5C or above)	MALARIA	<ul style="list-style-type: none">➤ Give oral co-artemether or other recommended antimalarial➤ Give one dose of paracetamol in clinic for high fever (38.5C or above)➤ Advise mother when to return immediately.➤ Follow-up in 2 days if fever persists.➤ If fever is present every day for more than 7 days, refer for assessment.

Assess and Classify the Sick Child (page 4 continued)

CLASSIFY FEVER:

LOW MALARIA RISK

SIGNS	CLASSIFY AS	TREATMENT (urgent pre-referral treatments are in bold print)
<ul style="list-style-type: none">• Any general danger sign or• Stiff neck.	VERY SEVERE FEBRILE DISEASE	<ul style="list-style-type: none">➤ Give quinine for severe malaria (first dose) unless no malaria risk➤ Give first dose of an appropriate antibiotic➤ Treat the child to prevent low blood sugar.➤ Give one dose of paracetamol in clinic for high fever (38.5C or above)➤ Refer URGENTLY to hospital.

Assess and Classify the Sick Child (page 4 continued)

CLASSIFY FEVER:

LOW MALARIA RISK

SIGNS	CLASSIFY AS	TREATMENT (urgent pre-referral treatments are in bold print)
• NO runny nose and NO measles and NO other cause of fever	MALARIA	<ul style="list-style-type: none">➤ Give oral co-artemether or other recommended antimalarial➤ Give one dose of paracetamol in clinic for high fever (38.5C or above)➤ Advise mother when to return immediately.➤ Follow-up in 2 days if fever persists.➤ If fever is present every day for more than 7 days, refer for assessment.

Assess and Classify the Sick Child (page 4 continued)

CLASSIFY FEVER:

LOW MALARIA RISK

SIGNS	CLASSIFY AS	TREATMENT (urgent pre-referral treatments are in bold print)
<ul style="list-style-type: none">• Runny nose PRESENT or• Measles PRESENT or• Other cause of fever PRESENT	FEVER – MALARIA UNLIKELY	<ul style="list-style-type: none">➤ Give one dose of paracetamol in clinic for high fever (38.5C or above)➤ Advise mother when to return immediately.➤ Follow-up in 2 days if fever persists.➤ If fever is present every day for more than 7 days, refer for assessment.

Assess and Classify the Sick Child (page 4)

DOES THE CHILD HAVE FEVER?

(by history or feels hot or temperature $37.5^{\circ}\text{C}^{**}$ or above)

**If the child has measles
now or within the last
3 months:**

- Look for mouth ulcers,
Are they deep and extensive?
- Look for pus draining from the eye.
- Look for clouding of the cornea.

** These temperatures are based on auxiliary temperature. Rectal temperature reading are approximately 0.5°C higher.

Assess and Classify the Sick Child (page 4 continued)

If **MEASLES** now or within last 3 months,
Classify:

SIGNS	CLASSIFY AS	TREATMENT (urgent pre-referral treatments are in bold print)
<ul style="list-style-type: none"> • Any general danger sign or • Clouding of cornea or • Deep or extensive mouth ulcers 	<p>SEVERE COMPLICATED MEASLES***</p>	<ul style="list-style-type: none"> ➤ Give Vitamin A treatment ➤ Give first dose of an appropriate antibiotic ➤ If clouding of the cornea or pus draining from the eye, apply tetracycline eye ointment ➤ Refer URGENTLY to hospital.

*** Other important complications of measles – pneumonia, stridor, diarrhoea, ear infection, and malnutrition – are classified in other tables.

Assess and Classify the Sick Child (page 4 continued)

If **MEASLES** now or within last 3 months,
Classify:

SIGNS	CLASSIFY AS	TREATMENT (urgent pre-referral treatments are in bold print)
<ul style="list-style-type: none"> • Pus draining from the eye or • Mouth ulcers 	<p>MEASLES WITH EYE OR MOUTH COMPLICATIONS***</p>	<ul style="list-style-type: none"> ➤ Give Vitamin A treatment ➤ If pus draining from the eye, apply tetracycline eye ointment ➤ If mouth ulcers, treat with gentian violet. ➤ Follow-up in 2 days.

*** Other important complications of measles – pneumonia, stridor, diarrhoea, ear infection, and malnutrition – are classified in other tables.

Assess and Classify the Sick Child (page 4 continued)

If **MEASLES** now or within last 3 months,
Classify:

SIGNS	CLASSIFY AS	TREATMENT (urgent pre-referral treatments are in bold print)
• Measles now or within the last 3 months	MEASLES	➤ Give Vitamin A treatment

*** Other important complications of measles – pneumonia, stridor, diarrhoea, ear infection, and malnutrition – are classified in other tables.

Nutritional Blindness

BACKGROUND:

→ RISKS & DANGERS: A child born into poverty is at risk for nutritional blindness. Starting even before birth, if the mother has a poor diet, especially if she does not get enough vitamin A from eggs, milk, meat, and colored fruits and vegetables, her baby does not develop a strong immune system and cannot fight or heal from diseases. Illness such as measles, malaria or pneumonia can lead to blindness. If the family and caregivers do not recognize early danger signs, and start treatments immediately, permanent blindness can develop very quickly. Usually, the child will die within a few months of going blind. Survivors are blind for life. So, it is necessary to learn to recognize and to act quickly when warning signs appear in children at risk!

→ TREATMENTS: If the child is treated quickly as outlined, the progression to blindness can be stopped in the community, and both sight and life can be saved. Triple dose over 1 week of vitamin A mega-dose capsules (200,000 IU), Micronutrient Powder, Zinc-enriched dentifrice or Zinc tablets oral antibiotics and oral rehydration salts must be readily available to the child, because delay in giving the full courses of treatments could result in blindness.

→ PREVENTION: Family and health workers who care for these children must be vigilant to prevent nutritional blindness by better diet rich in eggs, milk, meat, colored fruits and vegetables. Breast milk should be the only food or drink for babies from the moment of birth to 6 months. After 6 months, children should start to be introduced to the family diet, starting with, for example, boiled eggs, with oil or other source of fat, iodized salt, and fortified with micronutrients. Even healthy children will often become malnourished if weaned to corn or other cereals alone. Immunizing children, frequent hand and face washing, keeping food and water clean and spoon feeding young children can prevent many diseases that can lead to tragedies such as blindness. Community deworming and vitamin A capsule distribution raises the level of nutrition of everyone who participates. Monitoring growth, will detect children who are failing to grow as they should due to "Hidden Hunger". These children need extra special attention, including social stimulation and improved diet fortified with extra micronutrients.

NUTRITIONAL BLINDNESS

EVALUATE:	CLASSIFY:	TREAT:
Poor vision in dim light, but eye may appear completely normal, and child may not complain of any problems, but may be noted to stop playing before other children in evening.	Stage I Night Blindness (Nyctalopia)	<ul style="list-style-type: none"> > Vitamin A Mega-Dose Capsules (200,000 International Units) Triple dose: 1st now, 2nd tomorrow, and 3rd in 7 days (For infants and pregnant women, see the charts) > Zinc tablets, or MAMA Zinc enriched Dentifrice at maximum doses for age > Essential Micronutrients (E.g.-Nora Lynne give 3 miniscoops of .15 cc daily mixed into first meal of the day) and supervise feeding or spoon-feed young child > Evaluate height and weight and treat for malnutrition (Eggs, oils and micronutrient powder) > Evaluate for anemia and treat > Bring child to doctor
Eyes are DRY, <i>may be irritated, red and sore, draining pus</i> , and child may be irritable. (Note: There are many causes of red eyes, but in the setting of micronutrient malnutrition and recent illness such as measles, red eyes must be assumed to be an ominous warning sign for developing nutritional blindness.	Stage II Dry Eyes (Xerophthalmia)	<ul style="list-style-type: none"> > In child at risk, do all of 6 treatments above > If pus present, tell mother to wash her hands, and then gently using a clean cloth and water to wipe pus away from both eyes > Squirt a small amount of tetracycline ointment on the inside of the lower lid, then wash hands again > Continue until no more pus discharge > Do not put anything else in the eye
Foamy patches appear on the whites (sclera) of the eyes.	Stage III White Patches (Bitot Spots)	<ul style="list-style-type: none"> > Do all of above for Stages I and II > This is a serious indication of advancing nutritional eye disease in a child at risk
Cornea becomes hazy, cloudy and starts to become soft like "gelatin"	Stage IV Soft Cornea (Keratomalacia)	<ul style="list-style-type: none"> > Do all of the above, with great urgency. > Start oral amoxicillin and metronidazole, or give antibiotics such as ceftriaxone by injection > Oral rehydration > Spoon feed and coax child gently to accept fluids, medications and nutritious fortified food such as eggs
Child in distress: May have pain, fever, discharge, bulging cornea, swelling around eye, discharge, ulcer on cornea	Stage V Bulging Eye	<ul style="list-style-type: none"> > Do all treatments above, starting with Vitamin A megadose capsules 3 over 1st week. > This child needs the highest level of eye care available > Start and continue all of the treatments while arranging referral and transportation
After the eye ruptures, it will scar and shrink. Dense corneal scar may cause blindness even without rupture.	Stage VI Blind Eye	<ul style="list-style-type: none"> > If blind child is encountered intact eye, but dense corneal scar (from Vitamin A deficiency, trachoma, injury, etc) refer quickly to eye clinic for surgical evaluation before disuse damages sight > Child who is irreversibly blind needs special education and rehabilitation

Instructor will go through each section. Class is advised to look at this page and follow along.

Nutritional Blindness

BACKGROUND:

→ **RISKS & DANGERS:** A child born into poverty is at risk for nutritional blindness. Starting even before birth, if the mother has a poor diet, especially if she does not get enough vitamin A from eggs, milk, meat, and colored fruits and vegetables, her baby does not develop a strong immune system and cannot fight or heal from diseases. Illness such as measles, malaria or pneumonia can lead to blindness. If the family and caregivers do not recognize early danger signs, and start treatments immediately, permanent blindness can develop very quickly. Usually, the child will die within a few months of going blind. Survivors are blind for life. So, it is necessary to learn to recognize and to act quickly when warning signs appear in children at risk!

BACKGROUND:		NUTRITIONAL BLINDNESS		
EVALUATE:	CLASSIFY:	TREAT:		
<p>→ RISKS & DANGERS: A child born into poverty is at risk for nutritional blindness. Starting even before birth, if the mother has a poor diet, especially if she does not get enough vitamin A from eggs, milk, meat, and colored fruits and vegetables, her baby does not develop a strong immune system and cannot fight or heal from diseases. Illness such as measles, malaria or pneumonia can lead to blindness. If the family and caregivers do not recognize early danger signs, and start treatments immediately, permanent blindness can develop very quickly. Usually, the child will die within a few months of going blind. Survivors are blind for life. So, it is necessary to learn to recognize and to act quickly when warning signs appear in children at risk!</p> <p>→ TREATMENTS: If the child is treated quickly as outlined, the progression to blindness can be stopped in the community, and both sight and life can be saved. Triple dose over 1 week of vitamin A mega-dose capsules (200,000 IU), Micronutrient Powder, zinc-enriched dentifrice or Zinc tablets oral antibiotics, and oral rehydration salts must be readily available to the child, because delay in giving the full courses of treatments could result in blindness.</p> <p>→ PREVENTION: Family and health workers who care for these children must be vigilant to prevent nutritional blindness by better diet rich in eggs, milk, meat, colored fruits and vegetables. Breast milk should be the only food or drink for babies from the moment of birth to 6 months. After 6 months, children should start to be introduced to the family diet, starting with, for example, boiled eggs, with oil or other source of fat, iodized salt, and fortified with micronutrients. Even healthy children will often become malnourished if weaned to corn or other cereals alone. Immunizing children, frequent hand and face washing, keeping food and water clean and spoon feeding young children can prevent many diseases that can lead to tragedies such as blindness. Community deworming and vitamin A capsule distribution raises the level of nutrition of everyone who participates. Monitoring growth will detect children who are failing to grow as they should due to "Hidden Hunger". These children need extra special attention, including social stimulation and improved diet fortified with extra micronutrients.</p>	<p>Stage I</p> <p>Night Blindness (Nyctalopia)</p>	<ul style="list-style-type: none"> > Vitamin A Mega-Dose Capsules (200,000 International Units) Triple dose: Sustain, Zinzincore, and Zactil 7 days or vitamin acetate eye drops, see the chart > Zinc tablets, or MAMA Zinc-enriched Dentifrice at maximum doses for 15 days > Evoked Microtremors (Eg. Nova Lynne give 3 microtremors of 15 cc daily mixed into first meal of the day) and supervised feeding or spoon-feeding young child > Evaluate height and weight and treat for malnutrition (Eggs, oils and micronutrient powder) > Evaluate for anemia and treat > Bring child to doctor 		
<p>→ RISKS & DANGERS: A child born into poverty is at risk for nutritional blindness. Starting even before birth, if the mother has a poor diet, especially if she does not get enough vitamin A from eggs, milk, meat, and colored fruits and vegetables, her baby does not develop a strong immune system and cannot fight or heal from diseases. Illness such as measles, malaria or pneumonia can lead to blindness. If the family and caregivers do not recognize early danger signs, and start treatments immediately, permanent blindness can develop very quickly. Usually, the child will die within a few months of going blind. Survivors are blind for life. So, it is necessary to learn to recognize and to act quickly when warning signs appear in children at risk!</p> <p>→ TREATMENTS: If the child is treated quickly as outlined, the progression to blindness can be stopped in the community, and both sight and life can be saved. Triple dose over 1 week of vitamin A mega-dose capsules (200,000 IU), Micronutrient Powder, zinc-enriched dentifrice or Zinc tablets oral antibiotics, and oral rehydration salts must be readily available to the child, because delay in giving the full courses of treatments could result in blindness.</p> <p>→ PREVENTION: Family and health workers who care for these children must be vigilant to prevent nutritional blindness by better diet rich in eggs, milk, meat, colored fruits and vegetables. Breast milk should be the only food or drink for babies from the moment of birth to 6 months. After 6 months, children should start to be introduced to the family diet, starting with, for example, boiled eggs, with oil or other source of fat, iodized salt, and fortified with micronutrients. Even healthy children will often become malnourished if weaned to corn or other cereals alone. Immunizing children, frequent hand and face washing, keeping food and water clean and spoon feeding young children can prevent many diseases that can lead to tragedies such as blindness. Community deworming and vitamin A capsule distribution raises the level of nutrition of everyone who participates. Monitoring growth will detect children who are failing to grow as they should due to "Hidden Hunger". These children need extra special attention, including social stimulation and improved diet fortified with extra micronutrients.</p>	<p>Stage II</p> <p>Dry Eyes (Xerophthalmia)</p>	<ul style="list-style-type: none"> > In child at risk, do all of treatments above > If poor present, tell mother to wash her hands, and then gently using a clean cloth and water to wipe eyes away from both eyes > Sprinkle a small amount of tetracycline ointment on the inside of the lower lid, then wash hands again > Continue until no more pain discharge > Do not put anything else in the eye 		
<p>→ RISKS & DANGERS: A child born into poverty is at risk for nutritional blindness. Starting even before birth, if the mother has a poor diet, especially if she does not get enough vitamin A from eggs, milk, meat, and colored fruits and vegetables, her baby does not develop a strong immune system and cannot fight or heal from diseases. Illness such as measles, malaria or pneumonia can lead to blindness. If the family and caregivers do not recognize early danger signs, and start treatments immediately, permanent blindness can develop very quickly. Usually, the child will die within a few months of going blind. Survivors are blind for life. So, it is necessary to learn to recognize and to act quickly when warning signs appear in children at risk!</p> <p>→ TREATMENTS: If the child is treated quickly as outlined, the progression to blindness can be stopped in the community, and both sight and life can be saved. Triple dose over 1 week of vitamin A mega-dose capsules (200,000 IU), Micronutrient Powder, zinc-enriched dentifrice or Zinc tablets oral antibiotics, and oral rehydration salts must be readily available to the child, because delay in giving the full courses of treatments could result in blindness.</p> <p>→ PREVENTION: Family and health workers who care for these children must be vigilant to prevent nutritional blindness by better diet rich in eggs, milk, meat, colored fruits and vegetables. Breast milk should be the only food or drink for babies from the moment of birth to 6 months. After 6 months, children should start to be introduced to the family diet, starting with, for example, boiled eggs, with oil or other source of fat, iodized salt, and fortified with micronutrients. Even healthy children will often become malnourished if weaned to corn or other cereals alone. Immunizing children, frequent hand and face washing, keeping food and water clean and spoon feeding young children can prevent many diseases that can lead to tragedies such as blindness. Community deworming and vitamin A capsule distribution raises the level of nutrition of everyone who participates. Monitoring growth will detect children who are failing to grow as they should due to "Hidden Hunger". These children need extra special attention, including social stimulation and improved diet fortified with extra micronutrients.</p>	<p>Stage III</p> <p>White Patches (Bitot Spots)</p>	<ul style="list-style-type: none"> > Do all of above for Stages I and II > This is an serious indication of advancing nutritional eye disease in a child at risk 		
<p>→ RISKS & DANGERS: A child born into poverty is at risk for nutritional blindness. Starting even before birth, if the mother has a poor diet, especially if she does not get enough vitamin A from eggs, milk, meat, and colored fruits and vegetables, her baby does not develop a strong immune system and cannot fight or heal from diseases. Illness such as measles, malaria or pneumonia can lead to blindness. If the family and caregivers do not recognize early danger signs, and start treatments immediately, permanent blindness can develop very quickly. Usually, the child will die within a few months of going blind. Survivors are blind for life. So, it is necessary to learn to recognize and to act quickly when warning signs appear in children at risk!</p> <p>→ TREATMENTS: If the child is treated quickly as outlined, the progression to blindness can be stopped in the community, and both sight and life can be saved. Triple dose over 1 week of vitamin A mega-dose capsules (200,000 IU), Micronutrient Powder, zinc-enriched dentifrice or Zinc tablets oral antibiotics, and oral rehydration salts must be readily available to the child, because delay in giving the full courses of treatments could result in blindness.</p> <p>→ PREVENTION: Family and health workers who care for these children must be vigilant to prevent nutritional blindness by better diet rich in eggs, milk, meat, colored fruits and vegetables. Breast milk should be the only food or drink for babies from the moment of birth to 6 months. After 6 months, children should start to be introduced to the family diet, starting with, for example, boiled eggs, with oil or other source of fat, iodized salt, and fortified with micronutrients. Even healthy children will often become malnourished if weaned to corn or other cereals alone. Immunizing children, frequent hand and face washing, keeping food and water clean and spoon feeding young children can prevent many diseases that can lead to tragedies such as blindness. Community deworming and vitamin A capsule distribution raises the level of nutrition of everyone who participates. Monitoring growth will detect children who are failing to grow as they should due to "Hidden Hunger". These children need extra special attention, including social stimulation and improved diet fortified with extra micronutrients.</p>	<p>Stage IV</p> <p>Soft Cornea (Keratomalacia)</p>	<ul style="list-style-type: none"> > Do all of the above, with great urgency, or give antibiotics such as erythromycin by injection > Oral rehydration > Spoon feed and coax child gently to accept fluids, medications and nutritious fortified food such as eggs 		
<p>→ RISKS & DANGERS: A child born into poverty is at risk for nutritional blindness. Starting even before birth, if the mother has a poor diet, especially if she does not get enough vitamin A from eggs, milk, meat, and colored fruits and vegetables, her baby does not develop a strong immune system and cannot fight or heal from diseases. Illness such as measles, malaria or pneumonia can lead to blindness. If the family and caregivers do not recognize early danger signs, and start treatments immediately, permanent blindness can develop very quickly. Usually, the child will die within a few months of going blind. Survivors are blind for life. So, it is necessary to learn to recognize and to act quickly when warning signs appear in children at risk!</p> <p>→ TREATMENTS: If the child is treated quickly as outlined, the progression to blindness can be stopped in the community, and both sight and life can be saved. Triple dose over 1 week of vitamin A mega-dose capsules (200,000 IU), Micronutrient Powder, zinc-enriched dentifrice or Zinc tablets oral antibiotics, and oral rehydration salts must be readily available to the child, because delay in giving the full courses of treatments could result in blindness.</p> <p>→ PREVENTION: Family and health workers who care for these children must be vigilant to prevent nutritional blindness by better diet rich in eggs, milk, meat, colored fruits and vegetables. Breast milk should be the only food or drink for babies from the moment of birth to 6 months. After 6 months, children should start to be introduced to the family diet, starting with, for example, boiled eggs, with oil or other source of fat, iodized salt, and fortified with micronutrients. Even healthy children will often become malnourished if weaned to corn or other cereals alone. Immunizing children, frequent hand and face washing, keeping food and water clean and spoon feeding young children can prevent many diseases that can lead to tragedies such as blindness. Community deworming and vitamin A capsule distribution raises the level of nutrition of everyone who participates. Monitoring growth will detect children who are failing to grow as they should due to "Hidden Hunger". These children need extra special attention, including social stimulation and improved diet fortified with extra micronutrients.</p>	<p>Stage V</p> <p>Bulging Eye</p>	<ul style="list-style-type: none"> > Do all treatments above, starting with Vitamin A megadose capsules 3 over 1 week > This child needs the highest level of eye care available > Start and continue all of the treatments while arranging referral and transportation 		
<p>→ RISKS & DANGERS: A child born into poverty is at risk for nutritional blindness. Starting even before birth, if the mother has a poor diet, especially if she does not get enough vitamin A from eggs, milk, meat, and colored fruits and vegetables, her baby does not develop a strong immune system and cannot fight or heal from diseases. Illness such as measles, malaria or pneumonia can lead to blindness. If the family and caregivers do not recognize early danger signs, and start treatments immediately, permanent blindness can develop very quickly. Usually, the child will die within a few months of going blind. Survivors are blind for life. So, it is necessary to learn to recognize and to act quickly when warning signs appear in children at risk!</p> <p>→ TREATMENTS: If the child is treated quickly as outlined, the progression to blindness can be stopped in the community, and both sight and life can be saved. Triple dose over 1 week of vitamin A mega-dose capsules (200,000 IU), Micronutrient Powder, zinc-enriched dentifrice or Zinc tablets oral antibiotics, and oral rehydration salts must be readily available to the child, because delay in giving the full courses of treatments could result in blindness.</p> <p>→ PREVENTION: Family and health workers who care for these children must be vigilant to prevent nutritional blindness by better diet rich in eggs, milk, meat, colored fruits and vegetables. Breast milk should be the only food or drink for babies from the moment of birth to 6 months. After 6 months, children should start to be introduced to the family diet, starting with, for example, boiled eggs, with oil or other source of fat, iodized salt, and fortified with micronutrients. Even healthy children will often become malnourished if weaned to corn or other cereals alone. Immunizing children, frequent hand and face washing, keeping food and water clean and spoon feeding young children can prevent many diseases that can lead to tragedies such as blindness. Community deworming and vitamin A capsule distribution raises the level of nutrition of everyone who participates. Monitoring growth will detect children who are failing to grow as they should due to "Hidden Hunger". These children need extra special attention, including social stimulation and improved diet fortified with extra micronutrients.</p>	<p>Stage VI</p> <p>Blind Eye</p>	<ul style="list-style-type: none"> > If blind child is encountered intact eye, but dense corneal scar from Vitamin A deficiency, trachoma, injury, etc. refer quickly to eye clinic for surgical evaluation before dense scarrares sight > Child who is irreversibly blind needs special education and rehabilitation 		

Nutritional Blindness (continued)

→ **TREATMENTS:** If the child is treated quickly as outlined, the progression to blindness can be stopped in the community, and both sight and life can be saved. Triple dose over 1 week of vitamin A mega-dose capsules (200,000 IU), Micronutrient Powder, Zinc-enriched dentifrice or Zinc tablets oral antibiotics and oral rehydration salts must be readily available to the child, because delay in giving the full courses of treatments could result in blindness.

Nutritional Blindness (continued)

→ **PREVENTION:** Family and health workers who care for these children must be vigilant to prevent nutritional blindness by better diet rich in eggs, milk, meat, colored fruits and vegetables. Breast milk should be the only food or drink for babies from the moment of birth to 6 months. After 6 months, children should start to be introduced to the family diet, starting with, for example, boiled eggs, with oil or other source of fat, iodized salt, and fortified with micronutrients. Even healthy children will often become malnourished if weaned to corn or other cereals alone. Immunizing children, frequent hand and face washing, keeping food and water clean and spoon feeding young children can prevent many diseases that can lead to tragedies such as blindness. Community deworming and vitamin A capsule distribution raises the level of nutrition of everyone who participates. Monitoring growth, will detect children who are failing to grow as they should due to “Hidden Hunger”. These children need extra special attention, including social stimulation and improved diet fortified with extra micronutrients.

Nutritional Blindness (continued)

EVALUATE:	CLASSIFY:	TREAT:
<p>Poor vision in dim light, but eye may appear completely normal, and child may not complain of any problems, but may be noted to stop playing before other children in evening.</p>	<p>Stage I</p> <p>Night Blindness (Nyctalopia)</p>	<ul style="list-style-type: none"> ➤ Vitamin A Mega-Dose Capsules (200,000 International Units) Triple dose: 1st now, 2nd tomorrow, and 3rd in 7 days (For infants and pregnant women, see the charts) ➤ Zinc tablets, or MAMA Zinc enriched Dentifrice at maximum doses for age ➤ Essential Micronutrients (E.g. Nora Lynne give 3 mini-scoops of .15 cc daily mixed into first meal of the day) and supervise feeding or spoon-feed young child ➤ Evaluate height and weight and treat for malnutrition (Eggs, oils and micronutrient powder) ➤ Evaluate for anemia and treat ➤ Bring child to doctor

Nutritional Blindness (continued)

EVALUATE:	CLASSIFY:	TREAT:
<p>Eyes are DRY, <i>may be irritated, red and sore, draining pus</i>, and child may be irritable. (Note: There are many causes of red eyes, but in the setting of micronutrient malnutrition and recent illness such as measles, red eyes must be assumed to be an ominous warning sign for developing nutritional blindness.</p>	<p>Stage II</p> <p>Dry Eyes (Xerophthalmia)</p>	<ul style="list-style-type: none"> ➤ In child at risk, do all of 6 treatments above ➤ If pus present, tell mother to wash her hands, and then gently using a clean cloth and water to wipe pus away from both eyes ➤ Squirt a small amount of tetracycline ointment on the inside of the lower lid, then wash hands again ➤ Continue until no more pus discharge ➤ Do not put anything else in the eye

Nutritional Blindness (continued)

EVALUATE:	CLASSIFY:	TREAT:
Foamy patches appear on the whites (sclera) of the eyes.	Stage III White Patches (Bitot Spots)	<ul style="list-style-type: none">➤ Do all of above for Stages I and II➤ This is an serious indication of advancing nutritional eye disease in a child at risk

Nutritional Blindness (continued)

EVALUATE:	CLASSIFY:	TREAT:
Foamy patches appear on the whites (sclera) of the eyes.	<p align="center">Stage III White Patches (Bitot Spots)</p>	<ul style="list-style-type: none"> ➤ Do all of above for Stages I and II ➤ This is an serious indication of advancing nutritional eye disease in a child at risk
Cornea becomes hazy, cloudy and starts to become soft like “gelatin”	<p align="center">Stage IV Soft Cornea (Keratomalacia)</p>	<ul style="list-style-type: none"> ➤ Do all of the above, with great urgency. ➤ Start oral amoxicillin and metronidazole, or give antibiotics such as ceftriaxone by injection ➤ Oral rehydration ➤ Spoon feed and coax child gently to accept fluids, medications and nutritious fortified food such as eggs

Nutritional Blindness (continued)

EVALUATE:	CLASSIFY:	TREAT:
<p>Child in distress: May have pain, fever, discharge, bulging cornea, swelling around eye, discharge, ulcer on cornea</p>	<p>Stage V Bulging Eye</p>	<ul style="list-style-type: none"> ➤ Do all treatments above, starting with Vitamin A megadose capsules 3 over 1st week. ➤ This child needs the highest level of eye care available ➤ Start and continue all of the treatments while arranging referral and transportation

Nutritional Blindness (continued)

EVALUATE:	CLASSIFY:	TREAT:
<p>After the eye ruptures, it will scar and shrink. Dense corneal scar may cause blindness even without rupture.</p>	<p>Stage VI Blind Eye</p>	<ul style="list-style-type: none">➤ If blind child is encountered intact eye, but dense corneal scar (from Vitamin A deficiency, trachoma, injury, etc) refer quickly to eye clinic for surgical evaluation before disuse damages sight➤ Child who is irreversibly blind needs special education and rehabilitation

Soft Tissue Infections of the Mouth & Face

SOFT TISSUE INFECTIONS OF THE MOUTH AND FACE

ASK:

- Does child have fever?
- Trouble eating or drinking?
- Recent weight loss?
- Pain in the molar that is intense and continuous?
- Pain in cheek, gums, tongue or mouth?
- Has child recently had a serious illness or a childhood viral illness with rash, or been exposed to strep, mono, mumps, etc.?
- Inquire regarding noma risk factors (Same complaints are much more serious in that context)

NOMA RISK FACTORS:

- Village far from medical care
- Contaminated food and water
- Household exposure to animals
- Poor oral hygiene
- Growth stunting from malnutrition, especially starting before birth
- Not exclusively breastfed 1st 6mo
- Poverty
- Lack of immunizations
- Serious infection, such as mononucleosis, chickenpox, oral herpes, roseola, CMV, measles, malaria, TB, HIV

In this context, children are immune suppressed, so mouth infections are life threatening. Begin treatments without delay in the community and continue until cured.

OBSERVE:

- Bad breath?
 - Does child appear ill, uncomfortable, irritable, or lethargic?
 - Blisters, spots, ulcers, sores on lips, gums, lining of mouth?
 - White patches in the mouth?
 - Bleeding gums?
 - Pus, redness, warmth, soreness (signs of infection) in mouth?
 - Loss of borders of gums, dead or dying tissue or defects inside mouth, or on face?
 - Swelling of the face, gums, lips, or inside of cheek?
 - Dark hard plaque on face, with line separating dead (gangrenous) tissue from living tissue?
 - Scar or defect in face?
 - Drooling, trouble swallowing, pain with eating or drinking?
 - Small holes or dark spots on surface of teeth?
 - Decayed molars?
 - Food debris or soft plaque on teeth?
 - Enlarged red tonsils? Pus on tonsils?
 - Swelling in the soft tissues around the tonsils?
 - Swollen lymph nodes in front or back of neck?
 - Swollen saliva glands in front of ear, or under jaw?
- NOTE: Severe persistent toothache with either hot, cold or pressure and swelling of face near the affected tooth indicates possible acute dental abscess-SEE PAGE ---- TOOTH PROBLEMS

EVALUATE: CLASSIFY: TREAT:

EVALUATE:	CLASSIFY:	TREAT:
SUSPECT NOMA IN CHILD AT RISK	Bad breath, gums red, bleeding, swollen, starting loss of tissue; poor oral hygiene, any mouth sores in child at risk of noma	Noma Stage I Mucosal Lesion ANUG <ul style="list-style-type: none"> > Clean mouth, rinse with salt water > Vitamin A, Zinc, Vitamin C, and all Essential Micronutrients > Antibiotics by mouth-Amoxicillin &/or Metronidazole See charts > Start in the community
	Fever, trouble eating, drooling, weight loss, mucosal lesions, swelling spreading to cheek, chin, nose or other parts of face; irritable, or lethargic and dehydrated; signs of infection	Noma Stage II Facial Swelling <ul style="list-style-type: none"> > Perform all treatments for Stage I; Use oral or IV antibiotics > Refer to highest level of emergency care available > Treat dehydration and other conditions, including malnutrition > Feed by mouth or tube if needed > EMERGENCY –Still reversible!
	Border appears between living and dead soft tissue and bones of face	Noma Stage III Gangrene Plaque <ul style="list-style-type: none"> > Perform all of the treatments for Stage I & II, including referral to specialty care > Keep wound clean, change bandages regularly (See manual)
	Permanent defect in face, with loss of function and facial appearance	Noma Stage IV Scar Tissue <ul style="list-style-type: none"> > Refer to surgical specialty clinic for reconstructive surgery, dental care > Psychological care, counseling > Therapy to restore function
-Swelling, warmth, redness in the face, or any of the findings above for Noma STAGE II: SEE ABOVE -Swelling of the soft tissues around the tonsils	Severe Facial or Peritonsillar Infection	> PERFORM ALL TREATMENTS FOR STAGE I&II NOMA ABOVE <ul style="list-style-type: none"> > Treat fever, pain, > Send urgently to hospital, but begin all treatments in the community and continue during transportation to hospital
•Painful spots, ulcers, blisters or lesions of lips or gums •Bleeding or swollen gums	Stomatitis or Gingivitis	> Rx herpes, if present <ul style="list-style-type: none"> > Advise improved diet, hygiene, antiseptic rinses, Essential Micronutrients, Zinc, Vitamin C; Vitamin A for measles > Control pain, fever, avoid acidic foods > Infectious precautions if this is oral sign of viral illness (Check immunizations) > Watch for signs of progression to noma
-White patches on mucosa of tongue, lips, gums, palate, or inside of the cheeks	Oral Candidiasis (Thrush)	> Administer oral nystatin <ul style="list-style-type: none"> > Treat fever and pain > Give abundant liquids > Teach the mother danger signs for dehydration > Follow the child in 1-2 days if not better
-Age over 3 -Swollen and painful lymphatic glands in the neck -Tonsil/throat swelling, pus, redness	Strep Throat or Tonsil Infection	> Give plenty of fluids <ul style="list-style-type: none"> > Treat fever and pain > Oral antibiotics
-None of the above symptoms or signs that would indicate serious infection in the mouth	No Oral Infection, or Mild Viral Illness	> Teach fluids, danger signs <ul style="list-style-type: none"> > Treat fever and pain > Teach prevention of spread of viruses- Hand washing, hygiene

page 4b

Instructor will go through each section. Class is advised to look at this page and follow along.

Soft Tissue Infections of the Mouth & Face (continued)

ASK:

- Does child have fever?
- Trouble eating or drinking?
- Recent weight loss?
- Pain in the molar that is intense and continuous?
- Pain in cheek, gums, tongue or mouth?
- Has child recently had a serious illness with rash, or been exposed to strep, mono, mumps, etc.?
- Inquire regarding noma risk factors (Same complaints are much more serious in that context)

ASK:

- Does child have fever?
- Trouble eating or drinking?
- Recent weight loss?
- Pain in the molar that is intense and continuous?
- Pain in cheek, gums, tongue or mouth?
- Has child recently had a serious illness or a childhood viral illness with rash, or been exposed to strep, mono, mumps, etc.?
- Inquire regarding noma risk factors (Same complaints are much more serious in that context)

- NOMA RISK FACTORS:**
- Village far from medical care
 - Contaminated food and water
 - Household exposure to animals
 - Poor oral hygiene
 - Growth stunting from malnutrition, especially starting before birth
 - Not exclusively breastfed 1st 6mo
 - Poverty
 - Lack of immunizations
 - Serious infection, such as mononucleosis, chickenpox, oral herpes, measles, CMV, measles, malaria, TB, HIV
- In this context, children are immune suppressed, so mouth infections are life-threatening. Begin treatment without delay in the community and continue until cured.*

OBSERVE:

- Bad breath?
 - Does child appear ill, uncomfortable, irritable, or lethargic?
 - Blisters, spots, ulcers, sores on lips, gums, lining of mouth?
 - White patches in the mouth?
 - Bleeding gums?
 - Pus, redness, warmth, soreness (signs of infection) in mouth?
 - Loss of borders of gums, dead or dying tissue or defects inside mouth, or on face?
 - Swelling of the face, gums, lips, or inside of cheek?
 - Dark hard plaque on face, with line separating dead (gangrenous) tissue from living tissue?
 - Scar or defect in face?
 - Drooling, trouble swallowing, pain with eating or drinking?
 - Sm all holes or dark spots on surface of teeth?
 - Decayed molars?
 - Food debris or soft plaque on teeth?
 - Enlarged red tonsils? Pus on tonsils?
 - Swelling in the soft tissues around the tonsils?
 - Swollen lymph nodes in front or back of neck?
 - Swollen saliva glands in front of ear, or under jaw?
- NOTE: Severe persistent toothache with either hot, cold or pressure and swelling of face near the affected tooth indicates possible acute dental abscess-SEE PAGE — TOOTH PROBLEMS

SOFT TISSUE INFECTIONS OF THE MOUTH AND FACE

	EVALUATE:	CLASSIFY:	TREAT:
SUSPECT NOMA IN CHILD AT RISK	Bad breath, gums red, bleeding, swollen, starting loss of tissue, poor oral hygiene, any mouth sores in child at risk of noma	Noma Stage I Mucosal Lesion ANUG	<ul style="list-style-type: none"> > Clean mouth, rinse with salt water > Vitamin A, Zinc, Vitamin C, and all Essential Micronutrients > Antibiotics by mouth-Amoxicillin &/or Metronidazole See charts > Start in the community
	Fever, trouble eating, drooling, weight loss, mucosal lesions, swelling spreading to cheek, chin, nose or other parts of face, irritable, or lethargic and dehydrated; signs of infection	Noma Stage II Facial Swelling	<ul style="list-style-type: none"> > Perform all treatments for Stage I; Use oral or IV antibiotics > Refer to highest level of emergency care available > Treat dehydration and other conditions, including malnutrition > Feed by mouth or tube if needed > EMERGENCY-Still reversible!
	Border appears between living and dead soft tissue and bones of face	Noma Stage III Gangrene Plaque	<ul style="list-style-type: none"> > Perform all of the treatments for Stage I&II, including referral to specialty care > Keep wound clean, change bandages regularly (See manual)
	Permanent defect in face, with loss of function and facial appearance	Noma Stage IV Scar Tissue	<ul style="list-style-type: none"> > Refer to surgical specialty clinic for reconstructive surgery, dental care > Psychological care, counseling > Therapy to restore function
SEVERE FACIAL OR PERITONSILLAR INFECTION	-Swelling, warmth, redness in the face, or any of the findings above for Noma STAGE II: SEE ABOVE	Severe Facial or Peritonsillar Infection	<ul style="list-style-type: none"> > PERFORM ALL TREATMENTS FOR STAGE I&II ABOVE > Treat fever, pain. > Send urgently to hospital, but begin all treatments in the community and continue during transportation to hospital.
	-Painful spots, ulcers, blisters or lesions of lips or gums	Stomatitis or Gingivitis	<ul style="list-style-type: none"> > Rx herpes, if present > Advise improved diet, hygiene, and aseptic rinses, Essential Micronutrients, Zinc, Vitamin C, Vitamin A for measles > Control pain, fever, avoid acidic foods > Infectious precautions if this is oral sign of viral illness (Check immunizations) > Watch for signs of progression to noma
	-White patches on mucosa of tongue, lips, gums, palate, or inside of the cheeks	Oral Candidiasis (Thrush)	<ul style="list-style-type: none"> > Administer oral nystatin > Give abundant liquids > Teach the mother danger signs for dehydration > Follow the child in 1-2 days if not better
	-Age over 3	Strep Throat or Tonsil Infection	<ul style="list-style-type: none"> > Give plenty of fluids > Treat fever and pain > Oral antibiotics
	-None of the above symptoms or signs that would indicate serious infection in the mouth	No Oral Infection, or Mild Viral Illness	<ul style="list-style-type: none"> > Teach fluids, danger signs > Treat fever and pain > Teach prevention of spread of viruses-Hand washing, hygiene

Soft Tissue Infections of the Mouth & Face (continued)

OBSERVE:

- Bad breath?**
- Does child appear ill, uncomfortable, irritable, or lethargic?**
- Blisters, spots, ulcers, sores on lips, gums, lining of mouth?**
- White patches in the mouth?**
- Bleeding gums?**
- Pus, redness, warmth, soreness (signs of infection) in mouth?**
- Loss of borders of gums, dead or dying tissue or defects inside mouth, or on face?**
- Swelling of the face, gums, lips, or inside of cheek?**
- Dark hard plaque on face, with line separating dead (gangrenous) tissue from living tissue?**
- Scar or defect in face?**
- Drooling, trouble swallowing, pain with eating or drinking?**
- Small holes or dark spots on surface of teeth?**
- Decayed molars?**
- Food debris or soft plaque on teeth?**
- Enlarged red tonsils? Pus on tonsils?**
- Swelling in the soft tissues around the tonsils?**
- Swollen lymph nodes in front or back of neck?**
- Swollen saliva glands in front of ear, or under jaw?**

**NOTE: Severe persistent toothache with either hot, cold or pressure and swelling of face near the affected tooth indicates possible acute dental abscess-SEE PAGE -----
TOOTH PROBLEMS**

Soft Tissue Infections of the Mouth & Face (continued)

NOMA RISK FACTORS:

Village far from medical care
Contaminated food and water
Household exposure to animals
Poor oral hygiene
Growth stunting from malnutrition, especially starting before birth
Not exclusively breastfed 1st 6mo
Poverty
Lack of immunizations
Serious infection, such as mononucleosis, chickenpox, oral herpes, roseola, CMV, measles, malaria, TB, HIV

In this context, children are immune suppressed, so mouth infections are life threatening. Begin treatments without delay in the community and continue until cured.

Soft Tissue Infections of the Mouth & Face (continued)

	EVALUATE:	CLASSIFY:	TREAT:
SUSPECT NOMA IN CHILD AT RISK	Bad breath, gums red, bleeding, swollen, starting loss of tissue; poor oral hygiene, any mouth sores in child at risk of noma	Noma Stage I Mucosal Lesion ANUG	<ul style="list-style-type: none"> ➤ Clean mouth, rinse with salt water ➤ Vitamin A, Zinc, Vitamin C, and all Essential Micronutrients ➤ Antibiotics by mouth-Amoxicillin &/or Metronidazole See charts ➤ Start in the community
	Fever, trouble eating, drooling, weight loss, mucosal lesions, swelling spreading to cheek, chin, nose or other parts of face; irritable, or lethargic and dehydrated; signs of infection	Noma Stage II Facial Swelling	<ul style="list-style-type: none"> ➤ Perform all treatments for Stage I; Use oral or IV antibiotics ➤ Refer to highest level of emergency care available ➤ Treat dehydration and other conditions, including malnutrition ➤ Feed by mouth or tube if needed ➤ EMERGENCY –Still reversible!

Soft Tissue Infections of the Mouth & Face (continued)

		EVALUATE:	CLASSIFY:	TREAT:
SUSPECT NOMA IN CHILD AT RISK	Border appears between living and dead soft tissue and bones of face		Noma Stage III Gangrene Plaque	<ul style="list-style-type: none"> ➤ Perform all of the treatments for Stage I&II, including referral to specialty care ➤ Keep wound clean, change bandages regularly (See manual)
	Permanent defect in face, with loss of function and facial appearance		Noma Stage IV Scar Tissue	<ul style="list-style-type: none"> ➤ Refer to surgical specialty clinic for reconstructive surgery, dental care ➤ Psychological care, counseling ➤ Therapy to restore function

Soft Tissue Infections of the Mouth & Face (continued)

EVALUATE:	CLASSIFY:	TREAT:
<p>-Swelling, warmth, redness in the face, or any of the findings above for Noma STAGE II: SEE ABOVE</p> <p>-Swelling of the soft tissues around the tonsils</p>	<p>Severe Facial or Peritonsillar Infection</p>	<ul style="list-style-type: none"> ➤ PERFORM ALL TREATMENTS FOR STAGE I&II NOMA ABOVE ➤ Treat fever, pain, ➤ Send urgently to hospital, but begin all treatments in the community and continue during transportation to hospital

Soft Tissue Infections of the Mouth & Face (continued)

EVALUATE:	CLASSIFY:	TREAT:
<ul style="list-style-type: none"> •Painful spots, ulcers, blisters or lesions of lips or gums •Bleeding or swollen gums 	<p>Stomatitis or Gingivitis</p>	<ul style="list-style-type: none"> ➤ Rx herpes, if present ➤ Advise improved diet, hygiene, antiseptic rinses, Essential Micronutrients, Zinc, Vitamin C; Vitamin A for measles ➤ Control pain, fever, avoid acidic foods ➤ Infectious precautions if this is oral sign of viral illness (Check immunizations) ➤ Watch for signs of progression to noma

Soft Tissue Infections of the Mouth & Face (continued)

EVALUATE:	CLASSIFY:	TREAT:
<p>-White patches on mucosa of tongue, lips, gums, palate, or inside of the cheeks</p>	<p>Oral Candidiasis (Thrush)</p>	<ul style="list-style-type: none"> ➤ Administer oral nystatin ➤ Treat fever and pain ➤ Give abundant liquids ➤ Teach the mother danger signs for dehydration ➤ Follow the child in 1-2 days if not better

Soft Tissue Infections of the Mouth & Face (continued)

EVALUATE:	CLASSIFY:	TREAT:
<ul style="list-style-type: none"> -Age over 3 -Swollen and painful lymphatic glands in the neck -Tonsil/throat swelling, pus, redness 	<p style="text-align: center;">Strep Throat or Tonsil Infection</p>	<ul style="list-style-type: none"> ➤ Give plenty of fluids ➤ Treat fever and pain ➤ Oral antibiotics

Soft Tissue Infections of the Mouth & Face (continued)

EVALUATE:	CLASSIFY:	TREAT:
<p>-None of the above symptoms or signs that would indicate serious infection in the mouth</p>	<p>No Oral Infection, or Mild Viral Illness</p>	<ul style="list-style-type: none"> ➤ Teach fluids, danger signs ➤ Treat fever and pain ➤ Teach prevention of spread of viruses-Hand washing, hygiene

4th - Ear problems

Does the child have an ear problem?

<p>IF YES, ASK:</p> <ul style="list-style-type: none"> • Is there ear pain? • Is there ear discharge? If yes, for how long? 	<p>LOOK AND FEEL:</p> <ul style="list-style-type: none"> • Look for pus draining from the ear. • Feel for tender swelling behind the ear. 	<p>Classify EAR PROBLEM</p>	<ul style="list-style-type: none"> • Tender swelling behind the ear. 	<p>MASTOIDITIS</p>	<ul style="list-style-type: none"> ➢ Give first dose of an appropriate antibiotic. ➢ Give first dose of paracetamol for pain. ➢ Refer URGENTLY to hospital.
			<ul style="list-style-type: none"> • Pus is seen draining from the ear and discharge is reported for less than 14 days, or • Ear pain. 	<p>ACUTE EAR INFECTION</p>	<ul style="list-style-type: none"> ➢ Give an antibiotic for 5 days. ➢ Give paracetamol for pain. ➢ Dry the ear by wicking. ➢ Follow-up in 5 days.
			<ul style="list-style-type: none"> • Pus is seen draining from the ear and discharge is reported for 14 days or more. 	<p>CHRONIC EAR INFECTION</p>	<ul style="list-style-type: none"> ➢ Dry the ear by wicking. ➢ Treat with topical quinolone eardrops for 2 weeks ➢ Follow-up in 5 days.
			<ul style="list-style-type: none"> • No ear pain and No pus seen draining from the ear. 	<p>NO EAR INFECTION</p>	<ul style="list-style-type: none"> ➢ No treatment.

Instructor will go through each section. Class is advised to look at this page and follow along.

Assess and Classify the Sick Child (page 5)

DOES THE CHILD HAVE AN EAR PROBLEM?

IF YES, ASK:

- Is there ear pain?
- Is there ear discharge?
If yes, for how long?

LOOK AND FEEL:

- Look for pus draining from the ear.
- Feel for tender swelling behind the ear.

Assess and Classify the Sick Child (page 5 continued)

Classify EAR PROBLEM

SIGNS	CLASSIFY AS	TREATMENT (urgent pre-referral treatments are in bold print)
• Tender swelling behind the ear.	MASTOIDITIS	<ul style="list-style-type: none">➤ Give first dose of an appropriate antibiotic.➤ Give first dose of paracetamol for pain.➤ Refer URGENTLY to hospital.

Assess and Classify the Sick Child (page 5 continued)

Classify EAR PROBLEM

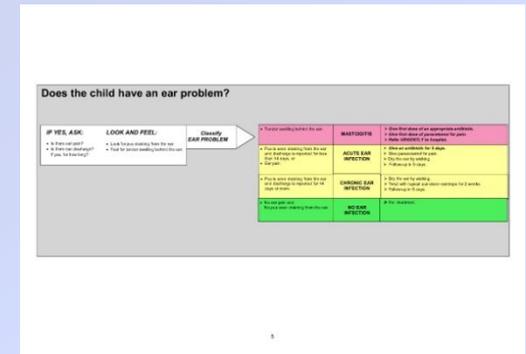
SIGNS	CLASSIFY AS	TREATMENT (urgent pre-referral treatments are in bold print)
<ul style="list-style-type: none">• Pus is seen draining from the ear and discharge is reported for less than 14 days, or• Ear pain	ACUTE EAR INFECTION	<ul style="list-style-type: none">➤ Give an antibiotic for 5 days.➤ Give paracetamol for pain.➤ Dry the ear by wicking.➤ Follow-up in 5 days.

Assess and Classify the Sick Child (page 5 continued)

Classify EAR PROBLEM

SIGNS	CLASSIFY AS	TREATMENT (urgent pre-referral treatments are in bold print)
• No ear pain and No pus seen draining from the ear	NO EAR INFECTION	➤ No treatment.

Does the child have an ear problem?



- Note the instructions to refer children with mastoiditis to hospital after one dose of antibiotics.
- As with other severe infections, if that is feasible, do it.
- If it is not feasible, give a prolonged course of antibiotics in the home, using high end of the recommended dosage range oral treatments if that is your only option.
- Administer other appropriate treatments such as Vitamin A, Essential Micronutrients, deworming

5th - Malnutrition & Anaemia

THEN CHECK FOR MALNUTRITION AND ANAEMIA

CHECK FOR MALNUTRITION

LOOK AND FEEL:

- Look for visible severe wasting
- Look for oedema of both feet
- Determine weight for age

CLASSIFY NUTRITIONAL STATUS

<ul style="list-style-type: none"> • Visible severe wasting or • Oedema of both feet 	SEVERE MALNUTRITION	<ul style="list-style-type: none"> > <i>Treat the child to prevent low sugar</i> > <i>Refer URGENTLY to a hospital</i>
<ul style="list-style-type: none"> • Very low weight for age 	VERY LOW WEIGHT	<ul style="list-style-type: none"> > Assess the child's feeding and counsel the mother on feeding according to the feeding recommendations > Advise mother when to return immediately > Follow-up in 30 days
<ul style="list-style-type: none"> • Not very low weight for age and no other signs of malnutrition 	NOT VERY LOW WEIGHT	<ul style="list-style-type: none"> > If child is less than 2 years old, assess the child's feeding and counsel the mother on feeding according to the feeding recommendations <ul style="list-style-type: none"> - If feeding problem, follow-up in 5 days > Advise mother when to return immediately

CHECK FOR ANAEMIA

LOOK and FEEL:

- Look for palmar pallor. Is it: Severe palmar pallor? Some palmar pallor?

CLASSIFY ANAEMIA

<ul style="list-style-type: none"> • Severe palmar pallor 	SEVERE ANAEMIA	> <i>Refer URGENTLY to hospital</i>
<ul style="list-style-type: none"> • Some palmar pallor 	ANAEMIA	<ul style="list-style-type: none"> > Give iron > Give oral antimalarial if high malaria risk > Give mebendazole if child is 1 year or older and has not had a dose in the previous six months > Advise mother when to return immediately > Follow up in 14 days
<ul style="list-style-type: none"> • No palmar pallor 	NO ANAEMIA	<ul style="list-style-type: none"> If child is less than 2 years old, assess the child's feeding and counsel the mother on feeding according to the feeding recommendations <ul style="list-style-type: none"> - If feeding problem, follow-up in 5 days

6

Instructor will go through each section. Class is advised to look at this page and follow along.

Assess and Classify the Sick Child (page 6)

THEN CHECK FOR MALNUTRITION AND ANAEMIA

CHECK FOR MALNUTRITION

LOOK AND FEEL:

- Look for visible severe wasting
- Look for oedema of both feet
- Determine weight for age

Assess and Classify the Sick Child (page 6 continued)

Classify NUTRITIONAL STATUS

SIGNS	CLASSIFY AS	TREATMENT (urgent pre-referral treatments are in bold print)
<ul style="list-style-type: none">• Visible severe wasting or• Oedema of both feet	SEVERE MALNUTRITION	<ul style="list-style-type: none">➤ Treat the child to prevent low sugar.➤ Refer URGENTLY to a hospital.

Assess and Classify the Sick Child (page 6 continued)

Classify NUTRITIONAL STATUS

SIGNS	CLASSIFY AS	TREATMENT (urgent pre-referral treatments are in bold print)
• Very low weight for age	VERY LOW WEIGHT	➤ Assess the child's feeding and counsel the mother on feeding according to the feeding recommendations. ➤ Advise mother when to return immediately. ➤ Follow-up in 30 days.

Assess and Classify the Sick Child (page 6 continued)

Classify NUTRITIONAL STATUS

SIGNS	CLASSIFY AS	TREATMENT (urgent pre-referral treatments are in bold print)
• Not very low weight for age and no other signs of malnutrition	NOT VERY LOW WEIGHT	➤ If child is less than 2 years old, assess the child's feeding and counsel the mother on feeding according to the feeding recommendations. - If feeding problem, follow-up in 5 days. ➤ Advise mother when to return immediately.

Assess and Classify the Sick Child (page 6)

THEN CHECK FOR MALNUTRITION AND ANAEMIA

CHECK FOR ANAEMIA

LOOK AND FEEL:

- Look for palmar pallor. Is it:
 - Severe palmar pallor?
 - Some palmar pallor?

Assess and Classify the Sick Child (page 6 continued)

Classify ANAEMIA

SIGNS	CLASSIFY AS	TREATMENT (urgent pre-referral treatments are in bold print)
• Severe pallmar pallor	SEVERE ANAEMIA	➤ Refer URGENTLY to hospital

Assess and Classify the Sick Child (page 6 continued)

Classify ANAEMIA

SIGNS	CLASSIFY AS	TREATMENT (urgent pre-referral treatments are in bold print)
• Some palmar pallor	ANAEMIA	<ul style="list-style-type: none">➤ Give iron➤ Give oral antimalarial if high malaria risk➤ Give mebendazole if child is 1 year or older and has not had a dose in the previous six months➤ Advise mother when to return immediately➤ Follow-up in 14 days

Assess and Classify the Sick Child (page 6 continued)

Classify ANAEMIA

SIGNS	CLASSIFY AS	TREATMENT (urgent pre-referral treatments are in bold print)
• No palmar pallor	NO ANAEMIA	➤ If child is less than 2 years old, assess the child's feeding and counsel the mother on feeding according to the feeding recommendations. - If feeding problem, follow-up in 5 days.

Acute Malnutrition (continued)

BACKGROUND:

- Acute malnutrition can be assessed by weight for age up to 5th Birthday, BMI for age after 5th Birthday, mid upper arm circumference in children 12-60 months or weight for height if exact birthday is unknown, but child is judged to be under 5.
- If child has edema (swelling), the weight is not a dependable indicator of acute malnutrition, and the classification is automatically SEVERE
- Use any chart or table assess and treat according to the principles outlined

Acute Malnutrition (continued)

Ask:

- Exact birth date

Calculate:

- Age to the exact month completed

Observe:

- Weight to the exact .1kilogram (or 100g)
- Height to 1mm
- Swelling of feet?
- Wasting?
- Swollen belly?
- Skin & hair pale, dry?
- Lethargy?

Find BMI on table if using

Acute Malnutrition (continued)

Using MAMA Tables determine if child in:

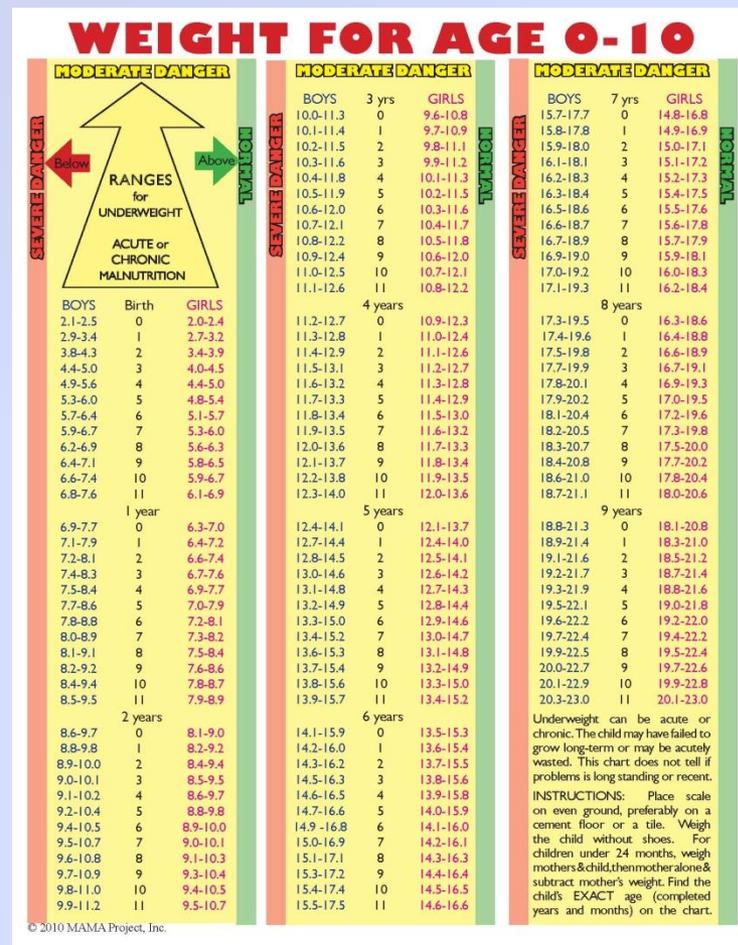
- High Risk Range (Red Column)
- Moderate Risk Range (Yellow Column)
- Normal Risk Range (Green)

Or, use WHO International Growth Charts find Z-scores:

- Severe: $< -3Z$,
- Moderate: < -2 to $-3Z$
- Normal -2 to $+2$

*Note that children in the normal range may still be mildly under or overweight

MONITOR until 19yr



Acute Malnutrition (continued)

EVALUATE:	CLASSIFY:	TREAT:
<p>Weight for age &/or Weight for Height &/or BMI for Age &/or Mid Upper Arm Circ</p> <p>In SEVERE Range or any edema of feet</p> <p>Or Z-Score: < -3</p> <p>Kwashiorkor or “Wet”: Feet swelling, poor skin, orange hair, swollen belly, lethargic, anorexic</p> <p>Marasmus or “Dry”: Wasted, emaciated, with wrinkled skin, agitated, hungry</p>	<p>Severe Wasting</p>	<ul style="list-style-type: none"> •Nora Lynne Micronutrient Powder (MNP) 3 mini-scoops daily •Check weight/height every 2-4 weeks •Nutritious Diet-See guidelines for age in IMCI booklet •Breast Feeding up to 2 years • Nutritional Rehab in community or NUTRITION CENTER –Start slowly •If available, use Ready to Use Therapeutic Food (RUTF) such a Plumpy Nut or MAMA SuperCookies •If no RUTF, supplement the diet with “Homemade RUTF”: Boil 3 eggs/day; 3x per day, between meals, mash 1 egg, mix in 10cc oil or fat, iodized salt, and 1 mini-scoop MNP •Spoon-feed young children •Deworm with Albendazole •Treat all other associated illnesses with great urgency in child at high risk •Keep child warm, give glucose, and start appropriate antibiotic immediately

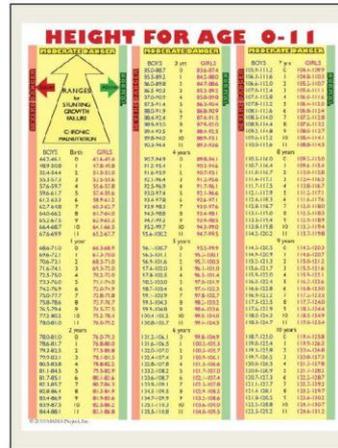
Acute Malnutrition (continued)

EVALUATE:	CLASSIFY:	TREAT:
Measurements in range for center yellow area Z-Score: <-2 to -3	Moderate Wasting	<ul style="list-style-type: none">• Nora Lynne Micronutrient Powder 2 mini-scoops daily• Carry out all above, adding 2 feeding of eggs and oil as above

Acute Malnutrition (continued)

EVALUATE:	CLASSIFY:	TREAT:
Measurements above yellow ranges, into green or normal area Z-Score: -2 to +2	Normal (*See Sidebar)	<ul style="list-style-type: none">•Nora Lynne Micronutrient Powder 1 mini-scoop daily•Carry out all above, adding 1 feeding of eggs and oil as a preventive measure for any child from family or community at risk for acute malnutrition

Chronic Malnutrition



BACKGROUND:

- Micronutrient Malnutrition is also called "Hidden Hunger"
- The biggest RISK FACTOR for childhood mortality is Micronutrient Malnutrition
- Nutritional Acquired Immune Deficiency Syndrome (Nutritional AIDS) due to Micronutrient Malnutrition makes children vulnerable to serious infections
- The greatest evidence of Micronutrient Malnutrition is Growth Failure or Stunting

Ask:
 Exact birth date
Calculate:
 Age to the exact month completed

Observe:
 Height to the exact millimeter
 Swelling of feet?
 Wasting?
 Swollen belly?
 Skin & hair pale, dry?
 Lethargy?

Using MAMA Tables determine if child in:

High Risk Range (Red Column)
Moderate Risk Range (Yellow Column)
Normal Risk Range (Green)

Or, use WHO International Growth Charts find Z-scores:
 Severe: <-3Z,
 Moderate: <-2 to -3Z
 Normal -2 to +2)

Note that children in the normal range may still be failing to reach their own personal genetic potential height due to chronic malnutrition

MONITOR until 19yr

CHRONIC MALNUTRITION		
EVALUATE:	CLASSIFY:	TREAT:
Height falls below range for sex and age in the center yellow column Z-score below -3 May have <u>no</u> physical evidence of swelling, wasting, poor skin or hair quality, swollen belly, or lethargy.	Severe Growth Failure	<ul style="list-style-type: none"> • Nora Lynne Micronutrient Powder (MNP) 3 mini-scoops daily • Recheck Growth every 4 weeks in community • Nutritional Diet-See guidelines for age in IMCI booklet • Breast Feeding up to 2 years • Nutritional Rehab in community or NUTRITION CENTER • If available, use Ready to Use Therapeutic Food (RUTF) such a Plumpy Nut or MAMA SuperCookies • If no RUTF, supplement the diet with "Homemade RUTF": Boil 3 eggs/day; 3x per day, between meals, mash 1 egg, mix in 10cc oil or fat, iodized salt, and 1 mini-scoop MNP • Spoon-feed young children • Deworm with albendazole • Treat all other associated illnesses with great urgency in child at high risk
Height falls in range for sex and age in the center yellow column Z-Score -2 to -3 May look normal but still have "Hidden Hunger"	Moderate Growth Failure	<ul style="list-style-type: none"> • Nora Lynne Micronutrient Powder 2 mini-scoops daily • Carry out all above, adding 2 feeding of eggs and oil as above
Height is above range for sex and age in the center yellow column Z-Score -2 to +2 May still be undernourished	Normal Growth	<ul style="list-style-type: none"> • Nora Lynne Micronutrient Powder 1 mini-scoop daily • Carry out all above, adding 1 feeding of eggs and oil as a preventive measure for any child from family or community at risk for micronutrient malnutrition

Instructor will go through each section. Class is advised to look at this page and follow along.

Chronic Malnutrition (continued)

BACKGROUND:

- Micronutrient Malnutrition is also called “Hidden Hunger”
- The biggest RISK FACTOR for childhood mortality is Micronutrient Malnutrition
- Nutritional Acquired Immune Deficiency Syndrome (Nutritional AIDS) due to Micronutrient Malnutrition makes children vulnerable to serious infections
- The greatest evidence of Micronutrient Malnutrition is Growth Failure or Stunting

Chronic Malnutrition (continued)

Ask:

- Exact birth date

Calculate:

- Age to the exact month completed

Observe:

- Height to the exact millimeter
- Swelling of feet?
- Wasting?
- Swollen belly?
- Skin & hair pale, dry?
- Lethargy?

Chronic Malnutrition (continued)

Using MAMA Tables determine if child in:

- High Risk Range (Red Column)
- Moderate Risk Range (Yellow Column)
- Normal Risk Range (Green)

Or, use WHO International Growth Charts find Z-scores:

- Severe: $< -3Z$,
- Moderate: < -2 to $-3Z$
- Normal -2 to $+2$

* Note that children in the normal range may still be failing to reach their own personal genetic potential height due to chronic malnutrition

MONITOR until 19yr

HEIGHT FOR AGE 0-11

MODERATE DANGER			MODERATE DANGER			MODERATE DANGER		
SEVERE DANGER	Below	RANGES for STUNTING GROWTH FAILURE CHRONIC MALNUTRITION	Above	SEVERE DANGER	SEVERE DANGER	SEVERE DANGER	SEVERE DANGER	SEVERE DANGER
		BOYS Birth GIRLS			BOYS 3 yrs GIRLS			BOYS 7 yrs GIRLS
		44.2-46.1 0 43.6-45.4			85.0-88.7 0 83.6-87.4			105.9-111.2 0 104.4-109.9
		48.9-50.8 1 47.8-49.8			85.5-89.2 1 84.2-88.0			106.3-111.6 1 104.8-110.3
		52.4-54.4 2 51.0-53.0			86.0-89.8 2 84.7-88.6			106.6-112.0 2 105.2-110.7
		55.3-57.3 3 53.5-55.6			86.5-90.3 3 85.3-89.2			107.0-112.4 3 105.6-111.1
		57.6-59.7 4 55.6-57.8			87.0-90.9 4 85.8-89.8			107.4-112.8 4 106.0-111.6
		59.6-61.7 5 57.4-59.6			87.5-91.4 5 86.3-90.4			107.8-113.2 5 106.4-112.0
		61.2-63.3 6 58.9-61.2			88.0-91.9 6 86.8-90.9			108.1-113.6 6 106.8-112.4
		62.7-64.8 7 60.3-62.7			88.4-92.4 7 87.4-91.5			108.5-114.0 7 107.2-112.8
		64.0-66.2 8 61.7-64.0			88.9-93.0 8 87.9-92.0			108.9-114.4 8 107.6-113.2
		65.2-67.5 9 62.9-65.3			89.4-93.5 9 88.4-92.5			109.2-114.8 9 108.0-113.7
		66.4-68.7 10 64.1-66.5			89.8-94.0 10 88.9-93.1			109.6-115.2 10 108.4-114.1
		67.6-69.9 11 65.2-67.7			90.3-94.4 11 89.3-93.6			110.0-115.6 11 108.8-114.5
		1 year			4 years			8 years
		68.6-71.0 0 66.3-68.9			90.7-94.9 0 89.8-94.1			110.3-116.0 0 109.2-115.0
		69.6-72.1 1 67.3-70.0			91.2-95.4 1 90.3-94.6			110.7-116.4 1 109.6-115.4
		70.6-73.1 2 68.3-71.0			91.6-95.9 2 90.7-95.1			111.0-116.7 2 110.0-115.8
		71.6-74.1 3 69.3-72.0			92.1-96.4 3 91.2-95.6			111.4-117.1 3 110.4-116.3
		72.5-75.0 4 70.2-73.0			92.5-96.9 4 91.7-96.1			111.7-117.5 4 110.8-116.7
		73.3-76.0 5 71.1-74.0			93.0-97.4 5 92.1-96.6			112.1-117.9 5 111.2-117.1
		74.2-76.9 6 72.0-74.9			93.4-97.8 6 92.6-97.1			112.4-118.3 6 111.6-117.6
		75.0-77.7 7 72.8-75.8			93.9-98.3 7 93.0-97.6			112.8-118.7 7 112.0-118.0
		75.8-78.6 8 73.7-76.7			94.3-98.8 8 93.4-98.1			113.1-119.0 8 112.5-118.5
		76.5-79.4 9 74.5-77.5			94.7-99.3 9 93.9-98.5			113.5-119.4 9 112.9-118.9
		77.2-80.2 10 75.2-78.4			95.2-99.7 10 94.3-99.0			113.8-119.8 10 113.3-119.4
		78.0-81.0 11 76.0-79.2			95.6-100.2 11 94.7-99.5			114.2-120.2 11 113.7-119.8
		2 years			5 years			9 years
		78.0-81.0 0 76.0-79.3			96.1-100.7 0 95.2-99.9			114.5-120.5 0 114.2-120.3
		78.6-81.7 1 76.8-80.0			96.5-101.1 1 95.3-100.1			114.9-120.9 1 114.6-120.7
		79.3-82.5 2 77.5-80.8			96.9-101.6 2 95.7-100.5			115.2-121.3 2 115.0-121.2
		79.9-83.1 3 78.1-81.5			97.4-102.0 3 96.1-101.0			115.6-121.7 3 115.5-121.6
		80.5-83.8 4 78.8-82.2			97.8-102.5 4 96.5-101.4			115.9-122.0 4 115.9-122.1
		81.1-84.5 5 79.5-82.9			98.2-103.0 5 97.0-101.9			116.3-122.4 5 116.3-122.6
		81.7-85.1 6 80.1-83.6			98.7-103.4 6 97.4-102.3			116.6-122.8 6 116.8-123.0
		82.3-85.7 7 80.7-84.3			99.1-103.9 7 97.8-102.7			116.9-123.2 7 117.2-123.5
		82.8-86.4 8 81.3-84.9			99.5-104.3 8 98.2-103.2			117.3-123.5 8 117.7-124.0
		83.4-86.9 9 81.9-85.6			99.9-104.8 9 98.6-103.6			117.6-123.9 9 118.1-124.4
		83.9-87.5 10 82.5-86.2			100.4-105.2 10 99.0-104.0			118.0-124.3 10 118.5-124.9
		84.4-88.1 11 83.1-86.8			100.8-105.7 11 99.4-104.5			118.3-124.7 11 119.0-125.4
		6 years			10 years			10 years
		101.2-106.1 0 99.8-104.9			101.2-106.1 0 99.8-104.9			118.7-125.0 0 119.4-125.8
		101.6-106.5 1 100.2-105.3			101.6-106.5 1 100.2-105.3			119.0-125.4 1 119.9-126.3
		102.0-107.0 2 100.5-105.7			102.0-107.0 2 100.5-105.7			119.3-125.8 2 120.4-126.8
		102.4-107.4 3 100.9-106.1			102.4-107.4 3 100.9-106.1			119.7-126.2 3 120.8-127.3
		102.8-107.8 4 101.3-106.6			102.8-107.8 4 101.3-106.6			120.0-126.5 4 121.3-127.8
		103.2-108.2 5 101.7-107.0			103.2-108.2 5 101.7-107.0			120.4-126.9 5 121.7-128.2
		103.6-108.7 6 102.1-107.4			103.6-108.7 6 102.1-107.4			120.7-127.3 6 122.2-128.7
		103.9-109.1 7 102.5-107.8			103.9-109.1 7 102.5-107.8			121.1-127.7 7 122.7-129.2
		104.3-109.5 8 102.9-108.2			104.3-109.5 8 102.9-108.2			121.4-128.1 8 123.2-129.7
		104.7-109.9 9 103.2-108.6			104.7-109.9 9 103.2-108.6			121.8-128.5 9 123.6-130.2
		105.1-110.3 10 103.6-109.0			105.1-110.3 10 103.6-109.0			122.2-128.8 10 124.1-130.7
		105.5-110.8 11 104.0-109.5			105.5-110.8 11 104.0-109.5			122.5-129.2 11 124.6-131.2

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Chronic Malnutrition (continued)

EVALUATE:	CLASSIFY:	TREAT:
<p>Height falls below range for sex and age in the center yellow column</p> <p>Z-score below -3</p> <p>May have no physical evidence of swelling, wasting, poor skin or hair quality, swollen belly, or lethargy.</p>	<p>Severe Growth Failure</p>	<ul style="list-style-type: none"> •Nora Lynne Micronutrient Powder (MNP) 3 mini-scoops daily •Recheck Growth every 4 weeks in community •Nutritious Diet-See guidelines for age in IMCI booklet •Breast Feeding up to 2 years • Nutritional Rehab in community or NUTRITION CENTER •If available, use Ready to Use Therapeutic Food (RUTF) such a Plumpy Nut or MAMA SuperCookies •If no RUTF, supplement the diet with “Homemade RUTF”: Boil 3 eggs/day; 3x per day, between meals, mash 1 egg, mix in 10cc oil or fat, iodized salt, and 1 mini-scoop MNP •Spoon-feed young children •Deworm with albendazole •Treat all other associated illnesses with great urgency in child at high risk

Chronic Malnutrition (continued)

EVALUATE:	CLASSIFY:	TREAT:
<p>Height falls in range for sex and age in the center yellow column Z-Score -2 to -3 May look normal but still have “Hidden Hunger”</p>	<p>Moderate Growth Failure</p>	<ul style="list-style-type: none">•Nora Lynne Micronutrient Powder 2 mini-scoops daily•Carry out all above, adding 2 feeding of eggs and oil as above

Chronic Malnutrition (continued)

EVALUATE:	CLASSIFY:	TREAT:
<p>Height is above range for sex and age in the center yellow column Z-Score -2 to +2 May still be undernourished</p>	<p>Normal Growth</p>	<ul style="list-style-type: none"> •Nora Lynne Micronutrient Powder 1 mini-scoop daily •Carry out all above, adding 1 feeding of eggs and oil as a preventive measure for any child from family or community at risk for micronutrient malnutrition

Anemia

Instructor will go through each section. Class is advised to look at this page and follow along.

Haemoglobin Colour Scale
14
12
10
8
6
4

1-Clean fingertip or heel with alcohol
 2-Obtain drop of blood by skin puncture
 3-Apply to absorbent paper, then blot firmly
 4-Wait 30 seconds, then compare to chart
 5-Read in natural light, out of direct sun
 6- Result may fall above, below or between
 7-Estimate Haemoglobin to 1 gm/dl

BACKGROUND:

- In communities where malnutrition is found, nutritional anemia can result from deficiency of many vitamins & minerals, not just iron.
- Intestinal parasites, malaria, complications of pregnancies and excessive menstrual blood loss are sometimes life-threatening causes of anemia.
- When malaria is suspected, it is necessary to wait to treat anemia with iron until malaria is under control, since iron in the Micronutrient Powder, or in iron tablets or drops can "feed" the malaria parasite before it helps the anemia.

Ask:
 Tiredness?
 Lethargy?
 Shortness of Breath?
 For girls and women:
 Multiple pregnancies?
 Heavy menses?

Observe:
 Severe, moderate or mild pallor of palms or fingernails?
 Perform Haemoglobin Estimation

* Nora Lynne Essential Micronutrient POWDER can be used as the only iron source, but if iron syrup or tablets are available, add 2-3 doses per day for the 1st 3 months, or double the POWDER dose
Duration: Minimum 3 months combined therapy to replenish iron stores, 6 months if using POWDER alone, then daily prevention. (Refer to IMCI & MAMA Project iron dosing guideline and warning charts)
ELEMENTAL IRON:
 Nora Lynne Essential Micronutrient POWDER 6 mg / .15cc mini-scoop;
 IRON SYRUP (Ferrous Fumarate) 20 mg/ml.
 TABLETS of Ferrous Sulfate 60mg/200 mg

ANEMIA		
EVALUATE:	CLASSIFY:	TREAT:
Severe pallor of palms or fingernails Lethargy/tiredness/shortness of breath Pregnancy/heavy menses Haemoglobin under 8	Severe Anemia	<ul style="list-style-type: none"> •Nora Lynne Micronutrient Powder 3 mini-scoops daily for 6 months *(see side bar) •Recheck anemia every 2-3 days while severe, then every 14 days until normal •Emergency medical consult to detect/treat causes of anemia •May need transfusion •Test for malaria, and treat before giving iron (alone or in micronutrient powder) •Deworm when stable (or after 1st trimester)
Pregnancy/heavy menses Moderate fatigue Moderate pallor palms/nails Haemoglobin 8-10	Moderate Anemia	<ul style="list-style-type: none"> •Nora Lynne Micronutrient Powder 2 mini-scoops daily for 6 months*(see side-bar) •Medical consult to detect/treat causes of anemia •Test for malaria, and treat before giving iron (alone or in micronutrient powder) •Deworm (after 1st trimester)
Mild pallor, mild tiredness Haemoglobin greater than 10; low for age & gender	Mild Anemia	<ul style="list-style-type: none"> •Nora Lynne Micronutrient Powder 2 mini-scoops daily for 6 months*(see side-bar) •Carry out all for moderate anemia
No pallor No tiredness Newborn under 6 months & Adult has Haemoglobin 14 or higher for male; 12 for female	No Anemia	<ul style="list-style-type: none"> •Nora Lynne Micronutrient Powder at least 1 mini-scoop daily as part of long anemia prevention •Deworm (after 1st trimester)

page 6c

Anemia(continued)

BACKGROUND:

- In communities where malnutrition is found, nutritional anemia can result from deficiency of many vitamins & minerals, not just iron.
- Intestinal parasites, malaria, complications of pregnancies and excessive menstrual blood loss are sometimes life-threatening causes of anemia.
- When malaria is suspected, it is necessary to wait to treat anemia with iron until malaria is under control, since iron in the Micronutrient Powder or in iron tablets or drops can “feed” the malaria parasite before it helps the anemia.

Anemia (continued)

Ask:

- Tiredness?
- Lethargy?
- Shortness of Breath?
- For girls and women:
- Multiple pregnancies? Heavy menses?

Observe:

- Severe, moderate or mild pallor of palms or fingernails?
- Perform Haemoglobin Estimation

Anemia (continued)

* Nora Lynne Essential Micronutrient POWDER can be used as the only iron source, but if iron syrup or tablets are available, add 2-3 doses per day for the 1st 3 months, or double the POWDER dose

Duration: Minimum 3 months combined therapy to replenish iron stores, 6 months if using POWDER alone, then daily prevention. (Refer to IMCI & MAMA Project Iron dosing guideline and warning charts)

ELEMENTAL IRON:

Nora Lynne Essential Micronutrient POWDER 6 mg /.15cc mini-scoop; IRON SYRUP (Ferrous Fumarate) 20 mg/ml. TABLETS of Ferrous Sulfate 60mg/200 mg



Anemia (continued)

EVALUATE:	CLASSIFY:	TREAT:
<p>Severe pallor of palms or fingernails</p> <p>Lethargy/tiredness/shortness of breath</p> <p>Pregnancy/heavy menses</p> <p>Haemoglobin under 8</p>	<p>Severe Anemia</p>	<ul style="list-style-type: none"> •Nora Lynne Micronutrient Powder 3 mini-scoops daily for 6 months *(see side bar) •Recheck anemia every 2-3 days while severe, then every 14 days until normal •Emergency medical consult to detect/treat causes of anemia •May need transfusion •Test for malaria, and treat before giving iron (alone or in micronutrient powder) •Deworm when stable (or after 1st trimester)

Anemia (continued)

EVALUATE:	CLASSIFY:	TREAT:
<p>Pregnancy/heavy menses</p> <p>Moderate fatigue</p> <p>Moderate pallor palms/nails</p> <p>Haemoglobin 8-10</p>	<p>Moderate Anemia</p>	<ul style="list-style-type: none"> •Nora Lynne Micronutrient Powder 2 mini-scoops daily for 6 months*(see side-bar) •Medical consult to detect/treat causes of anemia •Test for malaria, and treat before giving iron (alone or in micronutrient powder) •Deworm (after 1st trimester)

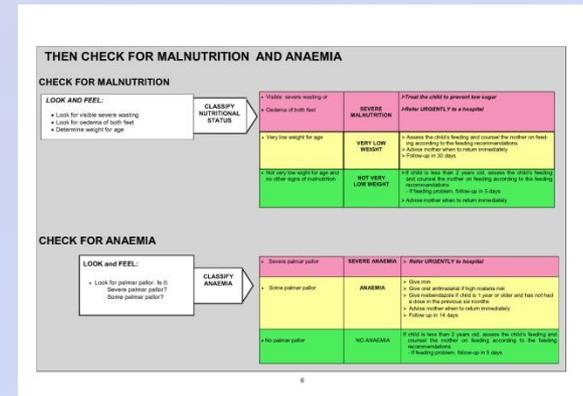
Anemia (continued)

EVALUATE:	CLASSIFY:	TREAT:
Mild pallor, mild tiredness Haemoglobin greater than 10; low for age & gender	Mild Anemia	<ul style="list-style-type: none">•Nora Lynne Micronutrient Powder 2 mini-scoops daily for 6 months*(see side-bar)•Carry out all for moderate anemia

Anemia (continued)

EVALUATE:	CLASSIFY:	TREAT:
<p>No pallor No tiredness</p> <p>Newborn under 6 months & Adult has Haemoglobin 14 or higher for male; 12 for female</p>	<p>No Anemia</p>	<ul style="list-style-type: none"> •Nora Lynne Micronutrient Powder at least 1 mini-scoop daily as part of long anemia prevention •Deworm (after 1st trimester)

Malnutrition & Anaemia



- Refer to Module 4 for detailed instructions on Detecting Malnutrition, Detecting Nutritional Anaemia, and Community Based Nutritional Rehabilitation .
- Refer to Module 5 for information of nutrition messages nutrition.
- In communities with high levels of MICRONUTRIENT MALNUTRITION, every woman and child should be receiving preventative supplementation.
- Nutritional anaemia should be treated with ESSENTIAL MICRONUTRIENTS.
- Although most anaemic women and children are iron deficient, postpone giving therapeutic doses of iron until acute infections such as malaria are treated, so that the pathogen does not “gain strength” before the patient does.

Medicines

MAMA Project, Inc. Basic MAMA Brigade Kit /100 population			
ITEM	Use	#	X
MAMA CHILD SURVIVAL KIT PART A (packed by IMRES)			
Acetaminophen 500mg or Paracetamol tablets (Bags of 30)	1 bag per family	25	
Albendazole 400mg tablets	1 per person	100	
Amoxicillin 250mg tablets	Emergency infection	1000	
Atenolol 25mg	Emergency BP	1000	
Enalapril 10mg	Emergency BP	1000	
Benzyl Benzoate 25% Oil in liter bottles	Scabies-40cc/family	4	
Cimetidine 800mg tablets	Emergency-gastritis	1000	
Ciprofloxacin 500mg	Emergency infection	1000	
Ibuprofen 200mg tablets (Bags of 30)	1 bag per family	25	
Metformin 500mg	Emergency-diabetes	1000	
Metronidazole 250mg tablets	Emergency infection	1000	
Oral rehydration salts envelopes	5 for each family	125	
Prednisone 5mg	Emergency-asthma/severe allergy	200	
Salbutamol 4mg tablets	Emergency asthma	1000	
Sodium Fluoride .25mg	Cavity Prevention	10,000	
Trimethoprim/Sulfamethoxazole 80/400 (Single Strength)	Emergency infection	1000	
Vitamin A 200,000 units/capsule (not for pregnant)	Child survival-as directed	<100	
MAMA CHILD SURVIVAL KIT PART B (packed at MAMA)			
Dentifrice in plastic container 1/family (black oval)	1 container/family	25	
Essential Micronutrient Powder	Bags of 60cc powder	450	
Micronutrient Containers 1/family with scoop and insert	1 container/family	25	
Triple Therapy Cream (Hydrocortisone, Gentamicin, Clotrimazole)	Skin inflammation/infection	25	
Lancets	Anemia test	100	
Alcohol	Anemia test	100	
Blotter paper	Anemia test	100	
Registration sheets 6/100 people	Register Community	6	
Individual record sheet 100	Register each person	100	
Mothers Logs	One for each girl >15	35	
Anemia Color Scale	2 for station	2	
Chicken Video (new orders)	1 for trainer	1	
Pocket Guide for Micronutrient Training	1 for trainer	1	

Revised 2-2013

MAMA Project, Inc. Basic MAMA Brigade Kit /100 population			
ITEM	Use	#	X
ADDENDUM *			
Ergonovine 0.2 mg in a 1mL ampule. 1 or 2 ampules injected into the muscle. Repeat if needed in 30 to 60 minutes than switch to oral when static.	Severe bleeding in delivery		
Ergonovine 0.2mg tablets. To prevent or treat severe bleeding especially if mother is already anemic. Give 1-2 tablets by mouth 4 times daily.			
Oxytocin can be used by injection before delivery of the placenta			
Vitamin K 1 mg per vial (Also called Phytomenadione or phytonadione) To treat bleeding in the newborn or to prevent bleeding in a premature or very small (under 22 kg/ 4.5 lbs) infant, give vitamin K to the baby by injection of one vial only into the baby's outer thigh.			

*These are a few kinds of medicines that can be life-saving in the hands of a trained midwife. To prevent and treat severe emergency birth complications in mothers and newborns, it is good for the midwife to have a medication to stop severe bleeding after the baby and placenta are delivered.

Rev 2-2013

Medicines (continued)

MAMA Project, Inc. Basic MAMA Brigade Kit /100 population			
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Medicines (continued)

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Revised 2-2013

Medicines (continued)

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*These are a few kinds of medicines that can be life-saving in the hands of a trained midwife. To prevent and treat severe emergency birth complications in mothers and newborns, it is good for the midwife to have a medication to stop severe bleeding after the baby and placenta are delivered.

Rev 2-2013

Immunization, Vitamin A and Deworming

We will not be using this as reference. This is used in a clinic setting.

THEN CHECK THE CHILD'S IMMUNIZATION, VITAMIN A AND DEWORMING STATUS

IMMUNIZATION SCHEDULE: Follow national guidelines

<u>AGE</u>	<u>VACCINE</u>		
Birth	BCG	OPV-0	
6 weeks	DPT+HIB-1	OPV-1	Hepatitis B1
10 weeks	DPT+HIB-2	OPV-2	Hepatitis B2
14 weeks	DPT+HIB-3	OPV-3	Hepatitis B3
9 months	Measles*		

* Second dose of measles vaccine may be given at any opportunistic moment during periodic supplementary immunisation activities as early as one month following the first dose

VITAMIN A SUPPLEMENTATION

Give every child a dose of Vitamin A every six months from the age of 6 months. Record the dose on the child's card.

ROUTINE WORM TREATMENT

Give every child mebendazole every 6 months from the age of one year. Record the dose on the child's card.

ASSESS OTHER PROBLEMS:

MAKE SURE CHILD WITH ANY GENERAL DANGER SIGN IS REFERRED after first dose of an appropriate antibiotic and other urgent treatments.

Immunizations, Vitamin A and Deworming

THEN CHECK THE CHILD'S IMMUNIZATION, VITAMIN A AND DEWORMING STATUS

IMMUNIZATION SCHEDULE: Follow national guidelines			
AGE	VACCINE		
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ASSESS OTHER PROBLEMS:

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7

- Measles vaccine is the most critical for child survival in the Sahel, and for preventing Noma and Nutritional Blindness.
- Campaigns bringing vitamin A distribution, deworming and immunizations regularly to the communities are part of the strategy that promotes Child Survival.
- See Module 2 for more detailed information on deworming.

Giving Oral Medicines



TREAT THE CHILD CARRY OUT THE TREATMENT STEPS IDENTIFIED ON THE ASSESS AND CLASSIFY CHART



TEACH THE MOTHER TO GIVE ORAL DRUGS AT HOME

Follow the instructions below for every oral drug to be given at home. Also follow the instructions listed with each drug's dosage table.

- Determine the appropriate drugs and dosage for the child's age or weight
- Tell the mother the reason for giving the drug to the child
- Demonstrate how to measure a dose
- Watch the mother practise measuring a dose by herself
- Ask the mother to give the first dose to her child
- Explain carefully how to give the drug, then label and package the drug. If more than one drug will be given, collect, count and package each drug separately
- Explain that all the tablets or syrup must be used to finish the course of treatment, even if the child gets better
- Check the mother's understanding before she leaves the clinic

➤ For dysentery give Ciprofloxacin 15mg/kg/day—2 times a day for 3 days

SECOND-LINE ANTIBIOTIC FOR DYSENTERY: _____

	250 mg TABLET	500 mg TABLET
AGE	DOSE/ tabs	DOSE/ tabs
Less than 6 months	1/2 tablet	1/4 tablet
6 months up to 5 years	1 tablet	1/2 tablet

➤ Give an Appropriate Oral Antibiotic

➤ FOR PNEUMONIA, ACUTE EAR INFECTION:

FIRST-LINE ANTIBIOTIC: _____
SECOND-LINE ANTIBIOTIC: _____

AGE or WEIGHT	CO-TRIMOXAZOLE (trimethoprim / sulphamethoxazole) ➤ Give two times daily for 3 days for pneumonia ➤ Give two times daily for 5 days for acute ear infection			AMOXYCILLIN* ➤ Give two times daily for 3 days for pneumonia ➤ Give two times daily for 5 days for acute ear infection	
	ADULT TABLET (80/400mg)	PAEDIATRIC TABLET (20/100 mg)	SYRUP (40/200 mg/5ml)	TABLET (250 mg)	SYRUP (125 mg /5 ml)
2 months up to 12 months (4 - <10 kg)	1/2	2	5.0 ml	3/4	7.5 ml
12 months up to 5 years (10 - 19 kg)	1	3	7.5 ml	1.5	15 ml

* Amoxicillin should be used if there is high co-trimoxazole resistance.

➤ FOR CHOLERA:

FIRST-LINE ANTIBIOTIC FOR CHOLERA: _____
SECOND-LINE ANTIBIOTIC FOR CHOLERA: _____

AGE or WEIGHT	TETRACYCLINE ➤ Give 4 times daily for 3 days	ERYTHROMYCIN ➤ Give 4 times daily for 3 days
	TABLET 250 mg	TABLET 250 mg
2 years up to 5 years (12 - 19 kg)	1	1

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Our charts are expanded through adulthood.

Oral Co-artemether

TEACH THE MOTHER TO GIVE ORAL DRUGS AT HOME

➤ GIVE INHALED SALBUTAMOL for WHEEZING

USE OF A SPACER*

A spacer is a way of delivering the bronchodilator drugs effectively into the lungs. No child under 5 years should be given an inhaler without a spacer. A spacer works as well as a nebuliser if correctly used.

- From salbutamol metered dose inhaler (100 µg/puff) give 2 puffs.
- Repeat up to 3 times every 15 minutes before classifying pneumonia.

Spacers can be made in the following way:

- Use a 500ml drink bottle or similar.
- Cut a hole in the bottle base in the same shape as the mouthpiece of the inhaler. This can be done using a sharp knife.
- Cut the bottle between the upper quarter and the lower 3/4 and disregard the upper quarter of the bottle.
- Cut a small V in the border of the large open part of the bottle to fit to the child's nose and be used as a mask.
- Flame the edge of the cut bottle with a candle or a lighter to soften it.
- In a small baby, a mask can be made by making a similar hole in a plastic (not polystyrene) cup.
- Alternatively commercial spacers can be used if available.

To use an inhaler with a spacer:

- Remove the inhaler cap. Shake the inhaler well.
- Insert mouthpiece of the inhaler through the hole in the bottle or plastic cup.
- The child should put the opening of the bottle into his mouth and breath in and out through the mouth.
- A carer then presses down the inhaler and sprays into the bottle while the child continues to breath normally.
- Wait for three to four breaths and repeat for total of five sprays.
- For younger children place the cup over the child's mouth and use as a spacer in the same way.

* If a spacer is being used for the first time, it should be primed by 4-5 extra puffs from the inhaler.

➤ Give Iron

- Give one dose daily for 14 days

AGE or WEIGHT	IRON/FOLATE TABLET Ferrous sulfate 200 mg + 250 µg Folate (60 mg elemental iron)	IRON SYRUP Ferrous fumarate 100 mg per 5 ml (20 mg elemental iron per ml)
2 months up to 4 months (4 - <6 kg)		1.0 ml (< 1/4 tsp)
4 months up to 12 months (6 - <10kg)		1.25 ml (1/4 tsp)
12 months up to 3 years (10 - <14 kg)	1/2 tablet	2.0 ml (<1/2 tsp)
3 years up to 5 years (14 - 19 kg)	1/2 tablet	2.5 ml (1/2 tsp)

➤ Give Oral Co-artemether

- Give the first dose of co-artemether in the clinic and observe for one hour. If child vomits within an hour repeat the dose. **2nd** dose at home after 8 hours
- Then twice daily for further two days as shown below
- Co-artemether should be taken with food

WEIGHT (age)	Co-artemether tablets (20mg artemether and 120mg lumefantrine)					
	0hr	8h	24h	36h	48h	60h
5 - <15 kg (5 months up to 3 years)	1	1	1	1	1	1
15 - <20 kg (3 years up to 5 years)	2	2	2	2	2	2

Oral Co-artemether

Oral Co-artemether

6 doses for 3 days for Acute Uncomplicated Malaria

<p>Less than 5 kg (less than 5 kg)</p> <p>Not tested</p> <table border="1"> <tr> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>MORNING</td> <td>NOON</td> <td>AFTERNOON</td> <td>EVENING</td> </tr> </table>					MORNING	NOON	AFTERNOON	EVENING	<p>Up to 5 kg (up to 11 lbs)</p> <p>Not tested</p> <table border="1"> <tr> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>MORNING</td> <td>NOON</td> <td>AFTERNOON</td> <td>EVENING</td> </tr> </table>					MORNING	NOON	AFTERNOON	EVENING	<p>5 - <15 kg (11-<33lb)</p> <p>6 tablets in 3 days</p> <table border="1"> <tr> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>MORNING</td> <td>NOON</td> <td>AFTERNOON</td> <td>EVENING</td> </tr> <tr> <td>1</td> <td></td> <td></td> <td>1</td> </tr> </table>					MORNING	NOON	AFTERNOON	EVENING	1			1								
																																						
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Notes:

Day 1: Give the first dose of co-artemether and observe for one hour. If child vomits within an hour, repeat the dose. Give the 2nd dose within 8 hours.

Days 2 & 3: Twice daily for further 2 days as shown above, around 12 hours apart.

- Co-artemether should be taken with food.
- Co-artemether may be crushed and dissolved in 1-2 teaspoons (5-10mL) liquid just before the dose is taken.
- Brand names: Coartem®, Riamet®
- Active Ingredients: Artemether 20mg/Lumefantrine 120mg

Oral Medicine Doses

TREAT THE CHILD
CARRY OUT THE TREATMENT STEPS IDENTIFIED ON
THE ASSESS AND CLASSIFY CHART




TEACH THE MOTHER TO GIVE ORAL DRUGS AT HOME

Follow the **instructions** below for every oral drug to be given at home. Also follow the instructions labeled with each drug's dosage table.

- Determine the appropriate drugs and dosage for the child's age or weight.
- Tell the mother the reason for giving the drug to the child
- Demonstrate how to measure a dose
- Watch the mother practise measuring a dose by herself
- Ask the mother to give the first dose to her child
- Explain carefully how to give the drug, then label and package the drug. If more than one drug will be given, collect, count and package each drug separately
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	ADULT TABLET (800/400mg)	PAEDIATRIC TABLET (20/100 mg)	SYRUP (400/200mg/5ml)	TABLET (250 mg)
2 months up to 12 months (4 - <10 kg)	1/2	2	5.0 ml	3/4
12 months up to 5 years (10 - <19 kg)	1	3	7.5 ml	1.5

* Amoxicillin should be used if there is high co-trimoxazole resistance.

➤ For dysentery give Ciprofloxacin 15mg/kg/day—2 times a day for 3 days

SECOND-LINE ANTIBIOTIC FOR DYSENTERY:

	250 mg TABLET	500 mg TABLET
AGE	DOSE/ tabs	DOSE/ tabs
Less than 6 months	1/2 tablet	1/4 tablet
6 months up to 5 years	1 tablet	1/2 tablet

- Also refer to your packets, and be sure to note changes in recommendations as they are issued by the health authorities in the state. e.g., Malaria and Shigella drug resistance varies by regions.
- For wheezing, it is possible to use a bicycle pump to nebulize the salbutamol where there is no electricity or nebulizers.
- It is also possible to use tablet of salbutamol in sterile (cooled boiled water) to nebulize if liquid is not available.

**Note valuable
recommendations for
treatments in clinic,
dehydration follow-up
suggestions etc.**

The sick infant up to 2 months



ASSESS, CLASSIFY AND TREAT THE SICK YOUNG INFANT AGED UP TO 2 MONTHS



DO A RAPID APPRAISAL OF ALL WAITING INFANTS

ASK THE MOTHER WHAT THE YOUNG INFANT'S PROBLEMS ARE

- Determine if this is an initial or follow-up visit for this problem.
 - if follow-up visit, use the follow-up instructions
 - if initial visit, assess the young infant as follows:

USE ALL BOXES THAT MATCH INFANT'S SYMPTOMS AND PROBLEMS TO CLASSIFY THE ILLNESS.

CHECK FOR VERY SEVERE DISEASE AND LOCAL BACTERIAL INFECTION

ASK:	LOOK, LISTEN, FEEL:
<ul style="list-style-type: none"> • Is the infant having difficulty in feeding? • Has the infant had convulsions (fits)? 	<ul style="list-style-type: none"> • Count the breaths in one minute. Repeat the count if 60 or more breaths per minute. • Look for severe chest indrawing. • Measure axillary temperature. • Look at the umbilicus. Is it red or draining pus? • Look for skin pustules. • Look at the young infant's movements. <i>If infant is sleeping, ask the mother to wake him/her.</i> <ul style="list-style-type: none"> - Does the infant move on his/her own? <i>If the infant is not moving, gently stimulate him/her.</i> <ul style="list-style-type: none"> - Does the infant move only when stimulated but then stops? - Does the infant not move at all?

YOUNG INFANT MUST BE CALM

Classify ALL YOUNG INFANTS

SIGNS	CLASSIFY AS	TREATMENT <small>(Urgent pre-referral treatments are in bold print)</small>
<p>Any one of the following signs</p> <ul style="list-style-type: none"> • Not feeding well <i>or</i> • Convulsions <i>or</i> • Fast breathing (60 breaths per minute or more) <i>or</i> • Severe chest indrawing <i>or</i> • Fever (37.5°C* or above) <i>or</i> • Low body temperature (less than 35.5°C*) <i>or</i> • Movement only when stimulated or no movement at all 	VERY SEVERE DISEASE	<ul style="list-style-type: none"> ➤ Give first dose of intramuscular antibiotics. ➤ Treat to prevent low blood sugar. ➤ Refer URGENTLY to hospital.** ➤ Advise mother how to keep the infant warm on the way to the hospital.
<ul style="list-style-type: none"> • Umbilicus red or draining pus • Skin pustules 	LOCAL BACTERIAL INFECTION	<ul style="list-style-type: none"> ➤ Give an appropriate oral antibiotic. ➤ Teach mother to treat local infections at home. ➤ Advise mother to give home care for the young infant. ➤ Follow up in 2 days.
<ul style="list-style-type: none"> • None of the signs of very severe disease or local bacterial infection 	SEVERE DISEASE OR LOCAL INFECTION UNLIKELY	<ul style="list-style-type: none"> ➤ Advise mother to give home care for the young infant.

* These thresholds are based on axillary temperature. The thresholds for rectal temperature readings are approximately 0.5°C higher.
 ** If referral is not possible, see **Integrated Management of Childhood Illness**, Management of the sick young infant module, Annex 2 "Where referral is not possible"

Guidelines for care of infants from birth to 2 months

- This section follows the same format
- Also includes advice on Breastfeeding. Promote.

ASSESS, CLASSIFY AND TREAT THE SICK YOUNG INFANT AGED UP TO 2 MONTHS

DO A RAPID APPRAISAL OF ALL WAITING INFANTS

ASK THE MOTHER WHAT THE YOUNG INFANT'S PROBLEMS ARE

- Determine if this is an initial or follow-up visit for this problem.
 - If follow-up visit, use the follow-up instructions.
 - If initial visit, assess the young infant as follows:

USE ALL BOXES THAT MATCH INFANT'S SYMPTOMS AND PROBLEMS TO CLASSIFY THE ILLNESS.

CHECK FOR VERY SEVERE DISEASE AND LOCAL BACTERIAL INFECTION		SIGNS	CLASSIFY AS	TREATMENT <small>(Urgent pre-referral treatments are in bold print)</small>	
<p>ASK:</p> <ul style="list-style-type: none"> • Is the infant having difficulty in feeding? • Has the infant had convulsions (fits)? 	<p>LOOK, LISTEN, FEEL:</p> <ul style="list-style-type: none"> • Count the breaths in one minute. Repeat the count if 60 or more breaths per minute. • Look for severe chest indrawing. • Measure axillary temperature. • Look at the umbilicus. Is it red or draining pus? • Look for skin pustules. • Look at the young infant's movements. <i>If infant is sleeping, ask the mother to wake him/her.</i> <ul style="list-style-type: none"> - Does the infant move on his/her own? - <i>If the infant is not moving, gently stimulate him/her.</i> - Does the infant move only when stimulated but then stops? - Does the infant not move at all? 	<p>Classify ALL YOUNG INFANTS</p> <p><small>YOUNG INFANT MUST BE CALM</small></p>	<p>Any one of the following signs</p> <ul style="list-style-type: none"> • Not feeding well or • Convulsions or • Fast breathing (60 breaths per minute or more) or • Severe chest indrawing or • Fever (37.5°C or above) or • Low body temperature (less than 35.5°C) or • Movement only when stimulated or no movement at all 	<p>VERY SEVERE DISEASE</p>	<ul style="list-style-type: none"> ➤ Give first dose of intramuscular antibiotics. ➤ Treat to prevent low blood sugar. ➤ Refer URGENTLY to hospital.** ➤ Advise mother how to keep the infant warm on the way to the hospital.
		<ul style="list-style-type: none"> • Umbilicus red or draining pus • Skin pustules 	<p>LOCAL BACTERIAL INFECTION</p>	<ul style="list-style-type: none"> ➤ Give an appropriate oral antibiotic. ➤ Teach mother to treat local infections at home. ➤ Advise mother to give home care for the young infant. ➤ Follow up in 2 days. 	
		<ul style="list-style-type: none"> • None of the signs of very severe disease or local bacterial infection 	<p>SEVERE DISEASE OR LOCAL INFECTION UNLIKELY</p>	<ul style="list-style-type: none"> ➤ Advise mother to give home care for the young infant. 	

* These thresholds are based on axillary temperature. The thresholds for rectal temperature readings are approximately 0.5°C higher.
** If referral is not possible, see *Integrated Management of Childhood Illness, Management of the sick young infant module, Annex 2* "Where referral is not possible"

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Now as we will turn our attention to Noma some might wonder why we also refer so often to Nutritional Blindness....

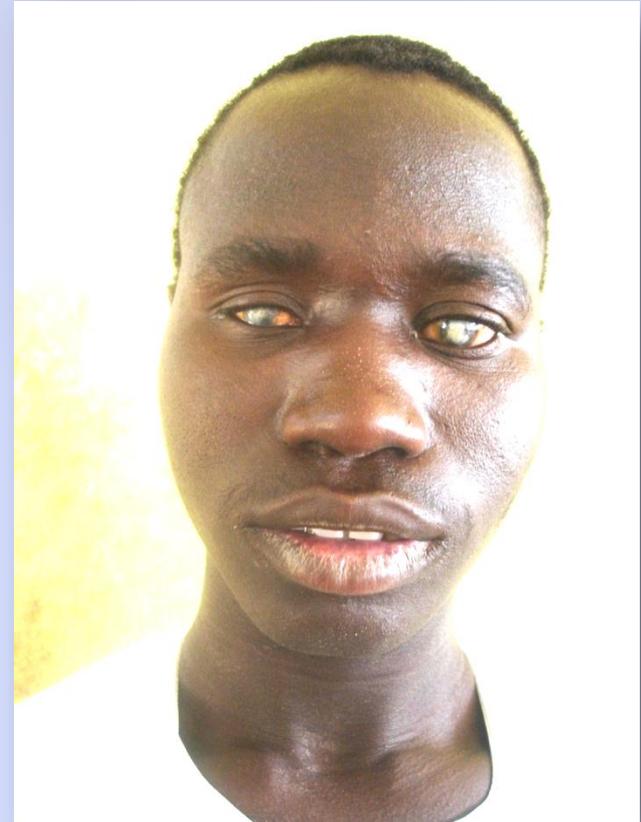
- The two diseases often occupy the same niche. They share very similar demographics, mortality rates and pathophysiology.
- Efforts to protect children's faces will also protect their eyes. We should expect to be able to witness the disappearance of both diseases simultaneously.

We will not cover the surgical and rehabilitation aspects of the care of noma children. Children who have survived the acute phase of noma need good long term support and care from many disciplines. That is beyond the scope of this course.

These terrible diseases happen to children who were born normal, but are at risk.



Noma



**Nutritional
Blindness**

Nutritional Blindness Destroys Children's Eyes.



70% of children die after going blind.

Noma disfigures faces.



*Photo Courtesy of CO Enwonwu
WHO Collection*

70%-90% of children die after developing noma.

RISK FACTORS

(5 major causes of noma in children)

Risk Factor #1



Malnutrition

All degrees of malnutrition are implicated in noma:

- Even before the child is born, the stage is set for noma by maternal micronutrient deficiency.
- Growth stunting early in infancy is a risk factor.
- Deficiency of micronutrients such as vitamin A causes immune deficiency.

Focus on Vitamin A

- Vitamin A distribution and food fortification has become a standard part of Child Survival efforts around the world.
- Vitamin A saves children's lives, eyes and faces.



Vitamin A Functions

- Vision (night, day, colour)
- Epithelial cell integrity against infections
- Immune response
- Haemopoiesis
- Skeletal growth
- Fertility (male and female)
- Embryogenesis



Severe Vitamin A deficiency is a wide spread problem in Nigeria, especially in the Northwest, and is one of the reasons that children suffer so many infections.

Why do children become vitamin A deficient?

- Mothers of poor children often have Vitamin A Deficiency and produce deficient breast milk.
- Children's diets provide too little vitamin A.
- Children spend a large part of their childhood being sick. Provitamin A carotenoids in vegetables and fruits are less readily bio-available than previously thought.
- Early weaning is often onto foods low in vitamin A.
- Growth velocity, and therefore vitamin A requirement, is higher during pre-school age than at any other time postnatally.

Humphrey, Katz et al, 2002

Risk Factor #2



Recent overwhelming immuno-suppressive infection such as measles, or malaria that deplete the child's vitamin A stores and affect the eyes and mouth.

Risk Factor #3



*Photo Courtesy of Peter Clark
ARCA Associates*

Extreme Poverty

Risk Factor #4



Contamination of Food & Water with Animal Waste

Risk Factor #5



Lack of access to medical care

**These
diseases
can be
prevented.**

Prevention # 1:



Micronutrients

Micronutrients

- Include all of the vitamins and minerals necessary for health
- Multiple, or single supplements, such as vitamin A, iodine and zinc, have been shown to play a crucial role in child survival.

Vitamin A distribution..

- is part of child survival programs all over the world

- prevents infections and improves growth



- is distributed every 4-6 months to infants, children, and new mothers according to established protocols

Are the mega-dose Vitamin A capsules safe and effective?



YES!

If the child receives the internationally accepted supplementation regimen, his or her liver stores will still be far short of the average American child (i.e. exceedingly far from toxic levels).

However, the estimates indicate that this standard supplementation regimen will permit a typical child in a developing country setting to attain minimally adequate vitamin A stores during the first 2 years of life.



Vitamin A Mega-Dose Capsules

200,000 International Units/Capsule

Prevention & Treatment Doses

Repeat this dose as recommended for emergency indications

Age:	UNITS /Dose	Capsule	Notes:
Infants less than 6 months: Non-breast-fed, or breast-fed if mother has not received supplemental vitamin A	50,000	1/4 (2 drops)	Breast milk provides Vitamin A
Infants 6 to 12 months: Every 4-6 months	100,000	1/2 (4 drops)	Give eggs, milk, greens, fruits, colored vegetables
Children over 12 months: Every 4-6 months	200,000	1	Not safe for girls or women who may become pregnant!
Mothers within 6 weeks after delivery	200,000	1	

IVACG (International Vitamin A Consultative Group) 2002 revised recommendations:

- WHO sponsored a multi-country study in the late 1990's that led to the conclusion that the current Vitamin A capsule dosing usually recommended for community wide Vitamin A supplementation programs for young infants and post partum women is inadequate to achieve healthy Vitamin A levels in women and children in the developing world.
- New mothers should receive 400,000 international units (IU), split between two doses given at least 1 day apart, within 6 weeks of delivery; their infants should receive 50,000 IU at 6, 10 and 14 wk (which can conveniently be given at Expanded Program on Immunization contacts).
- These doses are entirely safe.
- Policy makers in the Ministry of Health bear the responsibility of deciding which norms of treatment to institute in their region; health workers follow the directions of the MOH.

Revised Recommendations 2002 IVACG

Population	Amount of Vitamin A to be administered	Time of Administration
Infants 0-5 months	3 doses of 50,000 IU each with at least 1 month interval between doses	At each DTP contact (6,10, and 14 weeks) otherwise at other opportunities
Infants 6-11 months	100,000 IU as a single dose every 4-6 months	At any opportunity (e.g., measles immunization)
Children 12 months and older	200,000 IU as a single dose every 4-6 months	At any opportunity
Postpartum Women	2 doses of 200,000 IU at least 1 day apart	As soon after delivery as possible and not more than 6 weeks later.

In acute emergencies such as measles, pneumonia, TB, malaria, meningitis, severe diarrhea, severe malnutrition, or when signs impeding loss of vision from nutritional blindness, or risk of mouth infection leading to noma are detected, -use the

Vitamin A Emergency Triple Dose Treatment

This will replenish acutely depleted Vitamin A stores and can be life SAVING!

Also, use all other appropriate treatments for the conditions. SEEK CONSULTATION!

Emergency Triple Dose Treatment:

- For noma, malaria, measles, pneumonia or any life-threatening infection in malnourished children
- Give the age appropriate Vitamin A mega dose:
 - One dose today
 - One dose tomorrow
 - One dose in 2 weeks



Vitamin A Single (Extra) Dose Treatment for Malnourished Children with Moderate Infections

- In addition to other appropriate treatments, when a malnourished child presents with a serious, but not acutely life-threatening condition such as:
 - Ear infection
 - Diarrhea
 - Tonsillitis
 - Respiratory infection
 - Parasites
 - Worsening malnutrition
- Give one extra dose of Vitamin A but do not repeat more often than once per month in the absence of severe infection.
- See Chart.



What about a Pregnant woman with night blindness?

- Mother and baby need Vitamin A, but the mega dose capsule is toxic to the unborn, especially early in pregnancy.
- ONE DROP of the vitamin A from the mega dose capsule per week is the correct dose in pregnancy- 1/8 of a capsule (25,000 IU/WEEK).
- Liver, eggs, milk, & green leafy vegetables

Essential Micronutrients

- Besides Vitamin A, there are many other essential micronutrients (vitamins and minerals) that are found to be lacking in children who get noma, nutritional blindness, and other deadly infections (“Hidden Hunger”).
- Improving nutrition by better diet in pregnancy, exclusive breast feeding early in life, and food fortification with **COMPLETE ESSENTIAL MICRONUTRIENTS** will prevent many deaths from childhood infections.

Prevention #2



Measles Vaccination

Prevention #3:



**Keep children's mouths
clean, starting in
infancy.**

Prevention #4:



**Improved diet for
pregnant and nursing
mothers and children**

Prevention #5:



Clean food and water

Prevention #6:



**Separation of livestock
from living space**

Until these diseases are eradicated Early Recognition and Early Treatment are urgent!

- Learn early signs of these two serious conditions that afflict severely malnourished children.
- Teach parents to be watching and ask them to report early to get early treatment.
- Look at children's eyes and mouths during every encounter.

Early Recognition of Noma:

- Know the context, early signs and signs of advancing disease.
- If noma is not recognized and treated in the early and advancing stages, gangrene can permanently destroy the structures of the face.
- Early recognition allows time to save lives and prevent devastating consequences to children.

Recognize Noma Context:

- Impoverished family
- Poor sanitation
- Severely malnourished child
- Poor immunity to infection and weak tissues
- Recent severe infection such as measles or malaria

Recognize early noma signs:

- Early sign of impending danger may be an innocent appearing small mouth ulcer or inflamed gums in a malnourished child.
- Acute Necrotizing Ulcerative Gingivitis (ANUG), also called Vincent's Stomatitis or Trench Mouth is the usual precursor lesion.



Photo from WHO Collection, C. O. Enwonwu

Recognize signs of advancing disease and impending gangrene :

- Cheek swelling
- Foul breath odor
- Fever
- Pain
- Drooling
- Weight loss



Photo from WHO Collection, C. O. Enwonwu

EARLY INTERVENTION: **To prevent a mouth infection from progressing to noma**

- Antibiotics
- Vitamin A
- Oral hygiene
- Nutritional Rehabilitation, including Essential Micronutrients
- Seek consultation immediately, but begin treatment without delay.

EARLY INTERVENTION: **Antibiotics for Noma**

In the community, follow the charts for oral doses and begin the 14 day course of

METRONIDAZOLE

and/or

AMOXICILLIN

(or AMOXICILLIN/CLAVULANATE)

Why use these antibiotics?

- Metronidazole and amoxicillin are antibiotics that kill “anaerobic” bacteria, which are the type that cause the foul odors in deep infections. The germs often come from the family livestock, but may be even normal mouth bacteria that the child, weak from malnutrition, cannot fight.
- These antibiotics are safe, even in pregnancy, but need to be given quickly and in higher than normal doses when given by mouth in order to penetrate into deep or serious infections like noma, tissue infections around the eyes, and pneumonia.
- Charts for field use help choose doses for age or size.

Metronidazole 250 mg

Emergency Early Intervention for Noma and Suspected Pre-Noma Lesions, and other Infections

 <p>Newborn 0-1 week or <2 kg 7 tablets for 14 days</p>			
			
MORNING 15 mg/kg	NOON	AFTERNOON 15 mg/kg	EVENING

 <p>Young Infant 1 week- 2 months or 2-5 kg (4.5-10lbs) 7 tablets for 14 days</p>			
			
MORNING 	NOON	AFTERNOON 	EVENING

 <p>Older Infant 2-12mos or 5-9 kg (10-20lbs) 14 tablets for 14 days</p>			
			
MORNING 	NOON 	AFTERNOON 	EVENING 

 <p>Toddler/Pre-school 1-4 years or 10-19 kg (20-40lbs) 28 tablets for 14 days</p>			
			
MORNING 	NOON 	AFTERNOON 	EVENING 

 <p>School Age 5-11 yrs or 20-40 kg (40-90lbs) 56 tablets for 14 days</p>			
			
MORNING 	NOON 	AFTERNOON 	EVENING 

 <p>Pre-teen/Adult 12 yrs to adult 112 tablets for 14 days</p>			
			
MORNING 	NOON 	AFTERNOON 	EVENING 

Notes:

- At first sign of early noma, begin METRONIDAZOLE 250mg/tablet. Continue 14 days.
- Maintain METRONIDAZOLE 250 mg Emergency Stock in Child Survival Kit in each village to avoid treatment delays.
- Treat necrotizing gingiva-stomatitis following measles or malaria in a malnourished child to prevent progress to noma. Also include essential micronutrient supplements, Vitamin A triple dose, Dentifrice, and improved nutrition (ie. eggs and oil).
- Metronidazole with Amoxicillin recommended if both are available. Amoxicillin/clavulanate is another excellent option with or without metronidazole.
- Seek consultation as soon as possible. Continue treatments while traveling to the clinic or hospital. When child comes to attention, dispense full number of doses so that treatment can continue in event of further delay.
- If METRONIDAZOLE is in capsule: Open and divide powdered contents. Tablets may be crushed and mixed with breast milk, food, liquid or sugar and fed to children with spoon.
- Taking with food is not necessary but can help if stomach is upset.
- Also use for eye infection after measles, with Amoxicillin.
- Metronidazole is also used for trichomoniasis, bacterial vaginosis, amebic liver abscess, intestinal amebiasis, pelvic and abdominal infections (with other antibiotics), giardiasis, c.difficile diarrhea.
- Critically ill malnourished child may not express signs of infections. Therefore, it may be life-saving to give a course of broad spectrum antibiotics such as cotrimoxazole and/or metronidazole and amoxicillin while referring to a higher level of care.
- Category B: Safe in Pregnancy

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Amoxicillin 250 mg - High Dose

Emergency Early Intervention Regimen for Noma, Severe Pneumonia, and other Serious Infections

 **Newborn**
0-1 week or <2 kg
22 tablets for 14 days

			
MORNING	NOON	AFTERNOON	EVENING
			

 **Young Infant**
1 week- 2 months or
2-5 kg (4.5-10lbs)
42 tablets for 14 days

			
MORNING	NOON	AFTERNOON	EVENING
			

 **Older Infant**
2-12mos or 5-9 kg (10-20lbs)
64 tablets for 14 days

			
MORNING	NOON	AFTERNOON	EVENING
			

 **Toddler/Pre-school**
1-4 years or 10-19 kg (20-40lbs)
84 tablets for 14 days

			
MORNING	NOON	AFTERNOON	EVENING
			

 **School Age**
5-11 yrs or 20-40 kg (40-90lbs)
126 tablets for 14 days

			
MORNING	NOON	AFTERNOON	EVENING
			

 **Pre-teen/Adult**
12 yrs to adult
164 tablets for 14 days

			
MORNING	NOON	AFTERNOON	EVENING
			

Notes:

- At first sign of early noma, begin AMOXICILLIN 250mg/tablet. Continue 14 days.
- If care is delayed, and the child presents a swollen cheek use the double dose: Save patient's life and limit permanent damage to the face.
- Maintain AMOXICILLIN 250 mg Emergency Stock in Child Survival Kit in each village to avoid treatment delays.
- Treat necrotizing gingiva-stomatitis following measles or malaria in a malnourished child to prevent progress to noma. Also include essential micronutrient supplements, Vitamin A triple dose, Dentifrice, and improved nutrition (ie. eggs and oil).
- Metronidazole with Amoxicillin recommended if both are available. Amoxicillin/clavulanate is another excellent option with or without metronidazole.
- Seek consultation as soon as possible. Continue treatments while traveling to the clinic or hospital. When child comes to attention, dispense full number of doses so that treatment can continue in event of further delay.
- If Amoxicillin is in capsule: Open and divide powdered contents. Tablets may be crushed and mixed with breast milk, food, liquid or sugar and fed to children with spoon.
- Taking with food is not necessary but can help if stomach is upset.
- Amoxicillin used for tonsillitis, ear infections, sinusitis, lung infections (pneumonia), eye infection after measles, skin, soft tissue, umbilical (navel) and urinary infections. Use double dose for critical illness and delayed treatment.
- Critically ill malnourished child may not express signs of infections. Therefore, it may be life-saving to begin a course of broad spectrum oral antibiotics such as cotrimoxazole and/or metronidazole and amoxicillin while referring to a higher level of care.
- Category B: Safe in Pregnancy

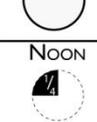
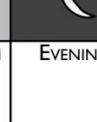
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Amoxicillin 250 mg - Moderate Dose

Early Intervention Regimen for Moderate Infections

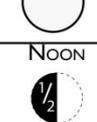
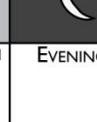
Newborn
0-1 week or <2 kg
11 tablets for 14 days



			
MORNING	NOON	AFTERNOON	EVENING

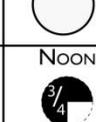
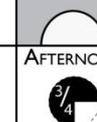
Young Infant
1 week- 2 months or
2-5 kg (4.5-10lbs)
21 tablets for 14 days



			
MORNING	NOON	AFTERNOON	EVENING

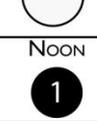
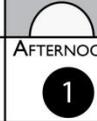
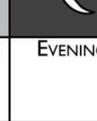
Older Infant
2-12mos or 5-9 kg (10-20lbs)
32 tablets for 14 days



			
MORNING	NOON	AFTERNOON	EVENING

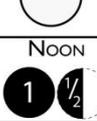
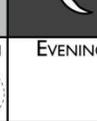
Toddler/Pre-school
1-4 years or 10-19 kg (20-40lbs)
42 tablets for 14 days



			
MORNING	NOON	AFTERNOON	EVENING

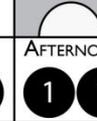
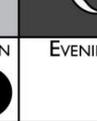
School Age
5-11 yrs or 20-40 kg (40-90lbs)
63 tablets for 14 days



			
MORNING	NOON	AFTERNOON	EVENING

Pre-teen/Adult
12 yrs to adult
82 tablets for 14 days



			
MORNING	NOON	AFTERNOON	EVENING

Notes:

- Duration of therapy - 14 days for noma, 3 days for non-severe pneumonia, 5 days for acute ear infections, 10 days for tonsillitis.
- If care is delayed, and the child presents a swollen cheek use the double dose: Save patient's life and limit permanent damage to the face.
- Maintain AMOXICILLIN 250 mg Emergency Stock in Child Survival Kit in each village to avoid treatment delays.
- Treat gingiva-stomatitis following measles or malaria in a malnourished child to prevent progress to noma. Also include essential micronutrient supplements, Vitamin A triple dose, Denti-frice, and improved nutrition (ie. eggs and oil).
- Metronidazole with Amoxicillin recommended if both are available. Amoxicillin/clavulanate is another excellent option with or without metronidazole.
- Seek consultation as soon as possible. Continue treatments while traveling to the clinic or hospital. When child comes to attention, dispense full number of doses so that treatment can continue in event of further delay.
- If Amoxicillin is in capsule: Open and divide powdered contents. Tablets may be crushed and mixed with breast milk, food, liquid or sugar and fed to children with spoon.
- Taking with food is not necessary but can help if stomach is upset.
- Amoxicillin used for tonsillitis, ear infections, sinusitis, lung infections (pneumonia), eye infection after measles, soft tissue, skin, umbilical (navel) and urinary infections. Use double dose for critical illness and delayed treatment. (See page 8 in IMCI booklet.)
- Critically ill malnourished child may not express signs of infections. Therefore, it may be life-saving to begin a course of broad spectrum oral antibiotics such as cotrimoxazole and/or metronidazole and amoxicillin while referring to a higher level of care.
- Category B: Safe in Pregnancy

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EARLY INTERVENTION: **Vitamin A and Noma**

- Deficiency is a RISK FACTOR.
- Supplementation promotes PREVENTION.
- TRIPLE MEGA DOSE is part of TREATMENT.

EARLY INTERVENTION:

Oral Hygiene

- Begin 3 times daily mouth cleansing with the Zinc-Enriched MAMA Dentifrice.
- Refer to Module 3 for more details.

Regarding Noma Treatments & Nutritional Rehabilitation:

- Refer to Module 3.
- Refer to Packet.
- Obtain consultation.

Noma Early Treatment Summary:

If you see a mouth ulcer, swelling and redness of the gums, swelling of the cheek, foul breath, pain and fever in a malnourished child, especially between 6-72 months begin **EMERGENCY** treatments including:

- **VITAMIN A TRIPLE-DOSE REGIMEN**
- **METRONIDAZOLE** and/or **AMOXICILLIN**
(or **AMOXICILLIN/CLAVULANATE**)
- **ORAL HYGIENE**, including **ZINC** enriched dental powder (MAMA Dentifrice)
- **ESSENTIAL MICRONUTRIENTS** and nutritious food

Be aggressive to prevent noma!

- Once a mouth infection has become established in the malnourished child, IV antibiotics may be needed.
- The child showing warning signs of impending Noma (or Nutritional Blindness) should be treated at the health center as soon as possible, but start the treatment while arranging for that care.
- Vitamin A can quickly improve the tissues in the lining of the mouth, and will improve immune function.
- Refer to Module 3.

Recognition of Nutritional Blindness:

- First sign - loss of night vision
- Later signs-dry, red, sore eyes.
- Late signs-softening of the cornea, ulceration, rupture and blindness of eye

Nutritional Blindness

Xerophthalmia (Dry Eye)

- Warning of EARLY Vitamin A deficiency
- Blindness is a risk if megadose vitamin A capsule is not given as per protocol.



Be sure that village health workers are trained to recognize and equipped with emergency medicines to begin timely treatment for early stages of noma.

Nutritional Blindness

Bitot Spots

- Very Dangerous!
- Permanent blindness may occur if Vitamin A is not given immediately – following the protocol.



Nutritional Blindness

Keratomalacia:
Hazy Dry Cornea
Poor Quality

- Now the cornea is becoming soft – very critical danger!
- Megadose vitamin A according to the International Norms but be given now!



Nutritional Blindness

Gelatinous cornea

- Bulging, about ready to rupture.
- If that happens, the eye will be permanently blind.
- There is still a chance that this eye can be saved by 3 doses of Vitamin A.



Nutritional Blindness

- Same eye, healed by timely Vitamin A capsules. Scar remains, but vision is good. This eye was saved by 3 Vitamin A capsules!



Nutritional Blindness:



Xerophthalmia Dry
Eye



Bitot Spots



Hazy dry cornea
poor
quality —
Keratomalacia



Gelatinous cornea,
bulging, about ready
to rupture. If that
happens, the eye will
be permanently blind.



Same eye, healed by
timely Vitamin A
capsules. Scar
remains, but vision
is good.

Even though this child is probably going to lose his right eye, you should still give him the 3 doses of Vitamin A on schedule, to protect his life and left eye. Also, even at late stages, a bulging eye may heal with triple dose vitamin A treatment.



While arranging emergency hospitalization:

- ***Give the first megadose of Vitamin A***
- ***Start metronidazole, and amoxicillin (or amoxicillin/clavulanate), or other broad spectrum antibiotic as available***
- ***Instill choramphenicol or tetracycline eye drops, 4 times daily (to be continued for 7-10 days and atropine eye drops, 1 drop 3 times daily to be continued 3-5 days***
- ***Cover with sterile saline-soaked eye pads and bandage the eye(s)***

PREVENTION REQUIRES:

- Attention to the cause of death and disease before symptoms appear
- Universal access to standard child survival interventions in the village

TIMELY INTERVENTION REQUIRES:

- Supplies in close proximity to the villages
- Well-trained health care providers accessible to the villages
- Families aware that the resources are available to their children
- Aggressive case finding of early disease

Thank you!