

# **TANZANIA REFUGEE PROGRAM**

## **CHOLERA OUTBREAK PREPAREDNESS AND RESPONSE PLAN**

**JANUARY 2015**

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## **1. Background**

Communicable disease control is indeed a challenge in most UNHCR operations. During an acute emergency, the living conditions in camp settings present a favourable environment for epidemics of communicable disease. In more protracted refugee camp situations, even if overall living condition of refugees has improved, many emergency standards (e.g. water availability, sanitation and living space) are often just met.

Prevention of communicable diseases is always a priority intervention. However, preparedness to recognize and manage an outbreak of communicable disease is essential.

This guideline outlines summarizes an operational plan to establish and maintain effective cholera epidemic preparedness and response in Tanzania refugee and surrounding community settings.

The National guidelines for prevention and control of Cholera (2nd Edition, 2011) and UNHCR global guidelines should be used as key reference documents for detailed information on cholera epidemic preparedness and response and information materials.

## **2. Introduction**

Cholera is an acute intestinal infection caused by ingestion of food or water contaminated with the bacterium *Vibrio cholerae*. It has a short incubation period, from less than one day to five days, and produces an enterotoxin that causes copious, painless, watery diarrhea that can quickly lead to severe dehydration and death if treatment is not promptly given. Children as well as adults can get infected. Vomiting also occurs in most patients. (WHO, 2006)

In areas where there is an epidemic of cholera or where cholera is endemic any person with watery diarrhea and sunken eyes should be considered as a suspected case. However, more than 90% of the people who contract Cholera don't show severe symptoms of the disease, others don't even purge and yet can spread its bacteria. For that reason there is a need for permanent control measures by observing the principles of hygiene and sanitation.

Cholera, however, is treatable and case fatality rate (CFR) is less than 1% if appropriate case-management is employed. Cholera deaths are almost exclusively due to fluid and electrolyte loss. Providing early outreach and treatment through traditional ORS replacements will significantly improve the outcome of a cholera epidemic. Furthermore, many indirect deaths during an epidemic may occur due to a necessary neglect of other health care programs, such as measles vaccination. Care must be taken to ensure that routine nutrition and health programs continue in the face of an epidemic.

Although early case identification and appropriate case management is necessary to reduce the CFR, identifying sources of infection and designing control measures are necessary in order to reduce the magnitude of a Cholera epidemic and contamination of water or food as the major routes of cholera transmission. Person-to-person transmission is not a major mode of epidemic transmission. Since transmission of cholera will generally take place through food or water-source, identifying the sources will allow development of control measures. In several outbreaks, polluted water sources, shared water containers, lack of soap, and failure to reheat leftover food have been important risk factors for Cholera.

For effective and efficient management an Emergency Preparedness and Response is planned with intention of articulating preventive measures.

## **Nyarugusu refugee camp operation**

The camp is located in the North Western part of Tanzania about 67 km from Kasulu town in Kigoma Region. Nyarugusu refugee camp, established in the year 1996, is the only remaining refugee camp in the country after the closure of Mtabila camp in 2012. It mainly hosts refugees who fled from The Democratic Republic of Congo in the years 1996 and 1998. According to UNHCR recent statistics the camp is inhabited by an estimated 141,035 (64,772 pre-influx and 76,263 current influx) individuals as of 11<sup>th</sup> July.

Cholera outbreak in Kigoma and Kasulu: parts of Kigoma region of Tanzania are reported to be cholera endemic.

### **3. Objectives:**

#### **3.1 General Objective:**

To make available adequate resources to assist preparedness, prevention and for timely and coordinated responses to potential Acute watery diarrhea (Cholera) epidemic in Nyarugusu refugee camp and surrounding host community

#### **3.2 Specific Objectives**

- Enhance coordination and partnership at Nyarugusu camp and with government authorities, to harmonize outbreak preparedness and response measures.
- Map and identify who does what and where in order to avoid duplication and foster efficiency in dealing with disease outbreaks.
- Ensure minimum level supplies for establishment of cholera treatment center (CTC), safe water supply, hygiene and sanitation interventions including BCC/IEC communication materials to increase the awareness of refugees on cholera to guarantee timely response
- Capacitate Healthcare Workers & Health information team (HIT) members on active case surveillance, timely reporting and optimum AWD case management.
- Enhance existing surveillance system for early case detection and timely notification

### **4. Population at risk**

The total population in Nyarugusu camp is 141,035 (64,772 pre-influx and 76,263 current influx) as of 11 July 2015. The number of new arrivals is also estimated at 500 people/day, and is expected to increase during the coming weeks as Burundi's presidential election is scheduled on to take place on 21 July 2015.

#### **Scenario and planning assumption**

According to WHO Cholera outbreak response guideline, in densely populated situations like Nyarugusu refugee camp the attack rate (AR) is estimated at 8%.

#### **General assumptions:**

Population at risk: **11,283 (8% of 141,035 current refugee population in Nyarugusu camp)**

- Severe cases: 20% (2256) of the population at risk
- Children under 12years = 25%
- Adult = 75%
- Pregnancy = 5%

- CTC built and being managed by MSF already in place in camp and Kagunga way station and by IRC in Lake Tanganyika stadium transit centre.
- Bed occupancy: 3 days, Monthly admission 100
- Wastage factor = 15%

Minimum quantities of supplies to treat 100 Cholera Patients (see attachment)

## 5. Key activities during preparedness and response

### A. Coordination and partnership

- A camp level inter-agency taskforce has already been established. The members include UNHCR, District medical officer (DMO), Tanzania Red Cross Society (TRCS), MSF, IRC, WHO, UNICEF. The taskforce and has the following main roles:
  - a. Strengthen and monitor Cholera Outbreak preventive measures and active case surveillance at facility and Community levels.
  - b. Coordinate outbreak response plan.
  - c. Mobilize human and financial resources for epidemic prevention and control.
  - d. Organize capacity building trainings.
  - e. Produce and distribute relevant guidelines and IEC materials.
  - f. Define the tasks of each partner in managing an outbreak.
- Ensure consistency with national preparedness and response activities.
- Advocacy for inclusion of refugees into national plans for specific disease outbreak responses.
- Rapid two-way flow of information between relevant authorities, agencies and health facilities.
- Consistency in risk-communication messages being disseminated.
- Coordination in transfer of specimens and referral of patients if necessary.
- Overall improved cost-effectiveness of preparedness and response activities.
- Address gaps in WASH interventions.
- Surveillance and data management.
- Case management and laboratory investigation.
- Resource mobilization, distribution and tracking.
- Mapping of partners (3W).
- Regularly discuss cholera prevention/ surveillance measures at the Health and nutrition coordination meetings.

### B. Surveillance

In cholera surveillance, all levels of the health system are involved. The key surveillance functions are:

- Step 1 - Identify cases. Using basic, standard case definitions identify cholera cases.
- Step 2 - Record and report suspected cases or conditions to the next level.
- Step 3 - Analyze and interpret data. Compile the cholera data, and analyze it in time, place and person and summarize the results.
- Step 4 - Investigate and confirm suspected cholera cases/cholera outbreaks. Take action to ensure that the cholera outbreak is confirmed including laboratory confirmation wherever it is

feasible. Gather evidence about what may have caused the outbreak and use it to select appropriate control and prevention strategies.

- Step 5 - Respond. Mobilize resources and personnel to implement the appropriate cholera outbreak or public health response.
- Step 6 - Provide feedback. Encourage future co-operation by communicating
- Step 7 - Evaluate and improve the system. Assess the effectiveness of the cholera surveillance system in terms of timeliness, quality of information, preparedness, thresholds, case management, and overall performance. Take action to correct problems and make improvements.

### C. Health

- Conduct on job training of Health workers and community health workers on clinical management, surveillance communication and prevention activities.
- Distribute guidelines and case definition to Health facilities
- Prepare and distribute line listing form, and establish data collection, regular reporting and monitoring system
- Stock piling and avail drugs and medical supplies for treatment centers including household water treatment chemicals and IEC materials
- Conduct active case search and sensitization to health facility
- Conduct inspection of food and drinking establishment and other institution
- Provide weekly feedback on the progress of cholera prevention and control activities

### D. WASH

- Water quality test to ensure safe and adequate water supply is provided
- Distribute additional water purification material and soaps to be used at household level through SIT, HIT and social volunteers
- Inspect sanitation facilities and mobilize the refugees in cleaning campaign
- Mobilize the refugees in Hygiene promotion particularly in prevention and control of AWD
- Identify and prepare appropriate burial site if cholera epidemic occurs and inspect it regularly

### E. Communication interventions

Appropriate communication interventions have been developed and rolled out through appropriate channels (mass media campaigns, house to house or peer awareness techniques, etc) including in local languages spoken by refugees and giving particular emphasis on the following minimum messages –

- **For communities:** hand washing at critical times, chlorination and use of safe water, protection of water sources, disinfection of water containers, safe defecation practices, promotion of sanitation, safe food consuming practices, safe care-giving and safe household decontamination, as well as care during burial ceremony or condolence
- **For health workers:** insist on the highly infectious characteristic of the disease, safe practices for the care of patients, safe mortuary practices, safe infectious waste management.
- Ensure that community mobilizers (health information teams-HITs, social workers, religious leaders, and youth groups) have been identified and given IEC print materials

Key preparedness activities include:

- Training community health workers and community volunteers on communication
- Conduct sensitization meeting with community /clan/ religious leaders
- Distribute brochures and flyers on the prevention and control of cholera
- Health education through home visits
- Use existing different traditional channels to promote personal hygiene on environmental sanitation, water and food hygiene

#### **F. Community mobilization**

Community mobilization is key to successful prevention and control of cholera epidemics and the activities should focus on the following areas:

1. Enhance awareness on the concerned diseases, outbreaks and hygiene in communities.
2. Encourage and involve refugees to adopt behaviours in favour of the prevention and control of outbreaks.
3. Enhance level of alertness and preparedness for epidemics.
4. Maximize impact of surveillance and case management.
5. Build community capacity to take care of the sick at home during outbreaks.
6. Ensure community has key role in active case detection.

#### **G. Resource mobilization**

- Identify gaps
- Mobilize required resource
- Prepare distribution plan and allocate resources

#### **H. Case Definition**

Suspected case:

A patient aged 2 years or more with severe dehydration or death from acute watery diarrhoea. If there is a cholera epidemic, a suspected case is any person age 2 years or more with acute watery diarrhoea, with or without vomiting.

Confirmed case:

A suspected case in which *Vibrio cholerae* O1 or O139 has been isolated in the stool.

#### **I. Laboratory confirmation of Cholera**

- i. Take stool samples to confirm the identity of the causative organism and to test its sensitivity to antibiotics.
- ii. Collect specimen from the first 5 to 10 suspected cases. If any are positive, then collect every tenth case during the outbreak.
- iii. If the laboratory does not identify an organism in the first set of samples, and suspected cases are still occurring, further samples should be collected until the laboratory identifies a causative organism.

Diagnostic test

- i. Isolate *V. cholerae* from stool culture and determine O1 serotype using polyvalent antisera for *V. cholerae* O1.
- ii. If desired, confirm identification with Inaba and Ogawa antisera.
- iii. If specimen is not serotypable, consider, *V. cholerae* O139

#### J. Notification

When suspecting a cholera case, immediate notification to next level is mandatory. Make the initial report by fastest means possible (telephone, facsimile, E-mail, radio-call).

Timeline:

- Report due to District within 24 hours of case identification.
- Report due to Region within 48 hours of case identification.

#### K. Monitoring & Evaluation

- Carry out regular assessment and supportive supervision to zones in the camp and surrounding host villages
- Ensure surveillance system with an early warning mechanism in place
- Out-patient and in-patient departments appropriately organized and capable of managing cases with possibility of expansion
- Standard treatment protocols available and followed
- Make sure quality standard data capturing and reporting: these includes recording all cases in the line listing and updating TWINE outbreak report daily
- Develop situation analysis report and share with all stakeholders
- Conduct review meeting and post-outbreak assessment report

### 6. Detail activities and time frame for Cholera outbreak preparedness and response activities, July – December 2015

Activity	Time frame	Responsible agency/ Body
<b>Preparedness</b>		
1. Coordinate the activity of the inter-agency task force in the camp and share minutes of the meeting with partners on regular basis	When and if epidemics occur	DMO/TRCS/MSF/UNHCR
2. Maintain surveillance and manage data for cholera epidemics through the HIS system and line listing	When and if epidemics occur	DMO/TRCS/MSF/UNHCR
3. Conduct on job training of HCWs and Health Information Team (HIT) on case management and surveillance.	Already done	TRCS/MSF/UNHCR

4.	Distribute cholera guidelines case definition & line listing form to health facilities	Distributed and well-practiced during the latest outbreak	DMO/TRCS/MSF/UNHCR
5.	Strengthen data collection, regular reporting and monitoring system	When and if epidemics occur	DMO/TRCS/MSF/UNHCR
6.	Stock piling of drugs, medical supplies, including household water treatment chemicals and communication materials	Ongoing and to be completed in July 2015	TRCS/MSF/UNHCR
7.	Water quality test to ensure safe and adequate water supply is provided	Ongoing on regular bases	UNHCR/TWESA/Oxfam
8.	Distribute additional Soaps to be used at household level through SIT and HIT members	Ongoing	UNHCR/TWESA
9.	Train HIT and SIT members, hygiene promoters and community volunteers on communication	Already done	UNHCR/IFRC/UNICEF/TWESA/Oxfam
10.	Conduct sensitization meeting with refugee and religious leaders	Already done	UNHCR/TWESA/TRCS
11.	Distribute brochures and flyers that are appropriate to refugees on the prevention and control of AWD	Already done and ongoing	UNHCR/IFRC/UNICE/T RCS
12.	Distribute IEC materials and conduct Health education through home visits	Already done and ongoing	UNHCR/IFRC/UNICE/T RCS
13.	Identify gaps and mobilize and distribute resources	Already done and ongoing	TRCS/MSF/UNHCR
14.	Develop situation analysis report and share with RMO and Humanitarian partners	When and if epidemics occur	TRCS/MSF/UNHCR
15.	Mapping of the camps, selection of CTC establishment sites	Already done, functional CTC in place	MSF/UNHCR
<b>Response</b>			
16.	Lead the Investigation of suspected epidemics in the camp and border entry sites	When and if a case is suspected	DMO/RMO offices/MSF/TRCS/UNHCR
17.	Collect stool samples from suspected cases for laboratory investigation		
18.	Arrange for transportation of specimen from Nyarugusu to Kasulu/Kigoma.		
19.	Conduct outbreak assessment and produce reports using epidemiological methods	When and if an epidemic occurs	DMO/RMO offices/MSF/TRCS/UNHCR
20.	Report cases and inform authorities (RMO office and MoH).	When and if an epidemic occurs	DMO office

21	Coordinate and facilitate establishment of case treatment center (CTC)	Already in place	MSF/UNHCR
22	Assess availability and adequacy of resources and facilitate requests and transportation of necessary supplies as needed	When and if an epidemic occurs	RMO/DMO offices, TRCS/MSF/TWESA/UNHCR
23	Establish ORT corners at health facilities and referral system	When and if an epidemic occurs	RMO/DMO offices, TRCS/MSF/UNHCR
24	Conduct contact tracing and home visit for follow up of patient investigation	System in place	HIT and SIT members (TRCS/TWESA), hygiene promoters, Health facilities
25	Analyze cholera morbidity and mortality data by place, person and time disaggregated by age and sex including surveillance data at camp level	When and if an epidemic occurs on a daily basis	RMO/DMO offices, TRCS/MSF/UNHCR
26	Report the national level on daily basis in case of ongoing cholera outbreaks. Report should include the results of on-site investigations, refugee camp situation and attack rates, case fatality rates, the number of new cases and the level of inventory of cholera treatment supplies	When and if an epidemic occurs	RMO/DMO offices, TRCS/MSF/UNHCR
<b>Post -out break</b>			
27	Conduct post-outbreak assessment, document lessons learned , strength and weakness for future improvements of the response	When and if an epidemic occurs, after the epidemic is declared to be over.	MOH/RMO/DMO offices, TRCS/MSF/UNHCR
28	Organize a review meeting to disseminate the finding to stakeholders	When and if an epidemic occurs, after the epidemic is declared to be over.	MOH/RMO/DMO offices, TRCS/MSF/UNHCR

Annexes

Annex 1: Integrated case based surveillance form

# MINISTRY OF HEALTH Integrated Case Based Surveillance Form

MOH502

**N.B: "Use this form for a single case only"**

To be completed at the National Level:

EPID Number: Country \_\_\_\_\_ Province \_\_\_\_\_ District \_\_\_\_\_ Year \_\_\_\_\_  
Date form received at Central Level: / /

**A. Name of site Reporting & Disease being Reported**

1. Health Facility: \_\_\_\_\_ 2. Division: \_\_\_\_\_  
3. District: \_\_\_\_\_ 4. Province: \_\_\_\_\_  
5. Disease reported (Tick one)  
 AFP  Neonatal Tetanus  Measles  Meningo coccal Meningitis  Plague  Viral Haem Fever  Yellow Fever  Other Please specify \_\_\_\_\_

**B Identification**

6. Name of patient: \_\_\_\_\_  
7. Sex: 1=Male  8. Age    9. Date of birth: / /  
2=Female  Year Month Day  
10. Parent/Guardian: \_\_\_\_\_  
11. Immediate Contact:  
a. Patient's residence: \_\_\_\_\_  
b. Neighbourhood (major landmark): \_\_\_\_\_  
c. Street/Plot/House number: \_\_\_\_\_  
d. Town/City: \_\_\_\_\_  
e. District: \_\_\_\_\_ f. Province: \_\_\_\_\_

12. Date first seen at health facility: / /  
13. IP/OP No. \_\_\_\_\_  
14. Date Health Facility notified District level: / /  
**Vaccination History** (For disease under investigation) cases of Measles, AFP (exclude birth dose of OPV), NT (TT in mother) Yellow Fever and Meningitis  
15. Was the patient Vaccinated against this illness?  1=Yes 2=No 9=Unknown  
If yes Number of doses: \_\_\_\_\_  
16. Any vaccination given in the last two months?  1=Yes 2=No 9=unknown. Date of vaccination: / /  N/A

**C.I Clinical Information**

17. Date of onset of illness: / /  
18. Hospitalised:  1=Yes, 2=No. Date of admission: / /  
19. Status of the patient:  
 Still hospitalised  Discharged  Dead

Comments: \_\_\_\_\_

**For Acute Flaccid Paralysis (AFP) Case Only**

**C.II Clinical History**

20. Date of onset of paralysis: / /  
21. Signs and Symptoms:  Fever at onset of paralysis  
 Sudden onset of paralysis  Paralysis progressed <3 days.  
Flaccid (floppy)  1=Yes 2=No  
22. Site(s) of paralysis Left leg  Right leg  Left Arm  Right Arm   
Are both sides equally affected?  1=Yes 2=No  
**Follow-Up Examination** (to be completed by the district 60-90 days after onset of paralysis)  
23. Date of follow-up examination: / /  
24. Site(s) of paralysis:  
Left arm  Right arm  Left leg  Right leg  1=Yes 2=No.  
25. Findings at follow-up   
1=Residual paralysis 2=No residual paralysis 3=Lost to follow-up 4=Death before follow-up

Name and designation of person doing the follow-up \_\_\_\_\_

**For Neonatal Tetanus Case Only**

**C.111 Delivery practices**

26. Where was the baby delivered?  1=Health facility  
2=Home by trained attendant 3=Home by untrained attendant 9=Unknown  
27. If delivery was in a health facility record the name: \_\_\_\_\_ Health Facility  
28. Was the cord cut with sterile/clean blade?  1=Yes 2=No 9=Unknown  
29. How was the cord stump treated or dressed? \_\_\_\_\_

**Baby's Symptoms**

30. How old (in days) was the baby when symptoms began? Days Unknown  
31. At birth, did the baby suck normally?  1=Yes 2=No 9=Unknown  
32. After the first two days of life, was the baby unable to suck?  1=Yes 2=No 9=Unknown  
33. Did the baby have convulsions (Stiffness or fits)?  1=Yes 2=No 9=Unknown  
34. Was the case confirmed as neonatal tetanus? (if yes to last 3 questions, answer yes)  1=Yes 2=No 9=Unknown  
**Treatment**  
35. Was the sick baby treated at a health facility?  1=Yes 2=No 9=Unknown  
36. Did the mother die?  1=Yes 2=No 9=Unknown (If YES, complete Case Investigation Form for Maternal Deaths)

**Case Response** (Sensitise TBAs and community leaders on safe delivery practices and cord care. Provide booster TT doses to mother of NNT case and women of child-bearing age in local community around the case).

37. Did a case response for the mother take place?  1=Yes 2=No 9=Unknown  
38. Did a case response take place in her locality?  1=Yes 2=No 9=Unknown  
39. Comments: \_\_\_\_\_

**C.IV For Measles Case Only**

**Signs and Symptoms**

40. Presence of fever  1=Yes 2=No  
41. Date of onset of rash / / Type of rash Maculopappular   
Other   
42. Was home of patient visited for contact investigation?   
If yes, date visited: / /  
43. Is the case epidemiologically linked to a laboratory-confirmed case?

**D. Laboratory**

**1. Specimen Collection (TO BE COMPLETED BY THE HEALTH FACILITY:**

If lab specimens collected, complete the following information and send a copy of this form to the lab with the specimen.]

44. Was a specimen collected? Yes/No   
If No, why \_\_\_\_\_  
45. Date(s) of specimen collection: / / AND / /  
46. Specimen: Stool  Blood  CSF   
Other  If other, specify: \_\_\_\_\_  
47. Date Specimen(s) sent to laboratory (specify lab): / /

**Form completed by:**

Name: \_\_\_\_\_ Designation: \_\_\_\_\_  
Phone No. \_\_\_\_\_ Date case investigated: / /  
Fax No: \_\_\_\_\_ Email: \_\_\_\_\_  
Signature: \_\_\_\_\_ Date form completed: / /

## **Annex 2: Cholera Fact Sheet**

- Case definition:
  - Suspected cholera in an area where there is a cholera epidemic: AWD with or without vomiting in a patient aged 2 years or more
  - Confirmed cholera (where testing is feasible): a suspected case in which *Vibrio cholerae* O1 or O139 has been detected using an RDT

The person should be rushed to the health post or hospital immediately

***If no treatment is initiated immediately, cholera quickly causes severe dehydration and death may occur in a few hours***

How does one get cholera?

- By drinking contaminated water
- Eating food that is not well cooked
- Poor sanitation (not using toilets)

**What happens in a cholera outbreak?**

- Faeces of infected people quickly spread the disease
- Open sewage systems and untreated water are the easiest source

**Can cholera be prevented?**

The following simple hygiene precautions can prevent you from getting cholera

- Adequate hand washing before meals
- Proper washing of foods before cooking
- Proper cooking of meals

**Cholera is a deadly disease, please protect yourself!!!**

### **Annex 3. Disinfection with Sodium Hypochlorite**

To make a stock solution, add 4 teaspoons (16 grams) of sodium hypochlorite to one litre of water for washing. **Or** 10 teaspoons (40 grams) of sodium hypochlorite to one litre of water.

NOTE: STOCK SOLUTION IS NOT DRINKABLE!!!!!!

#### **To treat water for drinking add:**

- 3 drops of stock solution to 1 litre of water.
- 1 teaspoon of stock solution to 30 litres of water.
- 1 litre of stock solution to 4550 litres of water.
- Treated water should be allowed to stand for 30 minutes before using.

#### **Cleaning using sodium hypochlorite:**

- Add 500mg (1/8 tsp) sodium hypochlorite to 1 litre of water for washing.
- Add 2000mg (1/2 tsp) sodium hypochlorite to 1 litre of water for cleaning walls and floors.
- Add 10,000mg (2 ½ tsp) to 1 litre of water for disinfecting contaminated bedding, clothing and cleaning latrines.

### **Annex 4: Case management**

#### Severe dehydration

- Age under 1 year: Give 30ml/kg of IV Ringer's lactate over 1<sup>st</sup> hour, then 70ml/kg of IV Ringers lactate over the next 5hours.
- Age 1 year and over: Give 30ml/kg of IV Ringer's lactate over 1<sup>st</sup> 30 min., then 70 ml/kg of IV Ringer's lactate over next 2 ½ hours.
- DO NOT SUBSTITUTE OTHER SOLUTIONS FOR RINGER'S LACTATE UNLESS ADVISED BY THE CAMP DOCTOR OR OTHER SENIOR STAFF.
- Give ORS to patients on IV as soon as patient is alert. Discontinue IV solutions as soon as patient is hydrated, not vomiting and alert and can take ORS routinely. The patient must be reassessed by a physician if more than 48 hours of IV therapy is needed.

#### Some dehydration

- Give 75 ml/kg of ORS over first 4 hours and then reassess.
- All patients should be reassessed hourly to determine degree of dehydration.