

Emergency Triage Assessment and Treatment (ETAT)

# Emergency Triage Assessment and Treatment (ETAT)

Facilitator Guide

WHO

# Facilitator Guide



World Health  
Organization

**For further information, please contact:**

Department of Child and Adolescent Health and Development (CAH)  
World Health Organization

20, Avenue Appia  
1211 Geneva 27  
Switzerland

Tel: +41 22 791 2632  
Fax: +41 22 791 4853  
E-mail: [cah@who.int](mailto:cah@who.int)

Web site: <http://www.who.int/child-adolescent-health>

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# Table of contents

<b>Introduction</b>	<b>1</b>
Preparing for the training course	2
Preparation steps	3
Decide on specific course objectives	3
Selection of the course director	3
Selection of the facilitators	3
Selection of the facilitator candidates	3
Selection of the training site	3
Prepare the budget	4
Draft agenda	4
Training materials	4
Recruitment of consultants	4
Obtain necessary authorizations and clearances	4
Selection of participants	5
Invitation of participants and sending out of participants' manuals	5
Planning for the opening session	5
Press release	5
Guidelines for all chapters	6
Introduction of ETAT theory	6
Conducting drills	6
When demonstrating procedures and guiding clinical practice	6
Clinical practice	6
Practical sessions	7
Participant's checklist of practical experiences	7
Practical sessions completed	8
Assessment questions	8
ETAT course test	8
ETAT modules	8
<b>Module One: Triage and the "ABCD" concept</b>	<b>9</b>
Module overview	9
Objectives	9
Materials	9
Contents of Day 1: Module 1	10
Drill 1	11
<b>Module Two: Airway and breathing</b>	<b>13</b>
Module overview	13
Objectives	13
Materials	13
Contents of Day 1: Module 2	14

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<b>Module Three: Circulation</b>	<b>19</b>
Module overview	19
Objectives	19
Materials	19
Contents of Day 2: Review and Module 3	20
Drill 2: Oral drill on flow of triage assessment	23
Exercise A on "Severe malnutrition"	23
<b>Module Four: Coma and convulsion</b>	<b>25</b>
Module overview	25
Objectives	25
Materials	25
Contents of Day 2: Module 4	26
Exercise B: Video exercise AVPU coma score	29
Drill 3: Determine correct doses	29
<b>Module Five: Dehydration</b>	<b>31</b>
Module overview	31
Objectives	31
Materials	31
Contents of Day 3: Review, clinical practice and Module 5	32
Drill 4: Oral drill on flow of triage assessment	35
Exercise C: Answer table to video exercise	36
Drill 5 for treatment plan C	37
Flow Chart 1: Management of the child with severe dehydration	38
Case scenarios table A for group work (children with shock or severe dehydration with or without severe malnutrition)	39
<b>Module Six: Case management scenarios</b>	<b>41</b>
Module overview	41
Objectives	41
Materials	41
Contents of Day 3: Module 6	42
Case management scenarios table B	44
<b>Module Seven: Implementing ETAT</b>	<b>53</b>
Module overview	53
Objectives	53
Materials	53
Contents of Day 4: Module 7	54
ETAT Standards	55
<b>Annexes</b>	
Annex 1: Generic agenda for a four-day training on ETAT	57
Annex 2: Supplies and equipment for ETAT course	61
Annex 3: Training participants in triage only and ETAT and IMCI	63
Annex 4: Participant's checklists	65
Annex 5: Answers to ETAT assessment questions	67
Annex 6: Evaluation	79

# Introduction

The Emergency Triage Assessment and Treatment (ETAT) course is designed to familiarize health workers with the ETAT guidelines and to provide them with the necessary knowledge and skills for applying the guidelines. After participating in the course health workers will be able to:

- Triage all sick children when they arrive at a health facility, into three categories:
  - those with emergency signs
  - those with priority signs
  - those who are non-urgent cases.
- Assess a child's airway and breathing and give emergency treatments.
- Assess the child's status of circulation and level of consciousness.
- Manage shock, coma, and convulsions in a child.
- Assess and manage severe dehydration in a child with diarrhoea.
- Plan and implement ETAT in their working area and respective health facility.

These ETAT guidelines are adapted from the Advanced Paediatric Life Support (APLS) guidelines used in many countries. ETAT guidelines identify children with immediate life-threatening conditions that are most frequently seen in developing countries, such as obstruction of the airway and breathing problems, shock, altered central nervous system function (coma or convulsions), and severe dehydration. The standards of care of the ETAT guidelines correspond to the minimum standards that should be maintained even in small hospitals and where resources are limited. The principles for triaging are universally applicable and should not be modified, while the criteria for priority cases are more dependent on the local epidemiology or services available. It may be necessary to adapt the priority signs of the ETAT guidelines to obtain an appropriate balance between priority and normal cases. If emergency treatment is provided according to the guidelines outlined in the course, it will be possible to stabilize most critically sick children and to manage the underlying condition. Thus, ETAT is a tool to reduce facility mortality rates, particularly in the first 24-hours.

You should consider teaching the ETAT course if:

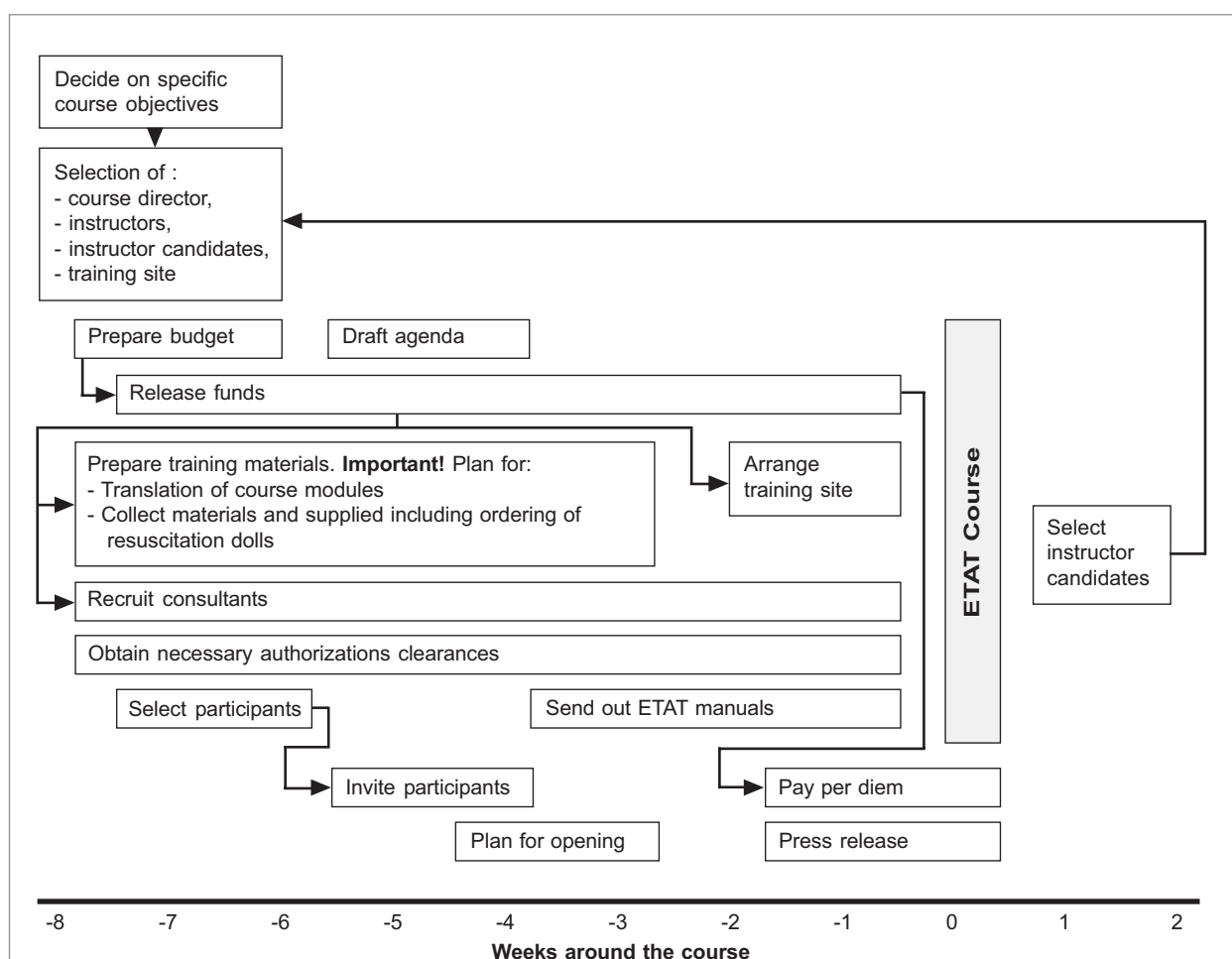
- you have noticed that facility mortality rates in the first 24-hours are high
- delays occur from the time that sick children reach a health facility to when they receive appropriate treatment
- no system for triage is in place

ETAT can be introduced in the context of a systematic approach to improving the quality of care of children in hospital that involves multiple hospitals sharing experiences. Otherwise your hospital may choose to implement ETAT on its own.

Emergency Triage Assessment and Treatment (ETAT) can be applied everywhere where sick children are managed but the guidelines are most useful for busy first-level health facilities and outpatient departments of hospitals. It is important to have a programmatic approach to decide which health facilities or departments require the ETAT course. In general any formally trained health worker, who is likely to receive patients soon after they arrive at the facility should be trained in the entire ETAT course, whereas non-clinical staff should be trained in emergency triage only. For formally trained health workers the standard course is conducted while a reduced version is taught for non-clinical staff.

## Preparing for the training course

The steps necessary to prepare well for the ETAT course are laid out in Figure 1. How much time the individual activities take will depend on whether it is the first time that such a course is organised in your setting or if ETAT is already well established. If it is the first time, you should plan at least two months ahead. The following list will give you all necessary information for each step.



**Figure 1** Course preparations

## PREPARATION STEPS

- **Decide on specific course objectives**

Decide on the specific course objectives. Whether you plan to conduct the entire ETAT course for health workers or whether you want to train non-clinical staff in emergency triage only, will influence the selection of course directors and facilitators, the size of the course, the selection of participants and the budget for the course.
- **Selection of the course director**

The course director should be an experienced clinician with working experience in paediatrics or emergency medicine who has acted as facilitator of the ETAT course several times, at least once under the guidance of another experienced course director. A course director should have conducted a course or acted as facilitator at least once in the last twelve months. If a suitable course director is not available in your setting, you have to plan well in advance in order to identify and recruit a suitable course director.
- **Selection of the facilitators**

The number of facilitators depends on the size of your course. There should be at least one experienced facilitator for each group of 6 to 8 participants. Facilitators for the ETAT course should be health professionals with clinical experience. They should have gone through the ETAT course themselves and have acted at least once as facilitator candidate under the guidance of an experienced facilitator. In order to maintain their skills, a facilitator should participate in at least one ETAT course per year. If there are not sufficient facilitators available, you have to plan well in advance to build up this capacity, either by sending facilitator candidates elsewhere to be trained as facilitators or by recruiting them.
- **Selection of the facilitator candidates**

In order to be able to act as facilitators for the ETAT course a candidate must have gone through the ETAT course as a participant and expressed interest in facilitating an ETAT course. The candidate should be recommended as facilitator candidate by an ETAT course director, who is familiar with this person's capabilities. Any facilitator candidate should be familiar with the facilitation techniques used in the course. This is usually the case for persons who have undergone the Integrated Management of Childhood Illness (IMCI) Facilitators Training Course. Any other training of trainers courses that includes facilitation techniques such as those for the Breastfeeding Counselling Course will provide appropriate skills. One experienced ETAT facilitator should supervise one to a maximum of two facilitator candidates. During each ETAT course, potential facilitator candidates should be identified and the names be communicated to ETAT course organizers.
- **Selection of the training site**

Select a site for the training with a supply of severely ill children and classroom space. Paediatric hospitals with a busy outpatient department or a general hospital, which sees a considerable number of paediatric patients in its outpatient department should be chosen. There should be one room big enough to fit all participants for plenary sessions. Also,



there should be a classroom for the practical sessions with a table around which each group of six to eight participants can collect.

- **Prepare the budget**

For preparing the budget please consider the following points:

- Per diem for participants
- Per diem or remunerations for resource persons (course director, facilitators, facilitator candidates)
- Travel costs
- Training materials, including those to be ordered internationally
- Audiovisual equipment, such as video recorder, television screen, LCD and/or overhead projector etc. (see list of training materials)
- Banners, course certificates, refreshments

- **Draft agenda**

The standard agenda of the ETAT course is a three and a half-days as shown in Annex 1. Prepare an agenda based on the background of the participants and the available time. More practice in practical sessions and with patients will enable participants to develop more accuracy, confidence, speed and ease with assessment and treatments, so it is better to have a course of at least three and a half days in duration.

- **Training materials**

Collect all training materials and supplies necessary for conducting the course. For a complete list of all necessary training materials refer to the checklist in Annex 2.

Some training materials such as the resuscitation dolls might not be available locally. Please plan well in advance for any international procurement. Resuscitation dolls are expensive and if resources are limited at least 2 sets including both a child and infant doll should be made available at a central location in the country and released for each ETAT course. Other materials for the ETAT course should be available in first level health facilities or prepared for the course. It is recommended that a box containing a full set of all equipment is made available for each group for all practical sessions, thus avoiding having to prepare specific equipment for each session (*Practical session box*, Annex 2). Each participant should have a copy of the participants' manual and each facilitator or facilitator candidate should have a facilitator's guide.

If you would like to include other priority signs, allow enough time to make those modifications and obtain their endorsement. If the ETAT materials are not available in the working language of your setting, please plan well in advance for the translation and editing.

- **Recruitment of consultants**

If any resource persons such as the course director or facilitators need to be recruited as consultants, allow sufficient time for the recruitment.

- **Obtain necessary authorizations and clearances**

The authorizations of the relevant authorities should be obtained. These include typically the Ministry of Health and local health authorities. The director of the hospital chosen as training site, should authorize that the course is conducted in the facility under her/his responsibility. Consultants might require Government and or security clearance.

### ■ Selection of participants

As there are two different target groups for the ETAT course, different criteria for the selection of participants apply as shown in the table below. More information on training in triage assessment only, is provided in Annex 3:A. Some participants in the ETAT course will have completed training on the *Integrated Management of Childhood Illness* for first-level health workers. This will be helpful for the participant and will partly serve as revision of some knowledge (see Annex 3:B).

	<b>ETAT course:</b>	<b>Emergency Triage Assessment only:</b>
Selection criteria	Health professionals who are likely to manage sick children soon after they come to a health facility, such as: <ul style="list-style-type: none"> <li>- Emergency room staff</li> <li>- Paediatricians and surgeons</li> <li>- Any physicians with on-call duties</li> </ul> Teachers of medical and nursing schools as well as health professionals for in-service training programmes	Any staff likely to have contacts with sick children soon after they arrive in hospital. For example: <ul style="list-style-type: none"> <li>- Watchmen,</li> <li>- Gate keepers,</li> <li>- Administrative staff,</li> <li>- Drivers</li> </ul>
Number of participants	18 to 24 participants divided into three groups of 6 to 8	18 to 24 participants divided into three groups of 6 to 8

Eighteen to 24 participants divided into three groups of 6 to 8 can be trained in one ETAT course provided that there are at least three facilitators including one course director and three classrooms. It is desirable that there is another person, possibly a facilitator candidate, per small group.

### ■ Invitation of participants and sending out of participants' manuals

Participants should be invited several weeks in advance. They should also obtain the participants' manual in advance and be instructed to read it before attending the course. This enables more time spent on practising skills and clarifying issues.

### ■ Planning for the opening session

It may be useful to invite policy makers or senior officials of the Ministry of Health, representatives from international or bilateral agencies (e.g. WHO or UNICEF) or representatives from professional organizations such as from the national medical and or nursing association or the national paediatric society.

### ■ Press release

Visibility becomes more and more important. Therefore, consideration should be given to issuing a press release on the course, particularly if it is the first one or part of a larger quality improvement approach.

## Guidelines for all chapters

### INTRODUCTION OF ETAT THEORY

The ETAT course suggests that participants receive the ETAT manual before the course begins. It is recognised that this may not always be possible and that participants may only receive material at the beginning of the course. Participants should also read each evening, the material relevant for the following day. Facilitators need to consider what individual preparation the participants have undertaken when introducing sessions in plenary particularly on the first day of the course. There are several possibilities.

- Participants pre-read ETAT material and facilitator provides short summary during the course
- No pre-reading: short lecture on the session's content
- No pre-reading: reading sessions during the course

### CONDUCTING DRILLS

During the ETAT course, facilitators will be conducting several drills. These are group exercises designed to quickly review material presented during the course and to perform calculations of fluid volumes and drugs necessary in emergency management of sick children. Participants are given sufficient information to answer the question and depending on the drill they may refer to the ETAT charts and tables. Participants should be informed that they may use pencil and paper to do quick calculations. Each participant is asked a question in turn and you should praise the participant for a correct answer. If a participant gives an incorrect answer, ask the next participant to answer. If you feel one or more participants do not understand, pause to explain. Then resume the drill. To keep the drill lively, encourage participants to be prepared to answer as quickly as they can. Keep the drill moving at a quick pace. Repeat the list of questions for each drill or make up additional questions if you believe participants need more practice. The drill ends when you believe that all participants are skilled and comfortable with the material reviewed in the drill.

### WHEN DEMONSTRATING PROCEDURES AND GUIDING CLINICAL PRACTICE

- Gather the participants together close to the demonstration
- Explain what you are going to demonstrate, use job aids such as flowcharts or treatment boxes
- Demonstrate the skill and describe the steps in the correct order
- At the end of your demonstration, give participants an opportunity to ask any questions before they begin practicing with patients
- Check the participants knowledge by asking them to repeat the necessary steps
- Provide immediate feedback and correct any mistakes
- For some skills, ask one of the participants to demonstrate for his/her colleagues

#### Clinical Practice

The facilitator and group of participants should wait for children to arrive in the emergency room. As children arrive, the facilitator assigns them sequentially to participants. The assigned participant quickly assesses the child, speaking aloud

his findings and the treatments indicated. Other participants who are not assessing a child should watch the assessment. Participants should practice doing the steps relevant to the session's objectives with *as many children as possible*.

Observe each participant working with his assigned patient. Make sure he is doing the clinical skills correctly. Provide specific feedback and guidance as often as necessary. Remark on things that are done well and give additional guidance when improvement is needed.

## PRACTICAL SESSIONS

The practical sessions for this course will take place in small groups. Each group will have an area set up for demonstrating and practicing a particular skill. The practice area should have all the necessary supplies and equipment for all practical sessions collected together in one box (Practical session box). The facilitator needs to ensure each day that the box is complete and then teach the specific skills and observe participants practicing the skills. Since it is not possible to use sick children for this repeated practice of skills required in the ETAT course, this must be provided through the practical sessions. There must be simulation of the situation to some extent. For example, an animal leg instead of a human leg, or a doll or diagram instead of a child may be used.

The facilitator's guidelines describe the objectives, materials and contents of each module and what facilitators need to do in each module. These guidelines are intended to provide helpful suggestions and structure, but should not limit a creative teacher. The purpose of the practical sessions is to give information and practice by showing and doing. The more participants are involved with the equipment and "hands on" participation in this simulated situation, the better prepared they will be when they confront real patients.

If a participant is not able to successfully perform the skill, the facilitator gives him guidance about what to do differently and he then tries again. The participant should repeat as needed until he can successfully perform the skill.

If a participant is having repeated difficulty, the facilitator will ask him to watch while another participant performs the skill. This should help the participant see what he is doing wrong.

## PARTICIPANT'S CHECKLIST OF PRACTICAL EXPERIENCES

Each participant is given a checklist (see Annex 4: A), to keep and use throughout the training. Participants can monitor their own clinical practice experience by marking on a checklist the clinical signs that they observe. They will mark clinical signs that they have seen in children during a demonstration or during clinical practice.

Ask participants to let a facilitator know after 2 clinical sessions if there are clinical signs that they are lacking. The facilitator can then be alert to this so that when a case with a clinical sign presents, he can ensure participants see the case. The facilitator will also keep this in mind when selecting children for demonstration and assigning cases in the clinical sessions so that all participants have opportunity to gain the experience they need.

## PRACTICAL SESSIONS COMPLETED

When a participant completes a skill, the facilitator will initial the participant's practical skills checklist (see Annex 4: B). Participants can track their progress using the checklist. Facilitators can also assess a participant's progress at a glance.

## Assessment questions

At the end of each module in the participant's manual there are assessment questions, this enables participants to monitor their progress during the ETAT course. Model answers to these questions are provided in Annex 5.

## ETAT course test

Countries implementing ETAT may wish to introduce a test at the end of the ETAT course. Candidates would require to pass this test to ensure that they are competent in ETAT and specific competency certificates would then be issued to those passing the test. It is suggested that the test is a clinical scenario on managing a sick child presenting to a health facility. To introduce a test would require addition of ½ day to the current 3 and ½ day course.

## ETAT modules

The ETAT facilitator's guide is presented as 7 modules. This allows the course to be taught in an alternative format. For example, the contents of the ETAT course could be taught in 2-hour sessions over several weeks. This would be useful in busy hospitals where many children are seen in the morning and when things are quieter later in the afternoon. In this way participants could learn new knowledge and skills but not be absent from their place of work. Also the new skills could be immediately practiced in the real working environment of participant's own department.

## Module One

# Triage and the "ABCD" concept

<ul style="list-style-type: none"><li>■ General introductions</li><li>■ Introduce module objectives</li><li>■ Review the 'Triage' concept</li><li>■ Review the ABCD concept</li><li>■ Review the priority signs concept</li><li>■ Review triaging process</li><li>■ Review the emergency and priority Signs</li><li>■ Review the general principles of treatment of emergencies</li><li>■ Conduct drill on emergency and triage</li></ul>	MODULE OVERVIEW
<ul style="list-style-type: none"><li>● To understand the definition of triage</li><li>● To understand and to apply the "ABCD" Concept</li></ul>	OBJECTIVES
<ul style="list-style-type: none"><li>◆ Computer with LCD projector or overhead projector</li><li>◆ ETAT wall charts</li><li>◆ Overheads or powerpoint presentations</li><li>◆ Doll for drill</li></ul>	MATERIALS

## CONTENTS OF DAY 1: MODULE 1

Time	Activities	Methods, resources, comments
Start 8:00	<b>Opening</b> Introduction: Welcome participants and facilitators. Everyone introduces themselves.	
5 mins	<b>Present the module objectives</b>	Overhead/LCD
Start 9:00 10 mins	<b>Review the concept of triage</b> Ask participants, if they have read Module 1 of the ETAT Participants Manual. Depending on how many have read the module, spend more or less time presenting the rationale and concept of triage. Allow questions about the triage concept, answer them or, if appropriate refer to later sessions of the course.	Overhead/LCD Questions and answers
10 mins	<b>Review the ABCD concept</b> Emphasis that each letter relates to an emergency sign indicating that immediate attention is required. Ask who is familiar with the ABCD concept to get an impression of the participants familiarity with the subject. Allow questions and answer them or, if appropriate refer to later sessions of the course.	Overhead/LCD Questions and answers
10 mins	<b>Review the priority signs concept</b> Would participants suggest other priority signs in their settings?	Overhead/LCD
10 mins	<b>Review triaging process</b> Ask participants when and where should triage take place, who should triage and how to triage? Review the triage steps as contained in the table of page 8 of the ETAT manual.	Overhead/LCD ETAT wall chart 1 Interactive session
10 mins	<b>Review the emergency and priority signs</b> Facilitator present or ask a participant to go through ETAT chart 1.	ETAT wall chart 1 Interactive session
10 mins End 10:00	<b>Review the general principles of treatment of emergencies</b>	Overhead/LCD
10:00-10:15	<b>Tea</b>	
Start 10:15 10 mins	<b>Conduct drill on emergency and triage</b>	Drill 1 Resuscitation doll
5mins Finish 10:30	<b>Summary</b>	Overhead/LCD

## DRILL 1

<b>Tell participant</b>	<b>Findings</b>	<b>Correct response</b>
Mother running in, baby in arms		Assess A and B
	Obstructed breathing	Go to emergency
	Central cyanosis	Go to emergency
	Severe respiratory distress	Go to emergency
A and B stable, assess C	Warm hand	Assess consciousness
A and B stable, assess C	Cold hand	Assess capillary refill
A and B stable, assess C	Capillary refill fast	Assess consciousness
A and B stable, assess C	Capillary refill slow	Check pulse
A and B stable, circulation stable	Alert child	Ask for diarrhoea
A and B stable, circulation stable	Convulsing child	Go to emergency
A and B stable, circulation stable	Lethargy	Assess for diarrhoea and dehydration
A and B stable, circulation stable	Unconscious child	Go to emergency
A and B and C stable	No diarrhoea	Assess priority signs
A and B and C and D stable	Child is very hot	Priority patient
A and B and C and D stable	No priority signs	Child waits in queue







## MATERIALS

- ◆ Practical session box including:
  - Resuscitation dolls
  - Materials for stabilizing the neck, infusion bottles, tight roll of towel, tape
  - Oro-pharyngeal airways in several sizes
  - Self inflating bags of different sizes
  - Face masks of varying sizes
  - Oxygen and equipment for delivering oxygen from an oxygen cylinder (spanner or key wheel, regulator with pressure gauge, flow control device, and non-crush plastic tubing) or from an oxygen concentrator (non-crush plastic oxygen delivery tubing).
  - Oxygen tubing
  - Nasal prongs and/or nasal catheter
  - Tape
  - Electric of foot suction pump
  - Yanker sucker
  - Suction catheter

## CONTENTS OF DAY 1: MODULE 2

Time	Activities	Methods, resources, comments
Start 10:30 15 mins	<b>Presentation of "Airway and Breathing"</b> <ul style="list-style-type: none"> <li>- Present module objectives</li> <li>- Demonstrate the airway and breathing section of chart 2</li> <li>- Summarize the links to the following charts 3 and 4</li> <li>- Invite and answer any questions on the topic</li> </ul>	Plenary session ETAT charts 2 - 5
15 mins	<b>Management of choking child</b> Facilitator demonstrates: <ul style="list-style-type: none"> <li>- Assess history of choking child</li> <li>- Recognize signs of a choking child</li> <li>- Do back slaps and chest thrusts in infants, use doll</li> <li>- Give back blows and perform Heimlich manoeuvre on older child, simulate on adult volunteer</li> </ul>	Plenary session ETAT chart 2 Demonstration using dolls and participant volunteer

<b>Activities</b>		
20 mins	<p><b>Assessment and management of airway</b> Facilitator explains and demonstrates:</p> <ul style="list-style-type: none"> <li>- how to assess the airway               <ul style="list-style-type: none"> <li>□ Is the child breathing?</li> <li>□ Does the child have severe respiratory distress?</li> <li>□ Is there obstruction to airflow?</li> </ul> </li> <li>- steps to manage the airway and their sequence</li> <li>- steps if child is not breathing or breathing appears to be obstructed</li> <li>- positioning to improve airway               <ul style="list-style-type: none"> <li>□ Chin lift to open the airway if no trauma</li> <li>□ Infants – neutral position</li> <li>□ Children – sniffing position</li> </ul> </li> <li>- where to look for foreign body (mouth, pharynx)</li> <li>- what to use to clear secretions from the throat (finger, finger wrapped in gauze, or mechanical suction device if available)</li> <li>- steps of managing the airway if child is breathing with no apparent obstruction (let child assume position of maximal comfort; support infant's head in neutral position)</li> <li>- steps for insertion of an oropharyngeal airway</li> </ul>	<p>Plenary session ETAT chart 3 and 5 Suction pump Gauze Oro-pharyngeal airways</p>
20 mins	<p><b>Manage the airway in a child with possible neck trauma</b> Facilitator explains and demonstrates:</p> <ul style="list-style-type: none"> <li>- how management of the airway differs if the child has suspected head or neck trauma               <ul style="list-style-type: none"> <li>□ jaw thrust without head tilt, used when trauma is suspected</li> </ul> </li> <li>- steps to stabilize the cervical spine</li> <li>- log roll</li> </ul>	<p>Plenary session ETAT chart 3 and 5 IV fluid bottles (to stabilise neck) or towels Tape Demonstration with doll and volunteer</p>
20 mins	<p><b>Ventilate with bag and mask</b> Facilitator explains and demonstrates:</p> <ul style="list-style-type: none"> <li>- when to use a bag and mask to ventilate the child (child's breathing is very shallow, or slow, or obstructed, or child is not breathing.)</li> <li>- steps for using a bag and mask to ventilate the child</li> <li>- correct rate of ventilation (oxygen flow should be 10 litres/minute, or as high as possible in a concentrator)</li> <li>- if chest does not rise and fall when using bag and mask, possible causes to investigate:               <ul style="list-style-type: none"> <li>□ Inappropriate head/jaw position</li> <li>□ Mouth is closed</li> <li>□ Insufficient pressure on bag</li> <li>□ Mucous, blood, foreign body in airway</li> <li>□ Poor seal between mouth and face</li> </ul> </li> </ul>	<p>Plenary session ETAT chart 4 Resuscitation doll Self-inflating bags Masks of different sizes Oxygen tubing</p>

Time	Activities	Methods, resources, comments
	<ul style="list-style-type: none"> <li>- when and how to stop ventilation (stop after a few minutes; look to see if child revives and starts to breathe spontaneously. If not breathing adequately, continue for 45 minutes or according to decision of clinician.)</li> </ul> <p>Allow questions and answers</p>	
15 mins	<p><b>Review practice</b></p> <p>Ask individual participants to demonstrate in front of others:</p> <ul style="list-style-type: none"> <li>- Management of the choking child</li> <li>- Opening airways</li> <li>- Ventilation with bag and mask</li> <li>- Positioning of the child with possible neck trauma</li> </ul>	<p>Practical skills demonstration</p> <p>Equipment as above</p>
12:45	<p><b>Lunch break</b></p>	
Start 14:00 30 mins	<p><b>Demonstration of clinical signs for giving oxygen, and severe respiratory distress</b></p> <p>Show video sequences of</p> <ul style="list-style-type: none"> <li>- Cyanosis</li> <li>- Severe respiratory distress</li> <li>- Very fast breathing</li> <li>- Severe lower chest wall indrawing</li> <li>- Use of auxiliary muscles</li> <li>- Stridor</li> <li>- Grunting</li> </ul> <p>Discuss the signs and the relation to respiratory distress</p>	<p>ETAT chart 2</p> <p>Video of respiratory signs</p>
15 mins	<p><b>Explain and demonstrate oxygen sources</b></p> <ul style="list-style-type: none"> <li>- Correct equipment for delivering oxygen from an oxygen cylinder (spanner or key wheel, regulator with pressure gauge, flow control device, and non-crush plastic oxygen delivery tubing)</li> <li>- Equipment needed if oxygen source is to be used for more than one child (a 4-way adaptor and additional flow control devices, tubing)</li> <li>- Correct equipment for delivering oxygen from an oxygen concentrator (non-crush plastic oxygen delivery tubing) and if source is to be used for more than one child (a flow splitter, 0.5 and 1.0 litre/minute nozzles, blanking plugs and flow indicators, with additional tubing)</li> <li>- Steps for assembling the equipment, checking that it is working properly (covered already by the video.)</li> <li>- There must be no smoking in the room when oxygen is being used.</li> </ul>	<p>Show cylinder and concentrator, if possible</p> <p>Show sequence from video</p>

Time	Activities	Methods, resources, comments
5 mins Finish 15:00	<p><b>Explain and demonstrate oxygen delivery devices</b></p> <ul style="list-style-type: none"> <li>- Circumstances in which nasal catheter or nasal prongs are preferable (usually individual preference/comfort with procedure)</li> <li>- Correct position for nasal prongs, taped in place just above the upper lip</li> <li>- Appropriate tube (8FG size tube) for a nasal catheter</li> <li>- How and where to measure to determine how much of the tube to insert</li> <li>- How to insert the tube into the nasal passage</li> <li>- How to secure it with tape (good place to tape it)</li> <li>- Proper flow rate for oxygen (0.5-1 litres per minute for infants and 1-2 litres per minute for older children for nasal prongs or nasal catheter; 8-10 litres for bag/mask). If oxygen is not available, use room air, but oxygen is preferable</li> <li>- Position and secure nasal prongs</li> <li>- Measure how much of a nasal catheter to insert (length from side of nostril to the inner eyebrow margin)</li> <li>- Insert the nasal catheter and secure it with tape</li> <li>- Assemble appropriate equipment to deliver oxygen</li> <li>- Check that there is oxygen in tank</li> <li>- Show how to check the flow rate of the oxygen (2 litres per minute to start)</li> </ul>	<p>Equipment as above</p> <p>Show actual tubing</p> <p>Show sequence from video</p> <p>Demonstrate on doll</p>
15:00	<b>Tea</b>	
Start 15:15 90 mins	<p><b>Group work to practice skills</b></p> <p>The participants practice all skills in small groups with the guidance of the facilitators, who give short scenarios for the participants to act on.</p> <ul style="list-style-type: none"> <li>- Triage for airways and breathing</li> <li>- Management of choking child</li> <li>- Opening airways</li> <li>- Opening airways in neck trauma and log roll</li> <li>- Insert an oropharyngeal airway</li> <li>- Ventilate with bag and mask</li> <li>- Give Oxygen</li> </ul>	<p>Practical group session box including airway and breathing equipment</p> <p>If only few dolls are available, the different sizes need to be rotated through the groups</p>
15 mins Finish 17:00	<p>Facilitator summarises airway and breathing section, Ask for questions and allow discussion.</p> <p>Give assignments, reading on all "C" signs.</p> <p>Self- assessment questions on triage, A and B</p>	<p>Presentation and questions and answers</p> <p>Refer to participants manual</p>
30 mins	<p><b>Facilitators meeting</b></p> <ul style="list-style-type: none"> <li>- Meet with facilitators, review day, ask for comments and impressions, areas to improve</li> <li>- Prepare for clinical session; identify severe cases on wards</li> <li>- Order chicken thighs</li> </ul>	







MATERIALS	<ul style="list-style-type: none"> <li>◆ Resuscitation doll</li> <li>◆ Diagram of a child's body with veins (Figure 33, page 59 Participant's manual)</li> <li>◆ ETAT charts 6 and 7 (charts for treatment of shock)</li> <li>◆ Paper and pencils for calculations</li> <li>◆ Food colouring</li> <li>◆ Water</li> <li>◆ Tray (preferably metal) to practice intraosseous insertion</li> <li>◆ Table or surface on which to teach, demonstrate and trainees to practice</li> <li>◆ Chicken thigh bones (or other animal bone, young pig ribs)</li> </ul>
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## CONTENTS OF DAY 2: REVIEW AND MODULE 3

Time	Activities	Methods, resources, comments
Start 8:00 15 mins	<b>Revise assessment questions for triage, airway and breathing</b> Discuss answers to questions. Ask for comments; refer to the main text in participant's manual, clarify if needed.	Plenary session Participants manual Answers in facilitators manual Annex 5 (photocopied for all participants)
15 mins	<b>Oral drill on triage</b>	Drill 2 Resuscitation doll Facilitator may use drill below or make up own examples
Start 8:30 90 mins	<b>Clinical session in OPD and on inpatient ward</b>	Practicing flow of triage in OPD session
10:00	<b>Tea</b>	
Start 10:15 5 mins	<b>Present objectives of module 3</b> Explain that each objective will be presented in more detail later in the session	Plenary session Overheads or powerpoint
15 mins	<b>Summarise circulation</b> Facilitator should now present the section on circulation (see pages 24-30 of participants manual). Facilitator should present information on an overhead or power-point including: <ul style="list-style-type: none"> <li>- Assess the circulation</li> <li>- Shock</li> <li>- Treatment of shock in the child with and without severe malnutrition</li> </ul>	Plenary session Overheads or powerpoint ETAT charts 1, 6 and 7 Tables 3 and 4 of participants manual (p29 and 30)

Time	Activities	Methods, resources, comments
	<p>Reference should be made to the appropriate ETAT charts (6 and 7) and how these can be used in the emergency setting</p> <p>Finally show tables 3 and 4 so that participants may see differences in treatment of shock in the child with and without severe malnutrition</p>	
10 mins	<p><b>Exercise on "severe malnutrition"</b></p> <p>The facilitator should introduce an exercise on "severe malnutrition" using either a video or the IMCI photograph booklet. Facilitator should ask participants to look at each child in the video or the photograph booklet to identify the presence or absence of "visible severe wasting" or "oedema of both feet". Participants should document their answers on a piece of paper. Answers should be discussed after all the children in the video or photographs have been reviewed</p>	<p>Video or IMCI chart booklet</p> <p>Pen and paper</p> <p>Exercise A</p>
20 mins	<p><b>Demonstration on management of shock</b></p> <ol style="list-style-type: none"> <li>1. Insert an IV line <ul style="list-style-type: none"> <li>- First site to try to insert an intravenous line</li> <li>- Equipment needed to insert an IV line</li> <li>- Steps to insert an IV line correctly, safely</li> <li>- How to take blood for emergency laboratory investigations while inserting IV and before starting infusion of fluids</li> <li>- Equipment needed to take blood for each of the emergency laboratory investigations</li> <li>- Steps to send to the laboratory the blood for the blood smear and haemoglobin tests</li> <li>- Possible problems preventing the infusion from running well and what to do about them</li> <li>- Procedure for safe disposal of needles</li> </ul> </li> <li>2. Give fluids rapidly for shock <ul style="list-style-type: none"> <li>- What IV fluids to give for treating shock</li> <li>- Rate at which to infuse fluid (20 ml/kg as rapidly as possible; if severely malnourished, 15 ml/kg over 1 hour)</li> <li>- Definition of bolus, infusion</li> <li>- How to tell when desired amount has been infused (if giving fluid from bottle, put tape on bottle at level where desired amount will have been given)</li> <li>- Signs to check to see if child has improved with the fluids (Check same signs -- cold hand, capillary refill, weak and fast pulse -- and also lethargy/conscious)</li> <li>- What to do if child has not improved -- sequence of treatments to give if child does not improve (more fluids, as described in box)</li> <li>- Steps for giving blood; amount of blood to give and rate</li> </ul> </li> </ol>	<p>Plenary session</p> <p>Practical sessions box</p> <p>Resuscitation doll</p> <p>ETAT charts 6 and 7</p> <p>Materials above</p> <p>Tell participants that first you will demonstrate this skill but that participants will practice during the group practical sessions</p>

Time	Activities	Methods, resources, comments
	3. Insert intraosseous line <ul style="list-style-type: none"> <li>- Necessary equipment for inserting an intraosseous line and the names of the items</li> <li>- Sequence of steps to insert an intraosseous line and confirm correct placement</li> <li>- Correct position of the knee (bent at a 30 degree angle, with knee supported and heel resting on the table)</li> <li>- Location to insert an intraosseous line (the cannulation site) and the steps to find it</li> <li>- Definition of tibial tuberosity, "medial to", tibia, proximal tibia, palpating, infiltration</li> <li>- Steps for sterility (wash hands, put on sterile gloves, cleanse the skin with an iodine-containing solution using a spiral motion)</li> <li>- How to stabilize the proximal tibia, and not poke your own hand with needle</li> <li>- Also demonstrate on chicken thigh bone or other animal bone</li> </ul>	
Start 11:05 90 mins Finish 12:35	<b>Group work to practice skills</b> <ol style="list-style-type: none"> <li>1. Insert an IV line</li> <li>2. Give fluids rapidly for shock</li> <li>3. Insert intraosseous line</li> </ol> In task 3 participants will be using a chicken thigh bone or other animal bone.	For each group <ul style="list-style-type: none"> <li>- All materials above</li> <li>- Practical sessions box</li> <li>- Resuscitation doll</li> <li>- ETAT charts 6 and 7</li> </ul> During each practical session the facilitator should not demonstrate the skill but observe each participant practicing the skill and provide encouragement and correct any mistakes
10 mins Finish 12:45	Wind-up Summarize circulation section Ask for questions and allow discussion Review the session, give perspective for next session, give assignment on the assessment questions on circulation (to be completed over lunch if time allows)	Power point or overheads
12:45-14:00	<b>Lunch</b>	

## DRILL 2: ORAL DRILL ON FLOW OF TRIAGE ASSESSMENT

<b>If you assess:</b>	<b>And you find (the signs below), what should you do next?</b>	<b>Correct response</b>
Breathing,	Breathing is adequate	Assess circulation
Circulation	Warm hand	Assess consciousness
Circulation	Cold hand	Assess capillary refill
Circulation	Capillary refill is quick	Assess consciousness
Circulation	Weak and fast pulse	Assess consciousness
Consciousness	Alert, not convulsing	Ask for diarrhoea
Consciousness	Child is convulsing	Check for head or neck trauma, and then treat for convulsions, and then quickly continue assessment
Consciousness	Lethargy (no other neurological signs present)	Assess for diarrhoea and severe dehydration

## EXERCISE A ON "SEVERE MALNUTRITION"

Read through the sections "Look for visible severe wasting" and "Check for oedema of both feet" and then be ready to do the exercise. For each photograph, answer the question:

<b>Does the child have visible severe wasting?</b>	<b>Yes</b>	<b>No</b>
Photograph 51	<input type="checkbox"/>	<input type="checkbox"/>
Photograph 52	<input type="checkbox"/>	<input type="checkbox"/>
Photograph 53	<input type="checkbox"/>	<input type="checkbox"/>
Photograph 54	<input type="checkbox"/>	<input type="checkbox"/>
Photograph 55	<input type="checkbox"/>	<input type="checkbox"/>
Photograph 56	<input type="checkbox"/>	<input type="checkbox"/>
Photograph 57	<input type="checkbox"/>	<input type="checkbox"/>
Photograph 58	<input type="checkbox"/>	<input type="checkbox"/>
<b>Does the child have oedema?</b>	<b>Yes</b>	<b>No</b>
Photograph 59	<input type="checkbox"/>	<input type="checkbox"/>





MATERIALS	<ul style="list-style-type: none"> <li>◆ Dextrostix (one per participant and some extras for demonstration)</li> <li>◆ Sterile lancets (one per participant and extras)</li> <li>◆ Water bottle and pan (water to wash blood off dextrostix)</li> <li>◆ Diazepam</li> <li>◆ Bottles for diluting D50</li> <li>◆ Sugar, water, teaspoon measure, measuring cup for 200 ml water</li> <li>◆ Resuscitation doll</li> </ul>
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## CONTENTS OF DAY 2: MODULE 4

Time	Activities	Methods, resources, comments
Start 14:00 5 mins	<b>Revise assessment questions for circulation</b> Distribute model answers, and give participants the opportunity to compare these with their answers. Ask for comments; refer to the main text in participant's manual, if needed. If participants have been unable to complete, give as homework	Plenary session Participants manual Answers in facilitators manual Annex 5 (photocopied for all participants)
5 mins	<b>Present objectives of module 4</b> Explain that each objective will be presented in more detail later in the session	Plenary session Overheads or powerpoint presentations
15 mins	<b>Summarise Assess Coma and Convulsions</b> Facilitator should now present the section on coma and convulsions (see pages 33-38 of participants manual). If the participants have not read this section they should do so at this point. Facilitator should present information on an overhead or power-point including: Assess for coma and convulsions - Is the child in coma? - Is the child convulsing? Treatment of coma and convulsion including manage the airway, position the child, check the blood glucose, give IV glucose and give an anti-convulsant Reference should be made to the appropriate ETAT charts and how these can be used in the emergency setting	Plenary session Overheads or powerpoint presentations ETAT charts 3, 4, 8 and 9
15 mins	<b>Video exercise AVPU Coma score</b>	ETAT video Notes see Exercise B

Time	Activities	Methods, resources, comments
Start 14:40 30 mins	<p><b>Demonstration on coma and convulsion</b></p> <ol style="list-style-type: none"> <li>1. Give diazepam rectally <ul style="list-style-type: none"> <li>- Steps for giving diazepam rectally</li> <li>- Do not do this treatment for infant less than 1 month of age</li> <li>- Dosage of diazepam for rectal administration</li> <li>- Diazepam should be given rectally, with a tuberculin syringe with no needle</li> <li>- How far to insert the syringe into the rectum (4-5 centimeters)</li> <li>- Interval before giving another dose (if convulsion doesn't stop) is 10 minutes</li> <li>- Respiratory depression is a possible effect of diazepam</li> <li>- If convulsion continues another 10 minutes, can give another dose of diazepam. If needed after another 10 minutes, can give a third dose of diazepam, or paraldehyde or phenobarbitone IV or IM. Three doses is the maximum.</li> <li>- Logic of using paraldehyde as the third dose, after two doses of diazepam (less danger of respiratory depression)</li> <li>- If the child already has an IV cannula in place, or is receiving IV fluids, this route may be used to give diazepam.</li> <li>- Dosage of diazepam differs if giving by IV (instead of rectally)</li> <li>- Rate to inject diazepam via IV route (0.25 mg/kg given slowly over 1 minute)</li> <li>- If fever is high, lower the fever by sponging the child with room-temperature water.</li> <li>- Paracetamol, other oral medications or fluids are not given until that is no danger of aspiration.</li> </ul> </li> <li>2. Give IV glucose <ul style="list-style-type: none"> <li>- D10 solution is recommended (10% dextrose).</li> <li>- How to make 10% dextrose if only D50 is available (dilute 1 part D50 with 4 parts sterile water to make 10% dextrose).</li> <li>- Insert an IV line</li> <li>- 1-2 ml syringe is needed to take blood for the blood glucose test</li> <li>- Definition of bolus; definition of IV push</li> <li>- Steps to do a blood glucose (dextrostix) test (put drop of blood on the strip; it is not necessary to cover all of the reagent area; after 60 seconds, wash the blood off gently with drops of cold water; compare colour with the key on the side of the bottle)</li> </ul> </li> </ol>	<p>For each group</p> <ul style="list-style-type: none"> <li>- Practical sessions box</li> <li>- Resuscitation doll</li> <li>- Diazepam</li> <li>- Glucose 10% or 50%</li> <li>- ETAT charts 8 and 9</li> <li>- Table 6, 7 and 8 (participants manual)</li> </ul> <p>Tell participants that first you will demonstrate this skill but that participants will practice during the group practical sessions.</p>



Time	Activities	Methods, resources, comments
	<ul style="list-style-type: none"> <li>- Threshold for low blood glucose (less than 2.5 mmol/liter)</li> <li>- If blood glucose is low, it should be rechecked in 30 minutes</li> <li>- What to do if 30 minutes later blood glucose is still low (repeat 5 ml/kg of D10 solution bolus)</li> <li>- How to tell when it is "safe" to feed the child</li> <li>- What to do if not able to feed without danger of aspiration (give milk or sugar water by NG or give IV continuing 5-10% dextrose)</li> <li>- Steps to insert an NG tube, how to measure how far to insert the tube</li> </ul> <p>3. Draw Up Correct Dose Rapidly</p> <ul style="list-style-type: none"> <li>- Knowing the age or weight of a child, calculate the correct dose of the drug for the child</li> <li>- Draw up the dose, as quickly as possible</li> </ul>	
15:10-15:25	<b>Tea</b>	
Start 15:25 80 mins	<p><b>Group work to practice skills</b></p> <ol style="list-style-type: none"> <li>1. Give diazepam rectally</li> <li>2. Give IV glucose</li> <li>3. Draw Up Correct Dose Rapidly</li> </ol> <p>Repeat the task 3 until all participants have practiced several times to develop their speed and confidence</p>	<p>For each group</p> <ul style="list-style-type: none"> <li>- Drill 3</li> <li>- Practical sessions box</li> <li>- Resuscitation doll</li> <li>- Diazepam</li> <li>- Glucose 10% or 50%</li> <li>- ETAT charts 8 and 9</li> </ul> <p>Table 6, 7 and 8 (participants manual). During each practical session the facilitator should not demonstrate the skill but observe each participant practicing the skill and provide encouragement and correct any mistakes</p>
15 mins Finish 17:00	<p>Wind-up</p> <p>Summarise the coma and convulsion section, give perspective for next day, give assignments, reading on all "D" signs and self- assessment questions on C</p>	Power-point/overhead
30 mins	<b>Facilitators meeting</b>	

## EXERCISE B: VIDEO EXERCISE AVPU COMA SCORE

Convulsing (now)	IMCI VIDEO, Tape 1, Exercise C
Lethargy	5 minutes of explanation and examples including examples lethargic and unconscious. (The video uses the term "unconscious." Explain that this is coma. Some explanation and signs do not apply.) You may show these examples, or just forward to the exercise.
Continually irritable and restless	Practice exercise for identifying lethargic or unconscious (coma)-- 4 children. (Turn off the sound and discuss the answers for each child to be clear which children are lethargic and which are in coma. Because the danger sign taught in the video is "lethargic or unconscious," the video does not distinguish between the two.)

## DRILL 3: DETERMINE CORRECT DOSES

Ask participants, as in a drill, what dose would you give the following children?

Child's Age	Child's Weight	IF IV GLUCOSE IS NEEDED - Amount of D10 as bolus	IF IV FLUIDS ARE NEEDED FOR SHOCK -- Ringers lactate or normal saline as bolus	IF DIAZEPAM IS NEEDED -- Amount of 10mg/2ml solution given rectally
6 weeks	3 Kg	15 ml	60 ml	0.3 ml
3 months	5 Kg	25 ml	100 ml	0.5 ml
4 years	16 Kg	80 ml	320 ml	1.6 ml
6 months	8 Kg	40 ml	160 ml	0.8 ml
18 months	12 Kg	60 ml	240 ml	1.2 ml
6 months <sup>1</sup> , severely malnourished	4 Kg	5 ml x 4 kg = 20 ml	15 ml x 4 kg = 60 ml in 1 hour	0.4 ml
12 months	12 Kg	60 ml	240 ml	1.2 ml
2 months	5 Kg	25 ml	100 ml	0.5 ml
1 month	3 Kg	15 ml	60 ml	0.3 ml





MATERIALS	<ul style="list-style-type: none"> <li>◆ ETAT video for lethargy, visible severe wasting and signs of dehydration</li> <li>◆ IMCI Photographs booklet: <ul style="list-style-type: none"> <li>- Photographs 47-50 are examples to discuss visible severe wasting and oedema:</li> <li>- Photographs 18, 51-59 as exercise on identifying wasting and oedema</li> </ul> </li> </ul>
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## CONTENTS OF DAY 2: REVIEW, CLINICAL PRACTICE AND MODULE 5

Time	Activities	Methods, resources, comments
Time Start 8:00 10 mins	<b>Review of self assessment day 2 "C"</b> Distribute model answers, invite questions and answer	Self assessment question answers see Annex 5 (photocopied for all participants)
20 mins	<b>Oral drill on flow of triage assessment</b>	Drill 4
Start 8:30 90 mins	<b>Clinical session in outpatients and on ward</b>	
10:00-10:15	<b>Tea</b>	
Start 10:15 10 mins	<b>Summarise Assess Dehydration</b> Show ETAT chart 1 and chart 10 and talk through <ul style="list-style-type: none"> <li>- Mention how dehydration links with shock</li> <li>- Explain difference between chart 10 and treatment plan C</li> <li>- Describe the steps for assessing and classifying a child for diarrhoea and severe dehydration. Mention the signs of dehydration that you will assess: the child's general condition, whether the child has sunken eyes, and a skin pinch.</li> <li>- Review the technique for doing a skin pinch</li> <li>- Mention treatment (more detail later)</li> </ul>	Chart 1 and 10 Overheads or powerpoint presentations Summary flow chart from slides Treatment Plan C
15 mins	<b>Video exercise: C</b> <ul style="list-style-type: none"> <li>- Lethargy: mention how it links with AVPU</li> <li>- Sunken eyes</li> <li>- Skin pinch</li> </ul> To conduct the video exercise: <ul style="list-style-type: none"> <li>- Tell participants that during the video they will see examples of how to assess a child with diarrhoea for severe dehydration</li> <li>- For each of the children shown, answer the question</li> </ul>	ETAT video <ul style="list-style-type: none"> <li>- Exercise to practice identifying sunken eyes-6 children (about 7 minutes)</li> <li>- Exercise to practice identifying slow skin pinch-5 children (about 6 minutes)</li> </ul> Answers to the questions are shown below

Time	Activities	Methods, resources, comments
10 mins	<b>How to use the Plan C</b> <ul style="list-style-type: none"> <li>- Display the enlargement of the Plan C</li> <li>- Explain that "Diarrhoea Treatment Plan C: Treat severe dehydration quickly" is designed so that participants learn how to do Plan C as they will do it at their own clinics</li> <li>- Point to the enlargement and read the flowchart with the participants</li> </ul>	Plan C
10 mins	<b>Calculation of numbers of drops per minute using burette</b> <ul style="list-style-type: none"> <li>- Ask participants if they have burettes in their hospitals</li> <li>- Explain concept of number of drops per ml for adult and paediatric burettes</li> <li>- Give samples calculations and ask participants for answers</li> </ul>	Table 11
15 mins	<b>Drill on amounts of IV fluid to give a child on Plan C</b> <ul style="list-style-type: none"> <li>- Conduct this drill to provide additional practice determining the amount of IV fluid to give a child who has diarrhoea with severe dehydration (without shock or severe malnutrition)</li> <li>- Tell the participants they can refer to Plan C during the drill</li> <li>- Tell the participants that you will state the ages and weights of children with severe dehydration</li> <li>- Ask them how much IV fluid should be given and over how long</li> </ul>	Drill 5 Plan C Pencil and paper to do calculations
10 mins	<b>How to give fluids for a child with severe dehydration and severe malnutrition</b> <ul style="list-style-type: none"> <li>- Explain the difference in children with severe malnutrition</li> <li>- Show tables 10 and 11 and the flow chart 1. Provide sample calculations of fluid volumes</li> <li>- Provide examples for children with severe malnutrition and ask participants</li> </ul>	Overhead or powerpoint presentation Tables 10 and 11 (participants manual) Flow chart 1
10 mins	<b>Demonstration: Give rapid fluids</b> <ul style="list-style-type: none"> <li>- Insert a cannula into the towel (limb) at a realistic angle and tape it down</li> <li>- Attach the fluids to the cannula and make sure the infusion is running well (drips dripping freely)</li> <li>- Determine the amount of fluid needed, the rate of administration and number of drops per minute using burettes (adult and paediatric)</li> </ul>	Practical session box including: <ul style="list-style-type: none"> <li>- IV cannulae</li> <li>- Ringers Lactate or normal saline solution</li> <li>- IV tubing and burettes</li> </ul>

Time	Activities	Methods, resources, comments
60 mins	<ul style="list-style-type: none"> <li>- Mark on the bottle to show when the required amount has been given</li> <li>- Explain how to reassess the child for improvement and select correct continuing treatment</li> </ul>	Simulated limb (e.g., a towel rolled tightly; several will be needed) Tape Alcohol wipe or other spirit to clean skin ETAT wall charts 6,7,10 Plan C
10 mins Finish 12:45 12:45-14: 00	<p><b>Group work to practice skills</b>  <b>Give rapid fluids</b></p> <ul style="list-style-type: none"> <li>- Work in groups</li> <li>- Ask the participants to work in teams of 2, a doctor and a nurse, and to simulate giving IV fluids</li> <li>- Present case scenarios of children brought to outpatients with or without malnutrition and dehydration, and with and without shock</li> </ul>	Practical session box including: <ul style="list-style-type: none"> <li>- IV cannulae</li> <li>- Ringers Lactate or normal saline solution</li> <li>- IV tubing and burettes</li> </ul> Simulated limb (e.g., a towel rolled tightly; several will be needed) Tape Alcohol wipe or other spirit to clean skin ETAT wall charts 6,7,10 Plan C Case scenarios table A
	Wind-up Summarise assessment and management of severe dehydration	Power-point or overhead
	<b>Lunch</b>	

## DRILL 4: ORAL DRILL ON FLOW OF TRIAGE ASSESSMENT

<b>If you assess:</b>	<b>And you find (the signs below), what should you do next?</b>	<b>Correct response</b>
Breathing,	Breathing is adequate	Assess circulation
Circulation	Warm hand	Assess consciousness
Circulation	Cold hand	Assess capillary refill
Circulation	Capillary refill is quick	Assess consciousness
Circulation	Weak and fast pulse	Assess consciousness
Consciousness	Alert, not convulsing	Ask for diarrhoea
Consciousness	Child is convulsing	Check for head or neck trauma, and then treat for convulsions, and then quickly continue assessment
Consciousness	Lethargy (no other neurological signs present)	Assess for diarrhoea and severe dehydration
Does child have diarrhoea?	Mother says child does not have diarrhoea	Assess priority signs
Does child have diarrhoea?	Mother says child has diarrhoea	Assess signs of severe dehydration: <ul style="list-style-type: none"> <li>- Lethargy</li> <li>- Sunken eyes</li> <li>- Very slow skin pinch</li> </ul>
Priority signs	Child is age < 2 months, but no other signs present	(Bring to front of queue for) immediate assessment and treatment
Priority signs	Child has none of the signs	Return the child to the queue to be assessed and treated in turn
Airway and breathing, and then circulation	Breathing is adequate, but the child is in shock	Quickly also assess coma/convulsing, and check for head or neck trauma and severe malnutrition, and then treat for shock (and treat coma or convulsing if needed)
Airway and breathing	Child is in respiratory distress	Check if breathing is obstructed, check for head or neck trauma, and then treat: <ul style="list-style-type: none"> <li>- Manage airway</li> <li>- Give oxygen</li> </ul> Then quickly assess circulation



If you assess:	And you find (the signs below), what should you do next?	Correct response
A and B C and D	Child is breathing adequately, circulation OK, lethargy, diarrhoea, sunken eyes	Check for head and neck trauma, severe malnutrition.
Malnutrition in a child with diarrhoea with severe dehydration	No severe malnutrition	Insert IV line and begin giving fluids rapidly following Plan C
Malnutrition in a child with diarrhoea with severe dehydration	Visible severe wasting	Do not insert IV. Proceed immediately to assessment and treatment.
All clinical signs	Breathing is adequate, child is in shock, has lethargy but no convulsions, diarrhoea with sunken eyes and very slow skin pinch, no severe malnutrition	Stop any bleeding, give oxygen, Insert IV and begin giving fluids rapidly following Plan C.
Child is breathing OK, lethargy, no shock, and history of diarrhoea. You assess for signs of dehydration and for severe malnutrition	Sunken eyes Visible severe wasting	Proceed immediately to further assessment and treatment for severely malnourished child

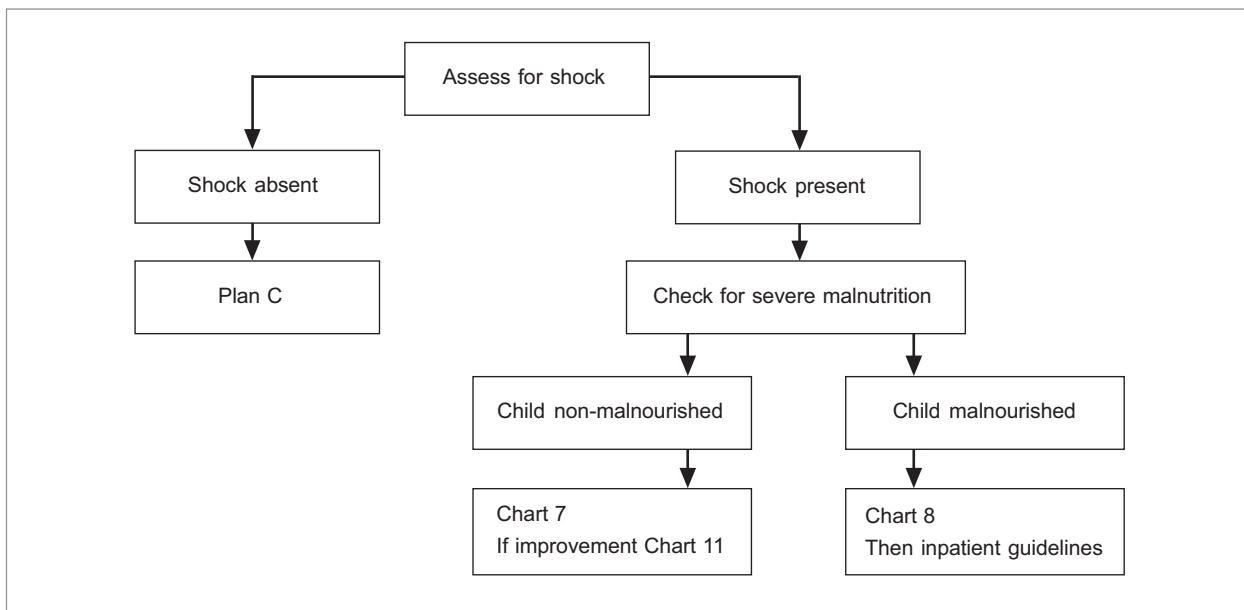
## EXERCISE C: ANSWER TABLE TO VIDEO EXERCISE

Does the child have sunken eyes?	Yes	No
Child 1	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Child 2	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Child 3	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Child 4	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Child 5	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Child 6	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Does the skin pinch go back	very slowly?	slowly?	immediately?
Child 1	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Child 2	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Child 3	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Child 4	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Child 5	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

## DRILL 5 FOR TREATMENT PLAN C

Child's age and weight:	First give:		Then give:		Total Amount	Total Time
	Amount	For	Amount	For		
14 months, 9 kg	270 ml	30 mins	630 ml	2½ hrs	900 ml	3 hrs
8 months, 7 kg	210 ml	1 hour	490 ml	5 hrs	700 ml	6 hrs
3 years, 13 kg	390 ml	30 mins	910 ml	2½ hrs	1300 ml	3 hrs
3 months, 5 kg	150 ml	1 hour	350 ml	5 hrs	500 ml	6 hrs
2 years, 12 kg	360 ml	30 mins	840 ml	2½ hrs	1200 ml	3 hrs
15 months, 10 kg	300 ml	30 mins	700 ml	2½ hrs	1000 ml	3 hrs
4 years, 15 kg	450 ml	30 mins	1050 ml	2½ hrs	1500 ml	3 hrs
23 months, 11.5 kg	345 ml	30 mins	805 ml	2½ hrs	1150 ml	3 hrs
6 months, 6 kg	180 ml	1 hour	420 ml	5 hrs	600 ml	6 hrs
12 months, 8 kg	240 ml	30 mins	560 ml	2½ hrs	800 ml	3 hrs
11½ months, 8 kg	240 ml	1 hour	560 ml	5 hrs	800 ml	6 hrs
5 months, 5 kg	150 ml	1 hour	350 ml	5 hrs	500 ml	6 hrs
10 months, 7 kg	210 ml	1 hour	490 ml	5 hrs	700 ml	6 hrs



**Flow Chart 1** Management of the child with severe dehydration

CASE SCENARIOS TABLE A FOR GROUP WORK (children with shock or severe dehydration with or without severe malnutrition)

Child's age and weight:	First action	Development	Second action
8 months, 7 kg, no shock	IV Ringers Lactate 210 ml (30ml/kg) over 1 hour	better	490 ml over 5 hours
8 months, 7 kg, shock	IV Ringers Lactate 140 ml (20ml/kg) as fast as possible	better, pulse slower and capillary refill <2 secs	490ml over 5 hours
15 months, 10 kg, no shock	IV Ringers Lactate 300 ml over 20 mins	better	700 ml over 2 ½ hours
15 months, 10 kg, shock	IV Ringers Lactate 200 ml (20 ml/kg) as fast as possible	not better	Repeat 200 ml as fast as possible, if not improved, repeat again, if improved, switch to 700 ml over 2 ½ hours
10 months, 5 kg, visible severe wasting, no shock	ReSoMal orally 25 ml (5ml/kg) every 30 min for 2 hours	better	Continue 25-50 ml (5-10 ml/kg) hourly for next 4-10 hours
18 months, 8 kg, oedema of both feet, shock	If lethargic or comatose: give IV Ringers Lactate + 5% glucose or NaCl 0.45% + 5%glucose 120 ml (15ml/kg) over 1 hour	improved	Repeat 120ml over 1 hour, then switch to Resomal by NG tube 10ml/kg over 10 hours
		not improved	Assume septic shock, Give maintenance fluids 32 ml/hour (4 ml/kg/hour), send for blood, transfuse 10 ml/kg over 3 hours



# Case management scenarios

<ul style="list-style-type: none"> <li>■ Participants practice case management scenarios using all skills learned in the group clinical sessions</li> </ul>	MODULE OVERVIEW
<ul style="list-style-type: none"> <li>● To manage the child presented in the case scenario by using skills learned in the group clinical sessions</li> </ul>	OBJECTIVES
<ul style="list-style-type: none"> <li>◆ Case scenarios table B or other scenarios that facilitators make up themselves</li> <li>◆ Copies of the ETAT charts and treatment boxes, displayed for easy reference</li> <li>◆ Resuscitation doll</li> <li>◆ Practical session box including:             <ul style="list-style-type: none"> <li>- Equipment and supplies for giving oxygen: nasal catheter and/or nasal prongs, oxygen source and appropriate equipment for delivering oxygen</li> <li>- Equipment and supplies for giving IV fluids: IV needles, material to clean the site, tape, bottles, tubing, Ringers lactate</li> <li>- Equipment and supplies for giving IV and NG glucose: D10 (10% dextrose solution), IV needles and tape, syringes and needles, NG tubing</li> <li>- Equipment and supplies for doing dextrostix test</li> <li>- Equipment and supplies for intraosseous infusion: 21g needles for intraosseous insertion, materials to clean the site, 3 way taps</li> </ul> </li> <li>◆ Diazepam, tuberculin syringe</li> <li>◆ Apparatus for stabilizing the head and neck</li> </ul>	MATERIALS

## CONTENTS OF DAY 3: MODULE 6

Time	Activities	Methods, resources, comments
Start 14:00 45 mins	<p><b>Demonstration</b></p> <p><b>Role-play for poor practice:</b></p> <ul style="list-style-type: none"> <li>- Arrange a typical role-play where such cases are mismanaged and let participants comment and learn from it.</li> <li>- Repeat scenario with good management</li> </ul> <p><b>Demonstrate good management</b></p> <ul style="list-style-type: none"> <li>- Ask participants to watch as you assess and initiate treatments for a first case, checking their TRIAGE flowcharts and referring to the treatment boxes as you work. You may ask some participants to assist you in the demonstration. Tell them that they will then each assess and treat another case.</li> <li>- Present some initial information about the case.</li> <li>- Then assess airway and breathing and describe what is found. Explain what you do as you do it; give treatment for a breathing problem or, if that is not necessary, continue the assessment.</li> <li>- Then assess the rest of the emergency signs, describing your procedures and what you find (for example, "I am checking for lethargy and sunken eyes, and I see she is alert and fussy, resisting us. Her eyes do not look sunken either.")</li> <li>- When you identify a treatment that is needed, quickly gather whatever supplies you need to do the treatment and begin. For example, gather supplies for an IV infusion. Then do or pretend to do the steps of locating the site, cleaning it, inserting and taping the IV needle, calculating the amount needed, attaching the fluid, marking the bottle, checking the flow. The more actions you can take the better the demonstration will be, for example, inserting the needle into a towel "arm," taping it in place, and starting the IV flowing will better simulate the real actions expected and their timing than only an oral description of doing these steps.</li> <li>- After you have completed the assessment and initiated any treatments, let participants ask any questions about what you have done.</li> <li>- Then describe a reassessment of the patient and what you find, for example, doing another dextrostix test, or assessing whether convulsions have stopped, or reassessing a child with shock after the first bolus of fluid has run in. Decide the appropriate subsequent treatment and initiate it.</li> <li>- At a good point, conclude the demonstration. Review important points about what you did and why and answer any questions about the case.</li> </ul>	See materials

Time	Activities	Methods, resources, comments
14:45-15:00	<b>Tea</b>	
Start 15:00 105 mins	<p><b>Group work to practice skills</b></p> <p><b>Case management scenarios</b></p> <ul style="list-style-type: none"> <li>- Ensure that each member of the group does at least one clinical scenario</li> <li>- Tell the participant that he is in charge of the care of the child that you will describe to him (the doll on the table) and that he may ask for assistance from others in initiating treatment.</li> <li>- Describe the case and present the breathing signs. Then ask the participant what do you do next? Participant should indicate what to do first, second etc-including both what he will assess and what treatments to do.</li> <li>- The participant should proceed in the same way that you did in the demonstration, through assessment, deciding treatments, and giving (pretending to give) treatments, all the while describing aloud what he is doing.</li> <li>- As the participant describes what he is assessing, tell him the findings (for example, "The child is visibly wasted and has oedema in both feet.") Give the participant feedback as he proceeds and ask questions as needed to be sure he is covering all the steps. ("That's right. You did that well. What would you do next?")</li> <li>- The first time that a participant manages a case in this way, he will be slow, unsure of the ETAT process, and awkward, and this is to be expected. With practice, however, participants should become more comfortable with the ETAT process, more confident handling the equipment, and quicker.</li> </ul>	See materials
Start 16:45 15 mins	<p><b>Summarise section on dehydration</b></p> <ul style="list-style-type: none"> <li>- Allow participants to discuss problems they encounter during the scenarios and ways in which they were able to overcome the difficulties</li> <li>- Emphasize points that participants are forgetting or having difficulty understanding during the other skill stations and at this station.</li> <li>- Give out assignments for next day and ETAT course evaluation</li> </ul>	Power-point/overhead See Annex 6
30 mins	<b>Facilitators meeting</b>	



## Case management scenarios Table B

The clinical signs to describe are listed below. Provide this information about the signs only when the participant says that he is looking for that sign or signs. Write notes in the right column to help you give feedback to this or later participants. Also note follow-on questions that you want to ask, for example, a finding on reassessment of a sign.

### SCENARIO 1

A 3-year-old girl is carried in her mother's arms wrapped in a blanket, in the line.

Input of facilitator	Correct response
	Assess Airway and Breathing
Breathing OK	Assess Circulation
Cool hand	Check cap refill
Normal capillary refill (1.5 seconds)	Assess Consciousness
Alert	Ask for Diarrhoea
Diarrhoea x 2 days-mom says 4 to 5 loose watery stools	Assess for Dehydration
Skin pinch takes 3 seconds	Continue assessment
Eyes appear sunken a bit	Triage as emergency
	Check for severe malnutrition
If not checked for malnutrition: Child goes into shock and cardiac arrest	
Some oedema in both feet OR Visible severe wasting.	Refer for immediate assessment by senior health worker
(Blood Glucose = 5mmol/l)	Child severely malnourished, should receive oral ReSoMal, 5ml/kg in 30 mins for 2 hours 45 mls in first ½ hour.

## SCENARIO 2

2 year old male. Mother rushes in- he convulsed 30 minutes ago and she is frightened.

Input of facilitator	Correct response
	Assess Airway and Breathing
Breathing fast but no cyanosis, no distress, no signs of obstructed breathing	Assess Circulation
Feels very hot. Capillary refill fast- less than a second. Fast but strong pulse	Assess Consciousness
Lethargic but responds to voice by crying	Ask for Diarrhoea
Diarrhoea today Skin pinch less than 2 seconds Eyes not sunken. Crying big tears	Assess for Priority signs
No visible wasting or oedema No pallor	Triage as Priority (hot and lethargy)

## SCENARIO 3

1-year-old infant seized at home then again outside the clinic. Child is unconscious; breathing sounds very wet and noisy and there is drool coming from his mouth. He is looking a little blue.

Input of facilitator	Correct response
If participant goes to rest of the exam or does not adequately manage the airway, say the child is now very blue and is seizing	Triage as emergency, cyanosis Manage airway, position child, insert Guedel's airway. Give oxygen Assess breathing
After participant manages the airway, say your airway management has helped. Child is breathing much better, not blue, and no longer noisy. Tongue must have been in the way	Continue assessment Assess Circulation
Warm hand	Assess Consciousness
Moves only to pain	Position child Continue assessment
AVPU = P	Check glucose
Blood glucose < 2 mmol/L	IV Glucose give 25 mls of 10% glucose
If no oxygen → stops breathing If no glucose check → seizures	

## SCENARIO 4

4-year-old girl with cough and pain in her throat. Crying loudly.

Input of facilitator	Correct response
	Assess circulation
Squirms away so you cannot touch her hand but foot feels warm Mother says she has not had diarrhoea Arm and legs are not thin	Assess for priority signs Continuous irritable?
Yes, continuous irritable	Triage as priority

## SCENARIO 5

4-year-old boy hit by bicycle. Carried in on blanket.

Input of facilitator	Correct response
Unconscious- responds to deep pain Breathing sounds obstructed	Triage as emergency Assess airway, stabilize neck, manage airway: inspect mouth. Remove foreign bodies, clear secretions, jaw thrust without head tilt, assess breathing, if normal continue assessment, if obstructed insert tube.
Cold hand with slow capillary refill	Treat for shock, check for bleeding, get help,
Bleeding from lower leg	Apply pressure. No tourniquet. Set up IV drip, Give oxygen Continue assessment

## SCENARIO 6

14-month-old girl has been sleeping all day. Irritable when awoken, rouses to loud voice or shaking her arm.

Input of facilitator	Correct response
	Assess Airway and Breathing
Very deep breathing at normal rate, with some chest indrawing	Triage as Emergency Give oxygen, assess breathing, if normal, assess Circulation
Warm hand	Assess Consciousness
AVPU?	AVPU = Voice Ask for Diarrhoea
No diarrhoea says mother when asked	Assess for Priority signs
Some pallor No visible severe wasting or oedema	Triage as priority, lethargy

## SCENARIO 7

A 3-year-old boy is carried into outpatient department in his father's arms. He is pale, floppy and having difficulty breathing. His father says he has been unwell and coughing for 3 days. Weight 14kg.

Input of facilitator	Correct response
Respiratory rate is fast with marked intercostal recession and a tracheal tug	Triage as Emergency Assess airway
Airway patency established	Give oxygen, 1-2L/min by nasal prongs or nasal catheter
If no oxygen is given the child worsens to respiratory arrest	(? Bag and mask); assess breathing, if not obstructed, assess circulation
His hands are cold. Cap. Refill = 6 sec.	Treat for shock IV or intraosseous access Normal saline or Ringer's 20 mls/ kg = 280 mls stat Reassess (repeat x2) Blood samples for glucose/Hct/MPs
MPs 0 PCV = 26% Blood glucose = 4 mmols/L Pneumonia and shock	After treatment of shock continue assessment

## SCENARIO 8

A 4 months old baby is brought to hospital with fever, rapid breathing and refusing to breast-feed. He has had 2 episodes of vomiting and diarrhoea. Weight 5 kg.

<b>Input of facilitator</b>	<b>Correct response</b>
Airway patency established	Assess Breathing
Respiratory rate is fast, no severe distress	Assess Circulation
Hands are cool Cap refill is 6 sec. If attempted: Peripheral pulses not palpable	Check central pulses, femoral first
Femoral pulse palpable is fast and weak	Triage as emergency, treat for shock Obtain venous access or intraosseous, sample for glucose/MPs and Hct; start drip with 20mls/kg Ringers Lactate = 100 mls IV stat Give oxygen, 1L/min O <sub>2</sub> via nasal catheter or nasal prongs
AVPU = P	While doing the above continue assessment
Blood glucose < 2 mmol/L (MPs. 0 PCV = 40%)	Check glucose IV Glucose give 25 mls of 10% glucose
If no oxygen → stops breathing If no glucose check → seizures If no shock treatment → death	

## SCENARIO 9

A 10 months old baby boy is brought in with history of 24 hours of vomiting and diarrhoea.  
Weight 8 kg.

Input of facilitator	Correct response
	Assess airway and breathing
Her breathing is normal with no distress	Assess circulation
Her hands feet are cold and look grey Cap refill - 4 sec.	Triage as Emergency (shock) Establish IV/IO access, give 160 mls of Ringers Lactate x 2 Give oxygen, 1-2L/min O <sub>2</sub> by nasal catheter
AVPU = P	Check blood glucose
Blood glucose 1.5mmols/L	Give glucose 40 mls of 10% IV.
If no shock management → dies If no glucose → seizures, and if untreated → to coma and death	
She continues to have D and V	Plan C
No improvement until oral fluids, she is thirsty!	

## SCENARIO 10

A 2-year-old boy is carried in by his grandmother. Weight 12kg. He is hot and having a seizure.

Input of facilitator	Correct response
	Triage as Emergency (convulsion). Position child, jaw thrust, suction Diazepam pr or Paraldehyde Assess airway and breathing
Airway patency established but noisy,	O <sub>2</sub> by nasal cannula; 1 litre/min (± Bag and mask)
If no airway established → apnoea and finally death	
Improves	Assess circulation
Hands are warm, colour pink	Assess consciousness
AVPU = U	Check blood glucose
Blood glucose 2 mmol/L	Give glucose 60 mls of 10% IV.
Continues to convulse MP++++	Diazepam pr or Paraldehyde
If no BM stick, continues to convulse → seizures continue and then apnoea, and finally death	Paraldehyde pr or Diazepam Phenobarbitone IM/IV

## SCENARIO 11

An 18 month old boy has been unwell and feverish for 2 days. He complains of abdominal pain and his mum has noticed that he has fast breathing. Weight 11 kg.

Input of facilitator	Correct response
	Assess airway
Patency established	Assess breathing
He is grunting and distressed with subcostal recessions with fast breathing	Triage as Emergency (severe respiratory distress) O <sub>2</sub> given by nasal cannula 1 litre/min (? Bag and mask). Assess circulation
His hands are hot	Assess consciousness
He starts to convulse	Position child, give Diazepam pr or Paraldehyde; check and give glucose
Blood glucose 1.5mmol/L	IV glucose 55 mls of 10%.
If given glucose stops seizure If given anticonvulsants without glucose continues to seize	Pneumonia

## SCENARIO 12

A 10-week-old baby is brought in. His mother says he will not suckle today. Yesterday he was crying a lot. Weight 3.5 kg.

Input of facilitator	Correct response
	Assess airway
Patency established	Assess breathing
Breathing is normal	Assess circulation
The hands are cool, the Cap. Refill = 3 sec.	Assess consciousness
AVPU = A but he is irritable He is hot and jittery	Ask for diarrhoea
No history of diarrhoea, but has vomited twice	Assess priority signs Triage as Priority (hot and irritable)
Blood glucose = 1mmol/L Give glucose 10% 17.5 ml iv Diagnosis meningitis with hypoglycaemia	



## SCENARIO 13

1-year-old baby girl with a 2-day history of diarrhoea and vomiting. Weight 10 kg. She is listless.

Input of facilitator	Correct response
	Assess airway and breathing
Airway and breathing OK	Assess circulation
Warm hand	Assess consciousness
AVPU = voice. Will not drink	Check for dehydration
Skin pinch lasts 3 seconds Eyes sunken, mum agrees	Triage as emergency, severe dehydration Check for severe malnutrition
No visible wasting or oedema	Plan C. 300mls in the first ½ hour. 700 mls in the next 2.5 hours of IV Ringers Lactate

## SCENARIO 14

A 14-month-old girl who has been sleeping all day and her mother has been worried about her. Weight 11 kg.

Input of facilitator	Correct response
	Assess airway and breathing
Airway OK Breathing fast, recession ++ and harsh inspiratory noise. No cyanosis	Triage as Emergency (severe respiratory distress) Give oxygen via nasal prongs 1 litre/min. Assess circulation
Warm hands	Assess consciousness
AVPU = Voice (Blood glucose = 4mmol/l)	Ask for diarrhoea
No diarrhoea	Assess priority signs
No other signs	Triage as emergency

## Module Seven

# Implementing ETAT

<ul style="list-style-type: none"> <li>■ Preparation for ETAT implementation in the participant's hospital</li> </ul>	MODULE OVERVIEW
<ul style="list-style-type: none"> <li>● 1. Understand and explain the role of ETAT within the overall management of the child with serious infection or severe malnutrition</li> <li>● Describe why both knowledge/skills and system changes (process improvement) are needed to successfully implement ETAT</li> <li>● Understand and explain the role of ETAT within the overall management of the child with serious infection or severe malnutrition</li> <li>● Make a plan to train key staff in ETAT (at one hospital or multiple sites regionally)</li> <li>● Develop action plans to initiate the system changes (improvement process) needed to implement ETAT in his/her hospital</li> <li>● Decide how to know that ETAT is successfully implemented in your hospital (or within a collaboration of hospitals implementing ETAT)</li> <li>● Describe the value of working collaboratively across hospitals to improve the care of children with emergency conditions (and with serious infections or severe malnutrition)</li> <li>● Describe and understand how ETAT training fits into wider context of improvement initiatives in place in your country which address the quality of care for children in hospital</li> </ul>	OBJECTIVES
<ul style="list-style-type: none"> <li>◆ Computer with LCD projector or video player and TV screen</li> <li>◆ Overhead projector</li> <li>◆ Prepared power-point or overhead presentations</li> </ul>	MATERIALS

## CONTENTS OF DAY 4: MODULE 7

Time	Activities	Methods, resources, comments
Start 8:00 10 mins	<b>Review of self assessment "D"</b> Distribute model answers, invite questions and answer	Self assessment question answers see Annex 5 photocopied for all participants
20 mins	<b>Implementing ETAT</b> Introduction: Present ETAT standards	ETAT standards on power-point or overhead
30 mins	Plenary discussion <b>Plan ETAT for your own work place</b> Start the exercise with a discussion on the reasons for not implementing ETAT in peripheral health unit. Make sure that the participants bring up the following aspects: <ul style="list-style-type: none"> <li>- Why? Arguments to implement ETAT (advocacy)</li> <li>- Who? Staff categories involved in ETAT</li> <li>- Where? Flow of patients and space and or accommodation for emergency care</li> <li>- When? Timing of care</li> <li>- What? Equipment and supplies needed (material resources)</li> </ul>	
60 mins	<b>Group work</b> Divide participants into small groups (hospital groups or regional groups) Ask participants to do the exercise in their groups, start with a brainstorm on the questions why, who, where, when and with what Make sure that participants complete the checklist in the Annex "Resources required to implement ETAT" page 61 in the participant's manual. Facilitators to provide feedback on their list of priority equipment, use ETAT standards to assess the recommendations made by the participant Prepare summary of findings in form of recommendations to hospital administration Develop individual plan of action for implementing ETAT in each hospital group	Butcher paper and marker Marker pens Tape
10:00-10:15	<b>Tea</b>	
60 mins	Feedback from group work in plenary session	
45 mins	Present main findings from evaluation, course certificate and closing ceremony	Annex 6
12:00	<b>Finish</b>	

## ETAT STANDARDS

<ul style="list-style-type: none"> <li>■ Children are assessed for severity/ priority need ( triage ) immediately on arrival ( at least during high patient-load periods )</li> <li>■ Patients do not have to wait for registration, payment, their turn etc before a first assessment is done and action taken</li> <li>■ A wall chart or job aid for identifying children by severity of condition is located in the emergency admissions area</li> </ul>	LAYOUT AND STRUCTURE
<ul style="list-style-type: none"> <li>■ A qualified staff is designated to carry out triage</li> <li>■ A health professional is available without delay to manage children determined to have an emergency condition</li> </ul>	STAFFING
<ul style="list-style-type: none"> <li>■ Essential drugs for emergency conditions (anticonvulsants, glucose, iv fluids) are always available and free</li> <li>■ Essential lab tests (Hb or PCV, glucose) are available</li> <li>■ Essential equipment (needles and syringes, nasogastric catheters, oxygen equipment, nebulizer or spacers) is available</li> </ul>	DRUG, SUPPLIES AND EQUIPMENT
<ul style="list-style-type: none"> <li>■ The staff doing triage is trained in the guidelines and can implement them appropriately when the emergency room gets busy during peak hours</li> <li>■ Staff is skilled in the management of common emergency conditions and starts treatment without delay: Management of convulsions, lethargy, severe respiratory distress, shock and severe dehydration</li> </ul>	CASE MANAGEMENT



# Generic agenda for a 3 ½ day training on ETAT

<b>Day 0</b>	Preparations, briefing of facilitators
<b>Day 1</b>	
8:00-9:00	Opening, introduction of course and participants, objectives of the course
9:00-10:00	<b>Module one: Triage and the ABCD concept</b> Flow of the triage, objectives of triage process Emergency, Priority, Non-urgent
10:00-10:15	Tea
10:15-10:30	Triage assessment drill
10:30-12:45	<b>Module two: Airway and breathing</b> Management of airway, management of the choking child, ventilation by bag and mask
12:45-14:00	Lunch
14:00-15:00	Video and explanation of signs of severe respiratory distress and when to give oxygen Demonstration of oxygen concentrator and delivery of oxygen
15:00-15:15	Tea
15:15-16:45	Group work to practice skills
16:45-17:00	Wind-up
17:00	Facilitators meeting
<b>Day 2</b>	
08:00-08:30	Revision of triage, airway and breathing, oral drill on triage
08:30-10:00	Clinical practice session
10:00-10:15	Tea
10:15-11:05	<b>Module three: Circulation</b> Assessment of circulation, management of shock in the child with and without severe malnutrition, inserting IV lines, giving fluids rapidly for shock and inserting intraosseous lines

11:05-12:35	Group work to practice skills
12:35-12:45	Wind-up
12:45-14:00	Lunch
	Clinical demonstration of severe signs if present
14:00-14:10	Review assessment questions for circulation
	Present objectives of module 4
14:10-14:40	<b>Module four: Coma and Convulsion</b>
	Summarise assessment of coma and convulsion
	Video on AVPU Coma score
14:30-15:10	Demonstration on management of coma and convulsion, giving diazepam rectally, giving IV glucose and drawing up correct dose rapidly
15:10-15:25	Tea
15:15-16:45	Group work to practice skills
16:45-17:00	Wind-up
17:00	Facilitators meeting

**Day 3**

08:00-08:30	Review assessment questions for coma and convulsion
	Oral drill on triage
08:30-10:00	Clinical practice session
10:00-10:15	Tea
10:15-11:35	<b>Module five: Dehydration</b>
	Assessment of dehydration, management of dehydration, video on the signs of dehydration, how to use Treatment Plan C, fluid management in severe malnutrition, shock and dehydration
11:35-12:35	Group work to practice skills
12:35-12:45	Wind-up
12:45-14:00	Lunch
14:00-14:45	<b>Module six: Case management scenarios</b>
	Role play for poor practice, demonstration of good management
14:45-15:00	Tea
15:00-16:45	Group work to practice skills: Case management scenarios
16:45-17:00	Wind-up, give out ETAT course evaluation
17:00	Facilitators meeting

**Day 4**

08:00-08:10	Review assessment questions for dehydration
08:10-08:30	<b>Module seven: Implementing ETAT</b> Standards of care for triage and assessment
08:30-10:00	Planning ETAT for your own work place Plenary discussion Group work
10:00-10:15	Tea
10:15-11:15	Feedback from group work to plenary
11:15-12:00	Feedback from evaluation, give out course certificates and closing ceremony
12:00	Finish





## Annex Two

# Checklist of supplies needed for work in class

## Supplies needed for each person include:

- |  |  |
|--|--|
| <input type="checkbox"/> name tag and holder | <input type="checkbox"/> felt tip pen                    |
| <input type="checkbox"/> paper               | <input type="checkbox"/> highlighter                     |
| <input type="checkbox"/> ball point pen      | <input type="checkbox"/> 2 pencils                       |
| <input type="checkbox"/> eraser              | <input type="checkbox"/> folder to collect answer sheets |
| <input type="checkbox"/> .....               | <input type="checkbox"/> .....                           |

## Supplies needed for each group include:

- |   |   |
|---|---|
| <input type="checkbox"/> paper clips  | <input type="checkbox"/> 2 rolls transparent tape |
| <input type="checkbox"/> pencil sharpener                                     | <input type="checkbox"/> rubber bands             |
| <input type="checkbox"/> stapler and staples                                  | <input type="checkbox"/> 1 roll masking tape      |
| <input type="checkbox"/> extra pencils and erasers                            | <input type="checkbox"/> scissors                 |
| <input type="checkbox"/> flipchart pad and markers OR<br>blackboard and chalk |   |

## Instructional materials needed in each small group

Item needed	Number needed
<input type="checkbox"/> Facilitator guide	<input type="checkbox"/> 1 for each facilitator
<input type="checkbox"/> Participants manual	<input type="checkbox"/> 1 for each facilitator and participant
<input type="checkbox"/> IMCI photograph booklet, if any	<input type="checkbox"/> 1 for each facilitator and participant
<input type="checkbox"/> Videotapes/DVD (oxygen, AVPU, signs malnutrition and wasting, ETAT video)	<input type="checkbox"/> The titles and sections are listed in facilitator's guidelines for the corresponding chapters
<input type="checkbox"/> Set of 10 ETAT wall charts (Large version — to display on the wall)	<input type="checkbox"/> 1 set for each small group
<input type="checkbox"/> video/DVD player	<input type="checkbox"/> 1 per course
<input type="checkbox"/> LCD and/or overhead projector	<input type="checkbox"/> 1 per course

**Equipment for the training in practical session box**

Equipment	Number needed for each group
Doll - child size	1 (at least one of either doll)
Doll - baby size	1 (at least one of either doll)
(Baby head with lungs for practicing bag and mask)	1 if available
Self-inflating bag (AMBU) - middle size,1500ml	1
Self-inflating bag (AMBU) - Adult size	1
Mask for infant - round clear plastic	1
Mask - middle size for toddler preferably clear	1
Mask - large size for older children preferably clear	1
Oropharyngeal (Guedel )airways	
Adult	1
Child	1
Infant	1
O <sub>2</sub> tubing nasal prongs	5
O <sub>2</sub> tubing catheters 8 FG	5
Suction catheters size 15 FG	5
IV infusion sets	5
Needles 21G ( for intraosseous insertion)	1 per participant and 10 extra
Syringes	
5ml	1 per participant and 5 extra
10ml or 20ml	5
Scalp vein needles 21-23G	5
Cannulae 22-24G	5
Sterile lancets	1 per participant and 5 extra
IV fluids for giving fluids and neck stabilisation	2 X 1L bottles or bags
Normal Saline	2 X 1L bottles or bags
Ringer's Lactate	1 X 1L bottles or bags
10% Dextrose	1 of each per group
Tape (3 sizes)	10
Gauze swabs	3
Small cup to put some coloured water	
Cotton wool	
Cardboard to make splints	
Towels (for neck stabilisation)	

**Equipment for the whole group**

Food colouring	1 per course
Chicken thighs if not available can use alternatives such as young pork or lamb ribs	1 per participant and facilitator
1 ml syringe (Tuberculin) for per rectum drugs	5
Test strips (Dextrostix)	10
Scale for blood glucose (on dextrostix container)	1
<b>DRUGS</b>	Number for whole group
Diazepam IV or paraldehyde	5
50% Dextrose	5
ORS packets	5
ReSoMal commercially bought or prepared	5

## Annex Three

# Training participants in triage only and ETAT and IMCI

### A: Training participants in triage assessment only

Some health workers will have responsibility to do triage assessment of children but not administer treatment. For example, this would be the situation for a health worker who will only triage children in a long queue. If a child with emergency signs is found, the health worker would call for immediate assistance or safely take the child to an emergency treatment area where he will be given emergency care by other staff. Eligible for this type of training are watchmen, gate keepers, administrative staff and drivers. Training for this worker should be modified to match his responsibility. Training should cover:

- Module 1 of the ETAT course
- Recognition of all the emergency clinical signs
- Flow of the assessment flowchart (Here the worker learns the appropriate response when certain emergency signs are found, to either to continue the assessment or stop assessment and immediately transfer the child to emergency room)

The training and clinical practice may be the same as that of other workers during Module 1. Thereafter, training should focus on identifying the emergency clinical signs and the flow of the ETAT chart 1: Triage of all sick children. assessment flowchart. The health worker should practice these skills in a situation similar to the actual work situation. For example, the participant(s) and a facilitator would go to the queue of children and practice doing triage assessment and transfer of children with emergency signs.

### B: ETAT and IMCI training courses

Some participants in the ETAT course will have completed training on the *Integrated Management of Childhood Illness* for first-level health workers. In the IMCI course, participants learned and practised identifying many clinical signs. Some of those clinical signs are also used in the ETAT course. The ETAT training will teach both new clinical signs, and review the IMCI signs relevant to ETAT. Listed below are all the clinical signs in the ETAT flowchart. The signs that will already be known by participants who have had IMCI training are listed on the right.

## CLINICAL SIGNS AND CLASSIFICATIONS IN THE ETAT FLOWCHART

ETAT signs not taught in IMCI	ETAT signs taught in the IMCI course
<p>Not breathing            Central cyanosis            Severe respiratory distress            Obstructed breathing            Cold hand with:            Capillary refill longer than 3 seconds            Weak and fast pulse            Sick young infant less than 2 months of age            Major burn            Any respiratory distress            Urgent referral note from another facility            Head or neck trauma</p>	<p>Coma ("unconscious" in IMCI training)            Convulsing            Diarrhoea            Lethargy            Sunken eyes            Very slow skin pinch            Visible severe wasting            Oedema of both feet            Severe pallor            Continually irritable and restless</p>
	<p><b>ETAT classifications taught in the IMCI course            (participants learn the combination of clinical signs for            these classifications):</b>            Severe dehydration            Severe malnutrition</p>

## Annex Four

## Participant's checklists

**A: Clinical signs**

RECORD IN THE BOX BELOW EACH CLINICAL SIGN YOU OBSERVE IN A CHILD DURING DEMONSTRATION OR CLINICAL PRACTICE

Emergency Signs Observed			
Not breathing	Obstructed breathing	Central cyanosis	Severe respiratory distress
Cold hand	Capillary refill longer than 3 seconds	Weak and fast pulse	
Coma			Convulsion
Severe dehydration	Sunken eyes	Very slow skin pinch	Head/neck trauma

Priority Signs Observed			
Any respiratory distress	Visible severe wasting	Oedema of both feet	Severe pallor
Sick young infant less than 2 months of age	Continually irritable and restless	Lethargy	Hot child
Poisoning	Major burn	Urgent referral note from another facility	

## B: Practical skills completed

Practical sessions	Skills	Instructor's Initials
1. Manage the Airway	Back slaps/chest thrusts	
	Stabilize the cervical spine	
2. Position the Child	Correct head position (infants)	
	Correct head position (children)	
3. Give oxygen	Ventilate with bag and mask	
	Correct attachment of O <sub>2</sub> tubes	
4. Give diazepam rectally	Calculate correct dose	
	Measure distance to rectum	
5. Peripheral IV placement	Identify charts for Rx of shock	
	Identify all sites for IV	
6. Give rapid fluids	Calculate fluid dose	
	Monitor fluid dose	
7. Give IV glucose	Calculate glucose dose	
	Calculate volume	
8. Intraosseous infusion	Identify site for IO	
	Demonstrate on chicken thigh	
9. Case Management  _____ Case 1 _____ Case 2 _____ Case 3	For each case scenario	

## Annex Five

# Answers to ETAT assessment questions

### Assessment questions: Triage

1. Define "triage".

The sentence should read: Triage is the **sorting** of patients into **priority** groups according to their **needs** and the **resources** available. (See page 3)

2. When and where should triage take place?

This assessment will decide whether the patient needs to be seen immediately and receive any life-saving treatment, or be seen soon as a priority, or can safely wait in the queue until his/her turn. (See page 3). It can be done in the OPD, emergency room or in the wards.

3. Who should do triaging?

**A person who is trained** to assess the seriousness of sick children should see all of them **on their arrival** in hospital.

4. What do the letters A, B, C and D in "ABCD" stand for?

The letters A, B, C and D (see page 4) stand for:

- A** Airway
- B** Breathing
- C** Circulation, Coma and Convulsions
- D** Diarrhoea and Dehydration



## 5. List the priority signs:

The following are priority signs (see page 4):

- Tiny baby (any sick child is under 2 months of age)
- Temperature: child is very hot
- Trauma
- Pallor (severe)
- Poisoning
- Pain (severe)
- Respiratory distress
- Restless, continuously irritable or lethargic
- Referral (urgent)
- Malnutrition (visible severe wasting)
- Oedema of both feet
- Burns

## 6. Put the actions in the right chronological order: what will you do first, what next, what after that, and so on, and what last?

Actions are given in the correct chronological order on the right:

- |   |  |
|---|--|
| 2 | Ask about head or neck trauma                      |
| 4 | Call a senior health worker to see any emergency   |
| 5 | Have blood specimens taken for laboratory analysis |
| 6 | Look for any priority signs                        |
| 1 | Look for emergency signs                           |
| 8 | Move on to the next patient                        |
| 7 | Place priority patients at the front of the queue  |
| 3 | Start treatment of any emergency signs you find    |

## 7. A three-year old girl is carried in her mother's arms wrapped in a blanket, in the queue. Her airway and breathing are OK. She has cold hands. Her capillary refill is 1.5 seconds. She is alert. Asked if the child has had diarrhoea, the mother answered "YES. Four loose stools per day". The skin pinch takes 3 seconds. How do you triage this child?

Assessment is made following ABCD. The steps ABCD for emergency signs are normal. Now the child can be assessed for "P" priority signs.

## 8. A four-year old male child was rushed in. He convulsed one hour ago. He is breathing fast but there is no cyanosis and no respiratory distress. He feels very hot, but responds quickly to questions. He has no diarrhoea or vomiting. How do you triage this child?

Again, following the ABCD steps, the child does not have "E" emergency signs so the next step is to look for priority signs. On assessment of priority signs, the child is very hot, so the child is given priority for a full assessment.

9. A one-year old had a seizure at home; then again outside the clinic. He became unconscious. His breathing sounds very wet and noisy and there is drooling coming from his mouth. He is looking blue. How do you triage this child?

The assessment follows the ABCD steps. First assess the airway, this child is drooling and may have obstructed breathing and is cyanosed. He therefore has emergency signs in under "A" and should be sent to the emergency room.

10. A two-year old male is rushed to your clinic acutely convulsing. How do you triage this child?

The assessment follows the ABCD steps. First assess the airway, breathing, and circulation, no positive signs are provided here. The child is convulsing and has emergency signs in under "C" and should be sent to the emergency room.

11. What signs of malnutrition do you check during triage?

You check for visible severe wasting and oedema of both feet.

12. Where do you look for signs of severe wasting?

Signs of severe wasting are best visible on the **chest, arms, thighs and buttocks**; the skin looks too large for the body.

13. Below what age is a child always a priority?

A child below the age of **two months** is always a priority.

14. What should you do if the child has a priority sign?

When children are found to have a priority sign you will **put them to the front of the queue so that they will be seen as soon as possible**.

## Assessment questions: Airway and breathing

1. List the three things you do to check airway and breathing:

**Look, listen and feel** (see page 17).

2. List three signs of severe respiratory distress:

Any of:

- Very fast breathing
- Severe lower chest in drawing
- Use of auxiliary muscles (head nod or head bob)
- Laboured breathing
- Inability to feed because of respiratory problems
- Child exhausted
- Noises including stridor or grunting

3. Does stridor occur in inspiration or expiration?

Inspiration, on breathing in (see page 18).

4. When opening the airway of an infant (<12 months) who has not been subjected to trauma, name the part of the body that should point upwards.

An infant (<12 months) who has not been subjected to trauma should be positioned with the **nose** pointing upwards (towards the roof) when opening the airway (see page 15-16).

5. What size of tubing should you use for a nasal catheter?

You should use size 6-8 F gauge for a nasal catheter (see page 21).

6. At what flow (volume/time) should oxygen be started?

Oxygen flow (volume/time) should be started at **0.5-1 litres per minute in infants** and **1-2 litres per minute in children** (see page 20).

7. You have successfully removed a coin from the trachea (windpipe) of a three-year old boy by applying Heimlich's manoeuvre. You checked his respiration and found that he was breathing normally. What do you do next?

Airway and breathing are normal, so next assess the circulation.

8. A 4-year old boy hit by a bicycle was carried in on a blanket. The child was unconscious responding only to pain. His breathing was noisy. What do you do?

This child is at risk of neck trauma so stabilize the neck (see chart 5).

Manage the airway (see chart 4).

Inspect the mouth and remove foreign body if present

Clear the secretions

Check the airway (look listen and feel)

Manage the airway (jaw thrust)

Insert oropharyngeal airway if the child will accept this

Give oxygen or if child not breathing well give bag and mask ventilation

Keep child warm

When airway and breathing stable, check circulation

9. A nine-month girl and her older brother have been playing in the emergency department with an old bead necklace, suddenly the child is brought to you by one of the nurses, the child is choking. What do you do?

The baby is choking, on assessment of airway you note her breathing is obstructed.

You need to manage the choking infant by:

- laying the infant on your arm or thigh on her front in a head down position and giving 5 back blows with the heel of your hand
- If this is unsuccessful, turn the infant over and give 5 chest thrusts
- check the mouth, if not successful for removable foreign body
- repeat sequence if not successful

10. A three-year old boy is carried into the outpatient department in his father's arms. He is pale, floppy and having difficulty breathing. His father says he has been unwell and coughing for 3 days. Weight 14kg. He breathes fast with heavy severe chest indrawing. The airway is patent. He is alert. How do you triage this child? What do you do?

Assess the child's airway and breathing, check for cyanosis and obstruction. This child has severe respiratory distress. He needs to go to the emergency area and the airway should be managed, ensure there is no foreign body aspiration (on history), position the child to improve the airway, clear secretions, and give oxygen (via nasal prongs or nasal catheter), make sure the child is warm.

## Assessment questions: Circulation

1. Define a normal capillary refill time.

The capillary refill time should be less than **3 seconds** (see page 25).

2. If you cannot feel the radial pulse in an older child, which pulse should you look for next?

If you cannot feel the radial pulse in an older child, you should look for the **carotid pulse** (see page 25-26).

3. Name the two types of fluid you can give to treat shock initially.

The two types of fluid you can give to treat shock initially are **Ringer's lactate** or **normal saline**.

4. Which fluid would you give to a child in shock with signs of severe malnutrition?

The fluids you would give to a child in shock with signs of severe malnutrition are: preferably **Ringer's lactate** or **half-normal saline** or **half-strength Darrow's solution with 5% glucose** (dextrose) (see chart 7).

5. What volume of fluid would you give to a well nourished one-year old weighing 11 kg who is in shock?

The volume of fluid you would give to a well-nourished one-year-old weighing 11kg who is in shock is 11kg x 20 ml/kg, i.e. **220 ml**.

6. How many times can you give this bolus of fluid in shock before calling a senior health worker?

You can give this bolus of fluid to the child in shock **not more than three times** before calling in a senior health worker.

7. In triage of a two-year old girl you find her hands are warm, what do you do next?

If, during triage of a 2-year-old girl, her hands are found to be warm, you will next **assess her consciousness**.

8. In triage of an 18-month old, well-fed boy, you find his hands are cold. What do you do next?

If, during triage of a well-fed 18-month-old boy, his hands are found to be cold, you will next **check the capillary refill time**.

9. In triage of a 10-year old boy who was rushed to emergency after falling from a coconut palm half an hour earlier, you find his hands are cold and the capillary refill time is longer than three seconds. What do you do next?

This child is in shock and should be taken immediately to the emergency room and treated. An IV should be inserted then blood taken and he should be given 20ml/kg of IV fluids. He should next be assessed for coma and convulsion.

10. What are two contra-indications for setting up an intraosseous infusion?

Two contra-indications for setting up an intraosseous infusion are: **infection at the puncture site** and **fracture of the bone (not absolute)**.

11. Can you give blood through an intraosseous infusion? And antibiotics, in case these are needed?

**All fluids** discussed in this course (including blood) can be given through an intraosseous infusion. **All drugs used in emergencies** that can be given IV, including antibiotics, may also be given by this route.

12. A four-months old baby is brought to hospital with fever, rapid breathing and refusing to breastfeed. She has had 2 episodes of vomiting and watery diarrhoea. Weight 5 kg. Her hands are cold. The capillary refill is 6 seconds. The femoral pulse is palpable but fast and weak. There is no chest indrawing and there are no abnormal respiratory noises. How do you triage the baby? How do you manage the baby?

Based on the ABCD steps, the baby does not have severe respiratory distress, however she is in shock. She should be treated with normal saline IV 20 ml/kg fast and reassessed.

## Assessment questions: Coma and convulsions

1. What do the letters AVPU stand for?

- A** When child is Alert
- V** When child responds to Voice
- P** When child responds to Pain
- U** When child is unresponsive, thus Unconscious.

2. What is the cut-off level for low blood sugar?

**2.5 mmol/litre**

3. How much 10% glucose would you give to a six-month-old weighing 8 kg and having a low blood sugar?

You would give **40 ml** (5ml/kg) of 10% glucose to a 6-month-old weighing 8kg who has a low blood sugar.

4. A child who is unconscious, with no history of trauma, but maintaining the airway should be put in which position?

The recovery position

5. How much rectal diazepam (in ml of the 10mg/2ml solution) would you give to a four-year-old weighing 15 kg who is having a convulsion? How long should you wait before giving a second dose if the convulsion does not stop?

You would give **1.5 ml (i.e. 7.5 mg)** of rectal diazepam (10 mg/2ml) to a 4-year-old weighing 15 kg who was having a convulsion. You should wait **10 minutes** before giving a second dose if the convulsion does not stop.

6. A 15-month old girl has been sleeping all day. She does not answer to a call from her mother. But she responds to a pinch on her chest. What stage of AVPU do you assign her? While on examination, she started to move her limbs abnormally and her eyes rolled sideways and there were frothy secretions in her mouth. What is the most appropriate measure to take?

The child responds to Pain, she is assigned P in the AVPU scoring

The child is having a convulsion and you should assess and manage her airway. You need to clear secretion and give oxygen

If easily done, check blood sugar, if low (<2.5 in normally nourished child), insert IV and give glucose IV (5ml/kg of 10% glucose)

Stop convulsion with anticonvulsant (rectal diazepam or paraldehyde)

Then position the child if unconscious

7. A two-year old boy is carried in by his grandmother. He weighs 12 kg. He is hot and having a seizure. What are the next steps to stop the convulsion? And when the convulsion stops, what do you do?

To stop the convulsion the child can be given an anti-convulsant (rectal diazepam or paraldehyde). The child may have low blood sugar so this should be checked and treated if low. It is important to manage the airway and give oxygen. When the convulsion stops the child should be put in the recovery position.

8. A three-year old girl was brought in because she was abnormally sleepy and not responding at all. The father said he took her to a nearby clinic for cough and vomiting and he was being given tablets. She did not take any food. What is the next most appropriate step?

The child should be triaged using ABCD. She has emergency signs. The child should be assessed for coma using the AVPU score. The child is unconscious U.

The next steps are to manage the airway as described in sections A and B. The blood glucose should be checked and treated if low with IV glucose. The child should be put into the recovery position. The remainder of the assessment should then be completed.

9. An 18-month old boy has been unwell and feverish for two days. He complains of abdominal pain and his mother has noticed that he has fast breathing. He weighs 11 kg. His airway is fine, and he has no chest indrawing. There is no history of diarrhoea. However, the boy started to convulse while being examined. What are the most appropriate measures?

The child is having a convulsion and you should assess and manage his airway. You may need to clear secretion and give oxygen

If easily done, check blood sugar, if low (<2.5 in normally nourished child), insert IV and give glucose IV (5ml/kg of 10% glucose)

Stop convulsion with anticonvulsant (rectal diazepam or paraldehyde)

Then position the child if unconscious

Then complete the rest of the assessment

10. A 10-week old baby was brought in. His mother says he will not suckle today because he is crying a lot. He feels very hot on touch. He weighs 3.5 kg. Airway, breathing and circulation are normal. There is no history of diarrhoea and no dehydration. How do you triage the baby? What are the next steps?

The child has normal airway, breathing and circulation. He requires to be assessed for coma and convulsions. He should be assessed for coma using the AVPU score. If the score is P or U he should be managed for coma, a blood glucose checked and treated with IV glucose if low. If the score is A or V, he should be assessed for priority signs.

The child at least has one priority sign (feels very hot and he may have pain) and should go to the head of the queue and a health worker informed.

11. A 14-month old girl has been sleeping all day. She is irritable when awoken, but rouses to loud voice or shaking her arm. Her hands are warm but look a bit pale. The mother says she has no diarrhoea or vomiting. Her breathing is deep and her lower chest wall goes in when she breathes in. How do you triage this child? What are the next steps?

The child should be triaged using ABCD. The child has normal airway, breathing and circulation. The child should be assessed for coma using the AVPU score and her score is V. She is lethargic. She has no diarrhoea. She is pale and has 2 priority signs and should be assessed quickly by a health worker though she is not an emergency.



## Assessment questions: Dehydration

1. An abnormal skin pinch takes longer than \_\_\_\_\_ to go back.

A skin pinch is abnormal if it remains for longer than **2 seconds** (see page 41).

2. An eight-month old weighing 6 kg is severely dehydrated. How much fluid would you give in the first hour? For how long would you give the second lot of fluid in the same child?

You should give **180 ml** of fluid in the first hour to an 8-month-old weighing 6 kg who is severely dehydrated. The second lot of fluid is given over **5 hours**.

3. A three-year old weighing 15 kg is severely dehydrated. He has received 450 ml of fluid in 30 minutes. How much fluid are you going to give him next, and over what period of time?

To a 3-year-old weighing 15 kg who is severely dehydrated and has received 450 ml of fluid in 30 minutes, you would give 70 ml/kg times 15, i.e. **1050 ml of IV fluid over 2½ hours**.

4. If you cannot set up a drip, how much nasogastric fluid (ml/kg) should you give a child in an hour?

If you cannot set up a drip, you should give the child nasogastric fluid at the rate of **20 ml/kg** per hour for 6 hours (see page 43).

5. Barec is three-years old and weighs 15 kg. His mother said that his diarrhoea started yesterday. The health worker's assessment found that Barec was not in shock and that he was breathing adequately. He was lethargic and not able to drink, had sunken eyes and a skin pinch went back very slowly. He was not severely malnourished but had diarrhoea with severe dehydration. How should the health worker treat Barec's dehydration?  
What amount of fluid should Barec be given initially?

Barec's dehydration? Begin IV fluid immediately.

What amount of fluid should Barec be given initially? **450 ml (30 ml x 15 kg)** of IV fluid in the first 30 minutes.

6. Amaru is two-year old and weighs 8 kg. He is breathing comfortably and not in shock, but has diarrhoea. A health worker finds Amaru to be lethargic, but able to drink. His eyes are sunken, and a skin pinch goes back very slowly. The health worker decides that Amaru has diarrhoea with severe dehydration, then checks for severe malnutrition and sees visible severe wasting. What is the appropriate treatment for Amaru's dehydration?

Because he is severely malnourished, he needs immediate assessment and treatment. Do not give IV fluids but give ReSoMal 5ml/kg every 30 minutes for the first 2 hours, then 5-10ml/kg/hour for the next 4-6 hours. Also check blood glucose and treat if <3mmol/l (see page 44).

7. Dano is eight months old and weighs 6 kg. He has had diarrhoea for a week and is very sick. He is breathing adequately and is not in shock. The health worker sees that Dano's eyes are sunken. When encouraged, Dano is able to take a sip of water, but drinks poorly. A skin pinch goes back very slowly. The health worker finds Dano has diarrhoea with severe dehydration. He is not severely malnourished. How much IV fluid should be given to Dano in the first hour?  
Should the health worker give Dano ORS solution? If so, how much?

How much IV fluid should be given to Dano in the first hour? **180 ml (30 ml x 6 kg)**

Should the health worker give ORS solution? Yes

If so, how much? The health worker should encourage Dano to sip ORS solution, while the drip is being set up and while he is receiving IV fluid. The health worker should give about **30 ml (5 ml x 6 kg)** of ORS solution per hour.

8. Sharita is nine months old and weighs 7 kg. Her mother brings her to the clinic because she has had diarrhoea for a week. The mother tells the health worker that Sharita is no longer breastfed, and is too tired to drink from a cup. The health worker assesses Sharita. He finds that she is breathing adequately. Her hands are cold and her pulse is weak and fast. He decides that she is in shock. She is lethargic, has sunken eyes, and a skin pinch goes back very slowly. The health worker decides Sharita has severe dehydration. She is not malnourished. What emergency treatment should the health worker give Sharita?

She should first be treated for shock, following the instructions in ETAT chart 6, an intravenous line should be inserted and fluids given rapidly. She should initially be given 140 ml Ringer's lactate or normal saline solution as bolus.

9. Rogit, an 18-month-old boy weighing 8 kg, is brought to the small hospital very late at night. The health worker assesses the boy and finds that he is alert and crying and not in shock. He can drink, but very poorly, and a skin pinch goes back very slowly. The health worker decides the child has diarrhoea with severe dehydration. He is not malnourished.  
The child needs fluid for severe dehydration given according to Plan C, but the health worker is not trained to give IV therapy. The last nurse has left for the night and no other nurses will come in for several hours. The health worker is trained to give nasogastric therapy and has ORS available. How should Rogit be rehydrated?  
How much fluid should the health worker give initially?

How should Rogit be rehydrated? The health worker can insert a nasogastric tube and give Rogit ORS solution.

How much fluid should the health worker give initially? He should have 160ml per hour for 6 hours (20ml/kg/hour).

10. A one-year old girl has a two-day history of diarrhoea and vomiting. Her weight is 6.5 kg. She is restless and irritable. Her airway and breathing are OK. Her hands are warm. AVPU=voice. Skin pinch lasts 4 seconds. Her eyes are sunken and the mother confirms this fact. She is skin and bones. How do you manage her?

In this baby airway, breathing, circulation, coma are normal. There is no convulsion. The child has diarrhoea and appears to be dehydrated. The child is not shocked. This child appears malnourished, therefore IV fluids should be avoided. Give the child oral or naso-gastric ReSoMal 5ml/kg every 30 minutes for the first 2 hours. Check the blood sugar, if it is <3mmol/L treat this with IV glucose. The child should then have 5-10ml/kg/hr ReSoMal and be managed by appropriate inpatient guidelines.



# Annex Six

# Evaluation

## A: ETAT course evaluation form for participants

1. What was most useful and can be put into practice?

2. What will you not be able to do in your setting?

3. What was most difficult to understand?

4. Was the training clear?

5. Was the time adequate?

6. For whom is ETAT suitable?

7. Which type of learning session did you find most helpful?

8. Did doing IMCI make ETAT easier?

9. Did you have enough time to practice the assessment?

10. Would ETAT be good for health workers without IMCI training?

11. Do you now feel prepared to teach ETAT (scale 1-5, where 1 - least confident and 5 - most confident)?

12. Were there any things the workshop could have included to better prepare you to start ETAT?

13. Were there any things that could have been done to prepare you better to be an ETAT facilitator?

14. What part of ETAT do you feel most confident about?

15. What part of the ETAT course do you feel least confident about?

16. Score the utility of the course for your work (scale 1-5)?

Suggestions/ comments

## B: Notes for facilitators

The assessment of whether participants have had sufficient clinical experience is two-fold.

**Do participants perform emergency triage assessment and treatment on children in the clinic with sufficient skill and confidence, making no or very few errors, performing without unacceptable delays, working as a team?**

Only observing the work of participants in the clinical setting can assess this. If the answer is no, the participants need additional practice, with guidance, to develop the skill, speed and ease. Learning takes time, and learning to perform any difficult skill well takes more time and practice. If necessary, the facilitators should extend the training to allow more clinical practice sessions. Do this by either conducting additional clinical sessions in the same location (on additional days, at a time when many cases present) or conducting clinical sessions at another facility where severely ill children present.

**Have participants had experience recognizing the full range of emergency and priority signs, and performing the full range of emergency treatments?**

Assess this by checking what clinical signs participants have observed (check their checklists and/or discuss among all facilitators). For example, if signs of shock were not observed (or rarely observed), participants have not had sufficient experience recognizing these signs or giving emergency treatments for shock. In this case, and particularly if there are several signs not sufficiently seen or treated, participants are not prepared enough for their work. The facilitators/lead instructor should make arrangements for participants to gain that experience as described above.

In addition, to ensure that participants perform the ETAT adequately in their work, it will be most effective if a facilitator can accompany them and give them guidance and support on the first few days using ETAT in the actual setting. The facilitator can help by answering questions as needed and giving clinical opinions and suggestions. The facilitator will also help by giving support and encouragement as the participants work under pressure and gain increasing experience.

