# 1 Abbreviations

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>AED</td>
<td>Automatic External Defibrillator</td>
</tr>
<tr>
<td>AHA</td>
<td>American Heart Association</td>
</tr>
<tr>
<td>ANSI</td>
<td>American National Standards Institute</td>
</tr>
<tr>
<td>AS/NZS</td>
<td>Australia and New Zealand Standard</td>
</tr>
<tr>
<td>BEFAR</td>
<td>Basic Safety and Enhanced First Aid Training Refresher</td>
</tr>
<tr>
<td>BST</td>
<td>Basic Safety Training</td>
</tr>
<tr>
<td>BSTR</td>
<td>Basic Safety Training Refresher</td>
</tr>
<tr>
<td>CO2</td>
<td>Carbon Dioxide</td>
</tr>
<tr>
<td>CPR</td>
<td>Cardiopulmonary Resuscitation</td>
</tr>
<tr>
<td>CSA</td>
<td>Canadian Standards Association</td>
</tr>
<tr>
<td>EFA</td>
<td>Enhanced First Aid</td>
</tr>
<tr>
<td>EFAR</td>
<td>Enhanced First Aid Refresher</td>
</tr>
<tr>
<td>EN</td>
<td>European Standards</td>
</tr>
<tr>
<td>ERC</td>
<td>European Resuscitation Council</td>
</tr>
<tr>
<td>GWO</td>
<td>Global Wind Organisation</td>
</tr>
<tr>
<td>ILCOR</td>
<td>International Liaison Committee on Resuscitation</td>
</tr>
<tr>
<td>WTG</td>
<td>Wind Turbine Generator</td>
</tr>
</tbody>
</table>
2 TERMS AND DEFINITIONS

AED  Automatic External Defibrillator
AHA  American Heart Association
ANSI American National Standards Institute
AS/NZS Australia and New Zealand Standard
BEFAR Basic Safety and Enhanced First Aid Training Refresher
BST  Basic Safety Training
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CSA  Canadian Standards Association
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EFAR Enhanced First Aid Refresher
EN   European Standards
ERC  European Resuscitation Council
GWO  Global Wind Organisation
ILCOR International Liaison Committee on Resuscitation
WTG  Wind Turbine Generator
3 CHANGE LOG – REVISION 2.1

<table>
<thead>
<tr>
<th>Amendment Date</th>
<th>Oct. 2020</th>
<th>Approved by &amp; date</th>
<th>Version</th>
<th>2.1</th>
<th>Description of changes</th>
</tr>
</thead>
</table>

- GWO Standard updated to match the Corporate Visual identity of GWO (CVI)
- Each module now contains a cover page and the module name listed in the header as reference.
- New ISO Code added to standard
- All previous versions of the Change log have now been moved to Annex 3. The current change log remains at the start of the standard.
- Duplicate information removed from Section 4. Scope

The following sections have been removed due to this information now included in the new Requirements for Training Providers and Requirements for Certification Bodies (released May 2020)

Section 5
- 5.4 Conformity with other training – section removed
- 5.5 Legal Requirements – Section Removed

Section 6
- 6.2 Facilities and Equipment – section removed
- 6.3 Theory training facilities – section removed

Section 8
- 8.1 Administrative arrangements – section removed
- 8.3 Requirement to upload training record in WINDA – section removed (course Codes have now been moved to section 5.6)
- 8.4 Training Providers own Records and Certificates issue – section removed

Annex 1
- Delegate Performance Assessment Form – Section removed

Annex 2
- Medical Assessment Form – Section removed

All section reference numbers have now been updated
4 **Scope**

This Standard has been developed in response to the demand for recognizable enhanced first aid (EFA) training in the industry and has been prepared in co-operation between the members of GWO based on risk assessments and factual incident and accident statistics pertaining to the installation, service, and maintenance of wind turbine generators and wind power plants.

This Standard describes the requirements for enhanced first aid training that are recommended by the members of GWO. The members of the Global Wind Organisation (GWO) recognize trained persons as competent within EFA in the wind industry. GWO accepts the trained person as possessing the required knowledge, skills and attitude to provide ongoing care to an ill or injured casualty over a short period of time while waiting for professional emergency rescue teams to arrive.
5 General Requirement to GWO Enhanced First Aid

The Enhanced First Aid offers two options to attend the training - see below figure 5-1. New technicians can enter via the main EFA training which consists of Basic First Aid (FA) and EFA elements and two certificates FA and EFA will be issued. If you already have a GWO Basic First Aid (or refresher) FA (or FAR) certificate, you have the option of taking the Refresher First Aid (FAR) combined with EFA training elements and you will also receive two certificates, FAR and EFA, after successful completion of the training.

1) Course Participants (Delegates) can join the main EFA training without prior basic FA training
2) The Enhanced training EFA or EFAR includes all elements of the FA(R) training module
3) At the end of the training the Course Participants (Delegates) receive both a FA(R) and EFA(R) certificate

5.1 Target group

Personnel who will be working in the wind industry or related fields, and who will have duties to fulfil in a wind turbine environment, as well as usually being in physical contact with a wind farm environment or an offshore wind structure make up the target group.

Personnel that are selected by their employer to perform Enhanced First Aid onshore or offshore, where training according to the GWO Enhanced First Aid training may enable them to react to incidents and thus mitigate the results of casualties deriving from the identified risks.

The Annex 3 - EFA Guideline: Recommendations has been developed to assist employers in determining who and how many should take the training.

5.2 Aims and strategic objectives

The EFA Training shall enable Course Participants (Delegates) to support and care for others working in the industry by possessing the knowledge, skills and attitude of Enhanced First Aid. Upon completion of the GWO EFA training, Course Participants (Delegates) will be able to administer safe, effective and immediate...
lifesaving and enhanced first aid measures to save lives and give assistance in remote areas using advanced emergency equipment and medical teleconsultation.

5.3 Duration and organisation of EFA Module

The total contact time for completing the enhanced first aid training standard is estimated to be 24 hours. This is based on the time estimates given in the module timetables and summarised in table 5-6 below.

The training provider must not exceed the times per day given in table 5-7 below.

The training provider must ensure that sufficient time is allowed for Course Participants (Delegates) with prior experience to share their experiences related to the modules of the basic training standard in a way that is constructive for the entire class.

<table>
<thead>
<tr>
<th>Modules</th>
<th>Duration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Enhanced First Aid</td>
<td>24 hours</td>
</tr>
</tbody>
</table>

Table 5-3 - Duration of the GWO Enhanced first aid Module

<table>
<thead>
<tr>
<th>Maximum duration per day</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contact time</td>
</tr>
<tr>
<td>Total training day</td>
</tr>
</tbody>
</table>

Table 5-3 - Maximum durations for training days

Note: Contact time includes delivery of course lesson contents, practical exercises and activities directly related to these.

The total training day includes contact time, meals and breaks and travel between training sites (where applicable).

Within the module timetables, approximate duration of each of the lessons are given. The training provider may choose to deliver elements of the training according to other timetables, as long as the total duration is not reduced, and practical elements are not reduced in length. Theoretical elements may be delivered during the practical exercises when feasible.

5.4 Validity period

The EFA training is valid for the period of 24 months as stated in the table below. Certificates and training records shall be renewed before the end of a given validity period. A certificate or training record can be renewed up to two months prior to expiry and maintain the original certification date by uploading the previous certificate’s valid until date in WINDA.

If a certificate or training record is renewed outside of two months of expiry, it must carry the new date of certification.

A Course Participant (Delegate) is only allowed to attend a refresher course in the EFA Training prior to the date of expiry on the current certificate or training records.
If a certificate or training record is expired, the Course Participant (Delegate) must attend the full Enhanced First Aid training to obtain new training records in Basic and Enhanced First Aid.

The validity period is automatically calculated in WINDA by entering the course completion date.

<table>
<thead>
<tr>
<th>Course/Modules</th>
<th>Certificate Validity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Enhanced First Aid</td>
<td>24 months</td>
</tr>
</tbody>
</table>

*Table 5-6 - Validity Period of EFA Certificate*

### 5.5 Course Code

<table>
<thead>
<tr>
<th>Module</th>
<th>Course Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Enhanced First Aid:</td>
<td>EFA</td>
</tr>
</tbody>
</table>

*Table 8-3 - GWO Enhanced First Aid Course code*

### 5.6 Course Participant (Delegate) prerequisites for the EFA

All personnel participating in the enhanced first aid shall be medically fit and capable of fully participating.

Training providers shall have a procedure that requires Course Participants (Delegates) to sign a statement stating that they are medically fit to participate in the training and that they do not suffer from any medical illness or are under influence of any narcotic substance or alcohol. The Annex 2: Medical Self-Assessment Form shall be used if no other equivalent procedure is in place.

Course Participants' (Delegates') signatures testifying to their medical fitness shall be collected prior to the start of the enhanced first aid course.

Furthermore, Course Participants (Delegates) shall have created a personal Course Participant (Delegate) profile in WINDA and provide their own WINDA ID prior to completing the EFA training.

### 5.7 EFA Refresher Training

The GWO EFA training is to be refreshed continuously and regularly within 24 months in a total duration of 2 days supported by relevant drills and exercises ref. Annex 3: EFA Guideline: Recommendations.

### 5.8 Physical demands

EFA Modules may potentially be physically demanding.

If there is any doubt regarding the medical fitness of any Course Participant (Delegate), the Training Provider shall stop training the Course Participant (Delegate) and seek a physician’s advice.

**Note:** Practical exercises shall be designed and delivered solely to meet this Standard and shall not place any physical or mental demands on the Course Participants (Delegates) other than those required to meet this Standard.
6 **GENERAL RESOURCES REQUIRED TO DELIVER ENHANCED FIRST AID MODULE**

The Training Provider shall ensure that Staff, facilities and equipment are in place to support the training of Course Participants (Delegates).

6.1 **Training Staff**

The Instructor shall possess appropriate qualifications and experience to ensure that all training and supportive activities are carried out in accordance with current legislation and current REQUIREMENTS FOR TRAINING PROVIDERS OFFERING GWO TRAINING.

Instructors must be:

1) Trained in instructional/lecture techniques and/or have documented instructional/teaching experience

2) Continually trained medically and educationally in adequate time intervals (able to document competencies)

3) Included in an on-going training program, which includes visits to onshore and/or offshore wind turbine generators (WTG) (tower, nacelle, hub) prior to instructing Enhanced First Aid training, to enable them to maintain and update skills related to the courses they instruct. Instructors shall physically visit the tower, nacelle and hub of WTGs

4) Able to demonstrate competencies in pre-hospital emergency care with evidence of routine practice e.g. a valid certificate for practicing a pre-hospital functions as medical technician, ambulance crew, first responders or similar.

5) Nationally certificated non healthcare professional pre-hospital provider caring for patients as a primary role e.g. Police Officers in Specialist Roles, Fire Service Immediate Emergency Care, equivalent SAR trained personnel.

6) Trained in the use of airway adjuncts and advanced first aid equipment

7) Knowledgeable within medical teleconsultation.

All Staff shall possess the appropriate competencies to conduct/assist the elements of training they have been assigned to.

6.2 **Practical training facilities**

All facilities shall be maintained and where appropriate, inspected and tested in accordance with current national legislation and manufacturers’ recommendations.

Risk assessments shall be conducted and documented for all training facilities. The Training Provider shall hold the required permits to operate the facilities.

The learning process during "scenario-based training" is facilitated by identical or comparable elements comparing the training environment and the Course Participants' (Delegates') working environment. Identical or comparable elements enhances the application of what is learned.
The practical training facilities and a training environment are expected to incorporate as many identical or comparable elements to a real wind turbine working environment as possible.

The objective is that the practical training facility should enable each Course Participant (Delegate) to individually and/or as part of a team, see, hear and practice the taught subject matter in such a way, that it resembles the working practices in a real wind turbine environment.

The facilities shall enable training to be executed by doing relevant work tasks end-to-end under realistic simulated working procedures, and/or realistic simulated emergency situations (fire, first aid, evacuation or casualty rescue) end-to-end scenarios in a real or simulated wind turbine environment.

6.3 Training Equipment

The required equipment for training is shown in annex 1 and shall be available and shall fulfil national legal requirements in the country where the training is taking place.

The equipment shall be maintained, inspected and tested in accordance with current national legislation and manufacturers’ recommendations. Risk assessments shall be conducted and documented for all training equipment. The Training Provider shall hold the required permits to operate relevant equipment.
7 UNDERSTAND GWO LEARNING OBJECTIVES

The described learning objectives (expected learning outcome) are the foundation of the course contents and what the Course Participant (Delegate) performance assessment must be based upon.

Traditionally learning objectives are prepared within three different domains of learning – knowledge, skills and attitude. A learning objective describes the expected learning outcome on completion of a module or a course, within one or more learning domains.

If a learning objective is related to more than one domain of learning, e.g. to knowledge and skills, one learning objective per learning domain is often prepared – to enable a better understanding of the learning objective.

The GWO Training Provider may apply teaching methods (didactics) that are appropriate to the course participants prior training, education and cultural backgrounds, but should always aim to provide course participants ample possibility to perform hands-on demonstrations and learning reflection.

7.1 Taxonomy

To formulate a measurable learning objective, taxonomy is used to describe the level of expected learning outcome within a learning domain.

As an example belonging to the learning domain of knowledge, to have a Course Participant (Delegate) name or recognize something, as opposed to having him explain it in his own words, or even apply or demonstrate what he has learned – describes different performance levels, i.e. different taxonomy levels.

Different taxonomies are associated with different learning domains, for instance:

**Knowledge**: such as Bloom’s “cognitive taxonomy”
- Intellectual knowledge, mental skills and procedures

**Skills**: such as Simpson’s “psychomotor taxonomy”
- Physical skills, cognitive controlled and observable

**Attitude**: such as Krathwohl’s “affective taxonomy”
- Attitude and feelings to the learning

Selecting a suitable taxonomy level, an action verb expresses the expected behaviour of the Course Participant (Delegate), thus describing the taxonomy level of a learning objective.

Action verbs are usually highlighted in bold in this standard. The table below presents the three learning domains with taxonomy level 1-3, provided with associated action verbs applicable in the learning objective wording, defining the taxonomy level. In the GWO training standard, the learning objectives are in general described as level 2 or 3.

<table>
<thead>
<tr>
<th>Knowledge</th>
<th>Skills</th>
<th>Attitude</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>3</strong></td>
<td>Application / Applying</td>
<td>Guided response</td>
</tr>
<tr>
<td>Category</td>
<td>Description</td>
<td>Action verbs</td>
</tr>
<tr>
<td>----------</td>
<td>-------------</td>
<td>--------------</td>
</tr>
<tr>
<td><strong>Knowledge / Remembering</strong></td>
<td>Memory of facts, terminology, rules, sequences, procedures, etc. Locating knowledge in long-term memory and retrieving relevant knowledge from long-term memory.</td>
<td>Arrange, Define, Describe, Find, Identify, List, Name, Outline, Recognize, Relate, Recall, Retrieve.</td>
</tr>
<tr>
<td><strong>Perception</strong></td>
<td>Watch instructor and repeat action, process or activity. Recognizing sounds or pictures that indicate certain functionalities. Estimate the event of a certain function and be prepared for it.</td>
<td>Attempt, Copy, Duplicate, Follow, Organize, Repeat, Sketch, Replicate, Reproduce.</td>
</tr>
<tr>
<td><strong>Receive</strong></td>
<td>Listening to discussions of controversial issues with an open mind. Respecting the rights of others. Listen to others and remember their opinions. Be positive and creative to what is being taught.</td>
<td>Ask, Be open to, Concentrate, Discuss, Focus, Follow, Listen, Reply, Take part.</td>
</tr>
<tr>
<td><strong>Comprehension / Understanding</strong></td>
<td>Construct a meaning from instructional messages, including oral, written and graphic communication. Demonstrating basic understanding of facts and ideas. Explain in your own words the steps of performing a complex task.</td>
<td>Classify, Distinguish, Estimate, Explain, Express, Give, Illustrate, Indicate, Locate, Predict, Summarize, Translate.</td>
</tr>
<tr>
<td><strong>Set</strong></td>
<td>Awareness or knowledge of the ability needed to use the skill. Carry out tasks from verbal or written instructions. Showing eagerness to assemble components to complete a task. Knows and acts upon a sequence of steps in a process.</td>
<td>Access, Build, Complete, Conduct, Execute, Implement, Operate, Perform, Recreate.</td>
</tr>
<tr>
<td><strong>Respond</strong></td>
<td>Completing work assignments with highly respect to the agreement. Participating in team problem solving activities. Questions new ideas and concepts in order to fully understand them. Participate actively and respectful in discussions. Showing enthusiasm.</td>
<td>Assist, Contribute, Discuss, Present, Question, Report, Respond, Tell, Write.</td>
</tr>
<tr>
<td><strong>To use in a new situation.</strong></td>
<td>Solving problems by applying acquired knowledge, facts, techniques and rules in a different way. Applying a procedure to a familiar or unfamiliar task. Using a manual to calculate and operate.</td>
<td>Apply, Change, Choose, Compute, Modify, Operate, Practice, Prepare, Schedule, Solve, Write.</td>
</tr>
<tr>
<td><strong>Follows instructions to build a model.</strong></td>
<td>Using a tool after observing an expert demonstrate how to use it. Be able to demonstrate an activity to other learners. Can complete the steps involved in the procedure as directed.</td>
<td>Accomplish, Achieve, Calibrate, Complete, Control, Demonstrate, Perform, Refine, Show.</td>
</tr>
<tr>
<td><strong>Demonstrates belief in the company described process.</strong></td>
<td>Shows the ability to solve problems. Informs management on matters that one feels strongly about. Decide worth and relevance of ideas and tasks.</td>
<td>Argue, Challenge, Confront, Complete, Debate, Criticize, Justify, Join, Propose.</td>
</tr>
</tbody>
</table>

Table 7-3 - Taxonomy used by GWO
Note: Higher taxonomy levels exist.
8 ADMINISTRATION AND CERTIFICATION OF ENHANCED FIRST AID MODULES

8.1 Course Participant (Delegate) performance assessment

Course Participants (Delegates) will be assessed by means of direct observation and supplementary oral questions where appropriate (formative evaluation).

Throughout the entire course the instructor will enforce the Course Participant (Delegate) Assessment Form (see Requirements for Training Providers) and adhere to it, accordingly, with a high focus on evaluating the Course Participant’s (Delegate’s) practical skills.

The Trainer keeps a Course Participant (Delegate) Assessment Form (or adaptation) for each Course Participant (Delegate) until the completion / evaluation of the EFA Module.

The Course Participant (Delegate) Assessment Form (or adaption) is a final evaluation tool for the instructors to assess Course Participants (Delegates) during practical elements. It allows measurement of the number of violations in regard to safety, competency, or attitude.

It shall be used as a progressive evaluation tool to discuss the performance of a Course Participant (Delegate) in guiding them to success and it also serves as supporting documentation if a Course Participant (Delegate) passes or fails the Module. If a Course Participant (Delegate) fails to meet the demands of the EFA module, they shall attend a new EFA Module.

Training Provider may adapt the Course Participant (Delegate) Assessment Form to other media. Training Providers shall have a documented procedure in place for dealing with Course Participants (Delegates) not meeting the stated learning outcomes.
Enhanced First Aid Module
9 **MODULE - ENHANCED FIRST AID**

9.1 **Aims and objectives of the EFA Module**

The aim of the module is to enable the Course Participants (Delegates) to support and care for others working in the industry by possessing the knowledge, skills and attitude of Enhanced First Aid. Upon completion of the GWO EFA Course Participants (Delegates) will be able to administer safe, effective and immediate lifesaving and enhanced first aid measures to save lives and give assistance in remote areas using advanced emergency equipment and medical teleconsultation.

The EFA Module shall ensure that the following objectives are covered:

1) Local legislation/risks/hazards and demands to ensure knowledge of the roles, responsibilities and rules that apply to Enhanced First Aid in Remote Areas (L2-Knowledge and Attitude)

2) The importance of carrying out basic and enhanced First Aid in a safe and sound manner, in accordance with the legislative requirements of their geographic location and according to European Resuscitation Council (ERC) and American Heart Association (AHA) guidelines (L2–Knowledge)

3) Identifying and explaining normal function, normal signs and symptoms of serious and minor injuries and illness related to the human body (L1-Skills and Knowledge)

4) Demonstrating understanding and correct order of management in an emergency situation in a Wind Turbine Generator (WTG) environment (L2 Knowledge and Attitude)

5) Delivering immediate enhanced first aid to stabilise the casualty, to include but not limited to: (L3-Skills and Knowledge)
   a. Stopping life-threatening bleeding
   b. Establishing and maintaining an airway
   c. Knowing the indications for and the use of Automated External Defibrillator (AED)
   d. Using basic and advanced First Aid equipment in a First Aid scenario
   e. Resuscitation
   f. Using standardised methodologies, specifically the Primary and Secondary Survey - based on the "C"-A-B-C-D-E principle

6) Assessing the casualty, for injury or acute illness, to determine if medical advice and external-to-incident support is required; to include but not limited to: (L3 Skills and Knowledge)
   a. Life-threatening bleeding, circulatory disorder
   b. Impaired consciousness
   c. Compromised airway, breathing, too slow or too fast
   d. Immediate life-threatening illnesses and other health problems especially with severe pain

7) Requesting telemedical consultation and medical/rescue assistance providing a concise and relevant report of the casualty’s condition and obtaining medical advice to further stabilise the casualty by using: (L3 Skills and Knowledge)
2020-10-01_TS_EFA_V02.1

a. Telemedical consultation through National resources (e.g. Coastguard)
b. Telemedical consultation through private contractor (where established)

8) Requesting immediate medical/rescue assistance providing a concise and relevant report of the casualty’s condition (L3 Knowledge and Skills)

9) Preparing the casualty for transfer to nominated evacuation/rescue point, including: (L3 Skills and Knowledge)
   a. Immobilisation where required or other non-medical mitigation e.g. cooling gels
   b. Understanding the complexity and restrictions of medical pain relief and the role of clinical governance in the control of medication
   c. Accompanying the casualty, if required, to suitable medical facility and formally hand over the casualty
   d. Escorting the casualty to the nominated evacuation/rescue point providing continued enhanced first aid

10) Acting as a leader in first aid situations (L3 Skills and Attitude)

11) Administering safe, effective and immediate lifesaving and enhanced first aid measures to save life and give assistance in remote areas using advanced emergency equipment and medical teleconsultation, while having particular regard for personal-protection (L3 Skills and Knowledge)

9.2 Duration of the EFA module

The total contact time for completing this first aid module is estimated to be 24 hours. This is based on the time estimate given in the module timetable.

The training provider must not exceed the times per day given in table 9-2 below.

The training provider must ensure that sufficient time is allowed for Course Participants (Delegates) with prior experience to share their experiences related to first aid in a way that is constructive for the entire class.

<table>
<thead>
<tr>
<th></th>
<th>Maximum duration per day</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contact time</td>
<td>8 hours</td>
</tr>
<tr>
<td>Total training day</td>
<td>10 hours</td>
</tr>
</tbody>
</table>

Table 9-2 - Maximum durations for training day

Note: Contact time includes delivery of course lesson contents, practical exercises and activities directly related to these.

The total training day includes contact time, meals and breaks and travel between training sites (where applicable).

The ratio shown for theory sessions indicates the maximum number of Course Participants (Delegates) that can attend the course.
The ratio shown for practical sessions indicates the maximum number of Course Participants (Delegates) to be supervised by one instructor during each activity.

<table>
<thead>
<tr>
<th>Module</th>
<th>Session</th>
<th>Instructor to Course Participant (Delegate) Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>EFA module</td>
<td>Theory</td>
<td>1:12</td>
</tr>
<tr>
<td></td>
<td>Practical</td>
<td>1:6</td>
</tr>
</tbody>
</table>

Table 9-2 – GWO EFA Module Instructor to delegate ratio

9.3 Equipment for the EFA module

The equipment required for training as listed in Annex 3 must be available and must fulfil national legal requirements in the country where the training is taking place.

9.4 EFA Time Table

The order in which the elements of this EFA training Module are delivered may vary.

Within the module timetables, approximate duration of each of the lessons are given. The training provider may choose to deliver elements of the training according to other timetables, as long as the total duration is not reduced, and practical elements are not reduced in length. Theoretical elements may be delivered during the practical exercises when feasible.

<table>
<thead>
<tr>
<th>Lesson</th>
<th>Element</th>
<th>Approx. Duration</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Introduction</td>
<td>15 min.</td>
</tr>
<tr>
<td>1.1</td>
<td>Safety instructions and emergency procedures</td>
<td></td>
</tr>
<tr>
<td>1.2</td>
<td>Facilities</td>
<td></td>
</tr>
<tr>
<td>1.3</td>
<td>Introduction</td>
<td></td>
</tr>
<tr>
<td>1.4</td>
<td>Scope and main learning objectives</td>
<td></td>
</tr>
<tr>
<td>1.5</td>
<td>On-going assessment (Course Participant (Delegate) Assessment Form)</td>
<td></td>
</tr>
<tr>
<td>1.6</td>
<td>Motivation</td>
<td></td>
</tr>
<tr>
<td>TOTAL</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Risks/Hazards/Legislation</td>
<td>25 min.</td>
</tr>
<tr>
<td>2.1</td>
<td>Risks and hazards</td>
<td></td>
</tr>
<tr>
<td>2.2</td>
<td>First Aid guidelines and emergency plans</td>
<td></td>
</tr>
<tr>
<td>2.3</td>
<td>National legislation</td>
<td></td>
</tr>
<tr>
<td>2.4</td>
<td>Global legislation</td>
<td></td>
</tr>
<tr>
<td>TOTAL</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Anatomy</td>
<td></td>
</tr>
<tr>
<td>3.1</td>
<td>Life conditions for the human body</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>---</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>3.2</td>
<td>Structure, functions and signs - the human body</td>
<td></td>
</tr>
<tr>
<td>3.3</td>
<td>Serious and minor illness - signs, symptoms, and function</td>
<td></td>
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Table 9-4 - GWO EFA Module Timetable
9.5 Detailed description of the EFA Module

The learning outcomes specified for EFA are:

Note: The administrative part of the registration should be carried out before the course commences.

Lesson 1 - INTRODUCTION

15 min.

The aim of this lesson is to give the Course Participants (Delegates) the needed awareness of the course content and the facilities involved in order to ensure that all Course Participants (Delegates) are aware of what to expect and what is expected of them during the course.

After this lesson, Course Participants (Delegates) will be aware of the following:

1) Safety instructions and emergency procedures
2) Facilities
3) Introduction
4) Scope and main learning objectives
5) On-going assessment (Course Participant (Delegate) Assessment Form)
6) Motivation

ELEMENT 1.1 - SAFETY INSTRUCTIONS AND EMERGENCY PROCEDURES

The Instructor shall explain:

1.1.1 Safety instructions according to internal procedures
1.1.2 Emergency procedures and emergency exits in the localities the Course Participants (Delegates) can be expected to be located during the course

ELEMENT 1.2 - FACILITIES

The Instructor shall explain:

1.2.1 General description of the facilities on the location (Administration, dining area, restrooms, toilets, etc.)

INTRODUCTION

The Instructor shall give:

1.2.2 A short introduction, including their backgrounds as instructors

Course Participants (Delegates) shall give:

1.2.3 A short introduction, including job function and expected primary geographic work location
Lesson 2 - RISKS/HAZARDS/LEGISLATION

25 min.

The aim of this lesson is to give the Course Participants (Delegates) the needed awareness and to inform them of the relevant risks/hazards/legislation and demands in order to ensure their responsibilities and rules that apply to EFA.

To successfully complete this lesson, Course Participants (Delegates) shall be able to:

1) Distinguish and explain risks and hazards relating to remote areas with dangerous locations/tasks (L2 - Knowledge, Attitude)
2) Explain various First Aid guidelines (e.g. ILCOR, ERC and AHA) in the context of (Enhanced) First Aid in a WTG environment and emergency plans (L2 - Knowledge)
3) Summarize national legislation relevant to (Enhanced) First Aid (L2 - Knowledge)
4) Recognize global legislation relevant to (Enhanced) First Aid (L1 - Knowledge)

ELEMENT 2.1 - RISKS AND HAZARDS

The Instructor shall:
Lead a group discussion about risks and hazards involved in an incident relevant for job functions within the wind industry: Difficulties in Management of accidents /emergencies / survival in remote areas

Lead a group discussion about dependency on site organisation, types of activity, work location and personnel

- Onshore
- Offshore
- Remote areas in general

**ELEMENT 2.2 - FIRST AID GUIDELINES AND EMERGENCY PLANS**

The Instructor shall:

- Explain basic Life Support guidelines such as from ERC and AHA
- Explain various emergency plans of companies, depending on national regulations

**ELEMENT 2.3 - NATIONAL LEGISLATION**

The Instructor shall:

- Explain applicable legislation
- Explain legislative requirements
- Explain legal responsibilities
- Explain the role of Enhanced First Aid in the industry

**Note:** These are dependent on planned activities/ operation areas of the Course Participants (Delegates)

**ELEMENT 2.4 - GLOBAL LEGISLATION**

The Instructor shall explain:

- Explain the differences in national regulations between countries
- Explain applicable legislation
- Explain legal responsibilities
- Explain the responsibility of entrepreneur and employee for rescue and first aid
- Explain the relevance of legislative and normative regulations

**Lesson 3 - ANATOMY**

50 min.

The aim of this lesson is to give the Course Participants (Delegates) basic knowledge and skills regarding the human body in order to support the primary and secondary survey. Course Participants (Delegates) will be
able to identify and explain normal function, normal vital signs and signs, functions and symptoms of injuries and illness related to the human body.

To successfully complete this lesson, Course Participants (Delegates) will have the knowledge in the following areas and be able to demonstrate:

1) Understanding of life conditions for the human body (Level 2 - Knowledge)
2) Knowledge of the structure, functions and signs of the human body (Level 2 - Knowledge)
3) Knowledge and skills for detecting abnormal signs, symptoms and functions of injuries (Level 2 - Skills & Knowledge)
4) Knowledge and skills for detecting abnormal signs and symptoms of illness related to the human body (Level 2 - Skills & Knowledge)
5) Understanding of anatomy and First Aid in emergency situations (Level 2 – Knowledge, Attitude)

ELEMENT 3.1 - LIFE CONDITIONS FOR THE HUMAN BODY

The Instructor shall:

3.1.1 Explain normal life conditions for the human body
   a. Human cells and life conditions
   b. Cells and Oxygen (O2)
   c. Role of carbon dioxide (CO2) on cells
   d. Vital organs and their requirements

ELEMENT 3.2 - STRUCTURE, FUNCTIONS AND SIGNS - THE HUMAN BODY

The Instructor shall:

3.2.1 Show examples of and explain vital systems of the human body:
   a. Nervous system
   b. Respiratory system
   c. Circulatory system
   d. Other systems

3.2.2 Nervous system
   a. Anatomy of the nervous system
   b. Structure, functions and normal signs
   c. Threats to the nervous system

3.2.3 Respiratory system
   a. Anatomy of the respiratory system
   b. Structure, functions and normal signs
   c. Threats to the respiratory system
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3.2.4 Circulatory system
   a. Anatomy of the circulatory system
   b. Structure, functions and normal signs
   c. Threats to the circulatory system

3.2.5 Other systems and vital organs of the human body
   a. Anatomy of the vital organs
   b. Structure and functions
   c. Threats to the vital organs

ELEMENT 3.3 - SERIOUS AND MINOR INJURIES - SIGNS, SYMPTOMS, AND FUNCTION

The Instructor shall:

3.3.1 Explain and demonstrate serious injuries
   a. Nervous system
   b. Respiratory system
   c. Circulatory system
   d. Other systems and organs

3.3.2 Explain and demonstrate minor injuries
   a. Nervous system
   b. Respiratory system
   c. Circulatory system
   d. Other systems

Lesson 4 - MANAGEMENT OF AN INCIDENT - EMERGENCY RESPONSE - MEDICAL TELECONSULTATION

100 min.

The aim of this lesson is to give the Course Participants (Delegates) the knowledge, skills and attitude to demonstrate understanding and correct order of management of emergencies (accident/illness) in remote areas.

To successfully complete this lesson, Course Participants (Delegates) shall be able to:

1) Understand personal hazards to rescue personnel and victim associated with emergency situations and apply knowledge and skills for safety awareness (L2 Knowledge)
2) Perform skills to take FA-measures with regard for personal protection (L2 Skills)
3) Show knowledge about core aspects of psychological care in first aid situations (L2 Knowledge)
4) Demonstrate understanding and skills to approach and manage different emergency situations (L3 Knowledge and Skills)

5) Demonstrate understanding of the principles of the ACT Method (Assess, Communicate, Triage) and recognize the importance of raising the alarm before starting first aid (L3 Knowledge)

6) Demonstrate skills on how to ensure the rescue of injured persons and their removal from the immediate hazard area to the nearest safe location (L3 Knowledge and Skill)

7) Conduct proper emergency calls in a remote situation (L2 skills)

8) Distinguish and use of the adequate measures given by the chain of survival (L2 Knowledge and Skills)

9) Transfer understanding of functions and support from Emergency Rescue Teams in WTG environments (L2 Knowledge)

10) Use clear communication in a team setting (L3 Skills)

11) Administer Enhanced First Aid via medical teleconsultation (L3 Knowledge and Skills)

ELEMENT 4.1 - SAFETY AWARENESS AND PERSONAL PROTECTION EQUIPMENT IN AN EMERGENCY SITUATION

The instructor shall lead a discussion on:

4.1.1 Appropriate safety behaviour and awareness as an Enhanced First Aider in a WTG

4.1.2 The risks and hazards of working in the wind industry with special focus on remote locations and the chain of survival

4.1.3 How to spot and stop hazardous emergency situations

4.1.4 Safety and personal protection for all persons involved in an accident

4.1.5 Universal precautions (e.g. Personal Protective Equipment) against infections; protection and use of barriers in emergency situations

4.1.6 The core aspects of psychological care in first aid situations (e.g. colleagues, loneliness, unusual emergency situations)

ELEMENT 4.2 - MANAGEMENT OF AN INCIDENT

The Instructor shall:

4.2.1 Explain how to follow an efficient and correct First Aid structure

4.2.2 Explain the analysis and management of an incident

4.2.3 Explain and demonstrate different emergency situations in the wind industry

4.2.4 Demonstrate call for help - challenges onshore

4.2.5 Demonstrate call for help - challenges offshore

4.2.6 Explain and demonstrate moving or not moving a casualty in different emergency situations (risks of e.g. fire, water versus deteriorating injuries)

4.2.7 Explain and demonstrate how to move and place a casualty (depending on injuries)

4.2.8 Explain and demonstrate how to move and place a casualty in the recovery position
Course Participants (Delegates) shall:

4.2.9 Explain how to follow an efficient and correct First Aid structure
4.2.10 Explain and demonstrate the analysis and management of an incident
4.2.11 Explain and demonstrate different emergency situations in the wind industry
4.2.12 Explain and demonstrate call for help - challenges onshore
4.2.13 Explain and demonstrate call for help - challenges offshore
4.2.14 Explain and demonstrate how to move a casualty with two First Aiders
4.2.15 Explain and demonstrate how to move a casualty alone

ELEMENT 4.3 - EMERGENCY RESCUE TEAMS, EMERGENCY CALLS AND MEDICAL TELECONSULTATION

The Instructor shall:

4.3.1 Explain functions of Emergency Rescue Teams (internal onsite or external as part of the chain of survival)
4.3.2 Explain cooperation with external professional Emergency Rescue Teams and using clear communication in a team setting
4.3.3 Explain challenges for Emergency Rescue Team on site
4.3.4 Explain skills for supporting professional emergency services
4.3.5 Explain the means of “bridging the time” while waiting for professional help to arrive
4.3.6 Explain the ACT-method: Assess, Communicate, Triage, requiring an emergency call for assistance before the commencement of first aid and to immediately recognize when an incident may be a threat to life, or beyond the capability of those present
4.3.7 Explain the principles of emergency calls in accordance with emergency response plans
4.3.8 Explain the means and use of medical teleconsultation focusing on the current and future applicability and technical infrastructure
4.3.9 Explain the administering of First Aid measures via medical teleconsultation

Course Participants (Delegates) shall:

4.3.10 Practice and demonstrate a proper emergency call in a remote situation
4.3.11 Practice and demonstrate the use of medical teleconsultation and communication media
4.3.12 Practice and demonstrate performance of First Aid measures in representative work setting comparable to specific remote locations including the use of medical teleconsultation

Lesson 5 - LIFESAVING AND ENHANCED FIRST AID USING PRIMARY AND SECONDARY SURVEY

480 min.
The aim of this lesson is to give the Course Participants (Delegates) knowledge, skills and steps to follow a methodical sequence to identify and treat life threatening, time critical injuries and illnesses. Course Participants (Delegates) shall be able to demonstrate correct use of Lifesaving and Enhanced First Aid using the "C"-A-B-C-D-E principle during primary and secondary survey supported by teleconsultation. Further aim of this lesson is to give the Course Participants (Delegates) confidence and skills to be able to deliver immediate enhanced first aid to stabilize the casualty and to perform basic life support with the help of additional FA equipment, such as supplemental respiratory aids and the use of an Automatic External Defibrillator (AED). Course Participants (Delegates) shall receive the knowledge and skills to be able to assess, assist and provide the necessary First Aid to special incidents frequently occurring after injuries/accidents or during illnesses.

To successfully complete this lesson, Course Participants (Delegates) shall be able to:

1) Understand the principles of Primary and Secondary survey (L2 Knowledge)
2) Assess a casualty using the Primary and Secondary Survey (L3 Skills and Knowledge)
3) Immediate First Aid actions using Primary and Secondary Survey and the "C"-A-B-C-D-E- principle (L3 Skills and Knowledge)
4) Treatment of Catastrophic external haemorrhage "C" (L3 Skills and Knowledge)
5) Deliver correct First Aid for obstruction of airways - establish and maintain an airway (L2 Skills and Knowledge)
6) Implement the required recovery position, dependent on the status (L2 Skills)
7) Correct First Aid to an unresponsive and breathing/not breathing casualty (L2 Skills and Knowledge)
8) Perform Cardiopulmonary Resuscitation (CPR) (L2 Skills and Knowledge)
9) Understand the capabilities, the different technical specifications and safe use of AEDs (L2 Knowledge)
10) Understand the enhanced use of AED e.g. advanced functionalities through help of medical teleconsultation (L2 Knowledge)
11) Provide knowledge of the benefits of airway management devices during resuscitation (resuscitation bag incl. accessories, pocket mask, Supraglottic airway device) (L2 Knowledge)
12) Apply techniques to assess circulation (e.g. pulse oximeter for heart rate monitoring) (L2 Skills)
13) Deliver correct First Aid for external and internal bleeding (L2 Skills and Knowledge)
14) Deliver correct First Aid for shock (L2 Skills and Knowledge)
15) Identify signs and symptoms of serious and minor injuries and illnesses (L3 knowledge)
16) Deliver Enhanced First Aid for acute illnesses of deteriorated disorders/diseases which are critical in terms of time (L3 Skills and Knowledge)
17) Understand psychological First Aid (L2 Knowledge)

**ELEMENT 5.1 - THE "C"- A-B-C-D-E- PRINCIPLE**

The Instructor shall explain and demonstrate:

5.1.1 Meaning of the "C"- A-B-C-D-E- principle
5.2 Procedure of Primary and Secondary Survey

ELEMENT 5.2 - PRIMARY SURVEY

The Instructor shall explain and demonstrate:

5.2.1 Conditions and procedure of Primary survey comprising assessment of risks and threats for First Aider and victim, safety awareness, rescue measures, emergency call

5.2.2 First approach using the “C”-A-B-C-D-E-principle as steps to follow a methodical sequence to identify and treat life threatening time critical injuries and illnesses

5.2.3 Check for response ("look, listen, feel") to find out: alert - voice/pain responsive – unresponsive “AVPU"

The Course Participants (Delegates) shall practice and demonstrate:

5.2.4 Delivering Enhanced Life Saving First Aid using the "C"-A-B-C-D-E principle during primary survey supported by teleconsultation.

ELEMENT 5.3 - "C" CATASTROPHIC BLEEDING

The Instructor shall explain and demonstrate

5.3.1 Haemostasis of catastrophic external haemorrhage:

5.3.2 Threat and detection of catastrophic bleeding

5.3.3 Haemostasis using algorithm-oriented procedures

5.3.4 Correct treatment of a casualty with catastrophic external haemorrhage including the use of normal and enhanced first aid equipment:

a. Direct pressure
b. Pressure dressings
c. Haemostatic agents/dressings
d. Tourniquets

The Course Participants (Delegates) shall practice and demonstrate:

5.3.5

a. Direct pressure
b. Use of Pressure dressings
c. Use of Haemostatic agents/dressings
d. Use of Tourniquets

ELEMENT 5.4 - A: AIRWAY

The Instructor shall explain and demonstrate:
5.4.1 Obstruction of airways, respiratory disorders
5.4.2 Reasons for obstruction of airways, breathing - not breathing
5.4.3 Threats
5.4.4 First Aid to an unresponsive, breathing casualty
5.4.5 Placing of a casualty in the recovery position and use of the rescue blanket

The Course Participants (Delegates) shall **practice** and **demonstrate**:

5.4.6 Checking airways
5.4.7 Removal of occluding objects
5.4.8 Recovery position - single First Aider
5.4.9 Recovery position - two First Aiders
5.4.10 Correct treatment of a casualty with an obstructed airway following a step wise approach according to national best practice with airway management devices (according to country/company regulations):
   a. Use of manual suction
e   b. Use of a nasopharyngeal tube
e   c. Use of an oropharyngeal tube (Guedel) and/or
e   d. Use of a supraglottic airway device e.g. l-gel, Laryngeal Tube

**ELEMENT 5.5 - B: BREATHING - CARDIOPULMONARY RESUSCITATION (CPR)**

The Instructor shall **explain** and **demonstrate**:

5.5.1 Casualty position needed to facilitate breathing
5.5.2 How to perform a breathing assessment
5.5.3 Serious chest injuries and their treatment, including the use of chest seals
5.5.4 Casualties not breathing
5.5.5 Reasons for being unresponsive, not breathing and threats
5.5.6 Cardiopulmonary Resuscitation (CPR) through the use of training dummies
5.5.7 Performing CPR on adults - single First Aider correct use of AED and ventilatory equipment
5.5.8 Performing CPR on adults - two First Aiders correct use of AED and ventilatory equipment
5.5.9 The capabilities and the different technical specifications of AEDs
5.5.10 AED safety procedures including environment conditions
5.5.11 Correct treatment of a casualty who requires ventilatory support including:
   a. Use of a pocket face mask
   b. Use of a bag valve mask (two-person technique for bag-mask ventilation is recommended according to ERC guidelines)
Course Participants (Delegates) shall **practice and demonstrate**:

5.5.12 Performing CPR on adults - single First Aider correct use of AED and ventilatory equipment

5.5.13 Performing CPR on adults - two First Aiders correct use of AED and ventilatory equipment

5.5.14 Treatment of a casualty who requires ventilatory support using advanced First Aid equipment/airway management devices:
   - a. Bag valve mask resuscitation (two-person technique for bag-mask ventilation is recommended according to ERC guidelines)
   - b. Mouth-mask resuscitation (pocket face mask)
   - c. supraglottic airway

5.5.15 Reanimation with correct use of resuscitation equipment and help of medical teleconsultation, enhanced using an AED and various respiratory aids.

**Note:** Resuscitation According to the Applicable Resuscitation Council Guidelines for Resuscitation, e.g. ERC, AHA, etc.

**ELEMENT 5.6 - C: CIRCULATION**

Instructor shall **explain and demonstrate**:

5.6.1 Circulation - Assessment techniques

5.6.2 Skin colour and temperature

5.6.3 Capillary refilling time

5.6.4 Pulse

5.6.5 Correct functioning and informative value of a pulse oximeter for heart rate monitoring

5.6.6 Bleeding, external

5.6.7 Reasons for external bleeding

5.6.8 Threats

5.6.9 Use of advanced First Aid equipment

The Course Participants (Delegates) shall **practice and demonstrate**:

5.6.10 First Aid when a casualty is bleeding externally

5.6.11 Bandaging

5.6.12 Use of advanced First Aid equipment, including pulse oximeter

The Instructor shall **explain and demonstrate**:

5.6.13 Bleeding, internal
5.6.14 Reasons for internal bleeding
5.6.15 Threats
5.6.16 Use of medical teleconsultation

The Course Participants (Delegates) shall **practice** and **demonstrate**:

5.6.17 First Aid when a casualty is bleeding internally, including use of pelvic sling
5.6.18 Recurring surveys

The Instructor shall **explain** and **demonstrate**:

5.6.19 Shock
5.6.20 Reasons for shock
5.6.21 Types of shock
5.6.22 Threats
5.6.23 Recurring surveys
5.6.24 Use of advanced First Aid equipment
5.6.25 First Aid to shock

The Course Participants (Delegates) shall **practice** and **demonstrate**:

5.6.26 Use of advanced First Aid equipment
5.6.27 First aid treatment of shock

The Instructor shall **explain** and **give examples on**:

5.6.28 Acute illnesses of deteriorated disorders/diseases including Heart attacks, strokes, seizure disorders, suspension trauma and other casualties out of general or internal medicine, which are critical in terms of time
5.6.29 The reasons, frequency and risks of these diseases
5.6.30 Minor incident in an escalating to a serious incident
5.6.31 FAST-schema (Face, Arms, Speech, Time) as assessment for stroke
5.6.32 Necessity of support by medical teleconsultation
5.6.33 Discuss the difficulties of EFA

The Instructor shall **show** the procedure and value of:
5.6.34 Taking care of the casualty / psychological FA-techniques
5.6.35 Contacting professional rescue personnel nearby
5.6.36 Using medical teleconsultation services for advice on pain management and medication (ref. lesson 6)

The Course Participants (Delegates) shall explain and practice:

5.6.37 Assessment of stroke following FAST schema
5.6.38 Continuous monitoring of casualty in cases of deteriorated disorders
5.6.39 Early use of medical teleconsultation services

ELEMENT 5.7 - D: DISABILITY

CONSCIOUSNESS

The Instructor shall explain and demonstrate

5.7.1 The different levels of responsiveness
5.7.2 How to check pupils and the reasons why

The Course Participants (Delegates) shall be able to:

5.7.3 Distinguish different levels of responsiveness e.g. “AVPU” Alert, Voice, Pain, Unresponsive
5.7.4 Check Pupils are Equal And Reactive to Light “PEARL”
5.7.5 Perform adequate first aid measures

ELEMENT 5.8 - E: ENVIRONMENT/EXPOSURE

HYPOTHERMIA AND HYPERThERMIA

The Instructor shall explain:

5.8.1 The causes and stages of hypothermia and hyperthermia and the appropriate measures
5.8.2 The difference between heat exhaustion and heat stroke
5.8.3 The use of active warming blankets
5.8.4 Cooling measures for heat exhaustion and heat stroke

The Course Participants (Delegates) shall explain and recognize:

5.8.5 The risks of hypothermia and how to take appropriate measures
5.8.6 The difference and risks between heat exhaustion and heat stroke
ELEMENT 5.9 - SECONDARY SURVEY

The Instructor shall explain:

5.9.1 The general circumstances of the secondary survey according to the A-B-C-D-E principle without the initial “C” and the differences to the primary survey.

5.9.2 The A-B-C-D-E principle in the secondary survey

5.9.3 The different conditions for sitting, lying and shock positions (conscious/unconscious) and the importance of maintaining body temperature

During the secondary survey, the Course Participants (Delegates) should be made aware of the following injuries, symptoms and course of illness, taking into account the specific conditions of the wind industry and its varying workplaces:

DAMAGE AND POISONING THROUGH CONTACT WITH CHEMICAL/BIOLOGICAL SUBSTANCES

The Instructor shall explain and demonstrate the toxic/allergic symptoms of the body:

5.9.4 Assessment of different reactions of the body

5.9.5 Immediate first aid measures

5.9.6 The need for medical teleconsultation for further treatment

The Instructor shall explain and demonstrate superficial skin burns and the treatment of eye injuries:

5.9.7 Advice from the emergency doctor on the removal of corrosive substances or the use of antidotes

5.9.8 Applying bandages and using an eye wash bottle

The Course Participants (Delegates) shall demonstrate:

5.9.9 Process for removing the corrosive substances (washing off) and applying sterile bandages

5.9.10 Applying bandages and using an eye wash bottle

BROKEN BONES AND INJURIES TO JOINTS/MUSCLES

The Instructor shall explain and demonstrate:

5.9.11 Body Check: examination of the injured person from head to toe (skull, thorax, abdomen, spine, hips, lower extremities upper extremities)

5.9.12 Measures for immobilisation and correct axial, pain-relieving positioning of the casualty

5.9.13 R(est) - I(ce) - C(ompressions) - E(levation) Method
The Course Participants (Delegates) demonstrate:

5.9.14 Use of splint material, and other immobilisation/stabilisation materials
5.9.15 Positioning for head injuries

BURNS

The Instructor shall explain and demonstrate:

5.9.16 Severity of burns
5.9.17 Types of burns, including electrical burns
5.9.18 Treatment of burns including cooling measure

The Course Participant (Delegate) shall perform:

5.9.19 Treatment of a burn

BITE WOUNDS

The Instructor shall explain and demonstrate:

5.9.20 Severe, possible secondary infected bite wounds, e. g. by dogs
5.9.21 Bites for example of bats or raccoons possibly transmitting viral diseases like rabies
5.9.22 Snake and spider bites with venom

The Course Participants (Delegates) shall be able to:

5.9.23 Distinguish different forms / threats of bites
5.9.24 Know importance of companies OHS strategy depending on assessment on site
5.9.25 Use advice of medical teleconsultation services

ELEMENT 5.10 - PSYCHOLOGICAL FIRST AID

The Instructor shall explain aspects of Psychological First Aid:

5.10.1 Reactions to an unusual situation/ extreme event, and how to mitigate abnormal reactions
5.10.2 Behaviour to a casualty
Lesson 6 - PAIN MANAGEMENT AND FURTHER POSSIBLE MEDICATION

45 min.

The overall aim of this lesson is to give the Course Participants (Delegates) an understanding of the different analgesics and medication that may be available according to company policy or national best practices as well as how to safely and effectively administer analgesics and medication via medical teleconsultation or according to national best practices.

Note: Consideration should be taken by training providers to select the most appropriate analgesics and medications according to national best practices or select the analgesic and medication at the request of the company physician. Training aids should be selected that are as realistic as possible to the analgesic or medication that they are teaching the Course Participants (Delegates) to administer.

To successfully complete this lesson of the EFA Module, Course Participants (Delegates) shall be able to:

1) Master the application algorithm for pain management (L3 knowledge)
2) Administer safe and correct further possible medication via medical teleconsultation or according to national best practices (L3 Skills and Knowledge)

ELEMENT 6.1 - APPLICATION ALGORITHM OF PAIN MANAGEMENT

The instructor shall explain and demonstrate:

6.1.1 Numerical rating scale for pain
6.1.2 Non-medicinal treatment according to the step-scheme of pain relief
6.1.3 Clarification of prerequisites for the application of medicinal pain relief through the emergency-call physician or national best practices.
6.1.4 Indications and Contraindications of administering appropriate analgesics

Course Participants (Delegates) shall be able to demonstrate:

6.1.5 Correct management of a casualty in pain including:
   a. Assessment of pain using a numerical rating scale
   b. Performance of non-medicinal treatment according to the step-scheme of pain relief see annex
   c. Clarification of prerequisites for the application of medicinal pain relief through the emergency-call physician or according to national best practices
   d. Safe and correct management of administering appropriate analgesics according to national best practices or via medical teleconsultation during a scenario in a WTG environment.
   e. Indications for administering appropriate analgesics according to national best practices
   f. Contraindications for administering appropriate analgesics according to national best practices

ELEMENT 6.2 - FURTHER POSSIBLE MEDICATION
The instructor shall explain and demonstrate:

6.2.1 Indications for the application of medications in casualties according to national legislation

6.2.2 Contraindications and possible side-effects of medication, e.g. analgesia, aspirin, Glucose, Glyceryl trinitrate (GTN)

6.2.3 Clarification of prerequisites for the application of medication according to national legislation or after the release through the emergency call physician

Course Participants (Delegates) shall be able to demonstrate:

6.2.4 Safe and effective management of administering medication according to national best practices or through the use of medical teleconsultation

6.2.5 Indications for administering further possible medication

6.2.6 Contraindications for administering further possible medication

Lesson 7 - SCENARIO-BASED TRAINING

450 min.

The aim of this lesson is to give the Course Participants (Delegates) the knowledge and skills to be able to assess, assist and provide the correct Enhanced First Aid in an incident.

To successfully complete this lesson, Course Participants (Delegates) shall, through different scenarios, be able to demonstrate:

1) Managing incidents - approach and assessments (L3 Skills Knowledge and Attitude)

2) Correctly assessing, assisting and providing the necessary First Aid in an incident (L3 Skills Knowledge and Attitude)

3) Correct use of First Aid equipment L3 Skills and Knowledge

4) Act as a leader in first aid situations (L3 Skills)

5) Administer safe, effective and immediate lifesaving and enhanced first aid measures to save life and give assistance in remote areas using advanced emergency equipment and medical teleconsultation, while having particular regard for personal protection (L3 Skills and Knowledge)

ELEMENT 7.1 - PRACTICE FIRST AID TECHNIQUES

The Instructor shall explain:

7.1.1 Safety procedures in the training area

Course Participants (Delegates) shall practice and demonstrate:

7.1.2 Safe life - saving First Aid techniques through relevant scenarios according to the Course Participant (Delegate) Assessment Form
The Instructor shall ensure that the following topics are covered during scenario-based training:

1) Managing incidents using medical teleconsultation  
2) Providing necessary lifesaving First Aid  
3) Correct use of First Aid and advanced emergency equipment  
4) Knowledge of and skills for AED safety procedures  
5) Correct use of an AED and airway management devices

This scenario-based training shall be conducted as group work with one or more Course Participants (Delegates) as Enhanced First Aiders, while the other Course Participants (Delegates) act as Casualty / Casualties or Observer / s. Each Course Participant (Delegate) shall, as a minimum, act as Enhanced First Aider at least one time. Relevant normal and advanced First Aid equipment shall be available and used at all times during scenario-based training.

To ensure all of the above-mentioned points are covered during scenario-based training, Training Providers shall combine several of the following First Aid situations mentioned below.

At least one scenario must be based on an electrical incident:

1) First Aid situations  
2) Dropped object - serious head injury, unresponsive, breathing  
3) Fall from heights - external bleeding, unresponsive, breathing  
4) Serious internal bleeding  
5) Serious external bleeding  
6) Unresponsive with normal breathing  
7) Unresponsive, not breathing  
8) CPR using an AED  
9) Seizures  
10) Asthma  
11) Stroke (circulatory, respiratory, central nervous system, includes heat stroke)  
12) Serious burn  
13) Hypothermia  
14) Hyperthermia  
15) Crush injury  
16) Eye injury  
17) Electrical accidents minor/serious  
18) Amputation  
19) Minor incident escalating to a serious incident  
20) Traffic related accident
ELEMENT 7.2 - DEBRIEFING

The Instructor shall facilitate debriefing - First Aid situations:

7.2.1 Review positive actions observed during exercise
7.2.2 Suggest points for improvement
7.2.3 The Instructor shall facilitate debriefing - complex incidents with several (2-5) casualties in wind turbine working environments
7.2.4 Review positive actions observed during exercise
7.2.5 Suggest points for improvement

Lesson 8 - EVALUATION

15 min.

The aim of this lesson is to enable the Course Participants (Delegates) to reflect on and process their learning outcome and key takeaways from the module, aiming to achieve a high learning transfer from the module to his/her way of work. Additionally, the aim is to give the Course Participants (Delegates) the opportunity to conduct an open-minded written and oral formative evaluation of the training.

To successfully complete this EFA Module, Course Participants (Delegates) must:

1) Show commitment to avoid incidents requiring a rescue operation/First Aid assistance
2) Show commitment to act out this value by demonstrating a pro-active approach and role model behaviour
3) Participate in the formative evaluation of the module in a constructive manner

ELEMENT 8.1 - REFLECTION SESSION

The Instructor shall:

8.1.1 Give the Course Participants (Delegates) final feedback on the formal Course Participant (Delegate) performance assessment and inform them whether they have passed (failed Course Participants (Delegates) must be informed individually prior to the reflection session)
8.1.2 Help the Course Participant (Delegate) to do a summative self-evaluation, i.e. mentally overview and assert what is learned, identify key takeaways and bridge the gap between what is learned during the module and applying it in his/her way of work. This can be achieved e.g. by an individual reflection session, question session and/or class discussion
8.1.3 Re-present the overall aims and objectives of the course for the Course Participants' (Delegates') comparison on their learning outcome and meeting of their previously stated expectations of the course
8.1.4 Give an overall feedback and feed forward on the Course Participants' (Delegates') learning outcome
8.1.5 Motivate the Course Participants (Delegates) to avoid incidents requiring rescue/first aid efforts during daily work and demonstrating a pro-active approach and role model behaviour
Course Participants (Delegates) shall:

8.1.6 Conduct an online or written formative evaluation of the module, as a minimum.

The Instructor shall:

8.1.7 Respond on relevant elements of any oral feedback from the Course Participants (Delegates).

**ELEMENT 8.2 - TRAINING RECORDS**

The Instructor shall:

8.2.1 Ensure that all Course Participants (Delegates) are registered with a personal Course Participant (Delegate) profile in WINDA and have provided their WINDA ID to the Training Provider prior to completing the training course.
9.6 Course Participant (Delegate) Performance Assessment

Assessment of learning outcomes:

Course Participant (Delegate)s will be assessed according to the learning outcomes stated in the detailed module description by means of direct observation and supplementary oral questions, where appropriate.

The assessment shall be conducted by practical scenarios based on the WTG environment.

Each Course Participant (Delegate) shall demonstrate the ability to deal with a casualty that is:

1) Unconscious
2) Requires CPR
3) A scenario as detailed in Lesson 8

The formal evaluation of knowledge of above scenarios shall be in accordance with the Course Participant (Delegate) Assessment Form (template provided in the Requirements for Training Providers). The Trainer keeps the Course Participant (Delegate) Assessments Forms until the completion/evaluation of the EFA Module.

Training Providers shall have a documented procedure in place for dealing with persons not meeting the stated learning outcomes. If a Course Participant (Delegate) fails to meet the demands, they shall attend a new Enhanced First Aid Module.
ANNEX 1 - EQUIPMENT LIST

Any equipment used during this GWO training module shall meet or exceed the minimum requirements of the national standards in the country where the training is taking place.

When working in a country where there is no applicable national standard then the equipment shall meet or exceed the minimum requirements of the European standards.

The following equipment is required during the entire duration of the training to meet the needs of the EFA module:

1) Torso anatomy dummy
2) Airway model
3) Resuscitation dummies - adult (e.g. for ventilation, airways devices, AED use, immobilization) 1 to 6 Course Participants (Delegates)
4) First Aid equipment
5) First Aid bag suitable for enhanced first aid 1 to 6 Course Participants (Delegates)
6) Moulage Simulation kit for First Aid scenarios
7) Training AED (Automated External Defibrillator) according to national best practise 1 to 6 Course Participants (Delegates)
8) National best practise airway devices e.g., supraglottic airway devices 1 to 6 Course Participants (Delegates), oropharyngeal airways 1 set to 6 Course Participants (Delegates), nasopharyngeal airways 1 set to 6 Course Participants (Delegates) manual suction devices 1 to 6 Course Participants (Delegates)
9) Bag Valve Mask and accessories 1 to 6 Course Participants (Delegates)
10) Pulse oximeter for heart rate monitoring 1 to 6 Course Participants (Delegates)
11) Trauma pressure dressings, haemostatic agents/dressings, tourniquets
12) Eyewash fluid
13) Medications e.g. Realistic analgesic (exercise samples without active ingredients) 1 to 6 Course Participants (Delegates)
14) Splint material, basic immobilisation, pelvic sling 1 to 6 Course Participants (Delegates), chest seals
15) Blankets and/or chemical active warming blanket
16) Equipment for medical teleconsultation
17) Suitable media (e.g. videos)

Note: All equipment shall be maintained and where appropriate, inspected and tested in accordance with current national standards/legislation and manufacturers’ recommendations.
ANNEX 2 - EFA GUIDELINE: RECOMMENDATIONS

1. INTRODUCTION

Wind turbines are placed in increasingly remote areas, away from established medical facilities – both offshore and onshore. This can increase the time interval between the placing of an emergency/distress call and the arrival of professional emergency responders. The GWO Enhanced First Aid (EFA) Standard has been devised so that wind turbine technicians have an additional level of first aid training focused on stabilising and keeping a casualty alive until they are rescued.

2. PURPOSE

This training standard provides the foundation for the development of the enhanced first aid competencies. This document serves as a guideline for when and how GWO members should implement EFA-training and what special equipment wind technicians should be trained to use. The decision to employ enhanced first aiders should be the outcome of a medical risk assessment.

To implement GWO Enhanced First Aid, the employer will need to have the following:

1) EFA training
2) EFA equipment
3) Access to medical teleconsultation services

3. WHEN TO IMPLEMENT EFA TRAINING

GWO recommends that implementation of EFA training is based on a risk assessment (see table 1 below).

In general, all First Aid (FA) requirements for a wind farm will be dependent on the specific activity being undertaken and an estimation of the likely time interval for either medical support to reach the site or for the casualty to receive medical support.

4. EMERGENCY CALLS AND MEDICAL TELECONSULTATION SUPPORT SYSTEM AS A BASIC PRINCIPLE

The company/employer emergency plan is a central component of the rescue chain, especially offshore.

The employer must ensure that in the event of an emergency, it has established lines of communication between itself and any external emergency control centre or external facilities such as First Aid, emergency medical care, emergency rescue services and firefighting.

All personnel must always be able to place an emergency call, from every workstation. In an emergency, rescue and first aid workers (employed or externally contracted) must be able to quickly respond to and access the scene of the emergency.
The employer is also obligated to ensure appropriate transport which may include public resources in specific cases. Onshore public emergency service facilities are usually available to provide qualified transportation; however, this may not be the case with offshore.

Delivering EFA must be supported by company/national arrangements ensuring a system for medical teleconsultation: It is a recommendation that the employer has a robust telecommunication system - enabling medical teleconsultation support for EFA.

The term 'Teleconsultation' in the context of administering basic and enhanced First Aid should be seen primarily as guidance, support and assistance provided by an emergency-call physician to all first aiders and medical assisters in emergencies (Fig. 1). The goals of teleconsultation are to achieve a qualitative improvement in First Aid and, in the context of enhanced first aiders, to extend the range of potential measures. As such, Teleconsultation should be understood as representing an additional structural element within the existing company rescue service capabilities, aimed at realizing a qualitatively high degree of patient care.

EFA trained personnel provide a valuable component to meet this requirement. However, an enhanced first aider is not a medical professional and may have had limited real-life experience in providing medical intervention. Therefore, he/she will require medical teleconsultation and in severe cases support from professional medical responders, e.g. in the use of supraglottic airway devices.

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**Figure 1 - Teleconsultation - support of (enhanced) first aid with respect to qualifications and approval of medication**

Teleconsultation can essentially be grouped into the following components:

1. Supporting first and enhanced first aiders in carrying out First Aid measures
2. Diagnosing and determining the indication status of the medical measures taken
3. Monitoring and supervising the measures taken
4. Providing individual as well as psychological support of the (enhanced) first aider
5) Ensuring documentation and evaluation

An essential prerequisite for teleconsultation is the availability of adequate information and communications technology (ICT). The reliability and durability of the ICT deployed must be assured along with the technical and organisational guarantee of data protection and data security. The availability of bi-directional and reliable audio transmissions (e.g. radio, satellite or IP telephony or mobile phones) is not always sufficient. The possibility for transmitting photos to the consulting physician and the availability of reliable, at least unidirectional, real-time video transmissions should be the standard.

The consulting physician will be able to oversee a patient examination while remaining informed about the events transpiring on location. The integration of medical-technical equipment for transmitting and monitoring vital data establishes an essential foundation for the emergency physician in making decisions about necessary actions. Employers should provide documented instruction as to the use and deployment of information and ICT.

5. RISK ASSESSMENT

This chapter provides guidance about reasonable numbers of personnel to be EFA trained.

In renewable energy installations there are Normally Unmanned Installations (NUI) such as wind turbines; Manned Installations (MI) like Offshore Support Platforms (OSPs) and fixed building structures, which will require different FA measures.

The following factors need to be considered:\footnote{IRHC Institute for Remote Healthcare for Energy and associated Maritime activities}:

1) The nature of work activities performed at the site
2) Number of people on site
3) Project duration
4) Transportation options and availability
5) Transportation infrastructure
6) Geography
7) Climate
8) Security
9) Characteristics of the working population (e.g. age profile, gender mix, migrant status, etc.)

In general, in a high-risk situation, basic and enhanced FA as well as paramedic support may need to be immediately available. In a medium risk situation, basic FA should be immediately available with Enhanced FA available within a defined time, which is to be determined by the employer. In a low risk situation, time to provide Enhanced FA may be prolonged. However, health related considerations alone, may be the driver for
maintaining a heightened Enhanced FA readiness.

In order to decide on the appropriate degree of FA-measures based on the risk assessment it is imperative to take company-work-specific characteristics into account. The duty of care ultimately lies with company management.

Employers can in justified cases and where appropriate deviate from the measures recommended in this document, whenever an equally effective alternate measure has been implemented.

6. NON-PERMANENT MANNED INSTALLATION

In general, each location and activity should be subject to its own medical risk assessment. The following table shows an example of the output of a medical risk assessment and the recommended ratio of personnel with EFA-training according to the level of risk depending on type of activity and work location.

<table>
<thead>
<tr>
<th>Level of risk depending on type of activity and work location</th>
<th>Number or ratio of personnel with EFA-training</th>
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</thead>
<tbody>
<tr>
<td><strong>High</strong>&lt;br&gt;• (De)commissioning work&lt;br&gt;• Large component replacement&lt;br&gt;• New installation work&lt;br&gt;• Replacing rotors&lt;br&gt;• Working with cranes&lt;br&gt;• Working under stress</td>
<td>2 EFA&lt;br&gt;2:10 ratio EFA&lt;br&gt;2:10 ratio EFA</td>
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<tr>
<td><strong>Medium</strong>&lt;br&gt;• Scheduled work&lt;br&gt;• Maintenance work&lt;br&gt;• Minor installation work</td>
<td>1 EFA&lt;br&gt;2 EFA&lt;br&gt;2:10 ratio EFA</td>
</tr>
<tr>
<td><strong>Low</strong>&lt;br&gt;• Normal inspection work&lt;br&gt;• Operation monitoring</td>
<td>0 EFA&lt;br&gt;1 EFA&lt;br&gt;2 EFA</td>
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<table>
<thead>
<tr>
<th>Number of persons on a non-permanently manned offshore/onshore renewable energy installation</th>
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<tr>
<td>&lt;4</td>
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</tbody>
</table>

Table 6-1 - (Example of) Risk Assessment with recommended ratio of EFA-personnel for a non-permanent manned renewable energy installation

7. MANNED INSTALLATION

Manned installations, e.g. supply ships, transformer and residence platforms, normally offer various additional FA-equipment or facilities and special rescue personnel, e.g. paramedic support.
If, in principle, an increased level of risk exists (see preceding table 1) or at the locations above, many workers are present for prolonged periods, more highly qualified professional emergency responders and fixed equipment should be allocated.

The emergency capabilities of co-located assets should be considered e.g. other manned platforms, oil and gas platforms.

8. ORGANISATIONAL MEASURES

It is the employer’s duty to ensure, according to the specific national regulations, coordination between all parties and participants, especially between the company physician, safety responsible FA-personnel, onsite rescuer personnel and employee representatives.

This also includes First Aid rendered through external sources, such as public rescue services, emergency control centres and medical teleconsultation, as commissioned by the employer.

9. EFA-EQUIPMENT - PERSONAL RESCUE BAG FOR EFA

This standard recommends work-team-related special EFA-bags are issued containing the following items:

1) Automated External Defibrillator (AED) according to national best practice
2) Bag valve mask incl. accessories, national best practice airway devices e.g.
   a. laryngeal tubes (sizes. 4/5)
   b. supraglottic airway device
   c. oropharyngeal tube
   d. manual suction device
3) Equipment for medical teleconsultation
4) Pulse oximeter for heart rate monitoring
5) Trauma pressure dressing, haemostatic agents/dressings, Tourniquet
6) Eyewash fluid
7) Medications e.g. analgesic, cooling gel

The equipment supplied and used by the instructors and Course Participants (Delegates) shall follow and comply with relevant national legislation and the appropriate guideline standards.

The following additional EFA equipment will also be recommended on site:

1) Splint material
2) Cervical immobilizer and stretcher
3) Blanket and/or chemical active warming blanket

For drills and exercises e.g. during mandatory breaks or planned tutorials (see section ‘Drills and Exercises’ in this annex):

1) Training dummy (e.g. for ventilation, laryngeal tubes, AED use, immobilization)
2) Suitable media for support (e.g. videos)

10. DRILLS AND EXERCISES

Frequent practice of EFA competencies will ensure Course Participants' (Delegates') capabilities are maintained. All refresher EFA training is recommended to be combined with further training and drills.

Employers are encouraged to focus on practice-oriented training, while addressing offshore/onshore renewable energy installations and specific scenarios therein. For example, drills and exercises should where possible, be carried out at the workplace e.g. WTG nacelle.

To supplement the training, local monthly small-scale exercises are recommended with content and participants altering regularly to ensure all personnel and scenarios are covered during a defined calendar period, nominally 12 months.

Table top and live exercises with external emergency services should be conducted regularly. The timing will be determined by the emergency services. As a guide, a table top every 6 months with a live exercise every 12 months is recommended.
## ANNEX 3 - CHANGE LOG – VERSION HISTORY

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<th>April 1, 2020</th>
<th>Approved by &amp; date</th>
<th>GWO TC</th>
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<tr>
<td>Version</td>
<td>Version 2</td>
<td>Description of changes</td>
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**First Review of EFA standard**
- Comprehensive review of the EFA standard.

**Document changes**
- Formatting of document changed and aligned throughout, this includes numbering all sections, lessons, elements, sub-sections and tables for ease of reference and reading.
- The term ‘delegate’ changed to ‘course participant’ or ‘participant’.
- Equipment lists for all modules have been moved to Annex 3.

**Overall changes**
- Version changed from 01 to 02.
- Added taxonomy domain and level to all learning objectives (e.g. L2 - knowledge)

**Section specific changes**

2. Terms and definitions
- Updated with additional items.

3. Change log
- Format and layout changed for ease of reading.

6.1 Training Staff
- Inserted requirement 5 and 6

Lesson 2: Risks/hazards/legislation
- Added ref. to International Liaison Committee on Resuscitation (ILCOR)

Lesson 3: Anatomy
- Changed ‘Personal Hygiene’ to ‘Personal Protective Equipment against infections’ and moved the element to ‘lesson 4.1’

Lesson 5: Management of an incident
- 30 min added to the lesson
- 5.3 “c” critical bleeding has been replaced with catastrophic bleeding in the primary survey
- 5.4 removed demonstration on child
- Added lesson 5.4.10 with emphasis on step wise approach when conducting treatment with airway management devices and according to national/country regulations.
- Lesson 5.5.3 inserted on chest seals
- 5.5.9 added ERC recommendation on BMV (two person)
- 5.5.11 moved up to lesson 4 – Airway.
- 5.6.13 inserted pulse oximeter
- 5.6.17 inserted use of pelvic sling
- 5.7 Secondary survey moved to 5.9
- Element: DROWNING AND WATER IMMERSION deleted
2020-10-01_TS_EFA_V02.1

- 5.9.19 changed to Treatment of a burn
- 5.10 simplified lesson and removed next of kin

**Lesson 6: Pain management**
- Simplified learning objectives

**Lesson 8: Scenario-based Training**
- Inserted traffic related accidents in lesson: 8.1.3

**Annex 3: Equipment list**
- Inserted equipment numbers per delegates
- Removed child dummy
- Removed stretcher/spineboard

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First Edition