International Harmonization of First Aid

First recommendations on life-saving techniques

INTRODUCTION

Every year thousands of people die or suffer because they are unaware of preventive measures or how to apply them nor how to take care of health problems and risky behaviour, or they have not been given adequate and timely assistance in emergency situations. These are the typical injury-related situations discussed in this document as well as the silent but life threatening illnesses faced by communities under certain conditions or in certain areas of the world (for example, dehydration due to a diarrhoeal illness).

Everyone is vulnerable.

Significant improvements could be made, if more people were aware of and skilled in the application of First Aid.

It is essential to develop not only the means of intervention and the effectiveness of health care services, but also and primarily the ability of each person in the service of their family and community to save and protect lives, as well as their own health and life. Prevention and common sense are key components of First Aid education. When people are trained to assist victims of road traffic crashes, they are also made aware of road safety rules. The same applies when training communities to manage outbreaks of diarrhoea – they are taught how to improve their sanitation and hygiene practices.

Everyone has the potential to protect and save a life.

This practice of First Aid can be achieved and sustained if related knowledge, skills and equipment are simple and easy to access and use. Their development and dissemination must rely on clear and straightforward references.

The harmonization of life-saving techniques is a contributing factor in facilitating the universal application of these practices. This will help protect and save more lives through prevention and assistance.

THE DOCUMENT

The document presents the first recommendations for an international harmonization of life-saving techniques. It is an initial step in a process that should be completed within the next three to four years.

This document is coherent with guidelines established by the scientific community, such as the ones proposed by the International Committee on Resuscitation (ILCOR) and its member organizations about basic life support techniques.

The development of these recommendations is based on a methodology that can be used in other harmonization work.

Glossary

Certain words and expressions might be subject to diverse interpretations due to differences in local idioms. The glossary is therefore an important part of the document referring to all major terms, aiming to ensure a common understanding among readers.
It should be read first, and referred to each time there is a question on a term or concept presented in the document.

Scope

These recommendations are methodically developed proposals that help define the harmonization of a number of life-saving measures. They were developed by summarizing existing scientific evidence, through community field experiences, and from the opinion of experts working in these areas. Points of discussion and controversy, as well as unanswered questions on these subjects were taken into consideration.

This document deals with a limited number of situations covering:

- Intervention basic steps
- Emergency removal
- Casualty assessment
- Emergency alerting
- Control of severe external bleeding
- Care of a skin burn
- Care of a skin wound
- Care of bone and joint trauma
- Casualty transportation

These topics are presented not only to ensure the achievement of a common understanding and consensus at this initial stage but also to validate an international harmonization approach.

These initial recommendations address a number of routine emergency situations of concern to a First Aider caring for one (1) adult casualty in a day-to-day context. It is obvious that adjustments are necessary when other situations are taken into consideration such as:

- different characteristics of the casualty (e.g. a child);
- the imbalance between needs and response capacities (e.g. a mass casualty situation);
- a context where references change (e.g. disaster situations in which community health care facilities or infrastructures are destroyed); or
- situations where other priorities must be taken into consideration such as security and warfare (e.g. security in the case of violence and conflict).

Audience

These recommendations are intended to guide people in charge of the development of First Aid education programmes in order to better carry out research into and the presentation of life-saving techniques, in both programmes and documents.

Content framework

Each situation and its related techniques is presented in a chapter laid out as follows:

- Situation: a description of the emergency situation that requires a response using those techniques.
- Definition: a statement of what the life-saving technique is about.
- Risks: what happens or could happen when no assistance is given to a casualty suffering from the emergency situation addressed.
- Principles of action: a list of major aspects of the life-saving intervention responding to the emergency situation.
- Principles of techniques: The intervention is presented through different steps. Each step is described through key aspects, which are then defended.

How to read it

Prior to getting to the recommendations, it is important to be familiar with the purpose and spirit of the document. You should also be aware of the definition of and approach to First Aid referred to in the document. The first ten pages give you useful information on the subject.

Throughout the text certain information is highlighted in grey boxes. This underlines specific points or gives clarifications for a better understanding of the information contained in the document.

It is suggested that each situation described and its related recommendations be put into the perspective of your current contexts and practices. If differences arise, try to identify and document the reason: Are they related to local scientific or proven practices? To particular circumstances? To cultural traditions or religious customs? Thought should also be given as to how easy and simple the techniques should be, be they learnt and performed by a lay person or taught and evaluated by a trainer, in various situations.

It is also important to remember that the goal of training people to save lives in emergencies is not only to provide them with detailed techniques but ultimately to help them save lives in a safe and effective way, whenever the emergency occurs, while respecting local conditions.

Limits

Obviously these first recommendations could raise some concerns, especially among the following groups:

- those who did not directly take part in the development of this document, and who might feel that their expertise has been ignored;
- those within the First Aid community who believe passionately in the value of the techniques they currently use and could perceive “harmonization” as a threat;
- those involved in supporting First Aid programmes, such as publishing and manufacturing companies, who might feel that their investments may become redundant in the face of proposals for a universal application of these principles.

These concerns were identified, in order to highlight the importance of taking an approach that was set at the right level. Furthermore it helped recognize that time and awareness were needed to address differences in the communities.

In its present form, the document is meant:

- not to be a detailed technical manual providing a description of techniques;
- not to cover all emergency situations and life-saving techniques.

These recommendations are expected to evolve and be added to, based on their use in the field and new scientific advances.

The document was developed with inputs from the World Health Organization (WHO) and the International Committee of the Red Cross (ICRC).

HARMONIZATION

A distinction is made between “harmonization” and “standardization”. The intention is not to have one technique per situation, but rather to have a consensus on minimum agreed principles ensuring the sustainable acceptance and performance of life-saving techniques by all those trained in First Aid, be they from the lay public or organized teams.

In most situations, even if several presentations exist, there are common principles on which life-saving techniques are determined.

Why

A number of parameters guided these harmonization efforts. The main ones are

- The necessity to further disseminate First Aid knowledge and practices,
- The focus of education put on giving confidence to act and skills retention,
- On-going cross-border exchanges due to:
    - migration, favouring the mix of populations;
    - tourism and business travel, putting people in different contexts;
    - internet, supporting self-learning and comparisons.
- The intervention of different national rescue teams for international assistance in times of crises.
- Differences between techniques that are unjustified both through scientific and field experiences.
- The necessary bridging made between scientific knowledge and its application in diverse situations/conditions that are different from those covered by the research.

That means:

- priority given to trainees needs, competencies and capacities;
- simplicity of training presentations;
- ease of comparison and transfer of findings.

Furthermore these recommendations come as a necessary complement to priority efforts made by Red Cross and Red Crescent Societies to harmonize educational content, methods and certification among countries at a continental level. This may lead to the creation of an International First Aid Certificate. These efforts will also support multi-national information and training services.

How

Work has been based on three main guiding axes:

1- Primary evidence that a life-saving measure aims at saving a life, rather than applying specific technical gestures.
2- The appropriate transfer of scientific results concerning life-saving techniques and valuable experiences of local communities, thus ensuring reliable and effective results.
3- The identification of common principles from a collection of existing techniques worldwide that have a wide variety of presentations (e.g. there are more than 10 methods presented to stop simple bleeding of a skin wound, but all use local pressure).

This proves that effectiveness comes first, while taking the following basic parameters into consideration:

- Safety; in other words no additional risks or adverse consequences for the First Aider, the casualty and the bystanders.
- Ease and simplicity of understanding, learning, applying/performing and retaining knowledge and skills.
- The ability to be replicated in different life settings, be they geographical or related to different contexts (school, workplace, home, sports, travel, etc.) or personal profiles (age, disability, etc.).

?? Acceptability in different contexts (culture, religion, etc.).

Over the last few years, extensive consultations were carried out at local levels in the four corners of the world. They benefited from pioneering and vast Red Cross and Red Crescent experience in First Aid and from its large grass root networks in local communities, reflecting a variety of conditions.

Consequently, these recommendations resulted from a consensus built on a progressive approach and agreed aspects.

A seminar was held in Lyon (France) from 3 to 6 April 1996, hosted by the French Red Cross. It was jointly organized by the International Federation of Red Cross and Red Crescent Societies and the World Health Organization. The seminar brought together First Aid experts from all over the world as well as from different organizations. They exchanged experiences and ideas on First Aid techniques, from their respective backgrounds and environment A consensus was reached by these experts that was used to initiate field consultations, leading to the development of the present recommendations. They were extensively reviewed and taken into consideration when priority was given to harmonizing education and certification at continental level.

What

Focus is not put on the rights and wrongs of the techniques; rather, the harmonization reflects the possibility of recognizing the importance of the commonality of principles and the different contexts in which life-saving interventions are carried out. This is feasible despite different practices, individual preferences and the paucity of available scientific evidence in the field of First Aid research.

These recommendations reflect general and specific features, while respecting scientific evidence and prevailing conditions in various communities.

Next

The main anticipated result of these first recommendations is to further promote, among a majority of people:

- The dissemination of First Aid knowledge and practices,
- Skills retention,
- A better connection between scientific evidence and community experience.

The next steps linked to these recommendations will consist of:

- improving these recommendations;
- completing them with appropriate sequences of action;
- addressing other life-saving techniques.

Efforts should be made to improve and strengthen the relevance of life-protecting and –saving measures that will be acquired from scientific studies and benchmarking of local practices. It would therefore be important to:

?? Strengthen advocacy efforts with decision makers and the media to create an enabling environment to encourage and support communities in the adoption of safer and healthier behaviour and acts.

?? Create and support a permanent research programme in First Aid fields, be they: medical, educational, social or marketing.

?? Build a database of First Aid related information and statistics, accessible to all those concerned by life-protection and –saving.

?? Ensure the appropriate transfer of scientific results to relevant community realities (for example the transfer of technical results gained in Formula 1 racing to common vehicle improvements).

?? Multiply and coordinate partnerships between concerned parties (communities, associations, public authorities, the corporate sector, scientific organizations and the media) building on existing networks.

In 2002, a co-operation framework on violence and injury prevention and management programmes was signed between the International Federation of Red Cross and Red Crescent Societies and the World Health Organization. This framework aims to support the strengthening and extensive dissemination of knowledge and skills on the programmes, as well as ensuring their relevance to local needs and capacities.

FIRST AID

First Aid is a state of mind, a proactive attitude and a set of actions and practices that seek to prevent, be prepared for and provide an initial response in emergency situations. These situations may include diseases, epidemics, heart attacks, road traffic crashes, domestic injuries, etc. In emergencies, the initial response aims at minimizing the impact of these health conditions in order to stabilize and treat the casualty until professional help is available or required.

Concept

The ultimate goal of First Aid programmes should be to favour the adoption of a healthier and safer way of life by a large majority of individuals and communities.
First Aid is about information, awareness and actions. “Please take care when crossing roads” is a First Aid message, like alerting an emergency service. Washing ones hands is as important as taking care of an unconscious casualty.
However, essential information and acts are not the sole components; there is also an intrinsic psychological dimension and an incontestable ethical foundation. A First Aider brings human warmth that helps to promote a more tolerant society. First Aiders offer a model of society that transcends borders, where mutual help is the rule, where men and women who suffer are helped regardless of their nationality, religion or ethnic group, purely and simply because human dignity should be respected. A warm smile, a soothing touch, a caring look can make all the difference.

First Aid enhances the development and achievement of a sense of solidarity, generosity and altruism that exists in each of us and gives another dimension to citizenship and community spirit.

Audience

Everyone is concerned because we are all vulnerable and yet we all have the potential to protect and save lives.

An enabling environment is necessary to encourage and support people to act. In addition to an appropriate legal framework, the involvement of and partnerships between community leaders, public authorities, the media, civil society and corporate sectors are of great importance and value.

Presentation

There are many ways of perceiving First Aid and its applications. They are, however, all built on the same mainstays. First Aid programmes, be they educational or operational, must be:

- Without risk, easy to learn, carry out and memorize.
- Aligned with the specificities/characteristics of the populations/communities concerned (children, workers, etc.).
- Carried out within the environment of those concerned (school, workplace, village, refugee camp, etc.).

- Respectful of/compatible with the local health system capacities, cultural and religious beliefs, and value-proven traditional and alternative medicines (having demonstrated benefits for the patients and being of minimal risk).
- Complementary to health/emergency care education programmes and services.
- Based on evidence from scientific research as well as the experience of practices in the communities.

There are three major aspects of First Aid:
?? Education
?? Prevention
?? Intervention

First Aid education must provide for the prevention of and response to health emergency situations. The main objective should be to ensure confidence and capabilities/performance in taking preventive measures (safe and healthy life styles, including the reduction of risky behaviour) and give immediate assistance (from scene protection to basic care). This should be implemented with a medium/long term perspective, rather than a short term one by delivering a lot of courses or counting the number of people who have been trained over the year. Beyond traditional methods (classroom courses and manuals), media, events and digital supports (e.g. Internet-based, CD-Rom, mobile phones) should be taken into account in continuous education and/or refresher initiative programmes.
Overall consideration needs to be given to the tasks/duties required/expected, individual and community competencies, self-acquired knowledge as well as the living conditions of the trainees. The training curriculum and methods should be customized according to the needs and capacities of the audience. The educational environment has evolved, also needs to be addressed, being practices oriented and integrating short duration courses, participatory methods, new technologies, case simulations, etc.

Taking into consideration the epidemiological profile and the pre hospital care system capacity is of great importance when addressing CPR in a First Aid training curriculum aimed at the general public. It may be more valuable to implement CPR training where there is a qualified capacity to treat the case from the scene to the rehabilitation phase and to focus on specific communities having a high probability of encountering cardiac arrests (family members of patients with cardiac risks, members of dangerous professions –e.g. electricians, people living/working in stressful situations).

First Aid activities can catalyze community capacity in mitigating potentially risky situations and their consequences. This preventive aspect of First Aid combines:
- Advocacy, to create enabling environments (e.g. compulsory First Aid certification to obtain and maintain driving licenses),
- Awareness, addressing a specific community concern, thus sensitizing people to adopt a safer and healthier lifestyle (e.g. hygiene campaigns).

As far as First Aid interventions are concerned, the following main activities can be highlighted:
- Posts to ensure immediate response on the spot (e.g. during public events)
- Rescue and provision of emergency services (e.g. ambulance transportation)

Value - Impact

First Aiders, whether training or intervening, are agents of change helping people to adopt a healthier and safer lifestyle, agents of mobilization encouraging people to help and agents of hope reinstating relationships within and between communities. They make the difference, between life and death, indifference or violence and solidarity, apathy and action.

First Aid education can have a good economic impact resulting in the lowering of the cost of health care within the community. A person or a community more aware of and better trained to deal with health problems, especially in an emergency situation, reduces the "consumerism" of health care structures and makes their use more relevant. This contributes to the reduction of emergency health care costs.

On Saturday, 13 September 2003, some 115 Red Cross and Red Crescent Societies across the five continents celebrated the first-ever "World First Aid Day" under the theme of: "First Aid – a gesture of humanity which makes the difference". Millions of volunteers mobilized individuals, families and communities, together with their local partners and health/emergency education and care stakeholders. These local events highlighted the importance that simple attitudes and gestures can make, in protecting and saving lives and thus building safer and more humane communities.

Evolution

Throughout its history, Red Cross and Red Crescent First Aid programmes have shown that they have kept pace with the ongoing social development of humans and their environment, such as industrialization, urbanization, travel and leisure. Since the 1970s, these programmes have tended towards more community participation and more emphasis on prevention.
First Aid programmes should respond to the needs, capacities and conditions of people and communities.

CONCLUSION

The document provides a technically sound basis but is a flexible model serving both as a content guide and a framework for First Aid training curriculum. This document should not only be used as a technical reference tool, but it should be kept close at hand as a tool for field training activities.

These recommendations should be used and challenged in the field, and as a result strengthened.

To encourage and mobilize people to acquire and maintain the capacity to protect and save lives, cooperative efforts are required at pertinent levels. That means:

- Identifying and incorporating relevant activities and education within the communities concerned (children, workers, etc.).
- Developing the necessary skills and providing the means to carry out these activities.
- Reinforcing and supporting volunteers.
- Ensuring that there is an organizational capacity, an appropriate political environment and relevant networks and partnerships in which what needs to be done can be done.
- Developing/strengthening evidence-based and experience-based knowledge and practices.

As a member of the First Aid community, we should, on a daily basis, apply to ourselves what we are promoting, be it the wearing of a helmet when riding, maintaining proper personal hygiene, etc. as well as refreshing our knowledge, sharing experiences while respecting those of others, etc.

GLOSSARY

The following definitions are the ones to refer to when reading the recommendations. This reference assumes the situation is: “one First Aider caring for a single casualty in normal day-to-day circumstances”.

Bystander
A person who is inadvertently a witness of an emergency situation and/or a casualty. He/she may be untrained in First Aid, but willing to assist a casualty and/or a First Aider and/or a member of an emergency care service.

Casualty
A person who is in distress, and needs and/or asks for assistance.

Community
A group of people, who stays/lives/works in a specific context.

Context
All the elements and factors that constitute the frame in which the emergency situation occurs. These elements include:
- capacities of the community and its individual members to prevent, be prepared for, respond to and recover from emergency situations,
- the rules and regulations about care,
- the organization of rescue and health services (emergency care services, care centres, etc.),
- customs, culture and beliefs (i.e. religion, traditional local practices),
- local circumstances (isolation, disaster, armed conflict, etc.).

Danger
Situation or condition that has the potential, in the short, medium or long term, to adversely affect the life or health of people present at and/or close to an emergency situation.

Dispatch centre
A structure dedicated to receiving emergency calls from communities in a specific geographical area, and to mobilize and control appropriate and relevant health care resource in response to the calls.
A dispatch centre performs different functions:
- permanent receipt and management of emergency calls, prioritizing them,
- providing when possible, guidance to callers in delivering assistance,
- defining and ensuring the best matching between emergency needs and response capacities/availabilities,
- coordinating engagement of emergency care services,
- determining the transportation and the health care centre, the most appropriate for the casualty’s condition,
- preparing the reception of the casualty at this centre.
Different models of dispatch centres exist, due to the variety of emergencies (health, social, security-property, environment), and the levels of interaction between the concerned stakeholders.

Distress
A disturbed acute physical and/or psychological state, which can lead to deterioration in the life, health or well being of a person.

Emergency care service
An organization or groups with a system or a network of resources and personnel having a specific responsibility to prepare for and respond to emergency situations. Its members are qualified to intervene directly at an incident or to take over the management of a casualty who has been initially assisted by a bystander and/or a First Aider on the scene. This responsibility is legally established by the local authorities and accepted/recognized by the community and casualties.
A member of such an organization could be:
- a First Aid volunteer (e.g. from a Red Cross or a Red Crescent Society),
- a professional First Aider or rescuer (e.g. a fireman),
- a member of a paramedical corps (e.g. an ambulance technician),
- an emergency care personnel (e.g. staff of intensive care units),
- a member of a nursing corps (e.g. a nurse),
- a member of a medical corps (e.g. a doctor).

Assistance provided by an emergency care service may be in the form of:
- training/education service in prevention of, preparation for, response to emergency situations,
- direct attendance at the scene of an emergency situation for risk control, rescue and/or emergency care provision,
- verbal or written advice and guidance to a casualty, a bystander or a First Aider at the scene,
- provision of transport for the casualty,
- care in a health centre able to receive a casualty.

Emergency situation
An event that creates a distress affecting an individual or a community, and requires an immediate action. This change can affect or be felt by the concerned person(s). It can also be primary assessed by a bystander and/or a First Aider.

First Aid
Prevention of, preparedness for and provision of an initial first response to health emergency situations. If the emergency situation has occurred, the initial response aims to minimise the impact of the situation until the casualty's condition is stabilized, remedied, or professional help becomes available. That includes a psychological support dimension.
First Aid forms the constitution of a program and certified training that is referenced and carried out in a community by a local association or an organization, such as a Red Cross or Red Crescent Society, under the supervision of public authorities.

First Aider
A person, who is trained and certified in First Aid, and can use those knowledge and skills to protect and save lives, as well as to mobilize and assist a community in preventing, be prepared and respond to emergency situations.

Injury
Unintentional or intentional damage to the body resulting from an exposure to thermal, mechanical, electrical, radioactive or chemical energy, or from the absence of such essentials as heat or oxygen.

Protection
Measures taken to prevent risk exposure in an emergency situation (to signal a road crash, to control the risk exposure to blood or other body fluids, etc.).

Psychological support

Assistance given to people with emotional distress whether it results from physical injury, disease or stress. The assistance aims to reassure the casualty and get his/her cooperation / collaboration in measures to be taken by a bystander and/or a First Aider and/or the emergency care service.
Such aid, in the context of First Aid, is concerned with the immediate situation, and the goal is to reassure/to pacify, or to make people in need of more specialized help, as comfortable as possible until they can be given the more complete care or complete recovery.
It is mainly an understanding and sensitive attitude and supportive words and gestures. It may be what comes naturally to some people when faced with someone in distress, but what other people need information and training to feel comfortable performing.

Safety
A situation, in which the dangers to the life or health of the casualty, the First Aider or bystanders are minimized, controlled or absent. Everything should be undertaken to minimize danger as a prerequisite to the proper administration of life-saving measures and/or emergency care.

LIFE-SAVING TECHNIQUES

TOPIC: General principles of First Aider intervention

1. Situation
A person who shows and/or expresses signs of distress.

2. Definition
It is the assistance provided by a First Aider that may preserve life and health, alleviate suffering, provide psychological support and prevent long-term disability, before the arrival of/contact with an emergency care service and in support of this service once on the scene.

3. Risks
Unless First Aider intervention occurs, the casualty's life or health may be at risk.

4. Principles for the action

These principles apply in any situation a First Aider intervenes.

1. Prior to any engagement in action, the First Aider must assess the emergency situation, primarily danger related issues, which threaten or may affect him/her, the casualty and bystanders.

2. Protection from danger and possible reoccurrences should be the first and permanent concern of the First Aider. If there is a possible danger to the First Aider, protection and rescue has to be done by special forces (police, fire brigade, etc.).

3. The First Aider should assist without prejudice or bias, endeavouring to relieve the suffering of a person, being guided solely by a humanitarian assistance responsive to needs and respectful of the casualty and realities.

4. The First Aider should always act in safe and comfortable conditions, able to easily perform life-saving and protecting measures, and watch over the casualty and the situation.

5. The First Aider should, as far as possible, call for appropriate help from community resources when and where possible.

6. The First Aider should/may seek the cooperation of the casualty, introducing him/herself and establishing his/her assistance role.

7. The First Aider should collect as much as possible information about the situation and the casualty's conditions, for guiding his/her actions.

8. The First Aider's actions must not make the casualty's condition worse, and should provide a stabilizing or beneficial effect on the distress of the casualty and the bystanders, as well as prevent or limit complication development.

9. The assistance measures that are given must be appropriate to the situation, and must be initiated safely, quickly and effectively, with priority given to life-threatening problems.

10. The First Aider must refer the casualty to an emergency care service as soon as possible, if one is available and it is necessary (inability to complete the intervention without such support).

11. The First Aider should provide psychological support to the casualty, through his/her attitude, words and actions, considering that he/she is taking care of "a wounded person, not just the wound". Reassurance should be ensured with the bystanders as well.

12. The First Aider should assist and monitor the casualty's condition until further assistance is not required. Termination of assistance may occur when emergency care service reaches the scene or is reached or it is determined that no further care is needed.

13. The First Aider should be willing and able to assist the emergency care service in the provision of casualty care, including the provision of information about the casualty and emergency situation.

Notes:

* Priority of actions is determined by the status of the casualty and the severity of problems; considering both the physical and psychological needs. Criteria, such as nationality, race, religious beliefs, class or political opinions should not guide First Aid intervention.

* Even if an unconscious casualty cannot hear and/or perceive what is said and happening around him/her, appropriate words and contacts should be used like when assisting a conscious casualty.

* Regarding protection:
The First Aider, casualty and others must be protected from danger immediately and its possible reoccurrence must be prevented. However there might be situations, where the First Aider cannot protect the casualty from danger that requires rescue to be done by special forces, like police, special rescue or fire brigade.
In some countries First Aiders should be made aware that security authorities may have to be informed about the emergency situation, following their security rules.
In First Aid situations, many people are worried about disease transmission. The risk of catching any transmissible diseases, such as hepatitis B, hepatitis C, HIV, etc., when providing life-saving measures is far less than people think. Good common sense, taking appropriate precautions and applying basic hygienic measures further reduce this risk. In some places local health authorities require or recommend immune protections for emergency care services personnel (i.e. vaccinations against hepatitis viruses and tetanus).

First Aiders should be encouraged to assist anyone in need without discrimination and to treat everyone with respect.
The following prevention of disease transmission measures should be taken as far as the situation allows this:
Personal precautions
- Wash hands with soap and clean water immediately after giving First Aid. When feasible (e.g. to treat a wound in a home context and out of a life threatening situation), hands should be cleaned before intervening.
- Avoid contact with body fluids. Objects that may be soiled with blood or other body fluids should not be touched.
- Take special attention not to be injured with broken glass or any sharp objects found on or near the injured person.
- Prevent injuries when using, handling, cleaning or disposing of sharp instruments or devices.
- Cover personal cuts or other skin breaks with dry and clean dressings.
- Avoid coughing, sneezing or talking over a wound.

- Avoid allowing dirt or debris to contaminate a wound.

Equipment precautions

- If gloves (latex, rubber, medical), facemask and eyeglass are available for use in First Aid situations, they should be used.
    - If there are no gloves, any other protective barrier (clean plastics or clothes) can be used for protection. Hands should be washed well after disposing of these protective materials, and if it is feasible, before putting them on.
    - If there is no facemask and eyeglass, contact with discharges/ejections of body fluids should be avoided. In case of a contact, the area should be washed well as soon as possible.
- When administering cardiopulmonary resuscitation techniques, a pocket mask or face shield should be used while doing artificial respiration. A handkerchief can be used if no face shield or mask is available.

Environmental precautions

- Place used single-use materials in disposable containers, and clean the others prior and store them in clean and protected locations.

The First Aider should encourage bystanders to also take all appropriate disease prevention measures as well.

If the First Aider has been in contact with any kind of casualty's body fluids or he/she is worried that he/she has been in contact with, he/she must seek confidential medical advice, counselling and testing.

TOPIC: The emergency removal of a casualty

1. Situation
The casualty is exposed to a danger that cannot be controlled or removed, and he/she cannot move by him/herself.

2. Definition
It is a safety measure to take away a casualty who is unable to move away from a danger that cannot be managed.

3. Risks
Unless someone intervenes, the danger may adversely affect the life or health of the First Aider and the casualty, over and above the distress that already exists.

4. Principles for the action
1. The First Aider must recognize any danger (immediate, delayed, potential, real, visible, etc.) that threatens people present at an emergency scene.

2. The First Aider should never place him/herself in harm's way, especially when removing the casualty from the danger.

3. The First Aider must attempt to ensure that other people at an emergency scene are not exposed to the danger. The presence of people not participating in the action must not be permitted to create a potentially dangerous situation for the First Aider, the casualty or themselves

4. The First Aider should have (or seek to obtain) the necessary physical resource to effect the removal.

5. Principles for the technique

First Aider should explain the casualty what is intended to do at each step, seeking for casualty cooperation/collaboration.

5.1. Step 1
Assess the emergency situation without taking any risk.

5.1.1. Key aspects of step 1
- Stay away from the emergency scene in a safe place, from where you can observe the whole scene.
- Carefully assess existing or potential threats (including the consideration of the presence of hazardous materials or dangerous people).

5.1.2. Justification of step 1
There could be a danger threatening the casualty, which could then affect the First Aider.
A First Aider should only intervene provided it is safe, and should be prudent enough adopting a permanent cautious approach/attitude.

5.2. Step 2
Protect the casualty, fellow rescuers and bystanders

5.2.1. Key aspects of step 2

- Attempt to cordon off visibly the emergency scene.
- Consideration should be given to providing for scene protection by a limited number of persons who should not be placed in a dangerous environment.

5.2.2. Justification of step 2

Access to the emergency scene should be limited until the danger abates or until control is assumed by the appropriate emergency service where available.
Protection from dangers and possible reoccurrences should be the first and permanent concern of the First Aider.

5.3. Step 3

Act in complete safety.

5.3.1. Key aspects of step 3

- Identify the safest, most direct route to reach the casualty.
- Identify the safest, most direct route to remove the casualty to a safer place, while observing the following principles:
  - be sure to use a technique which does not cause injury to yourself, special consideration to be given to a sufficient physical strength (or be assisted by a limited number of persons) to perform the chosen technique,
  - be sure that the casualty is visible and can be safely mobilized,
  - be able to move the casualty to an area that is a sufficient distance from the danger and its possible consequences or reoccurrences,
  - consideration on arrival should be given to the chosen area must having sufficient space to permit other life-saving measures and facilitate emergency care service activities.

5.3.2 Justification of step 3

- The First Aider's first priority is to protect himself/herself.
- The First Aider should plan what will be done, using the safest and quickest route possible.
- Emergency removal may require additional physical strength from other people present to ensure the safe success of the intervention. However, such intervention should involve the fewest number of people with the needed physical strength using the safest path or method.
- The casualty should be accessible and no hindrance is blocking him/her or can limit the First Aider’s intervention.

5.4. Step 4

Remove the casualty from the danger zone.

5.4.1. Key aspects of step 4

- Inform the casualty before moving him/her.
- The casualty must be quickly and safely removed from the danger zone, while observing the following principles:
  - Choose a technique that can be applied easily, quickly and without specific equipment,
  - Have sufficient physical strength to perform the chosen technique (or be assisted if you cannot do it alone),
  - Use lifting techniques (especially lift with leg muscles while keeping the back straight),
  - Go near to casualty and grasp the casualty according the technique chosen, and maintain a firm hold,

If possible:

  - Support the casualty's neck, and do not twist the head, neck and body position during the removal procedure,

- ?? Mobilize the casualty along a straight line, avoiding unnecessary body movement of the casualty during the removal procedure.
- ?? Change your technique if the casualty feels uneasy or painful.

5.4.2. Justification of step 4

- The First Aider must, whenever possible, try to prevent further injury from occurring to the casualty during the removal procedure however speed may be a top priority.
- If First Aider cannot move the casualty with personal energy, he/she must not try to move forcefully, but seeks for further help.
- The First Aider must, whenever possible, try to support (respect) the spinal axis of the casualty (from the head to the pelvis), aiming to prevent the worsening of an actual or potential spinal injury.
- The First Aider must guard against inappropriate or unsafe handling practices that may have harmful effects on his/her own health, especially his/her back. First Aiders should be trained in proper lifting and moving techniques, stressing on lift with leg muscles rather than with back.
- The First Aider must not try to move forcefully. He/She should not overlook mobilizing nearby available persons to ensure that the emergency removal is successful.
- The grasping of a victim can be by the easiest-to-reach part of the body or clothing or along precise positions.

TOPIC: An alert

1. Situation
The First Aider renders assistance in an environment where an emergency care service can take over the support to the casualty.

2. Definition
It is an action notifying an emergency care service that an emergency situation has occurred and requesting support for taking over the care of a casualty.

3. Risks
The lack of an alert being given to an emergency care service may seriously compromise the possibility of successful assistance and/or the complete care of the casualty.

4. Principles for the action
1. The alert should be given to an emergency care service as early as possible, by the most appropriate means available.

2. The alert given should convey as much relevant information as possible concerning the emergency situation to allow the most appropriate decision in determining the dispatch of the required emergency service(s).

Note: Alert could be the only action performed by a bystander or a First Aider, demonstrating his/her willingness to assist.

5. Principles for the technique

5.1. Step 1
Collect the relevant information.

5.1.1. Key aspects of step 1
- Determine the precise location of the site of the emergency situation, and the related way to reach it.
- Identify if possible the circumstances of the incident (e.g. a road crash) and the presence of dangers (e.g. a fire).
- Gather information about the casualty's condition. [refer to the related recommendation].

5.1.2 Justification of step 1
The quality of the information on the emergency situation and about the casualty's condition is a key factor for the determination and mobilization of the most appropriate emergency care service for taking care of the casualty (incl. rescue activities).

Note 1: These recommendations do not address multiple casualty situations. That is why information such as "the number of casualties and a brief appraisal of each" is not indicated here for the alert.

Note 2: An alert can be given in two times: (a) firstly, regarding major problems (e.g. a casualty trapped in a vehicle) and the casualty's condition, focusing on immediate life threatening situations (b) secondly, more detailed information about the casualty's condition.

5.2. Step 2

Alert the dispatch centre or the emergency care service

5.2.1. Key aspects of step 2
- Choose from among the available means the one that guarantees a quick and quality transmission of information collected.
- If possible, use one that permits dialogue with the dispatch centre or the emergency care service.
- The message of alert should contain
    - at least the information collected,
    - if life-saving measures have been taken, what they are,
    - request for any care suggestion.

5.2.2 Justification of step 2
- The best means for transmitting an alert is represented by a telecommunication support, either a radio or a telephone. Such a device allows a dialogue to be established. This provides guidance to the First Aider for completing or stopping his/her intervention.
- When such a telecommunication support does not exist or function, a bystander can be sent to the nearest radio station, telephone, or the health care facility, with instructions to return to the scene with the response, such as the estimated time of arrival of the emergency care services and instructions on further care measures.

5.3. Step 3
(when a telephone is available close to the scene) Stay in contact with the emergency services.

5.3.1. Key aspects of step 3
- Provide the telephone number from where you are calling.
- If appropriate, provide road guides and/or detailed location directions or hazard information.
- Hold the line until the call-taker asks for hanging-up.
- Receive any instructions.

5.3.2. Justification of step 3
- The information delivered by the dispatch centre may contain any advice to the First Aider regarding the casualty management to be undertaken until the emergency care service arrives or the casualty is taken to a health care centre. Furthermore, it may guide the First Aider in preventing his/her use of an inappropriate intervention or recommend termination of efforts where continuation would:
    - ?? Unnecessarily increase the risk to the First Aider, or
    - ?? Be futile given the condition of the casualty and context of available emergency care services, or
    - ?? Be not necessary because the casualty does not need any further assistance, having completely recovered a satisfactory health status.
- This contact can be helpful to guide the emergency care/transportation service that is coming to the scene.

Note: The bystander can be used as far as it is possible (i.e. a short distance between the emergency situation and the point of contact) for linking with the dispatch centre or the emergency care service.

Note: If required and/or possible, the dispatch centre or the emergency care service should be recalled in order to deliver updated information on the situation and/or the casualty's condition.

TOPIC: The initial, systematic assessment of the casualty's condition

1. Situation
The First Aider assesses the casualty's condition as soon as they are in a safe situation.

2. Definition
It is the initial, systematic and repeated gathering of basic information about the casualty, leading to:
a - Assessing the nature and circumstances of the casualty's distress.
b - Determining the priority of measures necessary to preserve and maintain a casualty's life and health, and prevent extension of the injury or illness.
c - Valuing measures taken and monitoring the progress of the casualty's response to any measures that have been given.
d- Discovering special conditions the casualty possesses (e.g. diabetes, seizures, etc.).
e - Accurately informing the dispatch centre or the emergency care service of the casualty's condition.

3. Risks
Where incorrect or insufficient or no information is collected:
a - The correct life-saving measures may not be given to the casualty.
b - The incorrect life-saving measures may be given to the casualty.
c - Guidance and decision from the dispatch centre or the emergency care service may be incorrect.
d – The inappropriate emergency care service may be mobilized to take care of the casualty.

Any of the above consequences may have adverse effects on the casualty's life or health.

4. Principles for the action
1. The assessment should start by observing and talking prior to any physical contact.

2. The gathering of information should follow a logical progression leading to a logical course of action, with first identifying immediate life-threatening problems.

3. The result of the information gathering should represent a coherent pool of facts and signs.

4. The information should be gathered regularly to monitor the casualty's condition and performance of the measures taken.

Note: Certain local customs or religious rules may limit the information gathering in forbidding physical and/or verbal contact, for example between a man and a woman. A solution may exist within these customs or rules. Otherwise common sense should prevail.

5. Principles for the technique

5.1. Step 1
Reassure the casualty.

5.1.1. Key aspects of step 1
- Introduce yourself as a person able to assist.
- Propose assistance and obtain consent from the casualty.

- Explain what you intend to do.
- Seek casualty cooperation/collaboration, with regard to the actions intended to be performed.

5.1.2. Justification of step 1

- Establishing rapport with and cooperation of the casualty is an essential element to seek. The casualty may not realize they are in distress and then cannot understand why help is offered to him/her.
- There is a risk of aggravating the casualty's state if he/she worries about the First Aider's presence and intentions. There is a possible threat for the First Aider from a casualty becoming aggressive because of his/her ignorance of the intentions of the First Aider.
- The lack of confidence of the casualty can create failure or ineffectiveness of the First Aider actions.
- That's why this step should enhance cooperation and casualty outcome.

Note: The casualty should be treated with the most respect regardless that he/she is unconscious or unable to respond. Even if an unconscious casualty cannot hear and/or perceive what is said and happening around him/her, appropriate words and contacts should be used like when assisting a conscious casualty.

Note: The collection of information described below is of value. In certain contexts, this action may be reconsidered due to the quick arrival of an emergency care service on the scene.

5.2. Step 2

Adopt a systematic collection of information.

Note: The reference of a complete sequence is presented in the ILCOR advisory statements. The following just highlights major issues.

5.2.1. Key aspects of step 2

- Focus on assessing life-threatening situations: airway-breathing, cardiac difficulties, severe external bleeding, unconsciousness, etc.
- Note visible signs.
- Collect evidences surrounding the casualty and obtain information from the bystanders.
- If possible, write down all this information on a piece of paper and note the time.

5.2.2 Justification of step 2

Signs and facts should be the key components of a correct assessment, avoiding interpretation and diagnosis, which may generate errors and then inappropriate actions. Furthermore, the information collected should be prioritized.

Each of the life-threatening situations requires an immediate action prior to the continuation of the information collection.

Note: Danger identification is also a priority, having been addressed at the previous stage [refer to the general principles of a First Aider intervention].

5.3. Step 3

If the casualty is conscious, obtain information from him/her.

5.3.1. Key aspects of step 3

- Listen to and/or ask about the casualty's complaints and what immediately lead up to them.
- Note age and gender of the casualty.
- Determine the previous history of the casualty (chronic medical conditions, treatment, allergies, etc.) and events leading to the current situation.
- Collect the contact details (phone and address) of his/her relative(s).
- If possible, write down all this information on a piece of paper and note the time.

5.3.2 Justification of step 3

- The casualty may facilitate the First Aider's action and shorten the time to intervention and definitive care with useful information relating to his/her current and previous problems.
- Furthermore the availability of this information may become limited or impossible if the casualty's consciousness deteriorates.

Note 1: If the casualty is unconscious or unable to give any or clear information, the information available will be limited to what the First Aider can see and hear from the casualty's physical examination and the bystanders.

Note 2: The above described information collection is quite extensive and may not be possible to be fully implemented or relevant with certain local standards.

5.4. Step 4

Re-check the casualty often for physical or mental changes.

5.4.1. Key aspects of step 4

- Repeat the initial gathering of information about the casualty's condition:
  - On a regular basis and,
  - every time a change is assessed

until the emergency care service reaches the scene or is reached or it is determined that no further assistance is appropriate.
- If possible, note down changes in the casualty.

5.4.2. Justification of step 4

The re-analysis of the situation should be carried out on a regular basis before an emergency service reaches the scene or is reached (which might be a long way) because:

- the casualty's condition has to be monitored,
- the efficiency of the measures taken has to be maintained,

Results of the monitoring may require additional actions.
The documentation of the changes are useful for follow on care providers.

TOPIC: The care of a casualty suffering from a severe external bleeding from a skin wound

1. Situation
The casualty shows signs of severe external bleeding from a skin wound.

2. Definition
It is loss of blood from a skin wound that is spurting or continuing to flow leading to a serious blood loss within a short period of time, that requires being stopped immediately.

3. Risks
The continued loss of blood presents an immediate, and/or short-term threat to the casualty's life or health.

4. Principles for the action
1. The assessment to identify external bleeding from a skin wound must be performed early in the initial casualty assessment.

2. The bleeding must to be stopped quickly, using the technique(s) most appropriate for the situation.

3. The stopping of bleeding must be maintained until the casualty is handed over to an emergency service.

4. The development of complications (i.e. fainting, further injury, shock, infection) must be anticipated, prevented or minimized.

5. Principles for the technique

First Aider should explain the casualty what is intended to do at each step, seeking for casualty cooperation/collaboration.

Note: The situation of an amputated limb is not addressed.

5.1. Technique: General assessment

5.1.1. Step
Look for external bleeding.

5.1.1.1. Key aspects of step
- Look for blood on the ground.
- Look for the source of the bleeding:
  - ?? Look for bleeding at the uncovered parts of the casualty.
  - ?? Look for blood on the casualty's clothing.
- Look for concealed bleeding and expose the site as required.
- Identify any aggravating circumstances relating to the previous history of the casualty (age, disease, treatment, etc.).

5.1.1.2 Justification of step

Bleeding is an immediate danger to the life of the casualty.
Finding and stopping bleeding is a top priority for the First Aider.

Note: There are two complementary methods to control bleeding:
- Direct local pressure,
- Limitation of blood loss consequences, which itself presents two complementary methods: laying down the casualty and elevating the bleeding site

The sequence order of the above methods is much debated. Accordingly the following presentation can be adjusted following local standards, until a consensus on a proper sequence will be reached. However the direct local pressure represents the major technique to employ.

5.2. Technique: Direct local pressure

Note: This technique cannot be performed when (a) a foreign body is present in the bleeding site or (b) the zone is obviously deformed (evoking a fracture) or (c) the bleeding site is not accessible to First Aider hands.

5.2.1. Step 1

Secure access to the wound.

5.2.1.1. Key aspects of step 1

- When necessary, remove fragments covering the wound, as far as they are not embedded in the wound.

5.2.1.2. Justification of step 1

The wound should be accessible to allow a safe and efficient local pressure.

Note: The First Aider should not harm him/herself when fragments are soiled with blood or sharp or pointed. He/She has to take appropriate protective measures.

5.2.2. Step 2

Ensure direct local pressure to the bleeding site.

5.2.2.1. Key aspects of step 2

- If possible, instruct the injured person that he/she can stop the bleeding by applying direct pressure to the wound himself/herself.
- If the injured person cannot stop the bleeding for any reason, Apply direct hand pressure over the bleeding site (or indirectly around), while observing the following principles:
  - wherever possible, avoid all direct contact with the casualty's blood, by protecting the hand which presses:
    - by using impermeable membranes (i.e. gloves, plastic bags) if available,
    - or if unavailable, by using any suitable material as a barrier between your hand and the bleeding site,
  - apply sufficient pressure to stop the bleeding, avoiding a painful situation for the casualty.
- Maintain the pressure for a few minutes.

5.2.2.2. Justification of step 2

- It is usually possible to stop a bleeding by direct local pressure over the bleeding site. This is the quickest and easiest approach.
- The time necessary for the bleeding to stop is around 5 to 10 minutes.

- In all situations, the First Aider should protect himself/herself, which includes avoiding possible contamination by a communicable disease such as HIV or viral hepatitis, as well as he/she should not contaminate the victim.
- A piece of clean cloth or clothing can be used as far as the piece is tick enough to avoid First Aider hand being in contact with blood.

5.2.3. Step 3
Assess the effectiveness of direct local pressure.

5.2.3.1. Key aspects of step 3
- Check whether bleeding has stopped in the area immediately around the pressure dressing is being applied.
- Do not remove the pressure while doing this checking.

5.2.3.2. Justification of step 3
- The effectiveness of this life-saving measure to stop blood loss must have an immediate effectiveness that should be assessed as soon as possible. The average person's blood clots is around 5 to 10 minutes.
- Continued bleeding represents an immediate danger for the casualty. It must be stopped quickly.

5.3. Technique: Compressive bandage
Note: This technique cannot be performed when the zone is obviously deformed (showing bone trauma/fracture) or a foreign body is present in the bleeding site.

5.3.1. Step 1
Maintain the pressure initiated by a direct local application, with a compressive bandage placed over the bleeding site.

5.3.1.1. Key aspects of step 1
- Prepare the needed material:
  - ?? a clean absorbent dressing (or a piece of cloth) large enough to largely cover the bleeding site,
  - ?? a bandage that is wide and long enough to cover the dressing and to go around the limb several times.
- Respect the following principles:
  - ?? Put the clean dressing over the bleeding site where direct local pressure is applied,
  - ?? Do this change between the hand and the dressing quickly,
  - ?? Make sure the bandage is tight enough to keep sufficient pressure on the bleeding site, ensuring that bleeding does not continue without cutting off all the blood flow to the limb if an arm or leg injury,
  - ?? Wrap the bandage over and around the entire area,
  - ?? If that was initially done, maintain the wounded limb elevated. Otherwise do it if possible, and maintain the position.

Note: Making note of the time that the bandage was accomplished can be of an interest for follow on care providers.

5.3.1.2. Justification of step 1
A compressive bandage in place then allows the First Aider to then use his/her hands for other actions.

5.3.2. Step 2
Assess the effectiveness of the pressure applied by the compressive bandage.

5.3.2.1. Key aspects of step 2

- Check whether bleeding has stopped around pressure dressing, soon after application of the compressive bandage.
- Check distal circulation presence before and after (following) bandaging (refer below).
- If bleeding continues, apply an additional compressive bandage over the initial compressive bandage (refer below).

5.3.2.2. Justification of step 2

- This life-saving measure to stop blood loss must be immediate effective. That should be assessed as soon as possible.
- Continued bleeding represents an immediate danger for the casualty. It must be stopped quickly.
- The application of the correct amount of pressure involves a degree of experience, gained from practices or regular refresher training
- Therefore, this technique must be seen as somewhat difficult to teach to lay people. Then they should be encouraged to learn it and to regularly refresh their knowledge and skills.

5.3.3. Step 3

Apply a second bandage if bleeding continues despite the initial compressive bandage, without removing the original dressing.

5.3.3.1. Key aspects of step 3

- Prepare the same materials as indicated for a compressive bandage,
- Apply this second bandage over the first bandage:
    - ?? not removing it,
    - ?? using firmer pressure.
- Make note of the time that the bandage was accomplished.

5.3.3.2. Justification of step 3

- If bleeding continues over the initial compressive bandage, it means that the initial procedure may not be correct, with incorrect or inadequate settlement, pressure or technique used.
- The first bandage must not be removed. It protects the wound from disturbance of the clotting blood and further possible contamination.
- The application of the correct amount of pressure involves a degree of experience, gained from practice or regular refresher training.
- Therefore, this technique must be seen as somewhat difficult to teach to lay people. Then they should be encouraged to learn it and to regularly refresh their knowledge and skills.

5.3.4. Step 4

Check distal circulation

5.3.4.1. Key aspects of step 4

- Press briefly, and release, on the finger nail bed, (or any distal tissue area), of the injured limb. Do the same on the same area of the opposite limb.
- Check if nail bed (or distal tissue area), blanches and returns to initial colour. Same signs should be assessed on the area of the opposite limb where pressure has been applied.
- If the area does not return a couple of seconds after application of the pressure to the initial state after bandaging, that means that the distal circulation is worse, loosen the bandage just enough to allow distal circulation, but not enough to allow bleeding to reoccur.

Note 1: First Aider has to be sure that the distal pulse, sensation and movement was present before the intervention. Some times it may not be there from the beginning.

Note 2: Certain conditions make the technique difficult: when for example, outside temperatures are cold or nails are polished. Those situations do not allow assessing distal circulation properly. Estimation can be done by evaluating the skin colour below and above the bandage. The colour difference should not be too important.
If patient is conscious, other criteria can be checked, such as the mobility and sensitivity of the casualty's lower part, which is injured. Limitation or absence demonstrates that the bandage is too tight, and needs to be loosened just enough to allow distal circulation, but not enough to allow bleeding to reoccur.
Distal pulse checking is a technique that may be used by emergency care services personnel. This technique is a special performance requiring a specific ability and regular practices.

5.3.4.2. Justification of step 4

- Return of the initial colour to the finger nail bed (or distal tissue area) confirms distal circulation is present.
- The comparison with the opposite limb can demonstrate the real influence of the injury or the bandage, considering that certain situations affect distal circulation (cold temperature, low blood pressure).
- The bandage must absolutely not act as a tourniquet on the limb (refer to the related note presented below).

Note 1: Pressure on a pressure point

Preamble: This technique is valid for a bleeding site on a lower or upper limb. It is used when the local pressure and compressive bandage cannot be performed or are inefficient, as well as assuming a quick arrival of an emergency care service. It requires special training and regular practices. Accordingly, the choice of the technique involves a degree of experience, gained from practices or regular refresher training. Therefore, this technique must be seen as somewhat difficult to teach to lay people. Therefore, trainees should be encouraged to learn it and to regularly refresh their knowledge and skills.
Furthermore, a continuous pressure deprives the entire limb of blood supply, which can lead to further severe harm.

Note 2: Constrictive bandage / Tourniquet

This is a desperate last resort technique. It is employed under exceptional circumstances and it has severe adverse consequences on the health, even on the life, of the casualty.

Note 3: Being in contact with the injured person's blood

- If hands are contaminated with blood, they should be washed thoroughly with clean water and soap as soon as possible.
- If another body part is splashed or contaminated by blood or body fluids, especially the eyes, it should be washed or flushed with lots of clean water and soap.
- If skin is cut by any object that is contaminated with blood, the wound should be washed thoroughly with soap and clean water and apply a dry and clean dressing.
- If the First Aider has been in contact with any kind of casualty's body fluids or he/she is worried that he/she has been in contact with, he/she must seek confidential medical advice, counselling and testing.

5.4. Technique: Limitation of blood loss consequences

5.4.1. Step 1

Lay down the casualty (if that was not done spontaneously).

5.4.1.1. Key aspects of step 1

- If conditions allow, carefully place the casualty in lying down position as soon as possible (or help him/her to do so).

5.4.1.2 Justification of step 1
When the casualty is lying down, blood is more easily distributed around the body and, if a large quantity of blood has been lost, the risk of fainting or the heart stopping is reduced. Fainting may occur even with a small amount of blood loss as a result of the casualty seeing his/her own blood.

5.4.2. Step 2
Elevate the bleeding site

5.4.2.1. Key aspects of step 2
- If conditions allow, raise the bleeding site (or ask the casualty to do so), if appropriate. The position should be maintained.

5.4.2.2 Justification of step 2
The elevation of the bleeding site can reduce the blood flow significantly at the bleeding site. The blood pressure decreases because of the height difference created. The technique is easy as far as it does not worsen the situation (e.g. strong pain in case of an associated bone or join trauma).

TOPIC: The care of a casualty suffering from a skin burn due to a heat source.

1. Situation
The casualty shows signs of a skin burn.

2. Definition
It is a skin injury of thermal (heat) origin: fire/flame, hot liquids or vapours (water, oil).

Note: There are other origins, such as radiation, chemical or electrical. Each cause has specific consequences that may require specific assistance.

3. Risks
1 - A burn can bring about:
a . Severe, overwhelming and continuous pain, (except if the skin is deeply burned, then there is no pain in the deeply burned area, but around that area, pain may be severe).
b . Specific complications, including dehydration, infection, hypothermia and circulatory distress, because of particular factors (its causal agent, its temperature, its depth, its location, its area or the age and previous health state of the casualty).

2 - Burn is a dynamic problem, which continues even after the removal of the causal agent, increasing the extent (both in depth and area) of the initial injury zone.

3- The causal agent may further:
- pursue burn extension (if not controlled quickly)
- create additional health problems (e.g. respiratory distress by smoke of a fire)

4. Principles for the action
1. The scene must be made safe before assistance begins or the victim should be taken to a safe place.

2. The contact between the casualty and the causal agent has to be eliminated quickly and safely.

3. The burning process should be stopped quickly and suffering should be alleviated.

4. Complications have to be prevented or minimized.

5. The extent and location of a burn must be assessed.

Note: Some causes may require specific actions that are presented on the product container (e.g. in case of chemical agents). For example, powdered chemicals must first be brushed away completely before applying water to ensure no further reaction takes place

5. Principles for the technique

First Aider should explain the casualty what is intended to do at each step, seeking for casualty cooperation/collaboration.

5.1. Technique: General management of a skin burn due to contact with hot liquids (water, oil)

Note: Hot water and oil are designated as “the causal agent” in the rest of this chapter.

5.1.1. Step 1
Eliminate contact between the casualty and the causal agent.

5.1.1.1. Key aspects of step 1
- Stop or remove the causal agent from the casualty OR remove the casualty from the causal agent, while observing the following principles:
  - avoid taking personal risks, also for the casualty and bystanders,
  - avoid aggravating the situation,
- Remove non-sticking garments, without being in contact with the causal agent present on the clothes of the casualty.

5.1.1.2 Justification of step 1
The causal agent must be seen as an immediate danger to the First Aider and to the casualty. The course of the assistance must take this into account.
Basic protective measures should be taken first, such as switching off gas or electricity source of the cooker. In case of a fire source, the casualty, the First Aider and bystanders should be at distance of the fire, which, if possible, should be extinguished.

5.1.2. Step 2
Limit the burning process and provide pain relief.

5.1.2.1. Key aspects of step 2
- Cool the burn with water as soon as possible, while observing the following principles:
  - (as much as possible) the water should be cool, clean and running,
  - with little power and a regular flow,
  - ensure that the water drains way completely, without touching other casualty’s body parts, yourself or someone else,
  - continue to remove contaminated clothing from the casualty, except the ones that are stuck to the skin.
- Cooling can be continued for several minutes, until pain no longer returns after cooling stops, but before the casualty begins to feel cold,
- Ask the casualty to remove potential tight constrictions like ring, bangle, wristwatch, etc. if they are within or close to the injured area and if that is possible without further harm/adverse consequences.

- If water is not available:
  - evaluate the burn,
  - cover the wound to minimize infection
  - get some help

5.1.2.2. Justification of step 2
- To date, local cooling with water is the only immediate efficient care that a lay person can apply to:
  - remove the heat and lower the temperature in the injured tissue, limiting the burning process, swelling and blistering. This prevents further injury to the skin and increases the chances of survival of damaged but still living cells.
  - soothe /ease the pain felt by the casualty,
- Water must not be allowed to flow from the burn to contaminate a hitherto unaffected area.
- The casualty should not be allowed to become hypothermic or shiver.
- There are products available, such as stop burning gel, that includes both relieving and cooling elements. Their use relates on local regulations and availability.

- Ring, bangle, wristwatch, etc. can become constricted if an oedema develops around the injured area. This constriction has adverse consequences, especially limiting or stopping the blood circulation.

Note:
- Scientific studies show that cooling can be effective if applied in the first 15-25 minutes after injury. Thus knowing the time of the injury is an important determinant of what assistance is initiated.
- In some places when running water is not available, it can be advised to put the injured part in a bucket, bowl or something equivalent full with clean and cool water. Water should be changed after some times, when it becomes warm. Another alternative is to spread the injured area with the water from a container. Both methods have to respect key aspects presented, especially hypothermia prevention.
- The water is defined "cool" when its temperature is between 8° and 23° C (45° to 75° F).

5.1.3. Step 3
Evaluate the characteristics of the burn.

5.1.3.1. Key aspects of step 3
- Determine:
  - the nature of the causal agent,
  - any possible aggravating factors, such as burns on the face, a joint or the pelvis area, fire occurred in enclosed space, smoke in case of a fire, facial burn, etc.
  - the time and place(s) of contact between the agent and the casualty.
- Note the location of the burned area(s).
- Roughly estimate the total extent of the burn(s), using the casualty's palm hand surface as the surface reference unit of 1%.
- If possible, collect information on the casualty's health state (age, disease, treatment, etc.).

Note: Other aggravating factors should be considered in circumstances different from the ones involving fire or hot liquids, such as bone traumas in case of an electrical accident, blast in case of an explosion, stridor (noisy, rasping breathing sounds), soot in nostrils or sputum, etc.

5.1.3.2. Justification of step 3
- The characteristics of the injury determine the subsequent care measures and surveillance that the casualty requires.
- The burns surface is a characteristic used by emergency care services in evaluating the health status gravity and prognosis. There are rules providing surface estimations for specific parts of the body (e.g. it is estimated that the head represents 9% of the total body surface of an adult).
- The collection of information on the health state helps identifying aggravating circumstances relating to the previous history of the casualty.

5.1.4. Step 4
Prevent or minimize complications.

5.1.4.1. Key aspects of step 4
- Act with hands cleaned, and, if possible, protected (using impermeable membranes – e.g. gloves or a barrier device if available).
- Avoid using remedies, medical creams, medium like butter, egg, salt, potatoes, etc. in all cases of burn.
- Avoid opening blisters.
- Put the casualty into a comfortable position, as soon as possible.

✍ If there is a health care facility nearby:

- ?? simply wrap up the burned area after cooling in a clean material (i.e. dressing, cloth), or even better, a sterile one,
- ?? bring the casualty to the health care centre.

✍ In other situations:
- Clean the burned area with a non-alcoholic antiseptic solution, or with soap and clean water.
- Cover the burned area, while observing the following principles:
  - ?? use a clean material (i.e. dressing, cloth), or even better, a sterile one,
  - ?? apply a dressing, if possible one that prevents the sticking to the burn,
  - ?? cover with layers of absorbent materials (e.g. gauze)
  - ?? keep fingers and toes separate with layers of dressing
- Bring the casualty to a health care centre.

5.1.4.2. Justification of step 4
- The burn is a wound, and must therefore be protected from external contamination.
- It is important to prevent any risk of fainting and collapse, due to the pain and/or the liquid lost thorough the burn.

Note:
- Some communities put burned limb in clean leaf of banana plant, when available. It is cool and non-sticking.
- There are specific materials, such as silver/golden cover, that ensures a protection and keeps the casualty warm.
- Studies suggest that dry dressings are more effective than moist dressings. Moist dressings make the skin soggy and damage the remaining skin.
- The dressing should be prevented from adhering to the burn and getting soaked by exudates.
- The provision of analgesia (e.g. with over-the-counter medication, such as paracetamol or aspirin) by a layperson is subject to local standards.

TOPIC: The care of a casualty suffering from a skin wound

1. Situation
The casualty shows signs of a skin wound.

2. Definition
It is an injury to the skin.
(type: puncture, laceration, blister, abrasion, bite, avulsion, cut from a bone from within, etc.)

3. Risks
A wound can bring about :
a . bleeding,
b . pain,
c . specific complications, including infection, circulatory and respiratory distress, because of particular factors (its depth, its location, its area or the previous state of the casualty's health),
d . damage to underlying organs.
e. shock

4. Principles for the action

1. Complications must be prevented or minimized.

2. The location and extent of a wound must be carefully assessed.

Note: If the opening of the skin has other consequences, such as a bleeding, specific priority actions related to this(these) consequence(s) should be taken. Furthermore specific locations of the skin wound require particular actions due to possible or real adverse consequences related to these locations (face, neck, chest, abdomen, join), especially if the wound is assessed as depth.
When the skin wound appears deep, large, very damaged, in special locations or in case of doubt, First Aider should refer the casualty to a health care professional.

5. Principles for the technique

First Aider should explain the casualty what is intended to do at each step, seeking for casualty cooperation/collaboration.

5.1. Technique: General management of a skin wound

5.1.1. Step 1
Eliminate contact between the casualty and the causal agent.

5.1.1.1. Key aspects of step 1
- Stop or remove the causal agent from the casualty (*) OR remove the casualty from the causal agent (*), while observing the following principles:
  - ?? avoid taking risks,
  - ?? avoid aggravating the situation.

(*) ATTENTION, except if it is a foreign body in the wound that should not be removed.

5.1.1.2 Justification of step 1
The agent causing the wound must be seen as an immediate danger to the First Aider and the casualty. The course of the assistance must take this into account.

5.1.2. Step 2
Evaluate the characteristics of the wound.

5.1.2.1. Key aspects of step 2
- Determine the causal agent and any possible aggravating factors (e.g. foreign dirty materials in the wound).
- Determine the mechanism of the injury (a knock, a fall, etc.).
- Note the location of the wound(s).
- Roughly estimate the total extent of the wound.
- If possible, collect information on the casualty's health state (age, disease, treatment, etc.).

5.1.2.2. Justification of step 2
- The characteristics of the wound determine the subsequent care measures and observation that the casualty requires.
- The collection of information on the health state helps identifying aggravating circumstances relating to the previous history of the casualty.

5.1.3. Step 3
Ensure cleanliness when dealing with the wound.

5.1.3.1. Key aspects of step 3
- Observe the following principles to ensure cleanliness:
  - ?? wash your hands with soapy clean water or otherwise with clean, running water,
  - ?? protect your hands as far as possible, using impermeable membranes (e.g. gloves) or a barrier device if available.

5.1.3.2. Justification of step 3
The reciprocal risks of infection between the First Aider and casualty must be avoided.

5.1.4. Step 4
Clean the wound.

5.1.4.1. Key aspects of step 4
- Observe the following principles to clean the wound:
  - ?? wash the wound preferably with a non-allergic antiseptic, or otherwise with soapy clean water, or if only available with clean, clear, running water,
  - ?? use clean parts of a clean cloth (that does not leave fluff) or sterile compress,
  - ?? wash the wound gently, without rubbing,
  - ?? wash the wound from the inner part of the wound to the outer part of the wound
  - ?? do not use a cloth for more than one time.

5.1.4.2. Justification of step 4
- The germs that may have entered the wound when it occurred must be eliminated as soon and as much as possible.
- Washing must be gentle in order to avoid embedding any foreign bodies or causing injury or bleeding.

5.1.5. Step 5
Protect the wound.

5.1.5.1. Key aspects of step 5
- Protect the wound, while observing the following principles:
  - ?? preferably use a sterile material (i.e. dressing, cloth) or otherwise a clean one,
  - ?? use a pre-prepared dressing, or otherwise apply a bandage.
- If the wound can be further managed by the casualty him/herself, explain the monitoring:
  - ?? to clean and cover the wound every day until healing occurs (around 4-7 days),
  - ?? to look for signs of complications locally (pain, swelling, redness, heat, excretions, red streaks) and generally (fever, chills). That is important to explain that if one sign appears, the casualty should seek for medical advice.

5.1.5.2. Justification of step 5
The wound must be protected from external contamination. Its healing should be monitored, detecting an inflammatory process, representing the first signs of an infection.

5.1.6. Step 6
Question and give advice to the casualty.

5.1.6.1. Key aspects of step 6
- Advise the casualty to seek medical advice as soon as possible to determine the validity of the anti-tetanus vaccination.
- Ask the casualty to remove potential tight constrictions like ring, bangle, wristwatch, etc. if they are within or close to the injured area and if that is possible without further harm/adverse consequences.

5.1.6.2. Justification of step 6
- Tetanus is a fatal disease that can be prevented by vaccination.
- The effectiveness of vaccination coverage can be considered differently by health care professionals. There is a subsequent strategy from doing nothing to revaccinate the person, via just making a booster.
- Ring, bangle, wristwatch, etc. can become constricted if an oedema develops around the injured area. This constriction has adverse consequences, especially limiting or stopping the blood circulation.

5.2. Technique: Management of a wound with a foreign body embedded in it.

5.2.1. Key aspects
In the event of a foreign body embedded in the wound, observe the following principles:
- ?? do not attempt to remove it,
- ?? avoid all risk of moving this foreign body,
- ?? do not touch it during the whole time spent waiting for appropriate assistance,
- ?? if necessary, stabilize it with clean cloths held in place by a bandage and cover the wound.
- ?? assist the casualty to rest in the most comfortable position

5.2.1. Justification
- The visible part of the foreign body in no way indicates what is embedded in the wound. So under no circumstances should a First Aider attempts to remove a foreign body from a wound as this may result in further damage (e.g. a severe internal bleeding).
The stabilization of an embedded foreign body can be completed by using materials, such as ring pads or plastic cups.

- IF there is an absolute certitude about the nature of the object, such as a sliver of wood or a spine of a sea urchin, the casualty with the assistance of a First Aider can try removing it. That should be done being cautious not to break up the foreign body in the wound and ensuring a complete removal.

TOPIC: The care of a casualty presenting with the signs of a fracture and/or joint disorder

1. Situation
The casualty shows signs of a bone trauma and/or a joint disorder.

2. Definition
After the casualty has been subjected to traumatic force(s) and experiences, he/she has:
- localized pain,
and/or
- any functional disability of a joint and/or bone,
and/or
- swelling, and/or deformity of a joint and/or bone,
and/or
- an abnormal position of a joint and/or bone.
and/or
- a wound and/or a bleeding created by the traumatized bone or the traumatic force

3. Risks
A fracture or a joint disorder is a source of:
1 - pain,
2 - local and/or general secondary complications including damage to the:
   a. Skin
   b. Muscles
   c. Blood vessels
   d. Nerves, including the spinal cord.
   e. Internal organs including brain, lungs, etc.

These risks may be increased by movement of the bones within the injured area.

4. Principles for the action
1. The injured area must be immobilized.

2. Any movement of the injured area should be prevented.

3. The development of complications must be prevented or minimized.

5. Principles for the technique

First Aider should explain the casualty what is intended to do at each step, seeking for casualty cooperation/collaboration.

5.1. Technique: General management of a fracture and/or a joint disorder

5.1.1. Step 1
Stabilize the injured area.

5.1.2. Key aspects of step 1

- Ask the casualty to remove potential tight constrictions like ring, bangle, wristwatch, etc. if they are within or close to the injured area and if that is possible without further harm/adverse consequences.
- Check the distal circulation. (refer to the chapter: The control of an external severe bleeding from a skin wound).
- Prepare necessary materials:
  - a hard rigid padded surface
  - material for fixation (e.g. a large bandage)
- Fix the injured area observing the following principles:
  - act slowly and carefully avoiding contact with or mobilization of the injured limb,
  - keep the limb in the position in which it is found,
  - maintain the injured area to a hard rigid padded surface, or to the uninjured limb (leg or finger) while protecting all points of contact between the body and the materials,
  - ensure that the joints above and below are also immobilized,
  - fix the materials (e.g. with bandage), without passing over the injured zone and not too tight
- Restrictive clothing, shoelaces etc. should be loosen, but shoes should not be taken off.
- Limit any movement of the casualty as much as possible.

5.1.3. Justification of step 1

- Moving a fracture may involve serious complications (e.g. injuring blood vessels) and increase pain.
- The distal circulation should be assessed to evaluate the possible complication of bone trauma on the blood vessels, before and after splinting the injured part
- Ring, bangle, wristwatch, etc. can become constricted if an oedema develops around the injured area. This constriction has adverse consequences, especially limiting or stopping the blood circulation.

Note 1: The technique is employed when there is no emergency care service able to reach the scene, thus requiring the transportation of the casualty. The First Aider can be instructed by a dispatch centre or the emergency care service to perform this technique.
When an emergency care service is going to reach the scene, the First Aider should just prevent the injured limb from any movement.

Note 2: Complete immobilization should be done by the personnel of an emergency care service. If there is no possibility to activate such a service, that can be a task of a First Aider. An immobilization requires a degree of experience, gained from practices or regular refresher training. Therefore, this technique must be seen as somewhat difficult to teach to lay people. Then trainees should be selected and encouraged to learn it and to regularly refresh their knowledge and skills. That's why this technique should be realized in certain circumstances, when:

- there is no emergency care service available, at all or in a reasonable time,
- the dispatch centre asks the First Aider to transport the casualty to a health care facility.

Note 3: Under extreme circumstances, re-alignment of a limb that has been found in an abnormal position can be envisaged. Those circumstances are mainly related to an absence or a long delay for emergency services to reach the scene or be reached. The objective of the technique is to bring the injured limb in an almost "normal" position. It requires special training and regular practices. Accordingly the choice of the technique involves a degree of experience, gained from practices or regular refresher training. Therefore, this technique must be seen as somewhat difficult to teach to lay people. Then trainees should be selected and encouraged to learn it and to regularly refresh their knowledge and skills.

5.2.1. Step 2

Assess the effectiveness of the intervention.

5.2.2. Key aspects of step 2

- Ensure the injured zone is blocked.
- Listen to the casualty complains, which should have stopped or significantly decreased.
- Ensure the distal circulation be normal.

5.2.3. Justification of step 2

- The technique should be efficient, avoiding any movement of the injured limb. Subsequently it should have quick effects on the pain feeling of the casualty.
- An inappropriate technique can also injure blood vessels in mobiling accidentally the broken bones.

TOPIC: The transportation of a casualty

1. Situation
A casualty must be taken to a health care centre in the absence of an emergency care service or other specialized transport service.

2. Definition
It is the transportation of a casualty, who needs specialized care, from the scene to a health care centre, after having received assistance by a First Aider.

3. Risks
If the casualty is not transported to a health care centre there may be vital and/or damaging consequences for the casualty.

4. Principles for the action
1. Under circumstances best possible sufficient resources should be looked for to ensure the casualty can be transported from the scene to a care centre.

2. The transport should be:
- safe,
- secure,
- with continued assistance,
- to the nearest health centre or the appropriate one for the casualty's condition

5. Principles for the technique

First Aider should explain the casualty what is intended to do at each step, seeking for casualty cooperation/collaboration.

Note: This technique is applied after the casualty has received appropriate assistance.

5.1. Step 1
Choose the support on which the casualty will be moved.

5.1.1. Key aspects of step 1
- Observing the following principles in selecting the transportation support:
  - its size should be sufficient enough to receive the casualty,
  - it should be strong enough to support the casualty weight,
  - it should be easy and light enough to be moved by at least two persons.
  - it should be rigid enough to keep the casualty's body aligned/straight
- The support should be comfortable enough for the casualty.

5.1.2 Justification of step 1
The transport support should be appropriate to casualty's injuries, distance and terrain to be covered to move the casualty to the health care centre. It should not require too many people to move it.
The support can be a stretcher or similar device (e.g. a door). It can be put on/in a transportation vehicle.

5.2. Step 2
Transfer the casualty to the support.

5.2.1. Key aspects of step 2
- Have enough resources ensuring sufficient physical strength to perform the chosen technique.
- Be the team leader to coordinate the efforts.
- Ensure a proper briefing and coordination of the people involved.
- Move the casualty observing the following principles:
  - ?? Inform the casualty about what will happen and the degree of cooperation expected from him/her,
  - ?? Maintain all caring positions taken (e.g. elevated wounded limb),
  - ?? Stabilize as much as possible the head, neck and spinal column of the casualty, as well as all injured zones,
  - ?? Everyone involved in the lifting/moving procedure should know exactly the actions to be carried out.
  - ?? Use lifting techniques (lift with leg muscles while keeping the back straight),
  - ?? Move the casualty as horizontally as possible,
  - ?? Act quietly.

5.2.2 Justification of step 2
The mobilization of a casualty is a risky technique that subsequently requires precautions.

5.3. Step 3
Install the casualty on the support.

5.3.1. Key aspects of step 3
- Try to make the casualty as comfortable as possible.
- Protect the casualty from outside conditions (sun, rain, cold, etc.), while leaving his/her face and injured zones visible as much as possible.
- Fix the casualty to the support.
- Monitor continuously the casualty's condition and efficiency of assistance measures taken.

5.3.2 Justification of step 3
The casualty must be installed in such a way that ensures safety and comfort during transport in accordance with local customs.

Note: The position of the casualty during transport (legs or head first) is subject to local standards. For instance, some cultures do not permit casualties to be transported legs first, because that's the way dead bodies are transported in a coffin.

5.4. Step 4
Action during transport

5.4.1. Key aspects of step 4
- Monitor the casualty's condition and the assistance measures efficiency.
- Note the parameters evolution.
- Protect casualty airway at all times during transport.
- Keep dialoguing with the casualty (if possible)
- Keep the casualty warm.

If the casualty is transported in a vehicle (refer step below):

- Be in a safe and comfortable position, able to easily perform life-saving and protecting measures, and watch over the casualty.

5.4.2 Justification of step 4

Assistance to and psychological support of the casualty should be continued during the transport.

5.5. Step 5

Select the transportation vehicle

5.5.1. Key aspects of step 5

- Observe the following principles in selecting the transportation vehicle:
  - ?? have enough place to receive a casualty, accompanying First Aider and materials,
  - ?? be protective for the people against outside conditions (sun, rain, cold, etc.),
  - ?? be comfortable enough,
  - ?? ensure adequacy of the vehicle with the way to be used,
- Ensure ability of the driver to drive safely.
- Ensure having enough resources (e.g. fuel) to make the transport from the emergency scene to the health care centre.

5.5.2 Justification of step 5

- The transport should not cause the casualty's condition to worsen and should guarantee that the appropriate health care centre will be the destination.
- Some signals may be used (e.g. a white cloth through the vehicle window). That depends on the local standards.

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Project coordination: Dr Eric Bernes

Field consultants and final reviewers:

Mr Abdullah Amanullah	(Afghanistan)
Mr Ricardo G. Velázquez Sánchez	(Argentina)
Mr Movses Poghosyan	(Armenia)
Dr. Susanne Schunder-Tatzber	(Austria)
Mr Laurent Van Rillaer	(Belgium)
Mr. Bart Crombez	(Belgium)
Mr Norbert Allalé	(Benin)
Ms Maria Nonova	(Bulgaria)
Mr Daniel Kagimbi	(Burundi)
Mr Dana Banke	(Canada)
Mr Ismael Aquino	(Canada)
Mrs. Niki Rattle	(Cook Islands)
Mr Louis-Philippe Bernard Aka	(Côte d'Ivoire)
Mr Xavier Castellanos	(Ecuador)
Dr José Luis Fernãndez Tonda	(Guatemala)
Mrs Lydia Fraser	(Guyana)
Mrs Ashanta Osborne	(Guyana)
Mrs. Svanhildur Þengilsdóttir	(Iceland)
Mrs. Dorothy Francis	(Jamaica)
Mr Yokoyama Misufumi	(Japan)
Mr Awwad Abadarweesh	(Jordan)
Mrs. Agnes Enid Koome	(Kenya)
Ms. Parsla Binava – Binaus	(Latvia)
Dr S.Selva Jothi	(Malaysia)
Mr Patrick L. Simataa	(Namibia)
Mr. Bipin Prasad Dhakal	(Nepal)
Mr Seton Akojenu	(Nigeria)
Mr Kanwar Waseem	(Pakistan)
Mrs Jenny Bakker	(South Africa)
Dr Deb Basu	(South Africa)
Dr Carlos Urkia Mieres	(Spain)
Dr Christophe Gremion	(Switzerland)
Mrs Sue Pavan	(Switzerland)
Dr Manoj Mukati	(Thailand)
Dr Donald J. Gordon	(United States)
Dr Usupov Shukhrat	(Uzbekistan)

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Some of them have participated also in the field consultations and final review.

Mr Leigh Jenkins	(Australia)
Dr Mervyn Allen	(Australia)

Dr Marc Miserez	(Belgium)
Mr André Lagasse	(Canada)
Mrs Gloria Pulido Acuna	(Colombia)
Dr Victor De Currea Lugo	(Colombia)
Dr Uffe Kirk	(Denmark)
Pr Pierre Carli	(France)
Pr Bernard Nemitz	(France)
Dr Stefan Otto	(Germany)
Mr Tak-Lun Poon	(Hong Kong)
Dr Gabor Göbl	(Hungary)
Dr Dinker Ramananda Pai	(India)
Mr Takaichi Hasegawa	(Japan)
Mr Mizufumi Yokoyama	(Japan)
Mrs Hayat Jlaylati	(Lebanon)
Dr Yuri Aleevich Kotov	(Russia)
Dr Walter Kloeck	(South Africa)
Dr Med Lofti Khanfir	(Tunisia)
Dr Antony Handley	(United Kingdom)
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