UN Buddy First Aid Course (UNBFAC)

# Instructor Handbook

United Nations

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# COURSE ADMINISTRATION

# RECORD OF AMENDMENTS

| Number | Subject | Brief Description | Date of Effect |
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# TIMETABLE

| DAY 1 | |
|---|---|
| 0830-0930 | Opening Remarks / Registration |
| 0930-1015 | Module 1 – First Aid and the Medical Evacuation Chain |
| 1015-1100 | Module 2 – General Scene and Primary Survey |
| 1100-1200 | Module 2 – General Scene and Primary Survey |
| 1200-1300 | Lunch |
| 1300-1400 | Module 3 – Tourniquets for Extremity Hemorrhage |
| 1400-1500 | Module 4 – Wound Packing for Limb Injuries not Amenable to Tourniquet Application |
| 1500-1600 | Module 5 – Airway Management |
| 1600-1630 | Summary and Dismissal |
| | |
| **DAY 2** | |
| 0800-0830 | Opening Remarks/Roll Call |
| 0830-0930 | Module 6 – Chest Injuries |
| 0930-1030 | Module 7 – Emergency Pressure Bandages |
| 1030-1130 | Module 8 – Heat Disorders |
| 1130-1230 | Module 9 – Casualty Movement Techniques |
| 1230-1330 | Lunch |
| 1330-1415 | Module 10 – Casualty Assessment Exercises |
| 1415-1500 | Module 10 – Casualty Assessment Exercises (continued) |
| 1500-1600 | Retesting |
| 1600-1630 | Summary and Dismissal |

**This Timetable is a guide for instructors to use as a template only**
**Instructors may adjust scheduling, provided all competencies are met prior to certification**

**Course Specification Data for**

| | | | | |
|---|---|---|---|---|
| **Course Title:** | Buddy First Aid Course (UNBFAC) | | | |
| Course Designator: | United Nations | | | |
| Course Duration: | Training Days | 16 Hours | Total Days | 2 |
| Course Class Size: | Maximum | 1:10 | Minimum | N/A |

## Course Entry Standards

All trainees of the UNBFAC must:

- Be able to read and speak in the language in which the training will be conducted;
- Be available and committed to 16-hours of classroom theory and practical instruction.
- Be able to bend, kneel, crawl, walk unaided and lift, drag or move an unconscious adult casualty.

## Course Aim(s)

The aim of the UNBFAC is reduce the incidents of preventable in-service death and disability of United Nations personnel by ensuring that all deployed personnel possess the knowledge, skills and capability to provide life-saving interventions to sick or injured colleagues, or others, during the initial 10 minutes from point of injury, until more highly trained care providers arrive.

## Background

Following recommendations contained within the Report of the High-Level Independent Panel on Peace Operations (2015), the Division of Health Management and Occupational Safety and Health (DHMOSH) of the United Nations Secretariat has developed the UN Buddy First Aid Course (UNBFAC). The UNBFAC is a 10-hour training course intended to be delivered, prior to deployment, for all peacekeeping personnel and formed police units deploying to UN Missions. The UNBFAC standards have been developed by MSD and will be promulgated after close consultation with Member States.

While implementation, evaluation and record management will be the responsibility of respective contingents, units and organizations, Quality Assurance (QA) will be conducted periodically by the Integrated Training Service (ITS) of the United Nations Department of Peace Operations (DPO) and/or Division of Healthcare Management and Occupational Safety and Health of the Department of Operational Support

## Success Criteria

In order for a UNBFAC trainee to be deemed competent, they must:

- Attend a minimum of 10 hours of BFAC training, and
- Successfully demonstrate competency in all course learning objectives

Upon successful completion, certification is valid for a period of 2 years.

## Course Assessments

Summative – Trainees should undergo criterion referenced (Practical/Theory) testing/assessments to achieve the course aim as detailed in the assessment rubric. UNBFAC Instructors will evaluate the trainees in accordance with the competency-based learning objectives outlined in Annex A

Formative – Trainees should be continuously assessed throughout the course by Instructors using practical/theoretical teaching methodology. This should enable Instructors and to Trainees to identify areas of strength and weakness and temper/tailor training or additional study accordingly.

## Retesting Procedures

In the event a trainee is unsuccessful in one or more of the course learning objectives the Instructor shall, to the best of their ability:

i. Provide an opportunity for re-training or additional training on the competency in question.
ii. Conducts a single re-test of the practical casualty assessment exercise (using another Instructor if possible).

In the event a trainee is deemed not competent during re-testing, the trainee should be scheduled to retake the complete UNBFAC as soon as practical. In the interim, his/her assignment in the field environment may require review.

## Instructor Qualifications

The UNBFAC must be delivered under the supervision of a certified Instructor who meets the following minimum requirements:

a) Possess a current medical qualification that includes all competencies outlined in the UNBFAC curriculum (e.g. Emergency Medical Technician equivalent or higher) in accordance with a Member State national standard, and
b) Successfully completed at least 24-hours of training and certification as a training provider in accordance with a Member State national standard, within the past 3-year period including the following subjects:
    i. Competency-based learning theory
    ii. Adult learning theory and practice
    iii. Planning and promoting training events
    iv. Presentation skills
    v. Planning and delivery of practical psychometric training activities
    vi. Realty based training theory
    vii. Scenario safety planning and the role of the Safety Officer
    viii. Training Evaluation
    ix. Report writing and record keeping, and
c) Successfully complete a BFAC Training of Trainers (ToT) course recognized by the United Nations Division of Health Management and Occupational Safety & Health (DHMOSH), including all learning objectives of the UN BFAC curriculum

## Instructor Responsibilities

a) Ensuring the training event is adequately planned and logistics are available
b) Verifying that course trainees meet all pre-requisites prior to beginning training
c) Ensuing a safe training environment
d) Ensuring a maximum instructor to student ratio of 1:10
e) Delivering all necessary training modules in accordance with course syllabus
f) Evaluating all trainees as per the guidelines outlined in this document
g) Completing Trainee Assessment Tool for each trainee (Annex B)
h) Producing a Training Record on conclusion of training (Annex C)

## Skills Maintenance and Recertification

First Aid skills maintenance on deployment is the responsibility of the contingent's medical personnel. As a guide, this should be conducted at least bi-monthly for a period of at least 4-hours.

BFAC certification is valid for a period of 2-years at which point personnel must repeat the entire 10-hour BFAC course.

## Record Keeping

All training activities shall be concluded with a written training report that should be submitted to the UN Headquarters within no more than 5 business days of the training being completed. Training Reports must be submitted digitally to the email account: unbfac@un.org

This report shall include, as a minimum:

a. The date, time and place of the training event.
b. The name of the Instructor and Safety Officer,
c. A record of all trainees' attendance.
d. All assessment completed during the training.
e. Any injuries sustained during the training activity.

An example of a course training record is attached as Annex C.

Individual BFAC Instructors are responsible for ensuring that they retain accurate training records for a period of at least 3-years from the date of completion.

## Quality Assurance (QA)

The Integrated Training Service (ITS) of the United Nations Department of Peace Operations (DPO) and/or the Division of Healthcare Management and Occupational Safety and Health of the Department of Operational Support may conduct Quality Assurance review of BFAC training including:

a. Random request and review of BFAC Instructor qualifications.
b. Random requests and review of BFAC training records.
c. Direct observation of BFAC training (e.g. in conjunction with pre-deployment visits).

Upon such request, BFAC Instructors must provide the required evidence within a 30-day period. Failing to do so may result in suspension or termination of an Instructors authority to conduct BFAC training and a potential finding of non-compliance for trainees of those training events in question.

# COURSE MODULES

# MODULE 1

## First Aid and the Medical Evacuation Chain

| | |
|---|---|
| **Goal:** | **Define the trainee's role in providing first aid and the Medical Evacuation Chain.** |
| **Time:** | 45 minutes |
| **Venue:** | Classroom environment |
| **Method:** | Theory Lecture |
| **Student Ratio** | 1:10 |
| **Teaching Objectives** | **By the end of this session, trainees will be able to:**<br><br>**a. Explain** the term 'First Aid' and define the role of the 'First Aider'.<br>**b. State** the various levels of qualifications within pre-hospital emergency medicine<br>**c. Explain** the "10:1:2 Doctrine" of emergency evacuation in the United Nations<br>**d. Explain** the three phases of care as they relate to tactical medicine<br>**e. Define** the various levels of Medical Treatment Facility within the UN Evacuation System. |
| **Learning Variables** | Trainers should be able to demonstrate the above objectives in environmental conditions appropriate to the likely delivering of training in their home country. |
| **Evaluation Method** | To be deemed competent for this learning outcome, trainees will be required to display the above performance criteria via:<br><br>• Formative Assessment: Verbal question and answer, role play<br>• Summative Assessment: N/A |

**Interest**

**Activity:**

In groups think about the major causes of preventable death. The groups may think of many roles, be prepared to discuss each. Ensure that the following is covered and highlighted as essential:

The role of the First-Aider includes:

- Blood loss
- Loss of airway
- Lack of oxygen to the brain
- Heart failure

**Need**

Every year, thousands of people suffer sickness or injury while working for the United Nations around the world . This includes conditions ranging from minor bumps and scratches to vehicular accidents and life-threatening medical and traumatic emergencies. While many of these conditions will fix themselves with rest and hydration, some will also require professional medical treatment by a Doctor, either at a local medical clinic, or a higher level of medical care. It's important that you understand your role in the continuum of care

**Range**

This lesson is scheduled for 45 minutes.

Amplify the following points:

- Question Policy – open throughout – do not wait until the end as the moment may pass.
- Note taking policy – mobile phones or other media may be used throughout as a source to aid note taking as long as kept on silent and used for the aid of taking pictures. All other uses need to be approved by the trainer.

**The role of the First-Aider**

First Aid is defined as 'the initial care or treatment to the sick or wounded'. First aid is often provided by non-medical personnel who are first present at the Point of Injury. This could include fellow peacekeepers or other civilians. The role of the First Aider includes:

(i) Sending an effective alert message
(ii) Provide initial care and
(iii) Provide continued care until the casualty is delivered to the next appropriate 'level of care'.

**Levels of Pre-Hospital Medical Qualifications**

Countries around the world adopt different approaches to ensure that a victim receives adequate care on their journey from injury to the hospital.

**Activity:**

Discuss each country and what the different levels of care are in each country, what tasks they are permitted to carry out, what titles are they given. This will highlight the variety within the audience and give you, the instructor, a marker to compare the UN BFAC to.

As each country and operation is different, the following five levels of pre-hospital medical qualifications should be used as a guide only:

| Levels of Pre-Hospital Emergency Qualifications | |
|---|---|
| First Aider | This person receives basic training of approximately 10-hours and is not considered to be a healthcare professional. It often comprises of people present at the point of injury |
| First Responder | With approximately 40-hours of training, First Responders are responsible for providing emergency medical intervention in the earliest stages of an incident until the casualty can receive professional medical treatment. |
| Medical Technicians & Assistants (Emergency/Field/Combat) | EMTs will receive 200 -400-hours of medical training and is often considered the first level of a healthcare professional. They are often able to provide a range of 'non-invasive' medical procedures and are used most often in rapid transport systems |
| Paramedic | This person receives over 800-hours of medical training and can often administer a range of medications and provide more invasive medical procedures than an EMT, either independently or under medical direction. |
| Emergency Physicians | This person is a fully qualified medical doctor specialized in pre-hospital emergency medicine |

While these five levels of pre-hospital medical qualification are not exclusive, they serve as an important distinction when evaluating the levels of care to be expected in a particular country or Area of Operations.

As the specialty of pre-hospital medicine continues to advance, you will continue to see additional 'sub- levels' adopted. Such titles include Advanced, Tactical or Remote EMTs; Critical Care Paramedics, Nurse Practitioners and Physicians Assistants, to name just a few functions that have been developed to address specific needs in a respective system's evacuation chain.

### The "10:1:2 Doctrine" for Trauma Care

The risk of death or permanent disability is significantly reduced if people are treated as soon as possible after the onset of a life-threatening injury or illness. Based on this, it is of utmost importance that appropriate life, limb and eyesight saving procedures are provided within specific timelines, along with the survival chain appropriate for the event. This has become known as the 10-1-2 timeline.

The Survival chain in line with this timeline is described as follows:

| | |
|---|---|
| **10** | Represents the recommended maximum time, in minutes, to provide the necessary immediate lifesaving measures after the onset of injury/illness. This is often referred to as the 'Platinum 10 minutes' |
| **1** | Represents the recommended maximum time that necessary damage control resuscitation procedures are provided by emergency medical personnel. This should be completed within 1 hour of the onset of injury/illness and is often referred to as the 'Golden hour' |
| **2** | Represents the recommended maximum time that necessary Damage Control Surgery (DCS) is provided. This should start within 2 hours of the injury/illness. |

For the purposes of this training manual, we will divide casualties into two broad categories being those of either ***medical*** or ***trauma*** victims. ***Medical*** victims are often referred to as being 'sick', while ***trauma*** victims have experienced an injury as a result of influence of an outside force such as a vehicular accident, gunfire, explosions or falling from a high place. The main focus of the training will remain on trauma.

Remembering that the role of the First Aider is to initiate the evacuation chain and provide initial care until medical help arrives, we must understand that the ultimate goal is one of medical transport and evacuation to a medical facility appropriate to the casualty's condition. In short, the casualty needs to get to hospital and see an appropriate physician. Various studies over the past century have repeatedly identified a significant increase in survivability if a casualty is able to receive surgical intervention, if needed, within a 2-hour period from the time of injury.

While trauma victims will receive the treatment that they need in a hospital or other Medical Treatment Facility (MTF), they are often saved in the field by First Aiders and other pre-hospital medical professionals who provide critical treatments that ensure the person remains alive long enough to get to hospital.

## Tactical Medicine

First-aid and pre-hospital medical guidelines have long been developed by the civilian medical systems of the country and rely on the assumption that the First Aider and responders are able to provide care without putting their own lives at risk. In recent years, the role of military medicine has been further defined to address circumstances where the treatment of the casualty must be weighed against other considerations including Mission goals and ongoing hostility. Additionally, the operational context of military medicine means that some treatments and interventions that may be appropriate in the civilian setting could lead to additional loss of life and increased risk in a military setting. With this in mind, the following three phases of care have been widely recognized to apply in the tactical setting:

| Three Phases of Tactical Medicine | |
|---|---|
| Care Under Fire | Care Under Fire (CUF) relates to medical treatment provided while actively engaged in a hostile environment. Treatments will often be limited to application of tourniquets, and self-aid at this point due to the overwhelming priority of engaging and suppressing the threat, which |
| Tactical Field Care | Tactical Field Care (TFC) is delivered when the casualty and responders are no longer under direct fire, though the environment around them may still be hostile or their situation may become hostile again. It will often be carried out by the First Aider or Medic, using equipment that was being carried at the time including airway adjuncts, chest decompression and fluid resuscitation |
| Evacuation Care | Evacuation Care occurs when evacuation assets arrive with additional medical supplies and/or the casualty is removed from the hostile environment. This may include access to more advanced emergency medical professionals and equipment. |

**Levels of Medical Treatment Facility within the United Nations**

People often experience sickness or injury great distances from medical care, sometimes not being able to see a doctor for days and sometimes having to travel to other countries to receive advanced levels of care. It is simply not possible to have advanced hospitals and well-trained specialty doctors in every town or village around the globe.

The United Nations, defines four levels of Medical Treatment Facility (MTF). These four levels are intended to ensure that casualties can access initial care quickly; to ensure they are stable and healthy enough to travel further to receive high levels of specialty care. These four levels are:

**Level 1** - These MTFs provide stabilization and resuscitation services to prepare patients for transport to a larger MTF (Damage Control Resuscitation). Role 1 facilities can:
Managing 5 patients for up to 2 days
Casualty collection, basic sick calls, resuscitation and stabilization at the point of injury/collection

**Level 2** - These MTFs can provide stabilization surgery (Damage Control Surgery):
Manage 10-20 patients for up to 7 days
Provide surgery, intensive care, dental laboratory, x-ray, stabilization and basic pharmaceutical capacity
Climate controlled storage and cold chain blood products
Administers blood and blood products with appropriate hygiene precautions

**Level 3** - is capable of
Managing 50 patients for up to 30 days
Provides advanced surgical and intensive care and dental treatments
Provides laboratory services and basic x-ray services
Contains wards and pharmaceutical supplies

**Level 4** - Hospital with all specialties and super specialties including burns, neurosurgery and opthamology.

**Conclusion**

First-Aiders play a crucial role in the treatment of trauma casualty given their proximity and rapid access to the victim. The ability of a First-Aider to send an adequate alert message, control bleeding, keep a victim breathing and keep them warm within the Platinum 10 minutes makes the difference between life and death for the casualty reducing mortality up to 30%. Thereby in a tactical setting, the treatment of the victim, or the ability to coach the victim to provide self-aid, must be weighed against Mission goals and any on-going potential threats.

Treatments provided by a First-Aider must also be weighed against the need for rapid transport to a MTF, ideally to ensure access to a surgical capability and blood products within 2-hours. An understanding of the Levels of MTF available within the Area of Operations and various levels of pre-hospital qualification available will assist in developing functional casualty and medical evacuation plans to support UN operations and activities.

# SUMMARY

Summarise the lesson to prompt questioning and demonstrate the key points of the lesson. Try to ask each trainee a question and actively listen to trainees answers and correct if necessary.

**Consider the following *Questioning Technique*:**

- **Request participants raise their hand before answering**
- **Present the question to the class**
- **Identify a volunteer to provide an answer**
- **Confirm the answer with a second student**
- **Confirm the correct answer**

In order to confirm learning has taken place, present the following questions to the class.

- Define the term 'First Aid'?
- State some of the objectives of First Aid?
- What time period to we ideally want to have a casualty in surgery before?
- What period of time is a First Aider expected to perform during?
- What are the main causes of preventable death?
- What are the three phases of tactical medicine?
- Explain the [Care under Fire, Field Care, Evacuation] Phase?
- During what time period should a casaualty receive "Level 1" care?

**Closing**

- Display the objectives again and verbalise.
- Link to the next lesson.
- Give any references for the lesson.
- Ask if there are any final questions.

# MODULE 2

## General Scene and Primary Assessment

| Goal: | Use the 'SCENE-MARCH' acronym to prioritize treatments |
|---|---|
| Time: | 45 minutes |
| Venue: | Classroom & Practical Training Area |
| Method: | Theory Lecture |
| Student Ratio | 1:10 |
| Teaching Objectives | **By the end of this session, trainees will be able to:**<br><br>**a. Explain** the SCENE MARCH acronym (in appropriate language)<br>**b. Provide** an Emergency Alert Message<br>**c. Explain** the "AVPU" scale for assessing responsiveness<br>**d. State** various techniques for controlling external haemorrhage |
| Learning Variables | Trainers should be able to demonstrate the above objectives in environmental conditions appropriate to the likely delivering of training in their home country. |
| Evaluation Method | To be deemed competent for this learning outcome, trainees will be required to display the above performance criteria via:<br><br>• Formative Assessment: Verbal question and answer, role play<br>• Summative Assessment: N/A |

**Interest**

**Activity:**

In groups think about factors that need to be considered when arriving at the scene of an incident, capture the feedback on a whiteboard/ flip chart/ post it notes.

**Need**

Whether witnessing an injury first hand or arriving soon after, the initial moments can be confusing for even the most experienced responders. During this time, it's important that you as a responder, control the urge to 'jump right in' taking adequate precautions to first make sure you do not cause further injuries to the victim or

to yourself. It is important that you as a First-Aider take a structured and systematic approach to ensuring your own safety, managing the scene and addressing life threats to the victim in the most efficient manner.

**Range**

This lesson is scheduled for 45 minutes.

Amplify the following points:

- Question Policy – open throughout – do not wait until the end as the moment may pass.
- Note taking policy – mobile phones or other media may be used throughout as a source to aid note taking as long as kept on silent and used for the aid of taking pictures. All other uses need to be approved by the trainer

**Revision**

*Revise* relevant questions from pre-requisite lesson objectives include:

- Module 1 – First Aid and the Evacuation Chain

**Consider the following *Questioning Technique*:**

- **Trainer will nominate a particiant at random**
- **Present the question to the class**
- **Select a participant to answer by passing a ball to them**
- **Identify a second student and ask for agreeance or an alternative answer**
- **Confirm the correct answer**

Example:

- State some of the objectives of First Aid?
- What time period to we ideally want to have a casualty in surgery before?
- What are the main causes of preventable death?
- What are the three phases of tactical medicine?
- Explain the [Care under Fire, Field Care, Evacuation] Phase?

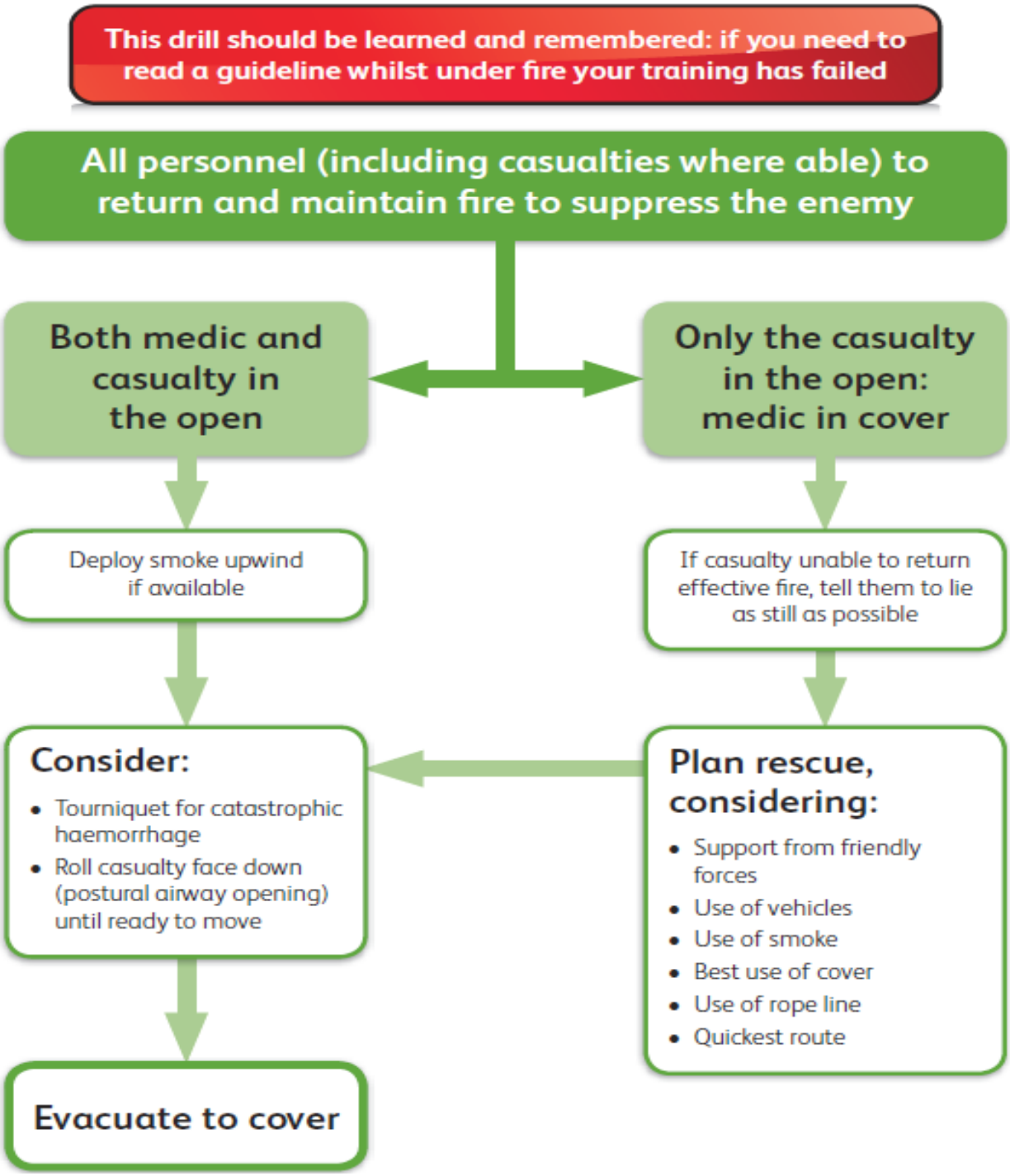
*State* that this lesson will cover the initial actions of first aid which are the assessment of the “General Scene” and the “Primary Survey” of the casualty.

**General Scene Assessment**

The General Scene Assessment is the first evaluation you will make as a First-Aider upon arriving at or witnessing an injury. The word SCENE as an acronym to guide us in our initial priorities and stands for:

- **S**afety
- **C**ause
- **E**nvironment
- **N**umber of Casualties
- **E**xtra Resources

**Safety** – As a First-Aider you may be required to respond to a wide variety of situations and environments. In your assessment of the SCENE you need to identify hazards and control them, before turning your attention to the treatment of the casualty. In the event of ongoing hostility or gunfire, your primary role may be to continue to engage threats to increase the security and safety of the scene. Being distracted from this role, may lead to additional injury. In small-unit operations, the additional firepower provided by the medic and the casualty if possible, may be essential to obtaining the tactical fire superiority needed to negate or reduce the hostile attack.



When the threat is reduced, and it is safe to treat the victim, one of the most important aspects of personal safety is ensuring that you are taking appropriate precautions. Body fluids can contain organisms known as pathogens. Pathogens are organisms such as viruses and bacteria that can cause disease. The core of appropriate Personal Protective Equipment (PPE) is Gloves and Eye protection.

The Individual First Aid Kit (IFAK) contains nitrile protective gloves. While eye protection is not included in your IFAK, eye and ear protection should form part of your operational PPE along with your body armor and helmet.

**Cause** – Look at the scene around the casualty for clues to what happened and what caused the casualty's injuries. Here we are attempting to classify the casualty as either a Trauma or Medical casualty. Trauma casualties are those that have been affected by outside forces impacting the body. In the United Nations, the most common causes of traumatic injury are:

- Road Traffic Collisions
- Gunshots
- Explosions
- Drowning
- Snakebites

Medical casualties on the other hand, are those that are suffering from a malfunction of one or more of the systems of the body. This may include:

- Disorders of consciousness (e.g. seizures)
- Respiratory disorders
- Heart disorders
- Climatic disorders

The distinction between trauma and medical casualties is an important one as it will dictate how you will approach and manage the casualty. Always assume that trauma casualties from vehicle accidents and falls from high places have sustained injuries to the neck and spine and treat accordingly.

**Environment** – Are there environmental factors impacting on the victim? Environmental factors may include:

- Standing water or wet victims
- Extreme heat, cold or direct exposure to the sun or hot surfaces
- Electrical cables or fallen power lines
- Oncoming traffic
- Fire or flammable liquid and vapors

**Number of Casualties** – In circumstances where the number of casualties outweighs the number of responders and resources, decisions must be made to prioritize casualties to ensure the best is done for the most victims.

**Extra Resources** – Some incidents may require additional resources to be delivered to the scene to aid in the treatment and evacuation of victims. As a First Aider, you are uniquely positioned to identify these needs early, having a direct impact on the time taken to deliver these resources to the incident scene. Additional resources may include:

- Medical Personnel
- Specialist extrication equipment to remove victims trapped in vehicles
- Fire Suppression assets
- Quick Reaction Force
- Fire Support (heavy, direct, indirect or close air)
- Electricity or Utility stabilization services
- Helicopters or air evacuation assets

**Alert Message**

An alert message must be transmitted as soon as possible, and no later than 10 minutes after casualties are sustained to ensure rapid access to evacuation assets. The United Nations has adopted a basic 4-line situation report. Receipt of the alert message by the designated mission Operational Centre triggers the speedy deployment of the Medical Emergency Response Team (MERT) trained and equipped to provide Advanced Lifesaving Support (ALS), principally to stabilize a casualty.

As a First Aider, you are expected to be able to initiate this alert message. The four parts of the alert message are:

| ALERT MESSAGE | |
|---|---|
| **Location** | Where are you? Provide the exact location of desired pick-up (e.g. grid reference or known location) |
| **Incident** | What has happened? (e.g. "there has been a car crash") |
| **Actions Taken** | What are you doing? (e.g. "We are providing first aid on the side of the road", or "We are self-driving to nearest hospital"). |
| **Resources Required** | What do you want? Is there any special equipment needed at the site (e.g. Hoist, Extrication Equipment, Ventilators)? |

**Primary Assessment**

Once the SCENE has been adequately assessed and stabilized, you should turn your attention to the treatment of the casualty or casualties at hand. The Primary Assessment can be described as 'the rapid assessment and treatment of immediate threats to life'. The Primary Assessment is completed by dealing with those injuries that will likely kill a casualty quickest. Treatment is carried out in manner where one problem is addressed before moving on to the next. For this we use the MARCH acronym:

**M – Massive Bleed**

**A – Airway**

**R – Respiration**

**C – Circulation**

**H – Heat/Cold Injuries**

**Massive Bleeding** – Any bleeding that is life threatening should be stopped and controlled immediately. A victim with massive bleeding can die in as little as 2-3 minutes if the bleeding is not controlled quickly. At this stage of the Primary Assessment, the preferred treatments are:

1. Tourniquet for any massive bleeding from the arms or legs.
2. Wounds that are not amendable to Tourniquet placement should be packed using conforming gauze dressing with direct pressure for at least 5 minutes.

**Airway** – The casualty's airway should be evaluated next to ensure that it is open and free from obstruction which could be in the form of blood, saliva or any other substance gathering in the airway and interfering with the supply of air to and from the lungs. The fastest way to open a casualty's airway is to use manual maneuvers such as the 'head tilt/chin lift' or 'recovery position'. If the casualty is talking, crying or screaming, these behaviors themselves can indicate that the victim has control of their airway and that it is open.

**Respiration** – The brain begins to suffer irreversible damage in as little as 3-4 minutes, if it does not receive enough oxygen. Oxygen enters the body through the airway and is exchanged in to the blood through the lungs. For this to occur a victim must be able to breath at both a normal speed and depth. It is pointless to evaluate breathing if the airway is obstructed so, after first clearing and opening the airway, you as a First Aider must evaluate breathing (aka. Respirations) and assist the casualty to breathe if necessary.

**Circulation** – Once oxygen reaches the lungs, it is then transferred into the blood circulation where it must return to the heart and be pumped to the brain and other organs of the body. In addition to having an open airway and breathing, the body's circulation must be enough to deliver this oxygen carrying blood to the brain. This must be measured and may require the support of additional fluids by a Medic. The Level of Responsiveness (LoR) is measured against one of four levels in the AVPU Scale and is a rapid assessment of circulation. Any casualty who is not fully alert should be referred to the attention of a Medic as soon as possible!

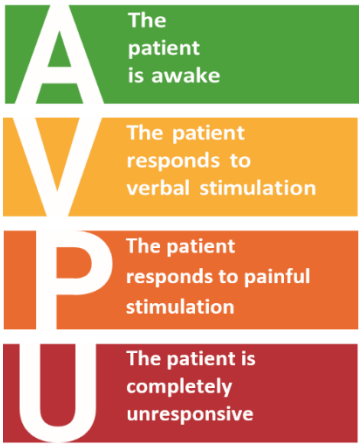
**Heat/Cold Injuries** – Most victims with blood loss lose body heat quickly, even in hot environments. When the body loses blood, it draws what blood is left, toward the center of the body, leaving the skin feeling cold to touch. A drop in the victim's body temperature leads to the casualty bleeding more and must be controlled quickly. Keep the victim warm by exchanging wet clothing for dry clothing and wrapping the casualty in blankets or other warm material.

**Hypovolemic Shock**

Hypovolemic shock is a life-threatening condition that results when you lose more than 20% (one-fifth) of your body's blood volume. This severe fluid loss makes it impossible for the heart to pump a enough blood to your body.

When a casualty goes into Hypovolemic Shock, the organs of the body must work harder to 'compensate' for the loss of blood. The length of time that a casualty can effectively 'compensate' before tiring and 'decompensating', will depend on the general health of the casualty and seriousness of their injuries. Once the body begins to decompensate, oxygen supply to critical organs is reduced and eventually the body will begin to die.

**AVPU Scale**




The AVPU scale is a simple 4-level scale to evaluate a casualty's Level of Responsiveness (LoR) that is used quite commonly by pre-hospital professionals around the globe. The AVPU test is used to evaluate Circulation within the MARCH protocol.

- Alert - casualty is able to converse and answer simple questions
- Voice / Sound - casualty response to sound or noise stimulus
- Pain - casualty responds to painful stimulus
- Unresponsive - casualty does not respond to painful stimulus

**Conclusion**

The initial moments of an injury can be confusing for even the most experienced responders. During this time, it's important that you as a responder properly conduct a general scene safety inspection using the SCENE acronym. By using the SCENE steps and identifying the safety of the scene, cause of the injury, incident environment, number of causalities, and extra resources available you will be ready to then assess the injuries and determine how to best respond to the incident. It is important that you as a First-Aider take a structured and systematic approach to ensuring your own safety, managing the scene and addressing life threats to the victim in the most efficient manner.

# SUMMARY

Summarise the lesson to prompt questioning and demonstrate the key points of the lesson. Try to ask each trainee a question and actively listen to trainees answers and correct if necessary.

- Display the objectives again and verbalise.
- Link to the next lesson.
- Give any references for the lesson.
- Ask if there are any final questions.

# MODULE 3

## TOURNIQUETS FOR EXTREMITY HEMMORHAGE

| | |
|---|---|
| **Goal:** | **Correctly apply an arterial tourniquet to control life-threatening limb hemorrhage** |
| **Time:** | 45 minutes |
| **Venue:** | Classroom & Practical Training Area |
| **Method:** | Theory Lecture |
| **Student Ratio** | 1:10 |
| **Teaching Objectives** | By the end of this session, trainees will be able to:<br>**a. Identify** the parts of the arterial tourniquet<br>**b. Prepare** and store a tourniquet effectively for 1-handed technique<br>**c. Apply** a tourniquet using 1-handed technique (self-application)<br>**d. Apply** a tourniquet to a casualty using 2-handed technique<br>**e. Apply** an effective improvised windlass tourniquet |
| **Learning Variables** | Trainers should be able to demonstrate the above objectives in environmental conditions appropriate to the likely delivering of training in their home country. |
| **Evaluation Method** | To be deemed competent for this learning outcome, trainees will be required to display the above performance criteria via:<br>• Formative Assessment: Verbal question and answer, role play<br>• Summative Assessment: N/A |

**Interest**

**Activity:**

Direct the students using their handbooks to label the parts of the tourniquet. Instructors may wish to produce posters of the tourniquet and labels or various other activities.

**Need**

External bleeding is the number one cause of preventable death on the battlefield, accounting for more than half of preventable combat deaths. A casualty suffering from severe arterial bleeding can lose consciousness and die from blood loss in as little as 2-3 minutes therefore, the ability to control extremity bleeding by applying arterial tourniquets, saves lives if done correctly and quickly. While the rapid application of arterial tourniquets is the fastest way to control external bleeding on the extremities, not all wounds are amendable to tourniquet application, such as high limb. In these cases, severe bleeding should be rapidly controlled by wound packing.

**Range**

This lesson is scheduled for 45 minutes.

Amplify the following points:

- Question Policy – open throughout – do not wait until the end as the moment may pass.
- Note taking policy – mobile phones or other media may be used throughout as a source to aid note taking as long as kept on silent and used for the aid of taking pictures. All other uses need to be approved by the trainer
- Throughout this module the instructor should deliver the theory, demonstrate the practice and make all students practice the skill.

**Nomenclature of the Combat Application Tourniquet (C.A.T.)**

The Combat Application Tourniquet®, originally invented in 2005 for the United States military is now the most prolific arterial tourniquet in military application with millions distributed around the world annually. The ability to rapidly apply the CAT using a single-handed technique and gross motor skills makes its design, the choice of military forces in over 100 countries.

**The CAT tourniquet has the following important parts:**


- Self-adhering hook and loop band
- Single-routing buckle
- Reinforced 'Windlass rod'
- Rigid 'Windlass Clip'
- 'Windless Strap' to record the time of the application
- An easily identifiable red colored 'Running end'

**Preparation and Storage of the Tourniquet**

The CAT can be found in your Individual First Aid Kit (IFAK). The tourniquet should be carried on your person in a location and manner that allows for rapid access and application by either the left or right hand, ideally, in less than 30 seconds. The center of the chest or body is a good location that can be reached by either hand. Tourniquets should be carried in a fully enclosed pouch to protect them from direct sunlight which may, over time, have a degrading effect on the tourniquet.

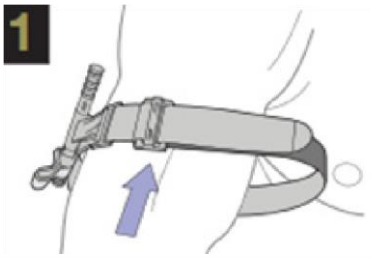
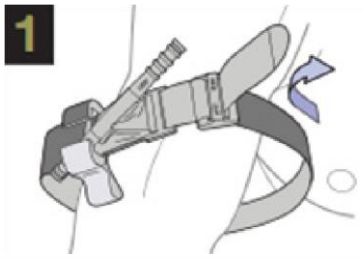
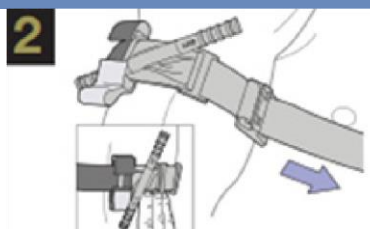
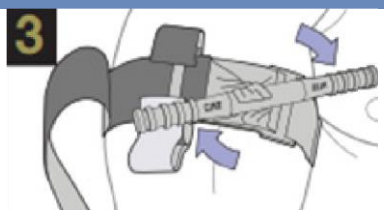
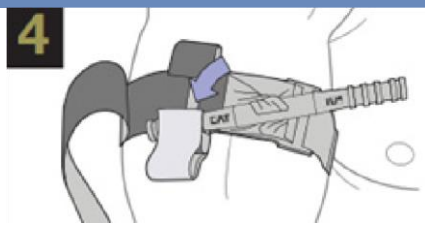
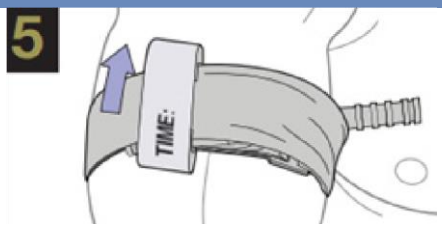

The CAT should be prepared in the following configuration:

- Place approximately 10-15cm (5-6in) of the red colored Running End through the Single-Routing Buckle and apply it back on itself.
- Fold the tourniquet so that the self-adhering material holds the tourniquet in a compact size.
- Lock the Windless Rod into the Windless Clip
- Secure the Windless Strap in the open configuration to enable more rapid 1-handed application.

**Applying the Combat Application Tourniquet:**

The tourniquet should be applied directly to the skin approximately 5cm (2-3inches) above the open wound. In circumstances where the First-Aider has no time to expose and search for wounds, the tourniquet may be

applied directly over clothing in the 'high and tight' position, as high on the limb and close to the torso as possible, provided there are no solid objects inside the clothing. When applied high and tight over clothing, the tourniquet should be transitioned to a more appropriate position by a medical professional as soon as possible.

| | |
|---|---|
|   OR |   |
| ONE-HANDED APPLICATION Insert the injured limb through the loop in the band and position it 2-3" above the bleeding site directly to the skin. | TWO-HANDED APPLICATION Route the band around the limb, pass the tip through the slit of the buckle, and position it above the bleeding site directly to the skin. |
|   |   |
| Pull band tightly and fasten it back on itself all the way around the limb, but not over the rod clips. Band should be tight enough that tips of three (3) fingers cannot be slid between the band and the limb. If the tips of three (3) fingers slide under band, re-tighten and re-secure. | Twist the rod until bleeding has stopped. |
|   |   |
| Secure the rod inside a clip to lock it in place. Check for bleeding and distal pulse. If bleeding is not controlled, or distal pulse is present, consider additional tightening or applying a second above and side-by-side to the first. Reassess. | Route the band between the clips and over the rod. Secure rod and band with TIME strap. Record time of application. |

Upon application of a tourniquet, the wound should be monitored for signs of continued bleeding. If the application of a tourniquet does not control bleeding, a second tourniquet should be applied directly above (closer to the torso) the first tourniquet. Additional bleeding control measures may also be considered including wound packing, direct pressure and/or indirect firm pressure applied to the appropriate inguinal crease or clavicular notch. Finally, the time of Tourniquet application should be recorded either on the Tourniquet or on the forehead of the casualty (eg. "T=1420hrs").

The correct application of a tourniquet is not without risk. While it may save the life of the casualty by preventing blood from reaching the limb and injury, it also prevents the removal of waste products from within the body. Over time, the accumulation of these waste products can have a critical impact on the health of the casualty if the tourniquet is removed. For this reason, a tourniquet may be later removed, only under the following circumstances:

- If the tourniquet has been applied for less than 2-hours and
- If bleeding can be controlled by another means of hemorrhage control (e.g. wound packing), and
- If the tourniquet is not being used on an amputated limb.

In these circumstances, the tourniquet may be loosened to allow return of blood to the injured limb however, it should not be completely removed. The tourniquet should be left loosely in place to allow for more rapid reapplication if the wound begins to bleed again, and as a signal to medical personnel, that a tourniquet was used. If the tourniquet has been applied for more than 2-hours, it should only be removed by a medical professional or under medical direction.

| Exercise |
| --- |
| • **Tourniquet training should only take place under the supervision of a qualified Instructor**<br>• **Trainees should complete at least three repetitions of each application during this training session.**<br>• **Instructors should inspect the tourniquet prior to removal**<br>• **Never leave a tourniquet in place for more than 1-minute during training.**<br>• **Presence of a distal pulse indicates a failed tourniquet application.**<br>• **Instructors should progressively increase stressful stimuli while ensuring correct practice. Techniques may include low light, rain, time pressure, sound stimulus and/or force-on-force simulations.** |

**Applying an improvised windlass device**

At the time of an event when a casualty is injured, and you do not have access to a CAT or your CAT is being used on another extremity it is possible to create an improvised tourniquet from common items. To make an improvised tourniquet you will need:

- A material/band of some sort to wrap around the extremity E.g., cravat/triangle bandage (found in IFAK) or piece of clothing/cloth)
- A windlass – a rigid object to twist the band E.g. Stick, jack handle, broom handle, pocket knife (closed blade), carabineer

To apply your improvised windlass tourniquet, use your selected material/band to wrap the extremity tightly then secure the material with a knot. Once the material/band is secured, place the chosen windlass object underneath the knot and twist the windlass object with the material. Twist the material until the improvised tourniquet is tightly secured around the extremity. In order to properly secure the tourniquet, use the material to tie a final knot on top on the twisted windlass.

**Conclusion**

Rapid tourniquet application is fastest way to stop extremity bleeding and is safe for the casualty when completed within the timeframes specified. All personnel should carry a tourniquet on their person, in a rapidly accessible location at all times while inside the Mission area and should practice both single- handed and two-handed application regularly. The ability to apply a tourniquet to yourself or another person will have the single biggest impact on reducing preventable death in service.

While the rapid application of arterial tourniquets is the fastest way to control external bleeding on the extremities, not all wounds are suitable for tourniquet application, such as high limb. In these cases, severe bleeding should be rapidly controlled by wound packing. The process of packing material into the wound increases the First Aiders ability to apply adequate pressure to the source of the bleeding, deep inside the wound cavity. By using the above listed wound packing techniques first-aiders can help stop the bleed and allow more time for the casualty to reach proper medical care.

# SUMMARY

Summarise the lesson to prompt questioning and demonstrate the key points of the lesson. Try to ask each trainee a question and actively listen to trainees answers and correct if necessary.

In order to confirm learning has taken place, present the following questions to the class.

- What are the main causes of preventable death?
- How quickly can a casualty die from extremity hemmorrage?
- Where should the TQ be positioned in relation to the wound?
- Is the TQ position the same or different during *Care Under Fire* and why?
- What should you do if the TQ does not stop the bleeding?
- What are the three phases of tactical medicine?

**Closing**

- Display the objectives again and verbalise.
- Link to the next lesson.
- Give any references for the lesson.
- Ask if there are any final questions.

# MODULE 4

## WOUND PACKING FOR LIMB INJURIES NOT AMENABLE TO TOURNIQUET APPLICATION

| | |
|---|---|
| **Goal:** | **Correctly use conforming gauze dressing to control hemorrhage from high limb injuries not amendable to tourniquet placement** |
| **Time:** | 45 minutes |
| **Venue:** | Classroom & Practical Training Area |
| **Method:** | Theory Lecture |
| **Student Ratio** | 1:10 |
| **Teaching Objectives** | By the end of this session, trainees will be able to:<br>**a.** ***Expose*** injury by safely cutting away casualty's clothing<br>**b.** ***Apply*** direct pressure to control bleeding while preparing gauze<br>**c.** ***Remove*** excess blood from wound using gauze or wound sweep (if necessary)<br>**d.** ***Pack*** wound cavity to the bone<br>**e.** ***Apply*** direct pressure for 5-30 minutes |
| **Learning Variables** | Trainers should be able to demonstrate the above objectives in environmental conditions appropriate to the likely delivering of training in their home country. |
| **Evaluation Method** | To be deemed competent for this learning outcome, trainees will be required to display the above performance criteria via:<br>• Formative Assessment: Verbal question and answer, role play<br>• Summative Assessment: N/A |

**Interest**

| Activity |
|---|
| • Trainees begins exercise with a 30cm/12in piece of confirming gauze.<br>• On command of "Go", Trainees should try to feed the gauze into the end of their closed fist, using one hand, as quickly as possible.<br>• Exercise can be repeated as a competition between two trainees, packing their partners fist first to 'win'. This is referred to as a '*Duncan Drill*'. |

**Need**

External bleeding is the number one cause of preventable death on the battlefield, accounting for more than half of preventable combat deaths. A casualty suffering from severe arterial bleeding can lose consciousness and die from blood loss in as little as 2-3 minutes therefore, the ability to control extremity bleeding by applying arterial tourniquets, saves lives if done correctly and quickly. While the rapid application of arterial tourniquets is the fastest way to control external bleeding on the extremities, not all wounds are amendable to tourniquet application, such as high limb. In these cases, severe bleeding should be rapidly controlled by wound packing.

**Range**

This lesson is scheduled for 45 minutes.

Amplify the following points:

- Question Policy – open throughout – do not wait until the end as the moment may pass.
- Note taking policy – mobile phones or other media may be used throughout as a source to aid note taking as long as kept on silent and used for the aid of taking pictures. All other uses need to be approved by the trainer
- Throughout this module the instructor should deliver the theory, demonstrate the practice and make all students practice the skill.

**Revision**

*Revise* relevant questions from pre-requisite lesson objectives.

**Consider the following *Questioning Technique*:**

- **Trainer will nominate a particiant at random**
- **Present the question to the class**
- **Select a participant to answer by passing a ball to them**
- **Identify a second student and ask for agreeance or an alternative answer**
- **Confirm the correct answer**

Examples:

- What's the *Golden Hour* and *Platinum-10*?
- What are the main causes of *preventable death*?
- Define the components of the *Primary Survey*
- Name two techniques for intial control of *Massive Bleeding*?
- Explain some of the complications that arise from *Hypothermia*?
- Explain the difference between a *medical* vs a *trauma* casualty?

*State* that this lesson will cover how to manage Massive Bleeding to the neck and torso, when a tourniquet can not be used.

**Theory of Wound Packing**

When a blood vessel is damaged causing bleeding, one must consider that the source of the bleeding is often deep inside the wound cavity. In the case of arterial bleeding, blood is being forced out of the damaged blood vessel at relatively high pressure. Placing a dressing or bandage over the outside of the wound is often not effective as the pressure inside the blood vessel continues to push blood out of the circulation and into the surrounding muscle tissue or cavity.

The process of packing material into the wound increases the First-Aiders ability to apply adequate pressure to the source of the bleeding, deep inside the wound cavity. This increased pressure slows bleeding, providing an opportunity for a clot to form. For this reason, wound packing must always be delivered in connection with direct pressure over the wound for 5-30 minutes.

**Wound Packing Material**

Placing material inside a wound can increase the risk of infection therefore the First-Aider should take all practical precautions to ensure that packing material is clean and preferably, sterile if possible. There are now several commercially available conforming gauze dressings with hemostatic materials inside the bandage, designed to support blood clotting.

These hemostatic gauzes should have direct contact with the source of bleeding and should be used in conjunction with 5-minutes of direct pressure. Hemostatic gauze should be the first choice for uncontrolled hemorrhage occurring high on the limb that is not amenable to tourniquet placement however, if not available, regular conforming gauze, is still by far, the most prevalent material for wound packing.

***Note: Some examples of Hemostatic Gauze include manufacturers such as Celox, Quickclot, Hemcon, TraumaDex and Excel-Arrest. While these Hemostatic Gauze Dressings are used in a very similar way to regular Conforming Gauze, each has additional hazards or considerations that are outside the scope of the current UNBFAC training curriculum. Therefore, additional training should be sought prior to the application of Hemostatic Gauze.***

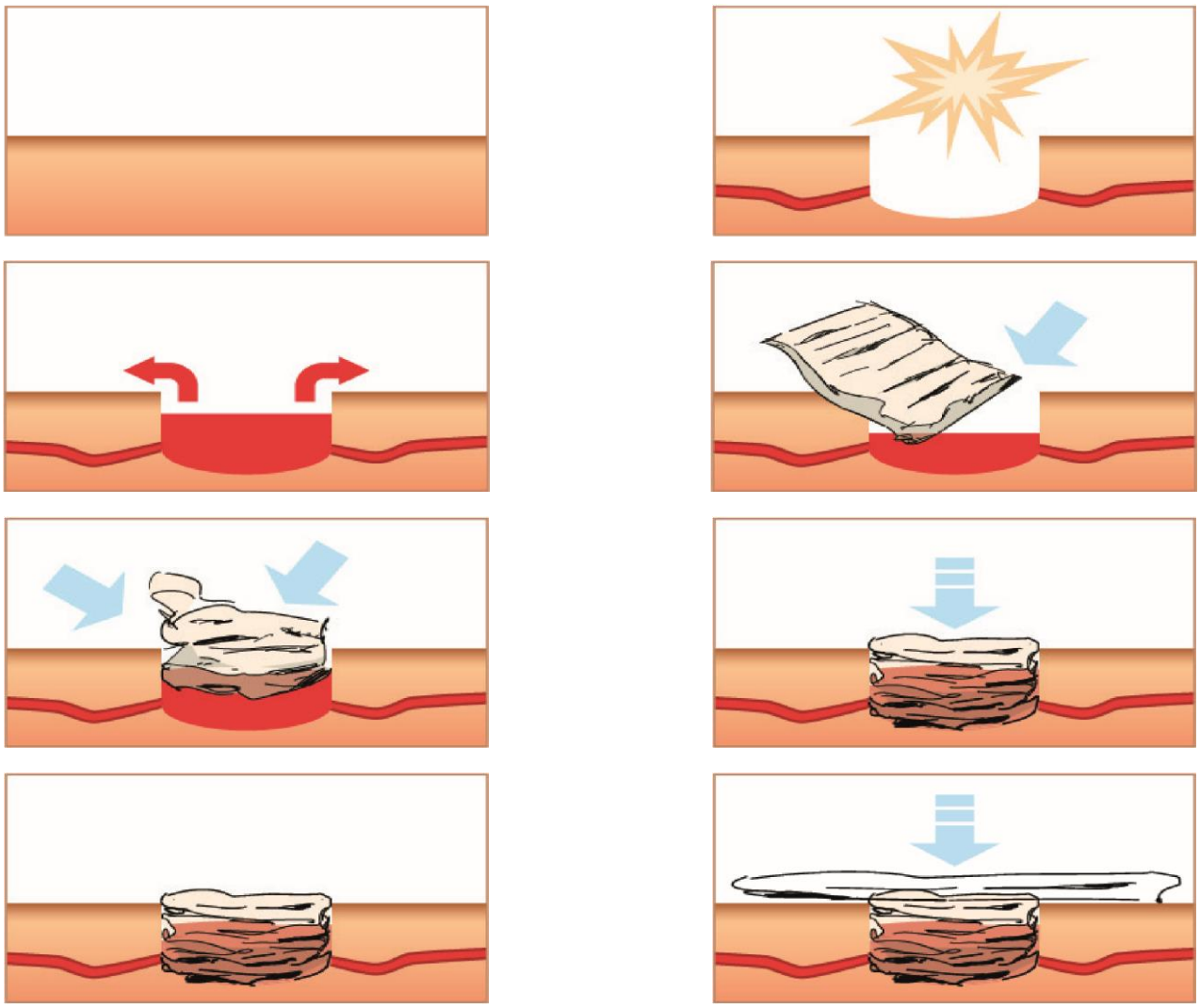
**Preparation for Wound Packing**

When severe bleeding is first identified the wound should be exposed for further inspection. Clothing should be removed safely by tearing with your hands or cutting with safety scissors or a hooked safety knife. Pointed knives and other sharp objects should not be used as they often result in further accidental injury to the casualty.

Immediately upon identifying the wound location, attempts should be made to control the bleeding by direct pressure while medical equipment is being retrieved and prepared. If possible, this may include inserting a gloved finger into the wound to feel for and apply direct pressure to the source of bleeding. Wounds that are full or overflowing with blood may be cleared using a wound sweeping technique by using a gloved finger to "scoop" blood out of wound or by irrigating the wound with clean water to assist in identifying the source of the bleeding.

**Wound Packing**

As soon as packing material is available and ready to use, the First Aider should pack the wound cavity. Start by forming a small ball of dressing material to begin the packing process. This ball should be inserted directly into the wound as close as possible to the source of the bleeding. One finger should be kept on the gauze ball maintaining constant pressure, while the remainder of the gauze is fed into the wound. The wound should be packed firm, to the bone, maintaining constant pressure in the direction of the source of bleeding while being conscious not to cause the wound to tear or open further.



Once the wound cavity is packed completely, the remaining gauze should be placed over the top of the wound and direct pressure applied with both hands and body weight for as much time as possible as it may take up to 30-minutes for a reliable clot to form. Releasing pressure to inspect the wound should be avoided as this may cause the wound to re-bleed and disrupt the formation of a clot. If it necessary to release pressure to move the casualty, pressure should be maintained for at least 5-minutes as a minimum.

| Exercise |
| --- |
| • **Trainees should complete at least three repetitions of wound packing during this training session.**<br>• **Instructors should emphasis maintaining pressure for a full 5-minutes before moving casualty.**<br>• **Instructor should emphasis packing deep, to the bone, and in the direction of the heart.**<br>• **If necessary, dressing can be secured by temporarily tying a cravat around the limb or use of a 'combat wrap'.**<br>• **Do NOT encourage bandaging of wounds until after airway and respiratory management has been evaluated.**<br>• **Instructors should progressively increase stressful stimuli while ensuring correct practice. Techniques may include low light, rain, time pressure, sound stimulus and/or force-on-force simulations.** |

**Conclusion**

While the rapid application of arterial tourniquets is the fastest way to control external bleeding on the extremities, not all wounds are suitable for tourniquet application, such as high limb. In these cases, severe bleeding should be rapidly controlled by wound packing. The process of packing material into the wound increases the First Aiders ability to apply adequate pressure to the source of the bleeding, deep inside the wound cavity. By using the above listed wound packing techniques first-aiders can help stop the bleed and allow more time for the casualty to reach proper medical care.

# SUMMARY

Summarise the lesson to prompt questioning and demonstrate the key points of the lesson. Try to ask each trainee a question and actively listen to trainees answers and correct if necessary.

In order to confirm learning has taken place, present the following questions to the class.

- What are the main causes of preventable death?
- How quickly can a casualty die from extremity hemmorrage?
- Where should the TQ be positioned in relation to the wound?
- Is the TQ position the same or different during *Care Under Fire* and why?
- What should you do if the TQ does not stop the bleeding?
- What are the three phases of tactical medicine?

**Closing**

- Display the objectives again and verbalise.
- Link to the next lesson.
- Give any references for the lesson.
- Ask if there are any final questions.

# MODULE 5

## Airway Management

| | |
|---|---|
| **Goal:** | **Maintain a casualty's airway using positional techniques and manual stabilization** |
| **Time:** | 60 minutes |
| **Venue:** | Classroom & Practical Training Area |
| **Method:** | Theory Lecture |
| **Student Ratio** | 1:10 |
| **Teaching Objectives** | By the end of this session, trainees will be able to:<br>**a. Explain** the primary cause of upper airway compromise.<br>**b. Demonstrate** the Head Tilt/Chin Lift technique on an unconscious casualty.<br>**c. Demonstrate** the Recovery Position on an unconscious, breathing casualty<br>**d. Demonstrate** the Sit up and Forward' position on a conscious casualty. |
| **Learning Variables** | Trainers should be able to demonstrate the above objectives in environmental conditions appropriate to the likely delivering of training in their home country. |
| **Evaluation Method** | To be deemed competent for this learning outcome, trainees will be required to display the above performance criteria via:<br>• Formative Assessment: Verbal question and answer, role play<br>• Summative Assessment: N/A |

**Interest**

**Activity:**

Discuss in groups reasons why an airway can be compromised and why it is so important to maintain the airway.

**Need**

Second to external bleeding, airway and breathing difficulties are the second most common cause of preventable combat death. In many cases, the casualty can breathe, having functional and intact chest anatomy however, is unable to maintain their own upper airway due to the nature of their injuries.

**Range**

This lesson is scheduled for 60 minutes.

Amplify the following points:

- Question Policy – open throughout – do not wait until the end as the moment may pass.
- Note taking policy – mobile phones or other media may be used throughout as a source to aid note taking as long as kept on silent and used for the aid of taking pictures. All other uses need to be approved by the trainer
- Throughout this module the instructor should deliver the theory, demonstrate the practice and make all students practice the skill.

**Revision**

*Revise* relevant questions from pre-requisite lesson objectives.

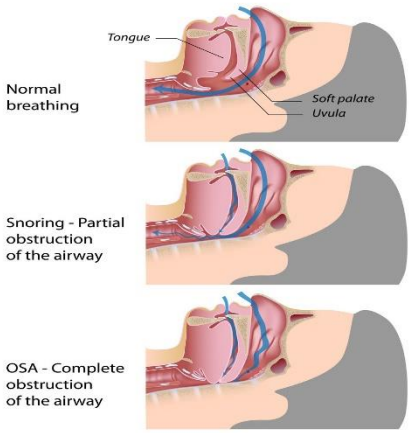
Examples:

- What's the *Golden Hour* and *Platinum-10*?
- How long can the brain survive without oxygen?
- What are the main causes of *preventable death*?
- How fast can someone die from Massive Bleeding

*State* that this lesson will cover how to ensure that your casualty's airway is open so they can continue to breath for themselves.

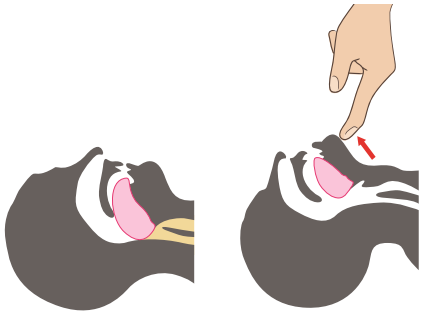
**Upper Airway Anatomy**

The upper airway comprises of the oral and nasal cavities along with the air canal as far down as the vocal chords. The tongue is the most common cause of airway obstruction in casualties with altered levels of consciousness. As muscular control of the tongue is lost, it falls into the back of the neck due to gravity, blocking the passage of air to the lungs. A casualty with an obstructed airway may begin to suffer irreversible brain damage in as little as 4-9 minutes. Airway techniques and positioning are the fastest and most effective ways to open the casualty's airway and restore breathing.




**Head Tilt/Chin Lift**

The Head Tilt/Chin Lift technique is used to most rapidly open the casualty's upper airway. The technique is carried out by using one hand to place downward pressure on the casualty's forehead, while using your other hand to raise the chin and jaw of the victim, extending the head and neck backward. The technique does apply pressure to the cervical spine of the casualty and should be avoided in circumstances where there is a high suspicion of neck injury (e.g. vehicle accidents, falls, strikes/impacts to the head or explosions that cause the casualty to be propelled through the air).



The Head Tilt/Chin Lift provides the added benefit of maintaining the airway in an open position without the need for the First Aider to maintain constant contact with the head, allowing the First Aider to use their hands

to provide other treatments. For this reason, the Head Tilt/Chin Lift is the preferred technique in Mass Casualty events where responders are often not able to remain with the victim constantly due the number of casualties.

**Recovery Position**

The recovery position allows for an unconscious casualty to maintain their own airway by allowing the tongue to stay forward of the airway and to drain any fluid. The Recovery Position is best used for unconscious medical casualties and trauma casualties without spinal injury. Additionally, casualties that display signs of fluid in their airway should be moved into the recovery position to drain the airway, preventing damage to the lungs.

The Recovery Position is described as the casualty laying on their side, with their head resting on their hand or arm, and their knee forward to increase stability. The left side down position reduces the likelihood of fluid from the stomach travelling into the airway. Casualties should be repositioned every 30-minutes to reduce the likelihood of pressure sores developing, while casualties with chest injuries should be positioned with the injured side down.

**Sit Up & Forward Position**

Casualties that are conscious and experiencing breathing difficulty should be permitted to adopt the 'Sit Up & Forward Position'. Particularly those with severe facial trauma may be able to best maintain their airway by leaning forward and allowing blood, tissue, and fluid to naturally drain free, (known as Postural Drainage)

Casualties permitted to adopt this position should be closely monitored for changes in their mental status or consciousness. If the casualty loses consciousness, the casualty should be assisted into the Recovery Position.

| Exercise |
| --- |
| • **Trainees should complete at least three repetitions of each airway technique during this training session.**<br>• **Instructors should demonstrate each technique prior to practice**<br>• **Trainees should practice positioning casualty's while remaining prone on the ground**<br>• **Instructors should progressively increase stressful stimuli while ensuring correct practice. Techniques may include low light, rain, time pressure, sound stimulus and/or force-on-force simulations**. |

**Conclusion**

In many cases, the casualty is able to breath, having functional and intact chest anatomy however, is unable to maintain their own upper airway due to the nature of their injuries. You can assist the casualty in ensuring easy breathing by implementing the above listed airway techniques and positions. These techniques and positions are the fastest and most effective ways to open the casualty's airway and restore breathing.

# SUMMARY

Summarise the lesson to prompt questioning and demonstrate the key points of the lesson. Try to ask each trainee a question and actively listen to trainees answers and correct if necessary.

**Closing**

- Display the objectives again and verbalise.
- Link to the next lesson.
- Give any references for the lesson.
- Ask if there are any final questions.

# MODULE 6

## Chest Injuries

| | |
|---|---|
| **Goal:** | **Identify and seal open chest injuries with an occlusive dressing** |
| **Time:** | 60 minutes |
| **Venue:** | Classroom & Practical Training Area |
| **Method:** | Theory Lecture |
| **Student Ratio** | 1:10 |
| **Teaching Objectives** | By the end of this session, trainees will be able to:<br>**a. Explain** the signs and symptoms of an open chest wound.<br>**b. Take** immediate steps to seal chest wounds with a gloved hand or other occlusive dressing<br>**c. Prepare** an occlusive dressing and apply after forceful exhalation of the casualty (if possible).<br>**d. Monitor** the casualty for signs of tension, burping the seal as necessary |
| **Learning Variables** | Trainers should be able to demonstrate the above objectives in environmental conditions appropriate to the likely delivering of training in their home country. |
| **Evaluation Method** | To be deemed competent for this learning outcome, trainees will be required to display the above performance criteria via:<br>• Formative Assessment: Verbal question and answer, role play<br>• Summative Assessment: N/A |

**Interest**

**Activity:**

Discuss in groups reasons the causes of chest injuries and the dangers of a chest injury.

**Need**

The organs of the body can loosely be divided into those that are filled with blood (e.g. liver, spleen and heart) and those that are filled with air (lungs, digestive system). Most of the space inside of the chest is consumed by the lungs which provide oxygen to the blood. When a casualty suffers a chest injury, the space inside the chest can fill with blood, air or other fluids, preventing the lungs from expanding normally. When a casualty has air or liquid inside their chest cavity, they will struggle to take normal breaths, reducing the supply of oxygen to the brain and bodily organs.

**Range**

This lesson is scheduled for 60 minutes.

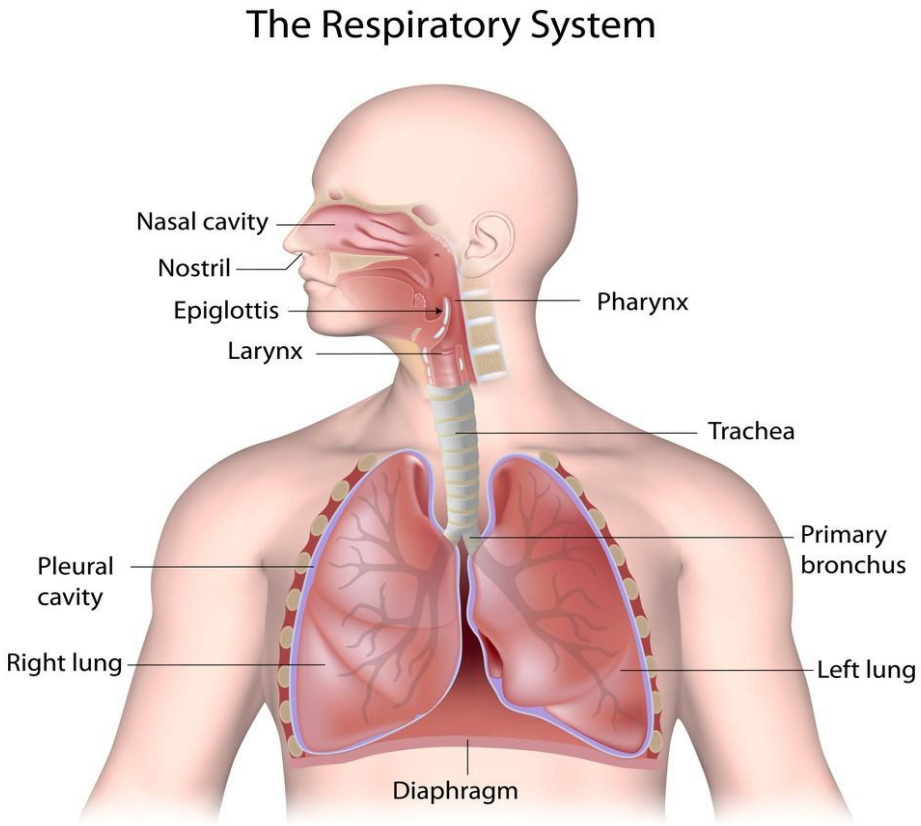
Amplify the following points:

- Question Policy – open throughout – do not wait until the end as the moment may pass.
- Note taking policy – mobile phones or other media may be used throughout as a source to aid note taking as long as kept on silent and used for the aid of taking pictures. All other uses need to be approved by the trainer
- Throughout this module the instructor should deliver the theory, demonstarte the practice and make all students practice the skill.

**Signs of an Open Chest Wound**

Any injury on the front or back of the casualty's torso above the navel should be treated as a Chest Injury. As mentioned in previous modules, any wound with severe bleeding must be addressed first using tourniquets or wound packing. However, many chest injuries bleed only a little and may be seen or heard to "bubble or hiss."

These injures should be sealed with an airtight occlusive dressing. There are several excellent commercially available 'Chest Seal' dressings and these should be the primary treatment if available. Some of these commercial Chest Seals have small valves on them to allow air to escape from the chest while preventing air from entering. If commercial chest seals are not available, any air tight material like plastic can be used to seal the chest including plastic wrapping from other dressings, duct tape or plastic kitchen roll. The important objective is to seal the wounds in a way that prevents air from entering the chest.



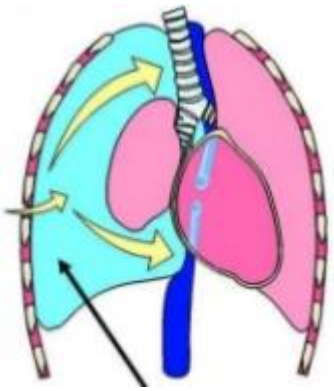
As soon as a chest injury is identified, the First Aider should take immediate steps to seal the injury and prevent air from entering. This can be achieved by:

- Placing your gloved hand over the wound, or
- Instructing the casualty to apply sideways pressure to the wound to shift the muscle tissue, closing the wound.

After these immediate interventions, an occlusive dressing should be retrieved from the casualty's Individual First Aid Kit. Prior to applying the dressing, the area should be wiped clean of debris, blood and/ or sweat to aid the dressing in sticking to the skin surrounding the wound.

If using a commercial Chest Seal, ensure that the valve (if present) is positioned directly over the open wound. If a commercial Chest Seal is not available, duct tape or medical tape can be used on all four sides of a plastic cover, leaving a corner open to allow for drainage.

**Monitoring for Signs of Tension Pneumothorax**



Next, while the First Aider has now taken steps to prevent air from entering through the wounds they must consider the high possibility that there are additional wounds to the lungs, inside the chest. Since we cannot treat these wounds, a First Aider must be conscious that pressure may continue to build slowly in the chest making it progressively more difficult for the casualty to breath.

Casualty's with chest injuries should be monitored closely for breathing difficulty and evacuated at the earliest possibility to the next level of medical care. If the occlusive dressing becomes clogged with blood or appears to be 'filling with air', it should be removed and immediately replaced to allow captured air to escape.

# SUMMARY

Summarise the lesson to prompt questioning and demonstrate the key points of the lesson. Try to ask each trainee a question and actively listen to trainees answers and correct if necessary.

- Display the objectives again and verbalise.
- Link to the next lesson.
- Give any references for the lesson.
    - Ask if there are any final questions.

# MODULE 7

## Emergency Pressure Bandage

C

| | |
|---|---|
| **Goal:** | **Apply an emergency pressure bandage to support hemorrhage control** |
| **Time:** | 60 minutes |
| **Venue:** | Classroom & Practical Training Area |
| **Method:** | Theory Lecture |
| **Student Ratio** | 1:10 |
| **Teaching Objectives** | By the end of this session, trainees will be able to:<br>**a.** ***Open*** sterile packaging without contaminating the dressing pad<br>**b.** ***Apply*** Emergency Pressure Bandage using 'V wrap technique'<br>**c.** ***Apply*** Emergency Pressure Bandage using single-handed technique<br>**d.** ***Apply*** Emergency Pressure Bandage to the head<br>**e.** ***Evaluate*** distal circulation, sensation, motor function (CSM)<br>**f.** ***Reassess*** wound and CSM every 5-minutes<br>  |
| **Learning Variables** | Trainers should be able to demonstrate the above objectives in environmental conditions appropriate to the likely delivering of training in their home country. |
| **Evaluation Method** | To be deemed competent for this learning outcome, trainees will be required to display the above performance criteria via:<br>• Formative Assessment: Verbal question and answer, role play<br>• Summative Assessment: N/A |

**Interest:**

| Activity |
|---|
| • **Trainees should review the MARCH algorithm while the Instructor demonstrates the Head-to-Toe survey**<br>• **Discuss how to identify Massive Bleeding vs other bleeding types** |

**Need**

Emergency Pressure Bandages should be carried in the Individual First Aid Kit to assist with bleeding control, to protect wounds from infection and to assist where necessary, with immobilization and the securing of other dressing materials. When used to control bleeding, bandages should always be used secondary to direct pressure and where appropriate, wound packing.

**Range**

This lesson is scheduled for 60 minutes.

Amplify the following points:

- Question Policy – open throughout – do not wait until the end as the moment may pass
- Note taking policy – mobile phones or other media may be used throughout as a source to aid note taking as long as kept on silent and used for the aid of taking pictures. All other uses need to be approved by the trainer
- Throughout this module the instructor should deliver the theory, demonstrate the practice and make all students practice the skill

**Internal Bleeding**

An internal bleed does not involve blood leaving the body therefore it is not visible however it occurs within the body when an area such as an organ becomes damaged and begins to lose blood into the surrounding area. The severity of an internal bleed depends on what area of the body is damaged and the extent of the damage as some organs contain much more blood than others. A serious internal bleed will present much quicker than a very slow bleed, which may take several hours or days to present.

Any casualty suspected of having an internal bleed MUST be evacuated immediately to a higher medical unit or medical facility.

**The Emergency Pressure Bandage**

The Emergency Pressure Bandage was designed specifically with military application in mind and comes contained within double vacuum sealed, water proof packaging. The bandage is available in various sizes (10cm, 15cm and 25cm) and consists of the following parts:

- A high-quality green colored elastic bandage
- A large white colored sterile wound dressing pad
- A plastic tension bar, attached over the center of the dressing pad
- A plastic securing clip included in running end of the bandage

**Application of the Emergency Pressure Bandage**

Before using an EPD, attempts must be made to control all severe bleeding using either tourniquet application or wound packing techniques as explained in previous chapters. The EPD should be used in the following manner:

- Upon opening the packaging of the EPD, stow the plastic wrapper for later use
- Unfold the EPD taking care to not touch or contaminate the white dressing pad
- Apply the EPD with two hands placing the dressing pad over the wound. The plastic Tension Bar should be placed directly over the center of the wound
- Apply equal pressure with both sides of the EPD bandage and wrap the bandage around the limb or torso maintaining constant pressure
- Wrap the bandage around both edges of the dressing pad in a 'V' shape with the Tension Bar still visible

**Note:** If the bandage is being used to wrap the torso, every effort should be made to apply the bandage while the casualty takes and holds a deep breath. Failing to do so may restrict the casualty's breathing. Breathing should be monitored closely

- Place the bandage through the Tension Bar and reverse the direction of the bandage, folding down the
- Tension Bar to place additional pressure directly over the wound site
- Continue wrapping the bandage and secure the running end by tucking the plastic clips into bandage wraps.
- After applying any elastic bandage, circulation, sensation and motor function should be monitored. Changes may indicate that the circulation to the limb and may need to be loosened.
- The wound should be reassessed and checked every 5 minutes, until appropriate medical care arrives

**Single-handed Application of the Emergency Pressure Bandage**

The EPD is equipped with a sewn loop next to the dressing pad to facilitate single-handed application and self-aid to an injured arm. Placing the injured arm through the loop, the EPD can be slid into place and wrapped round tight around the casualty's injured arm. The wound should be reassessed and checked for circulation, sensation and motor function every 5 minutes, until appropriate medical care arrives.

**Application of the Emergency Pressure Bandage to the Head**

If the casualty suffers a head injury that is bleeding, the EPD should be used as the first option, in-place of wound packing which may cause an increase of pressure inside the skull which has a negative impact on the brain.

Place the dressing pad of the EPD over the wound and apply gentle direct pressure for at least 5-minutes to control the flow of blood. The head is a very vascular area of the body so even small cuts appear to produce a lot of blood.

Blood or fluid that is observed leaking from the ears or nose should be lightly covered but should not be obstructed as may be an indication of increased pressure inside the skull. Cover openings to protection from infection. The wound should be reassessed and checked for circulation, sensation and motor function every 5 minutes, until appropriate medical care arrives.

**Explain the need to support foreign objects or protruding bone**

- If a foreign object is impaled in a wound, do not attempt to remove the object.
- Take measures to stabilise the object to prevent or reduce further injury and, at the same time, control bleeding.

**Explain treatment for abdominal wounds including protruding organs**.

- Do not try to touch organs or push organs back into the body cavity.
- Cover with a sterile dressing moistened with saline or clean water. Alternatively, a clean plastic cover taped on all four sides.
- Bandage securely but not tightly.
- Allow casualty to sit or lie in a comfortable condition. Possibly with the legs bent, knees raised towards the chest.

**Explain the requirement to revisit tourniquets at this stage**.

During this section all tourniquets will be revisited and any wounds remaining will be dressed accordingly. Having moved the casualty, the tourniquet may have loosened.

| Exercise |
| --- |
| **Complete the following excercises as time permits:**<br>• **Self appliation on leg using two handed technique**<br>• **Self application on strong/dominent arm using single handed technique in less than 60-seconds**<br>• **Application on the leg of a casualty**<br>• **Application to a casualty's abdomen**<br>• **Application to a casualty's head**<br>• **Application to an amputed stump**<br>• **Application to an axillary haemorrhage**<br>**Instructors should progressively increase stressful stimuli while ensuring correct practice. Techniques may include low light, rain, time pressure, sound stimulus and/or force-on-force simulations** |

**Conclusion**

Emergency Pressure Bandages are useful pieces of first aid equipment, to control slow, low pressure bleeding and to protect wounds from infection. However, in circumstances with severe arterial bleeding, the EPB will not be effective to stop the bleeding. Tourniquets and wound packing with conforming gauze and direct pressure remain the treatments of choice for severe external bleeding. The EPB may then be used as an adjunct to hold dressing material in place.

# SUMMARY

Summarise the lesson to prompt questioning and demonstrate the key points of the lesson. Try to ask each trainee a question and actively listen to trainees answers and correct if necessary.

**Consider the following *Questioning Technique*:**
- **Request participants raise their hand before answering**
- **Present the question to the class**
- **Identify a volunteer to provide an answer**
- **Confirm the answer with a second student**
- **Confirm the correct answer**

In order to confirm learning has taken place, present the following questions to the class.
- How quickly can a casualty die from extremity hemmorrage?
- What are the two ways to treat Massive Bleeding?
- Where should the TQ be positioned in relation to the wound?
- What assessments should be completed on a casualty before addressing Circulation?
-

**Closing**
- Display the objectives again and verbalise.
- Link to the next lesson.
- Give any references for the lesson.
- Ask if there are any final questions.

# MODULE 8

## Heat Disorders

| | |
|---|---|
| **Goal:** | **Identify and treat a casualty with heat disorders** |
| **Time:** | 45 minutes |
| **Venue:** | Classroom & Practical Training Area |
| **Method:** | Theory Lecture |
| **Student Ratio** | 1:10 |
| **Teaching Objectives** | By the end of this session, trainees will be able to: **a.**<br>**a.** ***Discuss*** the normal heat range of the body<br>**b.** ***State*** the signs and symptoms of heat exhaustion and heat stroke<br>**c.** ***Discuss*** the importance of hydration and electrolyte replacement<br>**d.** ***Treat*** a casualty with *Exertional Heat Stroke* using rapid cooling techniques<br>**e.** ***Identify*** and ***treat*** a casualty with severe hypothermia |
| **Learning Variables** | Trainers should be able to demonstrate the above objectives in environmental conditions appropriate to the likely delivering of training in their home country. |
| **Evaluation Method** | To be deemed competent for this learning outcome, trainees will be required to display the above performance criteria via:<br>• Formative Assessment: Verbal question and answer, role play<br>• Summative Assessment: N/A |

**Interest**

**Activity:**

Question and answer session discussing heat and cold injuries, causes and temperature ranges. Also useful, if resources are available, are video extracts.

**Need**

The core, or center of the human body works most efficiently within a very small temperature range. When the brain and organs of the body are exposed to temperatures outside this normal range, they can suffer either temporary or permanent dysfunction or damage. UN personnel often work in a variety of climates and are exposed to both hot and cold outside temperatures that can have a negative impact on bodily functions. It is important that UN personnel can recognize the signs and symptoms of heat disorders and take early corrective actions to prevent the condition from getting worse.

**Range**

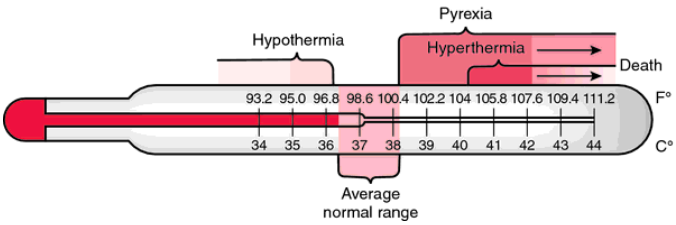
This lesson is scheduled for 60 minutes.

Amplify the following points:

- Question Policy – open throughout – do not wait until the end as the moment may pass.
- Note taking policy – mobile phones or other media may be used throughout as a source to aid note taking as long as kept on silent and used for the aid of taking pictures. All other uses need to be approved by the trainer
- Throughout this module the instructor should deliver the theory, demonstrate the practice and make all students practice the skill.

**Heat Exhaustion and Heat Stroke**

The human brain and bodily organs are designed to work efficiently within a relatively small temperature range. The body relies on the skin and other bodily organs to work together to insulate the body's core from external temperature changes to maintain optimal performance. This is achieved most predominately through the processes of perspiration and shivering.

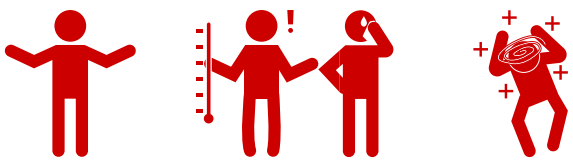



In many UN Missions where the daily temperature can easily exceed 40-50ºC, the body can sometimes struggle to cool itself. This situation is made worse by physical exertion and wearing of PPE such as body armour and long clothing. The body produces sweat as a means of evaporative cooling, the body loses moisture and various electrolytes including sodium and potassium. In extreme circumstances, it is possible for an adult to lose as much as 2-4 liters of fluid every hour when, for example, performing sustained exercise in hot, humid climates. If this fluid and electrolytes are not replaced, the person can develop Heat Exhaustion and eventually, a life-threatening condition known as Heat Stroke.

As the body's organs and muscle tissue lose fluid, they draw this fluid from the fat cells and circulating blood causing the heart rate to increase to maintain blood pressure.

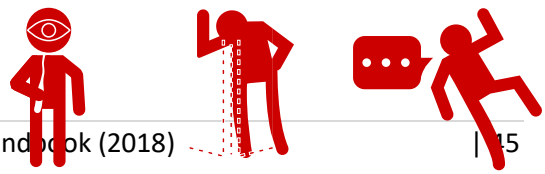
Signs of **Heat Exhaustion** include:

- Excessive Sweating
- Mild Headaches
- Dizziness and/or confusion
- Loss of Appetite



If fluid and electrolyte levels are not rapidly replaced, the casualty's level of consciousness will continue to decline, leading to Heat Stroke. Signs of **Heat Stroke** include:

- Throbbing Headache
- Little or no sweating
- Vomiting



- Red skin which is dry and hot to the touch
- Loss of Consciousness

**Heat Stroke** is a medical emergency. Without rapid intervention, the casualty may suffer irreversible brain and organ damage. The treatment for Heat Stoke in a hot field environment is referred to as 'rapid cooling'. This is achieved by:

- Requesting assistance of a medical professional as soon as possible
- Moving the casualty to shade if possible
- Removing the casualty's clothing (except underwear)
- Pouring water (30ºC-40ºC) over the casualty below the neck. Use as much water as possible (approx. 40-80L)
- Medical professional to administer IV fluid

| **Exercise** |
|---|
| • **Complete practical exercise to simulate rapid cooling**<br>• **Role player should wear skin colored thermal underwear to allow for realistic 'removal of outer uniform'**<br>• **Casualty's clothing should be removed, and water poured over entire body with exception of head and face**<br>• **If water can not be used, simulation with empty containers should be conducted** |

**Prevention of Heat Disorders**

Heat Exhaustion and Heat Stroke can be prevented by proper nutrition, hydration and periodic rest. As a guide, peacekeepers should rest for at least 10 minutes in every hour of prolonged physical activity. Drinking water is critical but alone, it is not enough, as water does not replace the electrolytes that are lost in perspiration.

UN personnel in high temperature environments are encouraged to consume constant water and oral rehydration solutions to ensure their body maintains a stable core temperature.

| | Sodium (mg/L) | Potassium (mg/L) |
|---|---|---|
| Daily Intake* | 2300 | 4700 |
| Sweat | 900 | 200 |
| Water | 0 | 0 |
| ORS | 3500 | 1500 |
| Banana | 1 | 290-540 |
| Orange Juice | 28 | 1784 |
| salt chips | 130 | 400 |
| Pedialite | 1000 | 750 |
| Gatorade | 440 | 120 |
| Powerade | 220 | 120 |
| Coca Cola | 136 | 0 |

***Note:*** *all units are approximate*

**Hypothermia**

In some Mission areas, it may be possible for personnel to become severely hypothermic due to environmental conditions or prolonged sedentary outdoor duties when wet or exposed to high winds. In such cases, where the body temperature drops below 32ºC, hypothermia can lead to collapse and death. Signs of mild hypothermia (36ºC-32ºC) are identified by:

- Shivering
- Grumbling (complaining)
- Mumbling
- Stumbling (tripping or having difficulty standing/walking)

- Fumbling (not able to hold or operate objects properly with your hands)
- Tumbling (falling or collapsing)

Treatment for Hypothermia includes:

- Removal from cold environment
- Removal and replacement of wet clothing
- Light physical activity (if safe to do so)
- Consuming warm liquid (e.g. tea or soup)

**Severe Hypothermia**

If action is not taken to correct mild hypothermia, the casualty's condition may continue to worsen, to the point that the casualty develops Severe Hypothermia (<32ºC) which is characterized by a loss of consciousness. This severe condition should be treated by a Hypothermia Wrap.

A Hypothermia Wrap is intended to retain as much body warmth as possible to allow the casualty's natural heating mechanisms to restore core body temperature.

Casualties should have any wet clothing replaced with warm natural fibers such as wool and should be wrapped in multiple layers of clothing and other insulation material including sleeping bags, rain protective gear and tents or tarpaulins.

The Hypothermia Wrap should not be opened to check on the casualty therefore, the sharing of body warmth (a healthy person sharing the hypothermia wrap with the casualty), is not recommended as the constant opening and closing of the hypothermia wrap significantly reduces its effectiveness.

| Exercise |
| --- |
| • **Instructor should explain while Trainees build a hypothermia wrap**<br>• **All wet clothing should be removed from the casualty**<br>• **The casualty should be placed inside a dry sleeping bag wearing a single layer of thermal underwear, head warmer and socks**<br>• **A sleeping pad or multiple layers of clothing or dry leaf litter can be used to insulate between the inner and outer layers**<br>• **Tents and a plastic tarpaulin or contract trash bags can be used to build outer later**<br>• **The outer layer should be taped entirely closed to prevent evaporation**<br>• **If practical, monitor casualty's body temperature for 15-30 minutes inside the hypothermia wrap** |

**Conclusion**

UN personnel often work in a variety of climates and are exposed to both hot and cold outside temperatures that can have a negative impact on bodily functions. UN personnel in high temperature environments are encouraged to consume constant water and oral rehydration solutions to ensure their body maintains a stable core temperature. As a First-Aider it is important you are able to recognize the signs and symptoms of heat disorders and take the appropriate steps to mitigate the situation before it gets worse.

# SUMMARY

Summarise the lesson to prompt questioning and demonstrate the key points of the lesson.  Try to ask each trainee a question and actively listen to trainees answers and correct if necessary.

- Display the objectives again and verbalise.
- Link to the next lesson.
- Give any references for the lesson.
- Ask if there are any final questions.

# MODULE 9

## Casualty Movement Techniques

| Goal: | Demonstrate urgent and emergency casualty movement techniques |
|---|---|
| Time: | 45 minutes |
| Venue: | Classroom & Practical Training Area |
| Method: | Theory Lecture |
| Student Ratio | 1:10 |
| Teaching Objectives | By the end of this session, trainees will be able to:<br>**a.** ***Demonstrate*** safe technique for lifting heavy objects<br>**b.** ***Explain*** the difference between routine, urgent and emergent movement<br>**c.** ***Demonstrate*** one and two-person drag of a casualty<br>**d.** ***Demonstrate*** 'Kings Throne' carry technique<br>**e.** ***Demonstrate*** 'Hasty Harness' technique<br>**f.** ***Explain*** the 'Firearm's Carry' technique |
| Learning Variables | Trainers should be able to demonstrate the above objectives in environmental conditions appropriate to the likely delivering of training in their home country. |
| Evaluation Method | To be deemed competent for this learning outcome, trainees will be required to display the above performance criteria via:<br>• Formative Assessment: Verbal question and answer, role play<br>• Summative Assessment: N/A |

**Interest**

**Activity:**

Group discussion or activity, demonstrating the safe lifting techniques and known casualty movement techniques. **Note**: ensure any movement is under supervision and stop un-safe practice.

**Need**

Under ordinary circumstances, moving a casualty is dangerous and should only be attempted by trained medical professionals. Unsafe casualty movement can cause injury to a casualty's unstable spine, increase uncontrolled bleeding and further injure the casualty. However, in some circumstances, movement of the casualty is necessary to prevent further critical injury to the casualty or to gain access to other critically injured casualties.

Every year, thousands of paramedics and medical technicians suffer back injuries due to lifting and moving casualties. Many of these can be avoided by using proper technique and knowing your individual limits. When attempting to lift or drag a casualty, the First-Aider must ensure that they keep their own spine straight and

lift using the large muscle groups of the upper legs. Routine exercise and stretching will ensure that the First-Aider is prepared to lift heavy objects when needed. Rounding the shoulders, failing to bend the knees, or over-extending reach are some of the most common causes of injury when attempting to lift or move a heavy object such as an unconscious casualty.

**Range**

This lesson is scheduled for 60 minutes.

Amplify the following points:

- Question Policy – open throughout – do not wait until the end as the moment may pass.
- Note taking policy – mobile phones or other media may be used throughout as a source to aid note taking as long as kept on silent and used for the aid of taking pictures. All other uses need to be approved by the trainer
- Throughout this module the instructor should deliver the theory, demonstarte the practice and make all students practice the skill.

**Routine, Urgent and Emergent Movements**

As mentioned, moving a casualty is not without risk to both the First Aider and the casualty. For this reason, the First Aider should always ask themselves, 'Do I really need to move this casualty and if so, how important is it to move this casualty now?' In most cases, the movement of the casualty should be supervised by the combat medic, however, a First Aider may need to move a casualty in an emergency. Movement of a casualty can be divided into three categories:

**Emergency Movements** - these are movements that are immediately necessary to preserve the life of the casualty, or another person. This may include removing a casualty from a burning car or moving an unconscious casualty to gain access to another casualty who is not breathing. During emergent movements, the safety of the casualty's spine, is considered secondary to the immediate threat to life, and is often undertaken by a single First Aider.

**Urgent Movements** - this includes circumstances where immediate movement is not necessary however, waiting for the full range of specialist personnel and/or equipment may be detrimental to the health of the casualty. Movements that fall into the 'urgent' category include movement of trauma casualties on flexible stretchers or other movement techniques where additional efforts are taken to immobilize the spine, often with multiple First Aiders and limited equipment.

**Routine Movements** - These movement techniques include moving casualties that are often stable, able to move themselves, or wait until full spinal immobilization procedures can be implemented by professional medical responders.

**The Kings Throne Technique**

The Kings Throne technique requires two First-Aiders to carry a conscious or semi-conscious casualty. It is achieved by linking wrists together to form a chair or 'throne' for the casualty to sit on. Again, attention should be taken to ensure that bending and lifting is carried out in a safe manner.

**Hasty Harness**

The Hasty Harness is an emergency technique that uses a 6.5m (22ft) loop of 1-inch tubular nylon webbing to form a rapid harness carry system for an unconscious casualty. It is achieved by placing the loop around the casualty's body and then looping up inside the legs and through the chest pieces as shown in the picture. The Hasty Harness can be used by one or two rescuers and can be used to support winching or extrication by aircraft.

| Exercise |
| --- |
| • **Trainees should practice each movement technique at least three times during the period of this lesson**<br>• **Instructors should demonstrate each technique before Trainees practice**<br>• **Trainees with injury or medical predispositions should not attempt casualty movement techniques they are not comfortable with**<br>• **Do NOT exercise the Fireman's Carry Technique in classes. Demonstration of the technique is acceptable by the Instructor only, provided a safe role player is identified.**<br>• **Instructors should progressively increase stressful stimuli while ensuring correct practice. Techniques may include low light, rain, time pressure, sound stimulus and/or force-on-force simulations**<br>• **If time permits, Instructors may incorporate Isolation Drills that incorporate Casualty Movement with one or more other skills of the BFAC, and "Head-to-Toe Survey".** |

**Fireman's Carry Technique**

The Fireman's Carry enables a single rescuer to carry a casualty over a longer period than many of the dragging techniques. The Fireman's Carry takes practice to achieve safety and may require assistance of a second rescue to lift the casualty up onto the rescuer's shoulders. The Fireman's Carry may be demonstrated by the Instructor however, should not be practiced by students due to risk of injury. Students should not be permitted to practice this technique during BFAC training time.

**Conclusion**

In some circumstances, movement of the casualty is necessary to prevent further critical injury to the casualty or to gain access to other critically injured casualties. When moving a casualty, it is important that as first-aider you use proper lifting techniques to ensure you are not injured in the moving process, using the above techniques can help ensure the safety of the casualty and the First Aider.

# SUMMARY

Summarise the lesson to prompt questioning and demonstrate the key points of the lesson. Try to ask each trainee a question and actively listen to trainees answers and correct if necessary.

- Display the objectives again and verbalise.
- Link to the next lesson.
- Give any references for the lesson.
- Ask if there are any final questions.

# COURSE RESOURCES

# UNITED NATIONS BUDDY FIRST AID COURSE
# COMPETENCY BASED ASSESSMENT MATRIX

| **COMPETENCY 1**<br>**Define the participant's role in providing first aid and the medical evacuation chain** | **Outcome (Pass/Fail)** |
|---|---|
| Explain the term 'First-Aid' and define the role of a First-Aider | |
| State the various levels of qualification within pre-hospital emergency medicine | |
| Explain the "10-1-2 Doctrine" of emergency evacuation in the United Nations | |
| Explain the three phases of care as they relate to tactical medicine | |
| Define the levels of Medical Treatment Facilities within the UN Evacuation system | |

| **COMPETENCY 2**<br>**Use the "SCENE-MARCH" acronym to prioritize treatments** | **Outcome (Pass/Fail)** |
|---|---|
| Explain the SCENE MARCH acronym (in appropriate language) | |
| Provide an Emergency Alert Message | |
| Explain the AVPU scale for assessing responsiveness | |
| State various techniques for controlling external hemorrhage | |

| **COMPETENCY 3**<br>**Correctly apply an arterial tourniquet to control life threatening limb hemorrhage** | **Outcome (Pass/Fail)** |
|---|---|
| Identify the parts of an arterial tourniquet | |
| Prepare and store the tourniquet effectively for one handed application | |
| Self-apply the tourniquet to the upper arm using one handed technique | |
| Apply a tourniquet to a casualty using two handed technique | |
| Apply an effective improvised windlass device. | |

| **COMPETENCY 4**<br>**Correctly use conforming gauze dressing to control hemorrhage from high limb injuries not amenable to tourniquet placement.** | **Outcome (Pass/Fail)** |
|---|---|
| Expose the injury by safely cutting away the casualty's clothing | |
| Apply direct pressure to control bleeding while preparing gauze | |
| Remove excess blood from wound using gauze or wound sweep (if necessary) | |
| Pack the wound cavity to the bone | |
| Apply direct pressure for 5-30 minutes | |

| COMPETENCY 5<br>Maintain a casualty's airway using positional techniques and manual stabilization | Outcome (Pass/Fail) |
|---|---|
| Explain the primary cause of upper airway compromise | |
| Demonstrate the 'Head Tilt/Chin Lift' technique on an unconscious casualty | |
| Demonstrate the 'Recovery Position' on an unconscious, breathing casualty | |
| Demonstrate the 'Sit Up and Forward' position on a conscious casualty | |

| COMPETENCY 6<br>Identify and seal open chest injuries with an occlusive dressing | Outcome (Pass/Fail) |
|---|---|
| Explain the signs and symptoms of an open chest wound | |
| Take immediate steps to seal the wound with a gloved hand or other occlusive material | |
| Prepare occlusive dressing and apply (preferably) after forceful exhalation of the casualty | |
| Monitor the casualty for signs of tension burping the seal as necessary | |

| COMPETENCY 7<br>Apply an emergency pressure bandage to support hemorrhage control | Outcome (Pass/Fail) |
|---|---|
| Open sterile packaging without contaminating the dressing pad | |
| Apply Emergency Pressure Bandage using 'V-wrap Technique' | |
| Apply Emergency Pressure Bandage using single-handed technique | |
| Apply Emergency Pressure Bandage to the head | |
| Evaluate distal circulation, sensation, motor function (CSM) | |
| Reassess wound and CSM every 5- minutes | |

| COMPETENCY 8<br>Identify and treat a casualty with heat disorders | Outcome (Pass/Fail) |
|---|---|
| Discuss the normal heat range of the body | |
| State the signs and symptoms of heat exhaustion and heat stroke. | |
| Discuss the importance of a hydration and electrolyte replacement | |
| Treat a casualty with Exertional Heat Stroke using rapid cooling techniques | |
| Identify and treat a casualty with severe hypothermia | |

| COMPETENCY 9<br>Demonstrate urgent and emergency casualty movement techniques | Outcome (Pass/Fail) |
|---|---|
| Demonstrate safe technique for lifting heavy objects | |
| Explain the difference between routine, urgent and emergency movements | |
| Demonstrate one and 2- person drag of a casualty | |
| Demonstrate 'Kings Throne' carry technique | |
| Demonstrate 'Hasty Harness' technique | |
| Explain the 'Fireman's Carry' technique | |

# UNITED NATIONS BUDDY FIRST AID COURSE
# TRAINEE ASSESSMENT TOOL

| | | | |
|---|---|---|---|
| Trainee's Family Name | | Date | |
| Trainee's Given Names | | ID Number | |
| Group/Unit/ Organization | | | |
| Venue/Location | | | |
| Initial Assessment (circle correct) | | Re-test | |

**Instructions for Instructor/Evaluator**:

- This form is to be completed by the assessing Instructor
- Choose one scenario from the options listed on the reverse page
- Insert a "P" in the box for criteria that are successfully demonstrated
- Insert an "F" in the box for criteria that are not successfully demonstrated
- Trainer to sign and date bottom of form

| **Scenario Number:** | | |
|---|---|---|
| **Ref** | **Assessment Criteria** | **Outcome** |
| a. | Evaluates SCENE, uses cover and applies body substance isolation including gloves | |
| b. | All life-threatening bleeding is controlled within 2-minutes | |
| c. | Identifies and treats immediate threats to life within 5-minutes | |
| d. | Conducts a thorough head-to-toe examination of the casualty including the back | |
| e. | Monitors the casualty and repeats and rechecks interventions every 5-minutes | |
| f. | Initiates a call for assistance within 10-minutes | |

**Instructors Comments:**

_____

_____

_____

_____

_____

_____

_____

_____

**Instructors Details:**

| | | | |
|---|---|---|---|
| Instructors Family Name | | ID Number | |

# UNITED NATIONS BUDDY FIRST AID COURSE
# Scenario Descriptions

1. During a daily stand-down inside your base camp a 32yo female soldier is inside a building that is struck just now, by a large mortar round. The casualty staggers out of the building with a far gaze and is not responding to *voice* commands. The casualty has a large pool of blood forming on her uniform at stomach height and is holding her partially amputated left forearm. The casualty has a RR of 24/min.

2. During a roadside ambush, a 28yo male soldier sustains fragmentation wounds to his chest, abdomen and upper leg after RPG detonates near his position. His leg is *bleeding* steadily. The casualty is laying supine in full PPE and displays no signs of *breathing* until the airway is opened; at which point he has shallow respirations of 28. Casualty is *Unresponsive*.

3. During an assault operation on an enemy position, a 23yo soldier sustains a GSW in the next room. You are the second to enter the room after the shooting and see that the first soldier has engaged and is covering one attacker. Your colleague is in a seated position with a GSW to the face and a second GSW to the shoulder that is *bleeding severely*. He is screaming in pain but is *responsive* to your commands, has full muscle tone and stable spine).

4. There has just been a rocket attack on your compound. There appears to be no more incoming for now. Three casualties are bought into a shelter where you are (each casualty is wearing their own IFAK):
   Casualty #1 – a 27yo male soldier who is unresponsive with *severe bleeding* from the abdomen and a gaping wound above the knee when airway is opened, casualty breaths.

   Casualty #2 – a 14yo local national boy who worked for the camp's life support contractor is *responsive* to pain with a large *severe* wound on his lower arm and a medium sized fragment wound through his lower chest on the front and rear.

   Casualty #3 – a 36yo female staff member who is alert and in severe pain. She has what appears to be a fractured femur with severe bleeding.

5. A 42yo male senior non-commissioned officer grasps his chest in the middle of a briefing and falls to the floor. He says he cannot breathe before falling *unresponsive* with no signs of *breathing and no pulse*.

6. A 25yo female soldier has sustained a severe ankle injury during a parachute landing. Upon your arrival, the casualty is pale and responsive to voice. There are no signs of external bleeding though pain and instability are identifiable in the pelvis during head-to-toe survey. Casualty has RR 22.

| **Assessment Guidelines** |
| --- |
| • Trainee should not see role players or scene until scenario begins<br>• Trainee should be briefed on incident and general scene but not casualty's condition<br>• Interaction between the assessor and trainee should be limited to stimulus required to aide in decision making (e.g. "Bleeding has stopped", "No chest rise")<br>• Scenario should be stopped immediately in case of a critical failure, and feedback provided. |

# UNITED NATIONS BUDDY FIRST AID COURSE
# COURSE TRAINING RECORD

| | | | |
|---|---|---|---|
| **Date** | | **Instructor** | |
| **Venue/Location** | | **Safety Officer** | |
| **Group/Unit/Organization** | | | |

| Line Ref | FAMILY NAME | Given Name | ID Number | Unit/Org | Gender M/F | Learning Outcome | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| 1 | | | | | | | | | | | | | | | |
| 2 | | | | | | | | | | | | | | | |
| 3 | | | | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | |

# SUMMARY OF LOGISTICS

**(for 10 Trainees)**

| Ref. | Item Description | Quantity | Comments |
|---|---|---|---|
| i | Nitrile protective surgical gloves, box of 50 | **2** | |
| ii | Combat Application Tourniquet (CAT) | **10** | |
| iii | Rubber tube tourniquet | **10** | |
| iv | 4m roll of conforming gauze dressing | **10** | |
| v | Emergency Pressure Bandage | **10** | |
| vi | Chest Seal Occlusive Dressing | **10** | |
| vii | Oral Rehydration Solution (ORS) | **10** | |
| viii | 500ml of moulage training blood | **10** | |
| ix | Extremity Wound Manikin (optional) | **2** | |
| x | Torso Abdominal Wound Manikin (optional) | **2** | |
| xi | Torso Chest Wound Manikin (optional) | **2** | |
| xii | Torso CPR Manikin (optional) | **2** | |
| xiii | 80kg Human Form Trauma Manikin | **2** | |
| xiv | 20L Water Can full of water | **2** | |
| xv | Sleeping Bag | **2** | |
| xvi | Poncho/Rain Cover | **2** | |
| xvii | Tarpaulin or ground sheet | **2** | |
| xviii | Woollen Pullover/Jumper | **2** | |
| xix | Whiteboard | **2** | |
| xx | Easel | **2** | |
| xxi | Dry Erase markers (black, red, blue, green) | **2** | |

# List of Acronyms

| | |
|---|---|
| ALS | Advanced Lifesaving Support |
| AVPU | Alert, Voice, Pain, Unresponsive |
| BFAC | Buddy First Aid Course |
| BSI | Body substance isolation |
| CAT | Combat Application Tourniquet |
| CSM | Circulation, Sensation, Motor function |
| DCS | Damage Control Surgery |
| EAM | Emergency Alert Message |
| EMT | Emergency Medical Technician |
| EPB | Emergency Pressure Bandages |
| EPD | Emergency Pressure Dressing |
| IFAK | Individual First Aid Kit |
| LoR | Level of Responsiveness |
| MARCH | Massive Bleeding, Airway, Respirations, Circulations, Hypothermia |
| MERT | Medical Emergency Response Team |
| MTF | Medical Treatment Facility |
| POI | Point of Injury |
| PPE | Personal Protective Equipment |
| SCENE | Safety, Cause, Environment, Number of Casualties, Extra resources |
| UN | United Nations |
| UNBFAC | United Nations Buddy First Aid Course |

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