

Module

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transambulance

## Assurance working environment for patient and care team in emergency



## Module ② Assurance working environment for patient and care team in emergency

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01

02

03

03. Preventing labour risks physical and psychological  
03. Prevention of labour risks  
03. Ergonomics and body mechanics

10. Work-related violence  
10. Procedure for Managing and Reducing the Threat of Physical and Non-Physical Abuse towards Frontline Staff

10

11

04. Locomotives structures involved in lifting loads

04

05

05. Biomechanics of the spine

12

13

06. Physical exercise to prevent injuries

06

07

07. Lifting and moving patients

14

15

06. Lifting techniques and carrying loads

08

09

00

00. Click the page you want to view



---

< 02 >

### 6. Preventing labour risks physical and psychological

#### 6.1. Prevention of labour risks

In order to provide appropriate care to patients, Emergency Medical Technician must enter, stay and leave the place of the intervention in the best possible physical and mental conditions, avoiding at all times be a victim of the intervention. Therefore, preserve personal safety of you and your team will always be present in all its activities and it will be one of the most important duties to perform.

Identify and assess the risks of professional activity as precisely as possible can take steps to avoid or at least reduce them and, ultimately, protect against risks that can not be avoided or reduced. This field is called labour risk prevention.

#### 6.2. Ergonomics and body mechanics

**Ergonomics** is the science that seeks the best adaptation of work to man, so that maximum performance is achieved without compromising worker health, making a working environment appropriate to their physical and psychological characteristics, which provide safety and comfort.

Most of the accidents that occur during the technician activity affect the locomotor system and are related to awkward postures adopted while driving or assistance, the management of telecommunications equipment and excessive force during manual handling patients. These accidents, in principle, do not usually take seriously, but end up producing very serious injuries in the upper limbs, lower limbs and along the entire spine, especially the lumbar and cervical lesions that can make chronic and end incapacitating the worker.

The musculoskeletal system consists of bones, joints and muscles. The position taken during the activity may be harmful both for excess movement as for failing. We know that constant motion, although we apply little force

## Module ② Assurance working environment for patient and care team in emergency

---

may hurt locomotives structures, so the excess repetition as for its stance (flexion or extension) ; but do not think that a static -like sitting posture is also not harmful ; lack of adequate movement prevents irrigation of the leg muscles and overload the intervertebral discs of the lumbar spine.

It is therefore very important to maintain optimal health and prevent poor posture or performing overexertion. It is convenient the knowledge of the structures involved in the handling of loads, performing frequent exercises for flexibility and strength training and knowledge of techniques for lifting and transporting loads.

### 6.2.1. Locomotives structures involved in lifting loads

As previously indicated, locomotor system is directly involved with the movement and lifting of loads. **Load is defined** as any type of objects that can be moved, including the manipulation of people and manual handling of loads (MHL). Also any type of movement with charges made to muscular effort. When we use mechanical means talk about maintenance of charges.

**The locomotives structures involved in MHL structures are:**

1. **Tendons:** attach muscles to bones.
2. **Muscles:** active part of the movement, which contract by reducing its size and near bony structures that link.
3. **Bones:** passive part of the movement that support the structures of the body and promote movement.
4. **Ligaments:** is the union between the bones. Its primary mission is to move the bony structures within the range of motion and keep them stable.
5. **Joints:** are areas of contact between bones, and between these and cartilage. They favor the movement of different body levers.

### 6.2.2. Biomechanics of the spine

The spine is the axis of the entire locomotor system and allows the adoption of all kinds of positions. On the inside pass motor and sensory nerves of the peripheral nervous system (spinal canal) and supports the weight of the body thanks to the curvatures of its structure (cervical lordosis, thoracic kyphosis, lumbar lordosis and sacral curvature). It consists of 33 circular and flat bones (vertebrae) having a center hole and a distal ends which allow their articulation. Each joint is comprised of two vertebrae and intervertebral disk except in the sacral - coccygeal area where the disk are welded together (Figure 1).

The weakest areas of the spine are the cervical area, because its high mobility and the inertia generated by movement of the head and lower back, because its weight and movements that bear. Lesions occur in the spine may compromise mobility, sensitivity and performance of organs that are controlled by the nerves that branch off from it, such that a injury that cause the spinal cord cutting, will limit all structures related to that point and down.

Inadequate MHL produces lesions that most affect the intervertebral disc, relatively elastic piece, that cushions weight and prevents contact between the facets of the vertebrae. The wear over the years and overexertion strain produces multiple injuries ranging from osteoarthritis to herniation (disc mass output by apophysis). Both will cause pain and functional limitation that can incapacitate workers.

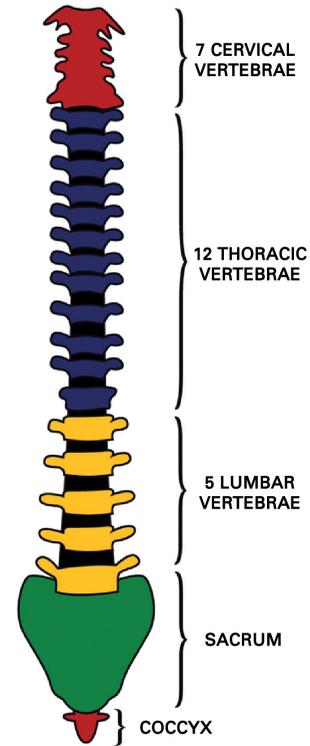


Figure 1. Vertebrae of the spine.

## Module ② Assurance working environment for patient and care team in emergency

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Overloading which produces the displacement of the vertebral joints depending these movements (compression, torsion, bending or shear), can seriously damage the spine.

### 6.3. Physical exercise to prevent injuries

If we take care of our body and maintain a healthy lifestyle, we can largely prevent musculoskeletal injuries caused by the MHL and other movements that can be made for the professional activity of technician.

It is important to eat properly, rest enough and frequently perform physical exercise for flexibility and power to all structures involved in movement of the body. It is advisable to practice aerobic activities such as swimming or light race regularly, bearing in mind the body needs to be heated and flexible before starting exercise and “relax” and return to flexible afterwards.

### 6.4. Lifting techniques and carrying loads

Prevent musculoskeletal injuries depends largely on how we make uprisings and transport loads, be they objects or patients. As a general rule, before performing any of these activities should be considered and planned in the following order:

1. Examine the charge and decide the best grasping point.
2. Decide the way transport and the place where it will be deposited.
3. Previously remove any obstacles that may be on the way.

### 6.5. Lifting and moving patients

- The first key rule of lifting is to always keep your back in an upright position and lift without twisting. You can lift and carry significant weight without injury as long as your back is in the proper upright position.
- The power lift is the safest and most powerful way to lift.
- The safety of you, your team, and the patient depends on the use of proper lifting techniques and maintaining a proper hold when lifting or carrying a patient.
- Pushing is better than pulling.
- If you do not have a proper hold, you will not be able to bear your share of the weight, or you may lose your grasp with one or both hands and possibly cause a lower back injury to one or more EMTs.
- It is always best to move a patient on a device that can be rolled. However, if a wheeled device is not available, you must understand and follow certain guidelines for carrying a patient on a stretcher.
- You must constantly coordinate your movements with those of the other team members and make sure that you communicate with them.
- When lifting a stretcher, you must make sure that you and your team use correct lifting techniques.
- Ideally, members of the lifting team should also be of similar height and strength.



## Module 2 Assurance working environment for patient and care team in emergency

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- If you must carry a loaded backboard or stretcher up or down stairs or other inclines, be sure that the patient is tightly secured to the device to prevent sliding.
- Be sure to carry the backboard or stretcher foot end first so that the patient's head is elevated higher than the feet.
- Directions and commands are an important part of safe lifting and carrying.
- You and your team must anticipate and understand every move and execute it in a coordinated manner.
- The team leader is responsible for coordinating the moves.
- You should try to use four rescuers whenever resources allow.
- You should know how much you can comfortably and safely lift and not attempt to lift more than this amount.
- Rapidly summon additional help to lift and carry a weight that is greater than you are able to lift.
- The same basic body mechanics apply for safe reaching and pulling as for lifting and carrying.
- Keep your back locked and straight, and avoid twisting.
- Do not hyperextend your back when reaching overhead.
- You should normally move a patient with nonurgent moves, in an orderly, planned, and unhurried manner, selecting methods that involve the least amount of lifting and carrying.
- At times, you may have to use an emergency move to maneuver a patient before providing assessment and care.
- You should perform an urgent move if a patient has an altered level of consciousness, inadequate ventilation, or shock or in extreme weather conditions.
- The wheeled ambulance stretcher is the most commonly used device to move and transport patients.
- Other devices that are used to lift and carry patients include portable stretchers, flexible stretchers, backboards, basket stretchers (Stokes litters), scoop stretchers, and stair chairs.
- Whenever you are moving a patient, you must take special care so that neither you, your team, nor the patient is injured.

## Module ② Assurance working environment for patient and care team in emergency

- You will learn the technical skills of patient packaging and handling through practice and training.
- Training and practice are required to use all the equipment that is available to you.
- You must practice each technique with your team often so that you are able to perform the move quickly, safely, and efficiently.



## Module ② Assurance working environment for patient and care team in emergency

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### 6.6. Work-related violence

“Any incident, in which a person is abused, threatened or assaulted in circumstances relating to their work. This can include verbal abuse or threats as well as physical attacks”.

- **Physical Assault:** “The intentional application of force to the person of another, without lawful justification, resulting in physical injury or personal discomfort”.
- **Non-physical Assault:** “The use of inappropriate words or behaviour causing distress and/or constituting harassment”.
- **Abuse:** Within the context of this document the term abuse refers to either or both physical and non-physical abuse of staff.

### Procedure for Managing and Reducing the Threat of Physical and Non-Physical Abuse towards Frontline Staff

#### 1. Advance Notification

Call Dispatchers will notify the on-call crew of potential risk/s that they are aware of when a call is received, or during subsequent calls, and any relevant information received from other agencies such as An Garda Síochána.

#### 2. Managing Risk

MAS, on an annual basis, will ensure that a framework is in place that identifies risks associated with all its activities as an on-going process in the achievement of its strategic and operational objectives.

## Module 2 Assurance working environment for patient and care team in emergency

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### 3. Individual dynamic risk assessments

Staff must assess situations, and should be particularly cautious in the following circumstances:

- Where there is a clear indication that individuals may be under the influence of alcohol or drugs.
- Where the patients, friends or bystanders are known to be violent.
- Situations involving crowds.
- When the patient is clearly angry.

Patients with mental health problems are unlikely to be violent and probably need help and reassurance. However, staff have a right to know about factors that affect their safety. To assess the risk presented by an individual staff should make discreet enquiries amongst psychiatric staff or social workers if present.

### 4. Staff Safety – Good Practice

There are many steps that can be taken to reduce the threat of violence, and the following is not an exhaustive list. Personal safety is paramount and measures to reduce the threat of violence can be taken before reaching the patient:

- Lock the vehicle while driving.
- Park as near as practical to the address you are called to.
- Where provided take all equipment likely to be needed in to the premises.
- Lock the vehicle at all times when away from it.
- If the behaviour of any person gives cause for concern, for example if they are drunk or a potentially violent person is present and doubts about personal safety arise, then staff should make an excuse not to go in and should advise Call Dispatchers of this decision and subsequent action.



- Dynamic risk assessment: continually assess the scene, remain aware of the person or people concerned, the environment and any objects that might be used to threaten or harm and maintain exit routes in case problems arise.

## Module 2 Assurance working environment for patient and care team in emergency

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### 5. Managing Situations

The most effective means of minimising the risk of abuse is to assess the situation and manage or avoid potential areas of conflict. It is recognised that the very nature of abuse is unpredictable, therefore it is imperative that staff should:

- Remain vigilant at all times.
- Monitor and assess changes in behaviour and attitude.
- Communicate with patients, and bystanders explaining actions taken.

### 6. Dealing with Bystanders

When violence occurs it can often come from anxious friends or relatives. It is important to work as a team. Whilst one crew member is dealing with the patient, the other should deal with concerns from other people who are present. Keep bystanders informed and explain procedures where necessary. Treat patients and bystanders courteously, and in addition:

- Draw bystanders away to allow the patient to receive necessary treatment.
- If a bystander is becoming agitated ask them to do a job, such as getting the patient's clothes ready for the journey to hospital.

### 7. When Physical Violence or Threatened Violence Occurs

- Staff should put their own safety and that of colleagues first.
- Try to withdraw from the situation to a safe place if you have suffered physical violence, or believe that violence is imminent.

## Module 2 Assurance working environment for patient and care team in emergency

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- Call for Garda assistance.
- Use non-aggressive disengagement techniques, such as calm communication with the aggressor.

### 8. After an incidence has occurred

Abuse at any time is stressful, and even more so when trying to treat a patient. Following an incident allow yourself time to recover and seek support from your colleagues or designated support nominees. Even after minor incidents, feelings may be difficult to control, and may affect your ability to deal with further calls. This is a natural reaction. Where necessary request the following actions, if they have not been activated on your behalf:

- A base manager to attend to the immediate aftermath, and to provide advice and guidance and ensure that the appropriate incident recording is done.
- Call An Garda Síochána if they are not already on scene.
- Time to recover from what occurred.
- If physical injuries have been suffered, seek appropriate medical assistance.
- Seek counselling if desired through Peninsula Business Systems.

After an incident has occurred staff may be asked for a statement and to describe parties involved.

### 9. Use of Physical Control for Avoiding Violence

The use of any form of physical restraint must be restricted to situations of absolute necessity, that is, to situations, where the risks of not restraining a patient are greater than the risks of restraining him or her. Such situations are most likely to arise when a patient is causing, or is likely to cause, serious harm to themselves or others, through assault, self-harming or serious damage to property.

## Module ② Assurance working environment for patient and care team in emergency

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Whenever physical restraint is used it carries inherent risks. However, failure to restrain a patient where there is a serious risk of harm could amount to a failure in the duty of care.

Physical restraint should be deployed using the minimum amount of force necessary for the shortest period of time. The actions of staff should be proportionate to the circumstances that led to a patient needing to be physically restrained.

The actions staff have taken to defend themselves could be used as evidence in a court of law, and you could therefore be required to defend your physical actions.

Instances may occur where crew staff and the police are in attendance together. It is not the role of staff, even when assisting police, to intervene or tackle criminals or potential criminals, even if attempting to restrain and individual.