

HELPING STARTS WITH THE FIRST AID CERTIFICATE. READ, LEARN AND WATCH THE ONLINE INSTRUCTION VIDEOS.

the Orange Cross book



 THE OFFICIAL GUIDEBOOK FOR FIRST AID

the Orange Cross book

THE [👑]OFFICIAL GUIDEBOOK FOR FIRST AID

Commissioned by and under the supervision of the Dutch 'Stichting Koninklijke Nationale Organisatie voor Reddingwezen en Eerste Hulp' (the Royal Dutch Foundation for Rescue and First Aid), 'The Orange Cross'



THE **ORANGE** CROSS

Colophon

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Frank Muller ZorginBeeld: 13, 16, 20-21, 23 (top photo)-29, 31-35, 37, 40-41, 42 (at step 5) 43-44, 47-49, 54-55, 57, 60-62, 65-67, 70-71, 73, 79, 85-86 (photo above), 91 (right), 92 (photo below), 93-96, 98, 100, 102, 105-107, 110, 113. Rob Lamping Ba-lyon: 22, 23 (below), 30, 39, 42 (photo above) 46, 50, (photo above) 52, 56, 63, 74, 76, 83, 86 (photo below), 92 (photo above) 99, 101, 111, 120. Pim Evers Fotostudio Lighthouse, Breda: 18, 51, 64, 91 (left), 114 (right). Science Photo Library: 82. Shutterstock: 14. Thinkstock: Cover photo, 113 (photo above) 114 (left) 115. Pim de Ruijter: 103. Raouf Othman Quagga: 50 (photo below).

ISBN 9789006410358

27th edition, first issue, 2016

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About The Orange Cross

The Royal Dutch Foundation for Rescue and First Aid "The Orange Cross", was established in 1909. It promotes a wide spread of knowledge on first aid among the population. It examines independently and also (re)certifies first aiders and instructors on first aid. In addition, the Orange Cross also develops study material for first aiders, victim-actors and instructors.

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27th edition of the Orange Cross book

Preface

The Orange Cross has set itself the task of ensuring that as many people as possible are knowledgeable with respect to first aid and are informed and trained to such an extent that they can provide adequate first aid.

Since 1912, the Orange Cross Book has played an important role in disseminating first aid knowledge and in training first aiders.

In this 27th edition, the course material has been adjusted to the Dutch Resuscitation Council (Nederlandse Reanimatie Raad) and (inter)national guidelines First Aid.

Reactions to the 26th edition, frequently asked questions and general social, medical, technical or other external developments have also been taken into consideration. This version makes use of Layar, which enables you to obtain extra information via an app on your smartphone or tablet.

The aim of the Orange Cross is an unambiguous interpretation of the established first aid guidelines out of a practical point of view. This enables the first aider to memorize all information and apply it easily whenever necessary. This book only states possible exceptions which may have consequences when it comes to providing first aid. In line with this vision this book incorporates guidelines regarding children.

Many people have contributed to this edition from within and outside the Orange Cross organization. We would like to thank them for making it possible to publish this useful manual.

This book is intended for the situation in the Netherlands, where the emergency number is 112. This is also the emergency number in other EU countries. If you want to use this book elsewhere, please note the local emergency number.

The Hague, September 2016

B.A.J. Jongejan, MD, director

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Introduction

Many people are willing to help their fellow citizens, if needed. By qualifying as an Orange Cross first aider, you can improve the quality of the help you are able to provide.

This book covers all first aid techniques described in the attainment targets of the Orange Cross First Aid Certificate. Studying the contents of this edition in combination with sufficient practical training will leave you well prepared for the Orange Cross First Aid exam.

Performing first aid is not your daily job. That is why we do not complicate matters unnecessarily.

- The first aid techniques you will learn are generally applicable. They can be used for all first aid situations and target groups. For some groups, a specific approach is additionally described.
- We use as little materials as possible. It is handy to always carry a small first aid kit with you, but the first aid techniques can also be performed using improvised resources.
- The first aid techniques are the central focus; theoretical background information is kept to a minimum.
- All first aid situations are described clearly, and all techniques are explained in clear language and images.
- Per situation, we indicate whether and which medical professionals should be called upon.
- Certain situations in which identification of the injury is difficult, even for professionals, and in which the risks run by intervention are greater than those of refraining from action, are not within the scope of this book or included in the Orange Cross First Aid certificate.
- This also includes techniques that require specific tools or that occur so infrequently that it is not useful to include them as standard for the First Aid certificate.

The following information is important for all first aiders:

- Anybody in the Netherlands may dial 112. The ambulance dispatcher decides whether to send an ambulance and the ambulance staff decides whether a person is taken to hospital. These decisions do not fall under the responsibilities of a first aider. The first aider cannot be held accountable for them. Therefore, always call 112 if necessary. Let the dispatcher know if the victim is reluctant to accept professional help.
- The risk of contamination with infectious diseases is very limited and can be further reduced by the use of first aid equipment, such as gloves. The absence of such equipment is no reason to refrain from performing first aid.
- Lay persons should be able to perform the techniques. Since you do not provide first aid on a daily basis, it is necessary to practice regularly. Practicing the current techniques is a condition for recertification. In order to keep up-to-date on changes in course material or guidelines, we recommend that you regularly check the website, www.hetoranjekruis.nl, or subscribe to the digital newsletter.
- Once you have obtained your First Aid certificate, you may sign-up to local citizens' networks. You may then be summoned via the emergency dispatch centre to perform CPR in your neighbourhood.

Dutch Guidelines First Aid

The contents of this book has been based on the Dutch Guidelines First Aid and compiled by the Orange Cross board of experts and the Red Cross medical committee. All guidelines are also carried by the Dutch Institute for In-house Emergency Officers (NIBHV).

Whenever the wording of the guidelines seems to deviate from the official guidelines, the reader may trust that this is

unintentional and that the official guidelines are leading.

The guidelines define (certified) first aid as: *"First aid is the help and primary care given during an acute disease or injury. A first aider's goals are to sustain life, alleviate suffering, prevent deterioration of the disease or injury and promote recovery. First aid can be started by anyone in any situation and includes self-care.*

Initial assessments and interventions should be medically responsible and based on scientific research or, in the absence of evidence, based on an expert opinion.

First aid skills include:

- *recognizing, evaluating and prioritizing the need for first aid*
- *providing care based on the right knowledge, skills and behaviour*
- *acknowledging complications and, if necessary, calling on the correct additional care"*

Should you wish to comment on this book, please send an email to the Orange Cross: onderzoekenontwikkeling@ehbo.nl.

Everywhere where it says 'he', 'him' or 'his', 'she' or 'her' is intended to be included.



The Orange Cross book has been enriched by Layar. Whenever you see the Layar icon, look up additional information with the Layar app on your smartphone or tablet.

- Step 1 Download the Layar app for free on iPhone or Android.
- Step 2 Open Layar whenever you see the Layar icon, hold your smartphone or tablet above the page and press "tap to view".
- Step 3 Take a look at the additional information selected by the Orange Cross.

Open Layar to find all additional footage to go with the 27th edition. This footage is updated regularly (see also www.youtube.com/user/HetOranjeKruis).

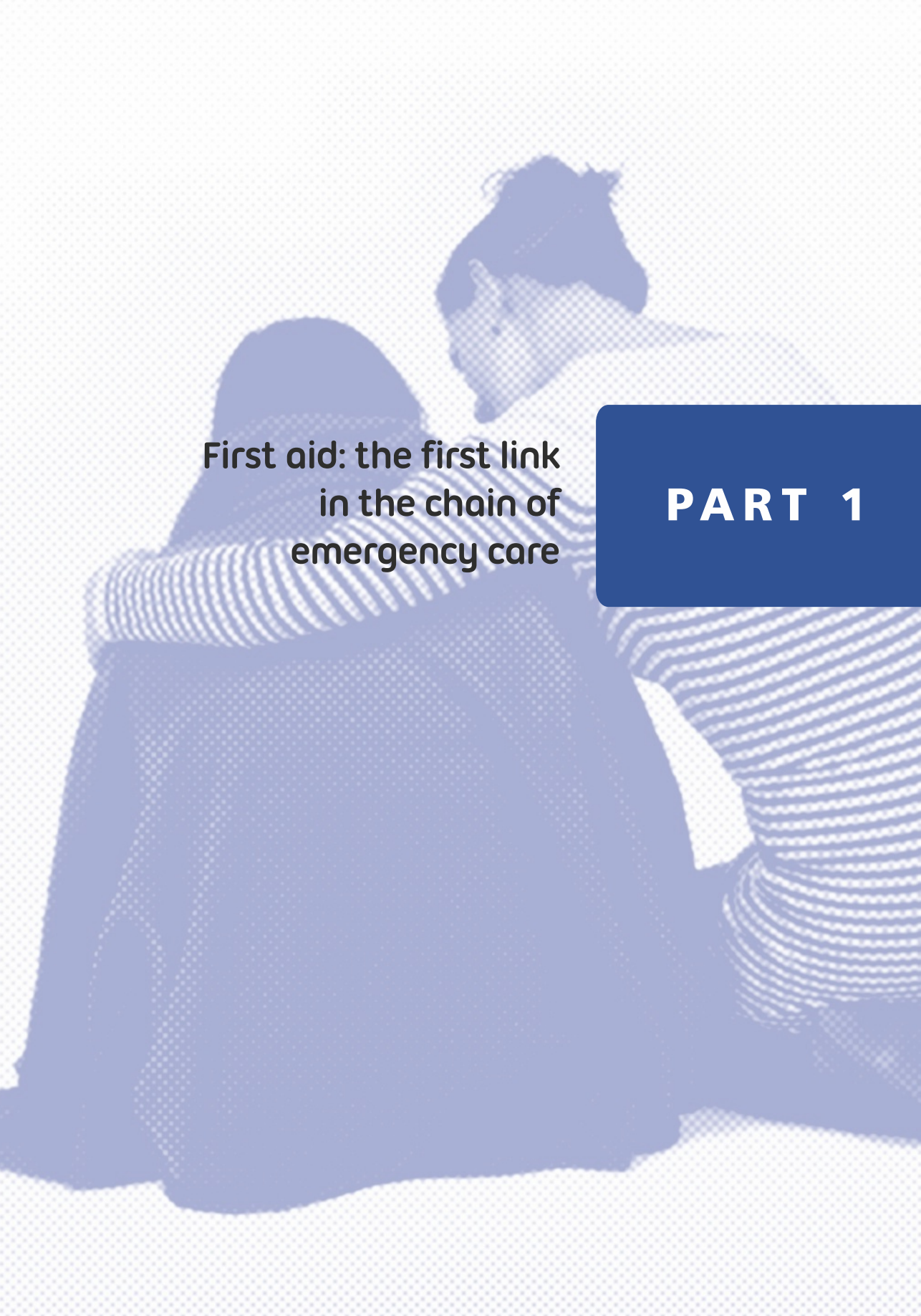


Structure of this book

This book consists of three parts. Part 1 and 2 contain the general principles of first aid. Part 1 focuses on the first aider's position within the chain of emergency care and Part 2 focuses on the safety of the victim, bystanders and the first aider. Part 3 focuses on the first aid techniques. The first aider first checks for any potentially life-threatening injuries and

diseases (see 3.8, p.53), and then for any other injuries (see 3.9, p.85).

All paragraphs follow a set structure: a description of the situation, combined with possible symptoms (what do you see or hear?), followed by the desired approach (what to do?) accompanied by a step-by-step description of the first aid techniques.

A person wearing a striped shirt is lying on the ground, and another person is leaning over them, providing assistance. The scene is overlaid with a semi-transparent blue filter.

**First aid: the first link
in the chain of
emergency care**

PART 1

1 FIRST AID: THE FIRST LINK IN THE CHAIN OF EMERGENCY CARE

You witness an accident and someone asks for help. What do you do? You want to help, but how do you help the victim of an accident? A victim is someone who suffers an acute, potentially life-threatening, impairment of his physical or mental health. In this chapter, you will learn about the role of the first aider.

The first aider:

- is the first link in the chain of emergency care
This chain may further consist of a General Practitioner, the Out-of-Hours GP service, an ambulance or a hospital.
- has the knowledge and skills to ensure the transfer of a victim to a healthcare professional, in the best possible condition
- prevents the victim condition from deteriorating, his disorders and injuries from becoming more severe and acts to diminish the risk of complications
- will not undertake any intervention that may interfere with the treatment by medical professionals

1.1 THE FIRST AIDER

In this book, you will learn to identify emergency situations and techniques that allow you to help a victim with as few resources as possible. These first aid techniques are applicable to any situation, on strangers, for example in the street, on friends and family at home and at the workplace.

This book only contains information required to act as a first aider. You will learn to identify which situations you may deal with yourself, and when professional help is required. You will also learn how to provide first aid while awaiting the arrival of the medical professionals.



Be prepared

Practical ways in which a first aider can prepare to provide first aid:

- Put the phone number of your GP or Out-of-Hours GP service in your phone's contact list. By entering AAA or 000 in front of the name, all important phone numbers will be close together.
- Make sure you have a well-stocked first aid kit at home and in the car, so that you are well-prepared for the actual provision of first aid.
- Put together a small first aid kit, with for instance a bandage, plaster tape, a pair of scissors and a rescue blanket, which can easily be carried on your person.
- If you know where the nearest AEDs are located, you will be able to respond more quickly in case of CPR. Some AED cabinets only open with a code. In such cases, call the phone number on the cabinet. Also you can enter the numbers of AEDs you frequently encounter into your phone contacts.



AED-logo

You will also learn that some techniques do not belong to first aid:

- Situations in which it is difficult to determine the health status of an unknown victim, even for healthcare professionals, such as in case of anaphylactic shock.
- Providing medication that may be life-saving for one victim, but deadly for another (epinephrine pen).
- Interventions for which you need specific tools that require prior training, such as tools for inhaling asthma medication.

These interventions can, however, be performed by a carer. This is important information for you as a first aider, as you may encounter carers.

Informal care

"Carers are friends and relatives who regularly provide help for a person in need of care due to disease or disability."

Source: Nationaal Kompas Volksgezondheid

If you know someone who suffers from a particular condition, you may have experienced a time when that person's health deteriorated suddenly. You have witnessed such deterioration and know which help is required. This person may, for example, be a diabetic. You know how he responds when his blood sugar is too low and what you can do to help. This kind of care, which is only aimed at people you know, is called informal care. This type of personal care allows you access to tools belonging to the patient and provides you with the knowledge to use them. Such interventions do not belong to first aid.



Informal carers are instructed by the patient or those around him on when and how to act, who to call (parents/GP/hospital) and what to say to the dispatcher. They learn, for example how to medicate the patient. Informal care, in principle, falls under the responsibility of the GP or specialty doctor.

Informal care is not part of the First Aid curriculum. A first aider is not necessarily

an informal carer and an informal carer is not necessarily a first aider.

Please note: it often happens, especially in education or child care, that people with a first aid certificate are asked to administer medication to someone with a specific

disease, such as an epinephrine pen in case of severe hypersensitivity reaction. Naturally, it is crucial that organizations manage this type of care sufficiently and have it documented in a declaration of aptitude, signed by a certified person. ***This is not part of the First Aid Certificate.***

1.2 THE VICTIM

Reassure the victim

After an accident or upon sudden disease, a victim is often anxious or panicked and sometimes even irritable or aggressive. He needs help and reassurance. Reassure a victim by:

- making sure he can see you
- kneeling down next to him if he is lying down
- making (eye) contact
- telling him your name
- telling him that you are a first aider
- possibly holding his hand or putting your arm around his shoulders
- placing a cuddly toy somewhere it can be seen or felt in case of children

- covering wounds (with bandage); a great amount of blood can look frightening and may provoke a panic reaction in the victim or in bystanders

In addition, make the victim feel that he is in good hands by talking in a calm and friendly manner. Even if you think that he is unconscious, he may be able to hear you. Repeatedly, tell the victim what you are doing or what you are going to do, especially if he cannot see you (for instance, in the case of a back injury).



Always respond to questions and remarks and take the victim seriously. It is not necessary to give full information but what you say must be the truth. Never say "things are not so bad", when in fact they might be. Also, do not comment on other victim's injuries.

How to handle the victim's personal information

A first aider does not ask for a victim's personal information (name and address), for medicine use or their medical history. You can, however, ask the victim whether there is someone they would like you to call.

Do not go looking into a victim's bag or clothing for such information. Leave this to the healthcare professionals.

An exception to this rule is if a victim is

unable to communicate due to age or a physical or mental impairment. With the victim's permission, you may look for a phone number or address of a contact person in order to get him home, if professional help is not required.

Whilst delivering first aid, you may encounter an SOS pendant containing important information. This information is not useful for the first aider but it may be relevant to the healthcare professionals. Therefore, point out the pendant to them.



SOS pendant

1.3 ACTIVATING PROFESSIONAL HELP

Get professional help by:

- calling 112
- calling the general practitioner's emergency number
- calling the Out-of-Hours GP service.
In cities or villages without this service, call the emergency ward of the hospital
- advising the victim to make an appointment at the GP, dentist or specialty doctor

Part 3 of this book will teach you when to call 112, the GP/ Out-of-Hours GP service or another healthcare professional.

Calling 112

If you call 112, make sure to state whether you need an ambulance, the police or the fire brigade.

Call 112:

- in case of a severe and/or traffic restricting accident, call for an ambulance as well as police or the fire brigade
- in case of a severe accident or disease at the workplace, in public buildings or on the street
- in case of life-threatening emergencies, such as severe breathing difficulties, serious injuries, paralysis on one side, severe chest pains or epileptic seizure

An ambulance, beside from providing emergency care, can also ensure responsible and/or fast transport to a hospital.

Preferably ask a bystander to call 112. That way, you can start providing first aid right away.

Whenever calling 112, the dispatcher will want to know the address first, in order to send an ambulance ahead. The dispatcher also needs the address to potentially activate a citizen network so that nearby first aiders can be called to the scene.

If you do not know your exact location, the dispatcher can track your phone down or send you a text message, in which you can authorize him to access your location.

If possible, put the phone on speaker. Make sure you know how this works. Putting your phone on speaker enables you to provide first aid whilst communicating with the dispatcher and receiving instructions. The speaker also enables the dispatcher to determine whether the ambulance should drive with high priority. Always follow the dispatcher's instructions.

The dispatcher should first be notified of:

- the victim's location:
 - town, street and house number
 - a nearby landmark, such as a petrol station, museum or a driver location sign
- on which phone number you can be reached

Let the dispatcher's questions guide you at all times.

The dispatcher may ask questions such as:

- Is the situation safe for the victim/caller/bystanders/emergency services?
- What has happened?
- Is the victim responsive?
- Are there several victims?
- Can the victim speak on the phone?
- Is the victim breathing?
- Is the breathing fast, slow, and/or audible?
- What is the victim's complexion?
- Is there any severe blood loss? Is the bleeding fast or slow?
- Is the victim trapped?

Only end the call after the dispatcher has told you to do so.



Driver location sign

If after the call, the victim's situation deteriorates, such as a loss of consciousness, redial 112.

If you think you may be dealing with intentional injury (abuse, aggression), dial 112 for the police if the source of the danger is still present. If the situation is safe, call the local police via 0900-8844.

Calling the GP or the Out-of-Hours GP service

In practically any urgent demand for care, the GP or Out-of-Hours GP service may be called. If necessary, the GP will contact an ambulance, dentist or specialty doctor.

If the situation does not require immediate professional attention, advise the victim to contact his own GP in case of persistent, increasing, recurring or unexpected symptoms.

Facilitating the medical professionals

The healthcare professionals should be able to reach the victim as quickly as possible. Ensure a clear access route and guide them towards the victim. At sports grounds and on rural roads especially, it can take a long time for the ambulance or the emergency car of the GP on duty to reach the victim.

If possible, use a flashlight or your car headlights to indicate your position and tell this to the dispatcher. This way, the ambulance can drive straight to the victim once they have reached the street, as opposed to having to search for barely visible house numbers or entrances in the dark. Make sure your lights do not blind the ambulance driver.

Transfer to medical professionals

Keep performing first aid until the medical professionals indicate that they are ready to take over. That is when your assistance stops, unless the paramedics ask for your help. Answer any questions the paramedics may have. They may ask you what you think is wrong with the victim, and what first aid you have already given. If possible, also inform them of any changes in the situation since your 112 call.

It is possible that the situation is so severe that there is no time to listen to you. Do not feel ignored if that happens.

Help medical professionals by making sure they are not obstructed by nosy bystanders, obstacles or pets (especially dogs).

1.4 EMOTIONAL RESPONSES

In the first aider

An accident is always unexpected and may have far-reaching consequences. When providing first aid, you may be confronted with:

- severe injuries
- several victims, with one or more injuries
- the death of one or more victims

If you are prepared to deliver first aid, you will feel less powerless if you are suddenly required to do so.

Talk to others if you find yourself unable to stop thinking about the accident for days or weeks afterward. Preferably speak to other healthcare providers who were at the scene; if this is impossible or insufficient, seek professional support via your general practitioner.

In bystanders

Witnessing an accident can evoke a wide range of responses in bystanders, such as shock, sweating, stress or panic. In

addition, hindrance, cursing or other aggressive behaviour may occur. It is important for a first aider to remain calm in these situations. In some cases it can help to involve these bystanders in the first aid process.


It may be that reactions from bystanders make it impossible to provide first aid. In such cases, remain calm; getting angry has the opposite effect and may even put you in danger.

Panicked people need distraction and calming down. It is sometimes necessary to take these people aside to prevent the panic from spreading. Panicked people are unable to help you providing first aid.

Groups of people are less inclined to provide help in case of an accident than individuals. It is as though everyone waits for someone else to take the initiative. As a first aider, take the initiative and directly address a person in the group if you need assistance.



Address an individual from the group if you require assistance.

A blue-tinted photograph of a woman with glasses supporting an elderly person. The woman is standing and holding the elderly person, who is leaning forward. The image has a halftone dot pattern.

**Prevent
(more) victims**

PART 2

2 PREVENT (MORE) VICTIMS

When providing first aid, it is important to be aware of potential dangers to yourself, to the victim and bystanders. This chapter will teach what to do as a first aider to prevent additional victims.

2.1 BE AWARE OF DANGER

It is always important to be aware of possible danger, to yourself and to others.

It is impossible to provide first aid in an unsafe environment. A first aider must then limit himself to activate professional help by calling 112.



Children are curious.

Also take measures to ensure that there will be no additional victims by limiting danger.

Examples of measures are:

- turning off electricity
- locking up pets
- putting out cigarettes
- preventing small children from accessing poisonous substances
- turning a car engine off and putting the handbrake on, whilst taking into account the possibility of the airbags going off
- putting on a safety jacket
- redirecting traffic
- extinguishing a starting fire
- using a flight mask in case of smoke
- reporting suspicious situations to the police

Follow instructions from the police, ambulance personnel, fire brigade or the road inspector once they have arrived.

Do not go and sit in the victim's car unless a professional tells you to do so: airbags may still go off and injure you. When providing first aid, try to keep your head outside of the car as much as possible.

2.2 REMOVE THE VICTIM FROM A DANGEROUS SITUATION

It may occur that the victim needs to be moved. For example in order to remove him and yourself from a dangerous situation, such as a fire or a danger of collapse. Also move the victim if it is impossible to provide sufficient help at the scene of the accident.

How to move a victim

If a victim is unconscious or suffering an injury which prevents him from walking or hopping, use the Rautek technique. This enables you to safely move a victim, especially on rough or uneven ground.

If the Rautek technique is no option, find another way of dragging the victim out of the dangerous situation, for instance by his clothes, arms or ankles. Ask a bystander for help if you decide to move a victim by his ankles. Ask the bystander to lift the victim's head up slightly. It is also possible to carry the victim together with a bystander.

Whenever the victim is still able to hop, walk alongside him on the side of the injury. Let the victim hold your shoulder.

If the victim is a child, move him by carrying him. Hold the child as horizontally as possible and ensure sufficient support of the head and neck.



Walk along the victim on the side of the injury.



Hold the child as horizontally as possible and support head and neck.



THE RAUTEK TECHNIQUE FROM THE GROUND

Step 1

Take place behind the victim and bring the victim into a sitting position. Let the victim lean against your body.



Step 1

Step 2

Slide both your arms underneath the victim's armpits.

Step 3

Grab one forearm. If an arm is injured, grab the non-injured arm. Lay the forearm horizontally in front of the victim's chest.



Step 3 and 4

Step 4

Place your hands, with fingers and thumbs joined closely together over the victim's forearm. In this way your thumbs will not press against his ribs while you drag him away.

Step 5

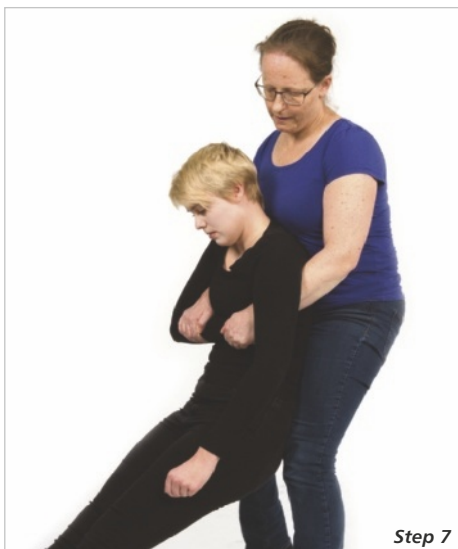
Crouch down as closely to the victim as possible. Place your feet and knees on either side of him.



Step 5

Step 6

Lift the victim by straightening your legs. The closer you keep the victim against you, the less strain will be exerted on your back.



Step 7

Drag the victim away from the dangerous situation by walking backwards with him. Mind your step.

Step 8

Place the victim back on the ground in reverse order. Place his head gently on the ground. Provide the necessary first aid.

THE RAUTEK TECHNIQUE FROM A (CAR) SEAT



After a severe accident, only pull someone out of a car in case of a life-threatening situation. For instance, if the car is on fire or if the victim is in need of CPR.

If a victim can walk or hop, help him to get out of the car. Any other type of victim should be moved using the Rautek technique.

Step 1

Stand next to the victim in the doorway of the car, if necessary releasing the feet from under the pedals. Push the victim against the back of the seat with your right arm, in order to loosen the tension on the seat belt. Use your left hand to release the seat belt. If you do not succeed in this manner, use a seatbelt cutter or sharp scissors. Support the victim with your left hand to stop him from falling forward.

Step 2

Place your right arm along the back of the victim and slide it underneath the right armpit. Take the right arm and pull him slightly towards you.

Step 3

Place your left arm under the victim's left armpit. Use your left hand to take hold of the victim's right arm also and hold it horizontally.

Step 4

Place your hands, with fingers and thumbs joined closely together, over the victim's forearm. In this way your thumbs will not press against his ribs while you drag him away.



Step 5

Pull the victim against your chest and draw him out of the car. If necessary, brace yourself against the car.

Step 6

Lift the victim up by stretching your legs. Hold the victim close against your body to lessen the strain on your back. Make sure both your heads are outside the car first.

Step 7

Drag the victim away by walking backwards. Mind your step.

Step 8

Lay the victim down in a safe place and provide the necessary first aid.

If the victim is on the right side of the car, perform the technique in a mirrored way. So you begin by grabbing the victim's left arm.

Important considerations:

- If the victim is trapped in the car, try to create space by moving the seat back.
- If the victim is leaning against the car door, open the door slightly and push the victim back.
- If the victim is lying across the car, pull him out through the car door nearest to his head.

Rautek technique from a bed or sofa

The Rautek technique can also be used to move a victim from a bed or sofa.

This is not only necessary in case of danger, but also if the victim needs CPR, as chest compressions are not effective if the victim is lying on a soft surface.

Before performing the Rautek technique, drag the victim towards the edge of the bed as much as possible, using a sheet or blanket if necessary.

2.3 CONTAGION

When providing first aid, the first aider and the victim are in very close proximity, creating a chance of mutual contamination. Germs are transmitted by bodily fluids and exhaled air. Infection can be caused by germs. In an infection, the body is unable to fight germs effectively.

What to do to reduce infection?

- Avoid blood contact and contact with other bodily fluids whenever possible.
- Work as hygienically as possible. If available, use sterile equipment, gloves, face shields and/or breathing masks (see 3.5, p.47). It is not mandatory to use them as the risk of infection is very limited.

However, the use of sterile equipment is recommended.

- Wash your hands or use disinfectant before providing first aid.

- Also, wash your hands after providing first aid.

Make sure you do not prick yourself with used injection needles or other sharp objects. If this occurs anyway, contact your general practitioner.

Gloves

When putting on gloves, do **not** touch them on the part which will be in contact with the victim.

After providing first aid, take off your gloves by pulling them inside out, retaining any dirt within the gloves.





THE ORANGE CROSS

Would you like to know how to provide first aid in the event of an emergency? The Orange Cross book contains the official course material for the First Aid Certificate. Handy, practical, and understandable for everyone.

By means of clear colour photos and step-by-step instructions, you learn what to do and why. The instruction videos are NEW, you can watch them via the free Layar app. This clear book is suitable as course material and as a reference book. This 27th edition of the Orange Cross book is completely revised due to new insights and developments, and complies with the current Dutch First Aid Guidelines (2016). The Dutch First Aid Guidelines have been developed with the cooperation and approval of the Board of Experts of the Orange Cross, the Medical Committee of the Dutch Red Cross and the "Nederlands Instituut voor Bedrijfshulpverlening" (Dutch Institute for In-house Emergency Response) (NIBHV).

