

Easy. Effective. First aid.

The manual for all Red Cross courses

Legal information

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Dear Reader,

Thank you very much for your interest in our manual "Easy. Effective. First Aid." By reading it, you are taking an important step in helping people around you, maybe even saving a life.



This manual and your participation in a Red Cross course will provide you with the knowledge of how to react in the event that you find yourself in a sudden emergency situation. Because, after all, the only wrong thing is to do nothing.

An emergency may occur at any time and anywhere. Immediate aid is often crucial. This applies especially to sudden circulatory arrest, the initial treatment of which is particularly close to my heart. It presents an extremely time-critical emergency where every second counts and first aiders must not wait for the rescue services.

As most emergencies happen in a domestic environment, you help primarily people you are close to, such as family members or friends. And in many cases, this is very easy – child's play – in a manner of speaking. In a case of circulatory arrest, for instance, you can bridge valuable time with only two hands and chest compressions and thereby save a life. It is, therefore, vital that everyone knows the most important and simplest First Aid and resuscitation steps. You may also use this book for reference when you are not sure or to refresh your knowledge on a regular basis.

Anyone can easily save a life. You are very well prepared for such an eventuality, thanks to the knowledge gained in the Red Cross course.

Many thanks, and enjoy reading.

A stylized, handwritten signature in blue ink. The signature is fluid and cursive, appearing to read 'B. Böttiger'.

Professor Dr. Bernd W. Böttiger, Federal doctor of the DRK
– Medical Responsibility –

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1 Prevention

Emergencies cannot be completely ruled out. But many dangerous situations can be avoided. Those who recognize dangers early on can effectively protect themselves and their environment.

You will learn everything about practical prevention measures in this chapter, tailored to various target groups and situations.

1.1 Children

Children frequently hurt themselves. Fortunately, most accidents are minor: These result in a small scratch or bruise. The sources of danger vary depending on the age of the children. Children under the age of 4 are typically involved in household accidents. Burns from hot stoves or crushing injuries caused by unsecured doors are typical examples. Older children, on the other hand, are more likely to have accidents in the playground, garden or road traffic. Here they suffer bruises or fractures in the event of falls. Since children constantly develop and become more independent and more mobile, even parents, grandparents and teachers underestimate the danger. Talk to your children about possible dangers in an age-appropriate way and prevent typical emergencies and accidents from occurring in their daily lives.

Make your home childproof, e. g.:

- Secure sockets, doors, windows and stairs
- Secure cupboards, drawers and beds
- Arrange furniture age-appropriately, safely and in a way that prevents it from being overturned
- Do not place climbable furniture within reach of windows
- Do not use tablecloths which hang over the side of the table
- Do not place charging cables for mobile devices (mobile phones, tablet PCs) and power cables (e. g. from electric kettles) within reach or allow them to hang down
- If possible, place the changing table in a corner of the room, place a soft carpet in front of it and make sure that nappy-changing essentials are within reach

Ensure safety in general and also during play, e.g.:

- Always keep at least one hand on the child when changing their nappy. Change their nappy without any interruptions
- Do not leave a child unattended in a high chair
- Remain alert, even in everyday situations
- Avoid toys with small parts
- Use safety-tested, colour-fast toys. Repair or discard broken toys
- Do not wear lanyards or key chains around your neck; always remove them before playing – this also applies to protective headgear
- Do not allow the child to climb with belts, ropes or reins
- Remove cords from garments
- Put long scarves in your clothes
- Do not allow the child to run around with a lollipop or ice lolly, etc. in their mouth

Safety outdoors and in road traffic, e.g.:

- Accompany children to school until they can safely manage it on their own
- Start road safety training at an early age
- Hold children by the hand when climbing stairs or on stony paths
- Do not leave children unattended in potential accident situations (e.g. swimming, climbing, romping around and barbecues)
- Use car restraint systems and child protection devices which are suitable, securely installed and adapted to the height, weight and age of the child
- Keep an eye on children in the car: use an additional safety mirror
- Provide children with suitable, easily visible protective equipment (protectors, etc.) in road traffic and for certain sports (e.g. cycling, inline skating)
- In general: set an example as an adult (e.g. always wait at a red traffic light, wear a cycle helmet)

Protect children from burns, e.g.:

- Inform children of the dangers at an early age
- Do not place containers with hot liquids (cups, mugs, soup plates and pots, inhalers) within reach of small children
- It is best to heat infant food slowly in a hot-water bath or on the stove; after heating food in bottles or jars in the microwave, stir it well and try it yourself before feeding – it is often hotter than expected
- Cook on the rear hot plates, secure the stove with a stove guard
- Do not leave children unattended in the kitchen while meals are being prepared
- Turn pot and pan handles to the rear
- Check the temperature of the bath water (max. 37° C) with a thermometer and your forearm before bathing

- Handle naked flames (lighter, matches, fireplace, etc.) with caution and care (set an example). Do not leave children unattended
- Keep matches and lighters out of the reach of children
- Install smoke detectors (now mandatory in many federal states)
- Wrap hot-water bottles in a cloth (do not fill with liquids over 50° C), in order to avoid direct skin contact; never use with babies
- Apply sufficient sunscreen, avoid long periods of time in the sun – especially at mid-day – and sunburn

You will find tips for creating a child-resistant environment on the website of the German Red Cross at:

www.drk-eltern-campus.de/ratgeber/alltagsfallen-unfaelle-mit-kindern-vermeiden (German only)



The Kinderschutzbund Dortmund (Dortmund Child Protection Association) provides further tips at:

www.dksb-do.eu/wp-content/uploads/2017/10/Broschuere-Kinderschutzbund_2016_Web_20SeiterStand2016.pdf (German only)



1.2 Senior citizens

The risk of falling increases with age. In addition to age-related impairments, the causes include movement restrictions due to illnesses (e.g. stroke, Parkinson's disease). Taking medication (including painkillers and sleeping pills) also increases the risk of falling. There are also trip hazards and slip hazards in the house arising from carpets or puddles of water.

Targeted measures can significantly reduce the risk of falling:

- Muscle strength and mobility training (strength and balance training)
- Wear suitable shoes and hip protectors
- Use walking aids if required
- Adapt the home age-appropriately:
 - Do not use door sills or carpets, or provide carpets with an anti-slip mat
 - Install grab rails
 - Provide sufficient lighting, especially at night
- Eat a healthy diet and drink plenty of water
- Have your eyes checked regularly, wear appropriate vision aids if required

Further tips can be found in the DAS SICHERE HAUS (SAFE HOUSE – DSH) campaign by the Deutschen Kuratoriums für Sicherheit in Heim und Freizeit e.V. (German Board of Home and Recreational Safety) at:
www.das-sichere-haus.de/broschueren/sicher-alt-werden
(German only)



1.3 Sports and recreation

In contrast to children, adults are much better able to assess the dangers. However, they often underestimate them in sport and recreation. Unbalanced training, inadequate preparation and overestimation increase the risk of injury.

Dangers are also easy to avoid here:

- Wear suitable footwear for the sport in question
- Wear suitable protective equipment (helmets, protectors)
- Warm up before training (10–15 minutes): prepare the body specifically for the upcoming demands and slowly increase the load
- Warm down after training (10–15 minutes): gradually reduce the load
- In the case of acute illness, ask your doctor beforehand about a suitable sports activity and its scale; always ensure that viral infections are completely cured
- Take environmental factors into consideration and, e.g., refrain from sports activity if there is a high level of ozone or pollution
- Carry plenty to drink and eat, including reserves, and consume them regularly
- Take mobile phone, potentially power bank and first aid materials, such as plasters, first aid kit, and survival blanket with you
- Carefully plan activity (know your route and alternative ways, take maps with you)

Emergencies in the water are rare but often fatal – and can occur all year round: In summer, many people misjudge the dangers of water such as currents and depths. Swimmers also overestimate their abilities. In winter, children and adults fall through ice on frozen lakes and rivers because they overestimate the ability of the ice to support their weight.

These emergency situations can be avoided if you observe the following swimming and ice rules:



Wasserwacht

Mit Sicherheit am Wasser.

Swimming Safety Tips

Conduct in and
around water



other
languages
weitere
Sprachen

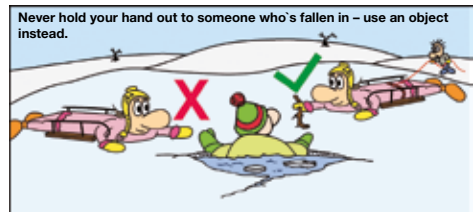
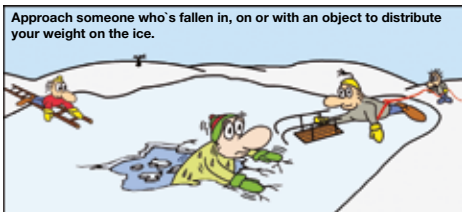
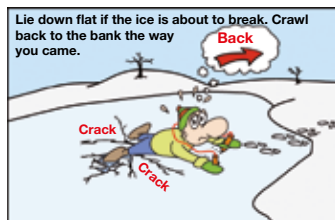
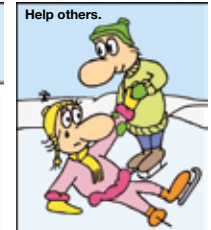
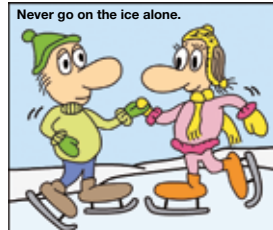
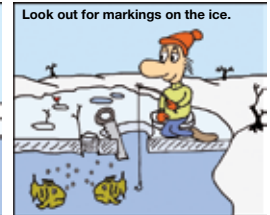
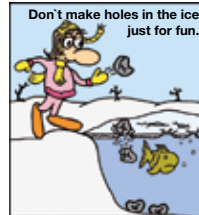
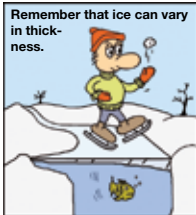


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12205 Berlin T.23 Ehrenamt und Breitenausbildung,
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Konzeption/Layout/Zeichnung: Kathrin Heinz

Ice Safety Guidelines



Only go on the ice when it's thick enough to take your weight.



1.4 Workplace

Occupational accidents often occur when employees are careless or disregard safety rules.

Like other emergencies, they can be avoided if the following points are taken into consideration:

- Wear personal protective clothing (including hard hats, safety goggles and protective footwear)
- Use a suitable safety harness when working at heights or depths
- Do not operate machines or vehicles under the influence of medication. Drugs often cause drowsiness, dizziness, or blurred vision and impair the ability to respond
- Wear clothing suitable for the weather conditions: Wear a hat outdoors in the summer and warm clothing in the winter
- Avoid working under stress and time pressure as much as possible
- Comply with the requirements of your employer, the accident insurance companies or the employers' liability insurance associations

Further tips can be found on the homepage of the German Social Accident Insurance (in German: Deutsche Gesetzliche Unfallversicherung, DGUV) at:
www.dguv.de/en/prevention



DON'T FORGET:

Many everyday situations are potentially dangerous. Be careful and take precautions to prevent emergencies. Extensive information is available from the Federal Centre for Health Education (in German: Bundeszentrale für gesundheitliche Aufklärung, BZgA) at: www.bzga.de/home/bzga



2 First aid is easy

If an emergency occurs, the provision of help is of paramount importance. There is even a legal requirement for citizens to assist. First aid is easy. Anyone can do it. In most cases, it is sufficient to calm and comfort the affected persons. Cover them to protect them from the cold, shield them from onlookers and, if necessary, call 112. In addition, other people can usually be brought in to assist in public areas. This chapter introduces you to the most important first aid measures and gives an overview of important emergency numbers.

2.1 Securing emergency locations

Road traffic

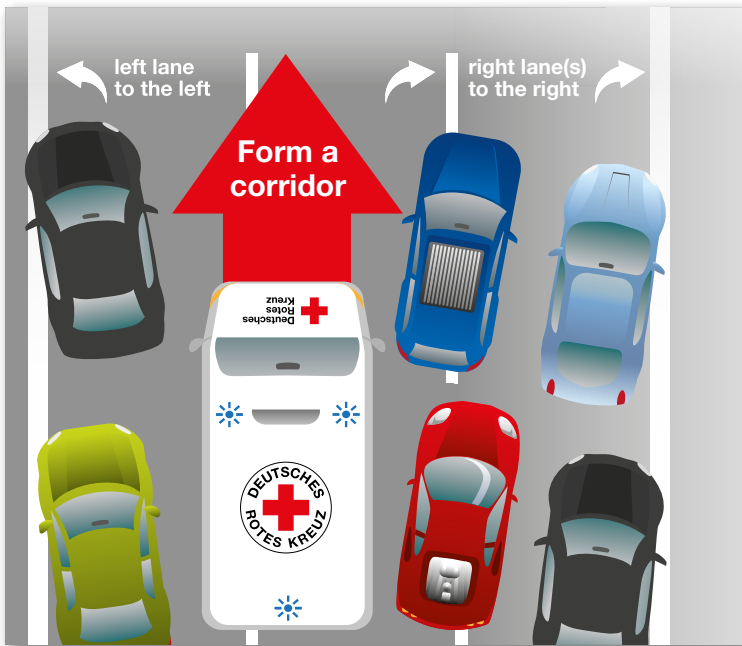
Road traffic accidents often pose dangers to the helpers. For this reason, personal safety has the highest priority:

- Switch on the vehicle's hazard lights
- Switch on the vehicle lights and illuminate the scene of the accident
- Park the vehicle at the side of the road at least 10 – 20 m from the scene of the accident
- Put on your high-vis jacket in the car before getting out
- Remove the warning triangle from the vehicle, open it, hold it in front of your body and approach the traffic while remaining behind the crash barrier as far as possible. If necessary, warn other road users by waving your arms up and down
- Place the warning triangle on the right-hand edge of the road at a sufficient distance from the scene of the accident (50 m in urban areas, at least 100 m on open roads and at least 200 m on motorways, and in front of bends and blind spots or places where visibility is restricted)



A **corridor for emergency** vehicle access must be formed immediately if there is a tailback on a multi-lane road. Do not wait until you hear the siren of rescue vehicles, but proceed as follows:

- Slow down
- Drivers in the left lane always drive to the left, all other drivers always drive to the right, the shoulders must be kept clear
- If necessary, stop and allow the emergency vehicle to drive past (also applies to oncoming traffic)



Other emergency situations

Helpers must also be vigilant in other emergency situations in view of potential dangers: A fire gives off toxic fumes which can enter the lungs through inhalation. In the event of an accident at work involving hazardous materials, these substances can escape, act on the body and cause unconsciousness or even circulatory arrest. In the event of electrical accidents, the affected persons become conductors – touching them would be life-threatening! So please bear the following in mind:

- Never endanger your personal safety, keep well clear of the danger area
- Never enter smoke-filled buildings
- Disconnect the power in the event of an electrical accident, e. g. by switching it off or unscrewing the fuse
- Ask affected persons to leave the danger area
- Warn other people of the danger, call 112

2.2 Rescuing from danger

Road traffic – Rescuing from vehicles

After a traffic accident, affected persons often cannot leave the vehicle on their own due to their injuries. If danger is imminent (e. g. a vehicle fire) or if the affected person is unconscious, they must be rescued from the vehicle immediately:

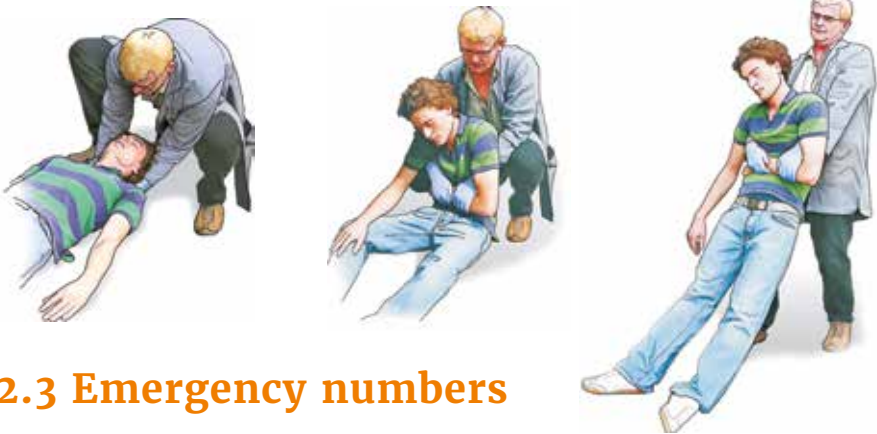
- Talk to the affected person; if they are conscious, help them to leave the vehicle
- If the affected person is unable to move or is unconscious, open the door of the vehicle, observe the affected person and talk to them
- Switch off the ignition
- Check whether the feet of the affected person are trapped
- Carefully undo the safety belt, cut it if necessary
- Hold the affected person at seat height from behind with their clothing in your hand at the far hip and push the knee of the affected person with your other hand with a vigorous movement to turn them
- Place one forearm of the affected person in front of their abdomen, pass both hands through their armpits and grasp the forearm from above with all your fingers
- Place your feet on the back of the affected person, pull the affected person off the seat and pull them up close to your body keeping their back straight. Ensure that the feet of the affected person do not get caught on the door sill of the vehicle and, if necessary, use another helper to prevent the person's feet from hitting the ground
- If necessary, support the affected person on your thigh when pulling them away
- Take the affected person to a safe place and put them down



Other emergency situations – Rescuing from the danger area

Rescue affected persons from the danger area as follows:

- Talk to the affected person; if they are conscious, help them to leave the danger area
- If the affected person is unconscious or unable to move, step behind them, hold both hands around their shoulder and neck area and put them in a sitting position, taking care that their head does not sag sideways if they are unconscious
- Place one forearm of the affected person in front of their abdomen, pass both hands through the armpits and grasp the forearm from above with all your fingers
- Place your feet on the back of the affected person, pull the affected person off the seat and pull them up close to your body keeping their back straight
- If necessary, support the affected person on your thigh when pulling them away
- Take the affected person to a safe place and put them down



2.3 Emergency numbers

Emergency number 112

112 is the free standard emergency call number for rescue services and the fire brigade which is available everywhere in the EU. 112 must be called in life-threatening situations, including heart attacks, strokes, severe bleeding, open bone fractures and burns. This also applies to situations which cannot be assessed or in which there are doubts about the state of health of the affected person:

- Call 112
- Provide an exact description of the scene of the emergency – place, street, house number, factory building, access roads, floor, direction of motorway travel – and do not hang up
- Wait for questions from the rescue control centre, e. g.:
 - What happened exactly?

- How many people are affected or injured?
- What illness/injury is present?
- Are there any hazards at the emergency scene?
- If necessary, the control centre staff will also provide telephone assistance or supporting instructions for first aid



Other important emergency numbers (Germany)

- **110:** Police
- **116 117:** Non-emergency medical on-call service of the National Association of Statutory Health Insurance Physicians. People with non-life threatening conditions can usually seek help from general practitioners and specialists at night, weekends or on public holidays. Conditions which can be treated by the non-emergency medical on-call service are e.g.: cold with fever ($> 39^{\circ}\text{C}$), persistent vomiting and diarrhoea, acute back or abdominal pain. Further information can be found at www.116117.de (German only)
- **+49 30 19240:** Berlin Poison Information Centre
Telephone advice for poisoning accidents, available around the clock
- **08000 365 000:** Advice on home emergency call via the DRK service telephone (free of charge). The home emergency call connection is suitable for single elderly or disabled people who can independently and directly request help in an emergency at any time. Information can be obtained by telephone or email to info@drk-hausnotruf.de.

2.4 First aid measures which are always correct

Anyone can implement these measures and they can be used in any emergency. Special knowledge is not required:

- Keep calm and involve other first aiders if necessary
- Ensure personal safety (e.g. always wear disposable gloves, put on a high-vis jacket, secure the scene of the accident)
- Talk to, care for and observe the affected person (provide psychological first aid)
- If necessary, place the affected person in or cover them with a rescue blanket (golden side facing outwards), use a jacket or wool blanket as an alternative
- If necessary, call 112 as quickly as possible
- Lay the affected person down at their request
- Shield the affected person from onlookers

2.5 Legal issues/insurance cover for first aiders

The obligation to provide assistance in Germany is regulated in Section 323c of the German Criminal Code (in German: Strafgesetzbuch, StGB): according to this, everyone is obliged to provide assistance in the event of accidents, common danger or emergencies if this is necessary and possible without considerable personal risk and without breaching other important obligations. Failure to comply with this obligation may result in imprisonment or a fine. "Considerable personal risk" would exist e. g. if you were to rescue a person from the water without being able to swim. "Breaching other important obligations" includes e. g. breaching the obligation to supervise children. In these cases, you must call 112 but do not have to provide any further first aid.

"If first aid is provided during leisure time or at home, the person providing first aid is under the protection of the locally responsible public-sector accident insurance provider with regard to physical injury and damage to property. In these cases, he or she is insured by law free of charge within the framework of the statutory accident insurance against personal injury and damage to property suffered as a result of the assistance."
(Source: DGUV, 2018, p. 7)

Further tips can be found on the DGUV homepage at
www.dguv.de/en/index.jsp



DON'T FORGET:

You can and must provide first aid using simple methods. However, you must not endanger yourself or other helpers when doing so. Accident and emergency scenes must therefore always be secured first. If affected persons are in a danger area, you must take them to a safe place where you can look after them, calm them down and keep them warm. You can alert the rescue services by calling 112.



3 Wounds

There are many ways to injure yourself in everyday life. It is usually enough to stick a plaster on small wounds caused by e.g. falls or cutting vegetables. But how should you treat wounds which are bleeding heavily? How is a bandage applied? And can bite wounds be washed?

You will find the answers to these and other questions about wound care in this chapter.

3.1 Principles of wound care

When it comes to wound care, it is important to treat the affected person appropriately and holistically. This includes e.g. keeping the affected person warm with a rescue blanket (golden side facing outwards), caring for them and moving them into a suitable or desired position. In most cases, it makes sense to position the affected person with the upper body elevated. Do not be afraid of the blood of strangers – disposable gloves provide reliable protection against infections.

The following principles apply to wound care:

- Do not touch wounds
- Wear disposable gloves
- Do not administer any medication or use household remedies such as powder, flour, creams, or ointments. Do not disinfect wounds (medical measure)
- Cover the wound in such a way that there is as little microbiological contamination as possible – touch sterile wound dressings as little as possible and only at the edge with fingertips – and fix the wound dressing, e.g. with an adhesive plaster or fixation bandage
- Unroll the bandage close to the body by standing as close as possible to the body or extremity of the affected person
- Unroll the bandage with a figure-of-eight turn: Wrap the affected extremity under the joint (circular motion), pass the bandage over the inside of the joint, carry out the next circular motion above the joint, pass the bandage downwards again, etc.
- Maintain mobility of the affected joint: Cut the plaster in the joint area
- Watch out for stasis. Possible symptoms are: Swelling of the extremities, blue-red discoloration, protruding veins, numbness. Cause: The bandage has been wrapped

too tightly (e.g. due to excessive tension on the elastic bandage or constriction of the bandage due to a knot)

- Cooling: e.g. with instant cold compresses, ice packs, cold poultices or frozen peas in a plastic bag. They closely cover the affected body parts and cool them for longer. Never place cooling elements directly on the skin but wrap them in a (triangular) cloth or similar. Do not force cooling and stop it as soon as it feels unpleasant
- If necessary, call 112

In some cases (e.g. accidents at work, accidents in educational and care facilities for children or sports accidents in clubs), you must document the assistance provided, e.g. in the first-aid log, in compliance with the current data protection requirements.

A **minor injury** is a small, seemingly harmless, wound which is often ignored.

Attention: Even the smallest injuries may provide entry points for (disease-causing) pathogens, there is also danger of infection. In the case of an infection with severe symptoms such as a feeling of illness never experienced before, extreme pain or shortness of breath, it is possible that the patient has sepsis (see page 49). Affected persons should seek medical treatment without delay.

Bandaging materials

Sterile bandaging materials have a use-by date, because the adhesive strength of adhesive dressings and adhesive plasters diminishes within a few years. Therefore, check at regular intervals whether the material is still suitable for use. Adhesive dressings in your vehicle may need to be replaced more frequently as the adhesive strength decreases under fluctuating temperatures. Ensure that the first aid kit is always complete and that the bandaging materials are intact.

Treatment by a doctor

If affected persons are unable to work after an accident at work, they must be examined by an accident insurance doctor. A (specialist) doctor should be consulted within the first 6 hours after all other injuries and in the following cases in particular:

- Wound is deep or large
- Bleeding persists or pulsates
- Signs of infection are present (redness, swelling, pus, hyperthermia, pain, fever)
- Sensation of pain is unusual, e.g. due to delayed wound healing
- Vaccination status is unclear, vaccination protection is inadequate/incomplete

- Injury caused by a dirty object (e.g. rusty nail)
- Wound is dirty or contains foreign matter
- Wound is on the face (especially ears, lips and eyelids), near the joints, on the perineum or around the genitals
- Stab and gunshot injuries (possible internal injuries)
- Bite wounds (high risk of infection)
- The affected persons are aged 60 and over or children under 2 years of age

Protective vaccination against tetanus (lockjaw)

In Germany, all babies, children, adolescents and adults generally receive complete protection against tetanus in accordance with the guidelines of the Standing Committee on Vaccination (in German: Ständige Impfkommission, STIKO). If you have incomplete basic immunisation, you should have the missing vaccinations taken care of as soon as possible. In the case of children, it is recommended that they have a booster vaccination at preschool age and between the ages of 9 and 17. Adults with complete basic immunisation should have a booster vaccination every 10 years. Further information about vaccinations can be found on the STIKO homepage or on the current calendar of vaccination.

Further information can be found on the website of the
Robert Koch Institute at:
www.rki.de/EN/Content/infections/Vaccination/Vaccination_node.html



3.2 Heavy bleeding

Heavy bleeding is caused by damage to larger blood vessels e.g. in the neck, collarbone, upper arm, wrist, groin, thigh and lower leg. This can lead to a high loss of blood within a short period of time which often results in shock. It is therefore important to stop such bleeding as quickly as possible and then position the affected person with their legs slightly elevated (shock position).

Providing assistance:

- Keep calm
- Ensure personal safety
- Call 112
- Hold the affected extremity up or have it held up
- Place the affected person on a blanket, calm and comfort them

- Always kneel on the injured side of the affected person's body
- Press material on the wound to stop the bleeding (preferably semi-sterile)
- Apply a pressure bandage:

If the bleeding cannot be controlled by direct pressure alone or if further injuries or injured persons have to be treated:

- Replace pressed-on material with a wound dressing (e.g. a bandage pack) if the change can be made in a short time or the wound is no longer bleeding. Secure the wound dressing with 2 – 3 circular turns
- If the wound dressing cannot be changed, place a pressure bandage over the material pressed onto the wound, place a pressure pad on the wound area
- Wrap further turns over the pressure pad
- Fix the end of the bandage with strips of plaster, by tucking it underneath or knotting it
- If a pressure bandage becomes soaked with blood, put pressure on the wound again. To do this, place another bandage over the pressure bandage or apply pressure to the wound (the pressure bandage) with your hands until the rescue services arrive
- Place the affected person on their back with legs slightly elevated and cover them (especially if they are pale, cold, experiencing tremors or have cold skin)
- Continue to care for, observe and comfort the affected person until the rescue services arrive
- If the affected person so desires, elevate the treated extremity (e.g. arm on upper body)



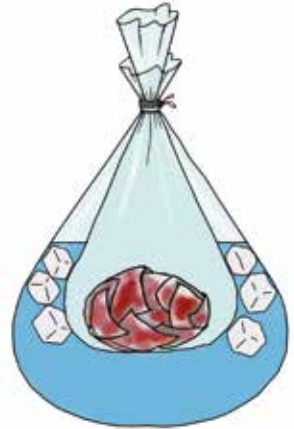
Bandages can also be applied with a folded **triangular bandage** (cravat bandage). The triangular bandage should be folded to the same width as the pressure pad. Elastic, non-absorbent material (e.g. a fixation bandage wrapped in plastic) is suitable as a **pressure pad**.

Amputation injury

Extremities may be severed in accidents involving machinery or sharp materials. Do not attend to the severed body part, which can often be reattached if properly treated, until you have stopped the bleeding.

Providing assistance:

- Keep calm
- Ensure personal safety
- Call 112
- Stop the bleeding, treat the wound (see page 22 f.)
- Care for and observe the affected person and keep them warm
- Wrap the amputated part in the same condition as you found it, so that it is kept dry with as little microbiological contamination as possible (e. g. with a sterile dressing sheet)
- Do not clean or wash the amputated part
- If possible, place the wrapped amputated part in a waterproof bag as it must not come into direct contact with the coolant. Put this bag in a second plastic bag filled with water and ice cubes. Ensure that the amputated part in the waterproof bag is completely covered by water. Alternatively, cool the wrapped amputated part with an instant cold compress. The optimum temperature is 4°C. Company first aid kits contain suitable foil bags with a seal.



3.3 Other wounds

Bite wounds

Bite wounds caused by animals and humans always pose a great risk of infection. Cats or dogs usually bite and transmit pathogens from the mouth into the wound. Apart from the skin, a bite also damages deeper tissue.

Providing assistance:

- Keep calm
- Ensure personal safety
- If possible, clean the bite wound immediately with (tap) water, then attend to the wound (see page 20 f.)
- Immediately seek medical advice for further treatment. If necessary, have a tetanus booster and/or an anti-rabies vaccination

Blister on the heel

Anyone who goes hiking or is wearing in new shoes is familiar with the problem: The shoe rubs against the heel and you find a blister when you take it off.

Providing assistance:

- Never puncture a closed blister
- Provide the wound area with a sufficiently large (blister) plaster (protects against friction and dirt)

Blister plasters do not stick to the weeping wound. They are provided with a gel layer which relieves pressure in the wound area and keeps it moist. Blister plasters are available in drugstores and pharmacies.

Foreign bodies in body orifices

Parts of toys stuck in the nose and ears are usually not life-threatening but are extremely unpleasant and often painful. You should therefore reassure and care for the affected persons – often children. A description of the foreign body will help the doctor with the treatment. Or you can show them an identically shaped object.

Foreign bodies in the airways

See page 47 f.

Foreign bodies in the eye/eye injury

If foreign bodies in the eye are not rinsed out by the lacrimal fluid, affected persons must consult an ophthalmologist. In the case of eye injuries, you must immobilise both eyes with a bandage. The affected persons will now be unable to see anything – look after them and explain everything you are doing. Warn them of obstacles, e.g. steps.

Foreign bodies in wounds

Foreign objects in a wound should not be removed but provided with padding if necessary. Do not exert pressure on the foreign object and do not move it. Large foreign objects may have to be shortened; dial 112 in this case.

Insect sting

If possible, remove the remnants of the sting and cool the sting site. Call 112 immediately if an allergic reaction occurs (e.g. shortness of breath, wheal formation, severe itching). Proceed as described on page 49 for stings in the mouth.

Tick bite

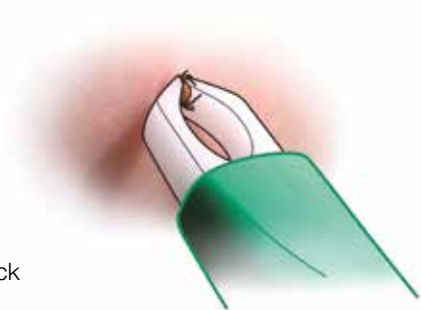
Ticks live in grass, leaves, bushes and shrubs. Since ticks can transmit pathogens, you should remove them promptly after a bite with a suitable tool (e.g. tick card, tick tweezers). Do not use any household remedies (glue, oil, etc.). Place an adhesive dressing over the bite site. You should seek medical advice if you are unable to remove the tick completely. This also applies if the bite site changes, e.g. if a ring-shaped reddening occurs. Monitor the bite site for several weeks. In educational and care institutions for children, if there are no individual regulations, the parents are informed and tick bites are recorded in compliance with current data protection requirements, e.g. in the first-aid log.

Providing assistance with tweezers or tick forceps:

- Use tweezers or tick forceps to grasp the tick as close to the skin's surface as possible and carefully pull it backwards out of the skin
- It is essential to avoid crushing the tick's body
- Avoid rotation, as this could cause the tick's head to
- break off and remain in the skin

Providing assistance using a tick card:

- Place the tick card flat on the skin and push it with the notch pointing towards the tick
- Carefully push the notch under the tick
- Push the card further and lift it slightly to pull out the tick



Ticks can transmit borrelia or the **tick-borne encephalitis virus** (TBE; in German: FSME). There is no preventive vaccination against **borreliosis** but a TBE vaccine is available. Further information can be found on the website of the Robert Koch Institute at:
www.rki.de/EN/Content/infections/Vaccination/Vaccination_node.html



Nosebleeds

Nosebleeds can be caused by a blow to the nose, but also high blood pressure or overexertion.

Providing assistance:

- Keep calm
- Ensure personal safety
- Sit the affected person down and bend their head slightly forward with their upper body upright
- A cloth or a cotton handkerchief will suffice
- Ask the affected person to breathe through the mouth and press the nostrils (soft parts of the nose) together with the thumb and index finger
- Place cool compresses or instant cold compresses wrapped in cloth around their neck
- Do not remove blood crusts from the nostril
- In the case of persistent/heavy bleeding, always place the affected person on their stomach and call 112



Avoid **nasal compression** if the nose is obviously broken or the affected person is unconscious.

You should not perform nose compression on smaller children before they have been instructed to breathe through the mouth and not swallow blood. Swallowing too much blood can lead to vomiting and black stools.

Tooth injury

A fall or a blow to the face could cause injuries to the teeth. A tooth is knocked out in the worst case. Knocked-out teeth or broken tooth parts must be attended to since they can be replanted.

Providing assistance:

- Keep calm
- Ensure personal safety
- Elevate the upper body
- Bend the head slightly forward or have it bent forward

- Open the mouth so that the blood can flow off more easily
- Cool the affected side of the face
- Protect teeth/parts of teeth (e. g. with semi-sterile compress), catch hold of it only at the crown without touching the root of the tooth. Keep the teeth/tooth parts moist if possible (e. g. with saliva, cold UHT milk, tooth rescue box)



Tongue bites should also be cooled, e.g. by having the affected person suck ice cubes or by applying a cooling compress. Always ensure that the blood can drain and is not swallowed.

3.4 Various bandages

The type of injury and the affected body part are decisive for the question of how and with which materials a bandage must be applied. The aim is always to ensure that the affected area remains mobile even with the bandage, that the blood vessels are not squeezed and that the bandage does not slip.

Elbow bandage

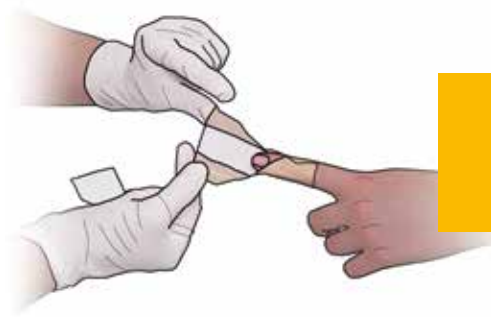
- The affected person is sitting or lying in the field of vision of the person helping them
- Remove the bandage pack near the wound
- Place the wound dressing on the wound while slightly bending the affected forearm, in order to maintain the mobility of the joint and prevent stasis
- Wrap the wound dressing with several bandage turns until it is completely covered. Wrap the crook of the arm alternately from the upper arm to the forearm and back (figure of eight turn) in doing so
- Fix the end of the bandage with strips of plaster, by tucking it underneath or knotting it



A bandage is applied to the **knee joint** in the same way.

Fingertip bandage

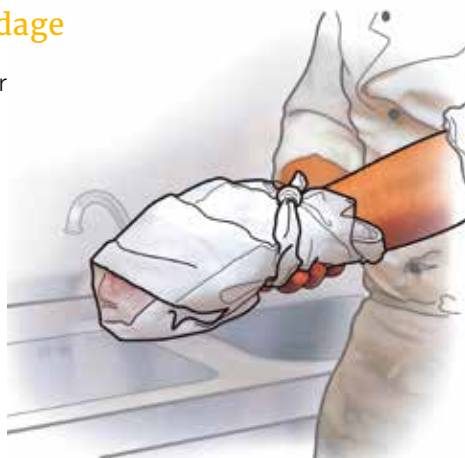
- Select or cut off a sufficiently large piece of adhesive dressing (plaster) (approx. 8 – 10 cm long)
- Fold the adhesive dressing inwards in the middle and then cut off the two folded corners diagonally in the area of the adhesive strips
- Pull off the protective strips in turn without touching the gauze
- Stick about half the adhesive dressing around the injured finger
- Grasp the protruding half of the plaster at the two upper corners with the thumb and index finger, place it around the injured fingertip and stick it in place



Preformed adhesive dressings are now commercially available and are included in vehicle and company first-aid kits.

Hand bandage with triangular bandage

- Spread out the triangular bandage and place your hand on it with the fingers towards the point
- Place the dressing on the wound
- Place the point on the forearm in such a way that it lies far enough over the hand and wrist to prevent the bandage from slipping
- Grasp both ends and cross them over your hand including the point, wrap them around the wrist and fasten with a knot



Head bandage

- Place a compress on the wound
- Hold the short piece of elastic fixation bandage in place and wrap two turns over the wound dressing on the forehead. After the 2nd turn, bring the bandage forwards from the back of the head under the ear to the chin

- Now bring the fixation bandage under the chin over the opposite cheek to the crown of the head and then bring the fixation bandage from the crown of the head over the cheek under the chin to the back of the head. Then wrap 2 turns around the head like a headband
- Afterwards, bring the fixation bandage around the neck, along the ear and chin, up to the cheek and then over the crown of the head to the other cheek
- Wrap the bandage alternately around the forehead and chin until no bandage material is left. Finish by ensuring that the bandage cannot come loose again, e.g. secure it with plaster strips or by tucking in the end of the bandage



DON'T FORGET:

If blood flows after an injury, the first step should be to treat the wound. Always wear disposable gloves. Stopping the bleeding with a wound dressing is all that is needed in most cases. Apply a bandage if the wound is bleeding more heavily. Only clean bite wounds and visibly or heavily soiled wounds and leave foreign bodies in the wound. If affected persons lose teeth or even body parts in an accident, you should also deal with them appropriately after wound care.

Always keep an eye on the affected persons during and directly after wound treatment – it is often better to treat them lying down and then position them as required or with the upper body elevated. Place the affected person in the shock position in the case of heavy bleeding.

4 Various injuries and emergencies

There are many ways to injure yourself during sporting activities, at work, at home or during your spare time. Falls, blows or damage caused by corrosive or hot substances are just a few examples.

In this chapter, you will learn about the various injuries and what action you can take.

4.1 Injuries to the musculoskeletal system

Injuries to the musculoskeletal system are most frequently caused by sporting activities. But such injuries can also occur when falling downstairs or as a result of a (car) accident.

Certain types of injury often occur during sport. The healing process can be accelerated if the injury is sufficiently cooled at an early stage (RICE; in German: PECH-Regel, see page 32).

Typical sports injuries include:

- Muscle and bone bruises
- Muscle and joint strains
- Slight joint sprains
- Dislocations of joints
- Torn ligaments with severe pain under strain
- Fractures

It is advisable to have sports injuries examined by a doctor. Medical advice must also be sought if sensitivity and motor skills are impaired as a result of possible injuries to tendons, ligaments or nerves.

Indications:

- Pain in the area of the joint or bone
- Swelling
- Redness



Providing assistance:

After a sports injury, you should always apply **RICE** (in German: **PECH-Regel**) to reduce the swelling of the affected body part:

- **R**est (Stop the activity and immobilise the affected body part, e. g. with sweaters and blankets)
- **I**ce (Cool affected body part – min. 20 minutes, ideally 2–3 hours)
- **C**ompression (Fix cooling element with an elastic bandage/sports bandage)
- **E**levation (Elevate the affected body part, move as little as possible)



Instant cold compresses, ice packs, cold poultices or frozen peas in a plastic bag are suitable for cooling. They closely cover the affected body parts and cool longer. Never place cooling elements directly on the skin but wrap them in a (triangular) cloth or similar. You can fix the cooling element with a few bandage turns (light compression bandage) in the case of joint injuries and broken bones. Do not force cooling and stop it as soon as it feels unpleasant. Do not use ice spray.

Muscle injuries

In the majority of cases, muscle injuries are stretching injuries, such as pulled muscles, torn muscle fibres or muscle tears. The cause is usually insufficient warming of the musculature before sporting activity.

Indications:

- Sudden onset of severe pain in the muscle region
- Movement restrictions

Providing assistance:

- Keep calm
- Ensure personal safety
- Care for and observe the affected person and keep them warm
- Treat affected body parts according to RICE (in German: PECH-Regel)
- Immobilise the affected body part and pad with blankets or pillows if necessary
- Support the affected person in a relieving posture
- Seek medical advice if the condition does not improve

See page 10 for information on how to **avoid such injuries**.

Joint injuries/bone fractures

Falls, blows or compressive strains are not uncommon when playing football or skiing. Even a wrong movement in everyday life can cause a joint (e.g. knee or shoulder joint) to move out of place (dislocation) or bones to break (fracture) in the worst case. Since first aiders are often unable to determine whether a joint injury or a bone fracture has occurred, affected persons should always be examined by a doctor.

Indications:

- Sudden onset of severe pain
- Bruising
- Swelling
- Pressure sensitivity, numbness
- Muscular weakness
- Restricted movement or inability to move
- Relieving posture
- Shortening, abnormal position/movement of limbs
- Bone noises (rubbing of the bone ends in a bone fracture)
- Open wounds, possibly visible bone parts

Providing assistance:

- Keep calm
- Ensure personal safety
- Care for and observe the affected person and keep them warm
- Only apply RICE (in German: PECH-Regel) for joint injuries. Immobilise the affected body part and pad with blankets or pillows if necessary
- Support the affected person in a relieving posture
- Call 112
- Cover open wounds in such a way that there is as little microbiological contamination as possible, fix the wound dressing

If it is unclear whether a joint is **injured or fractured**, first aiders should always presume that it is fractured and refrain from taking the measures “position the extremity elevated” as well as the RICE rule. Only health professionals may move and position affected body parts.

4.2 Head and abdominal injuries

Brain concussion

The skull or brain can be injured by violent impact, such as blows, falls or violent shaking. Such accidents often occur in during sporting activities, leisure time or at home. Since internal bleeding can occur, affected persons often have to be kept under observation in hospital for a certain period of time.

Indications:

- Possibly a visible head injury
- Headache
- Nausea/vomiting
- Dizziness
- If necessary, memory gaps, no memory of the accident
- If necessary, impaired consciousness/unconsciousness

Providing assistance:

- Keep calm
- Ensure personal safety
- Elevate the upper body
- Care for and observe the affected person and keep them warm
- Constantly monitor consciousness and breathing
- Don't give them anything to eat or drink
- If necessary, call 112
- Seek medical advice
- If necessary, cover wounds in such a way that there is as little microbiological contamination as possible, fix the wound dressing
- If necessary, cool the affected area on the head if there is no open wound (see page 32)

Abdominal injuries

Injuries in the abdominal cavity can be life-threatening if important, well vascularised organs (e.g. liver, kidneys, spleen) are affected. However, this can often not be seen from the outside. For this reason, affected persons should always be examined by a doctor after an accident if they have acute abdominal pain. Please note that the symptoms may only appear a few hours after the event.

Indications:

- Pale skin
- Cold sweat, nausea/vomiting

- Dizziness
- Adaptive posture (legs bent to relieve strain on abdominal wall)
- Hard abdominal wall
- Possibly spasmodic abdominal pain
- If necessary, hematomas (blue/red spots on the abdomen)

Providing assistance:

- Keep calm
- Ensure personal safety
- Lay the affected person down at their request. Where appropriate, place them on their back by bending the legs and placing a knee roll underneath
- Care for and observe the affected person and keep them warm
- Constantly monitor consciousness and breathing
- Don't give them anything to eat or drink
- Call 112
- Cover open wounds in such a way that there is as little microbiological contamination as possible, fix the wound dressing

4.3 Thermal emergencies

Heat and cold can damage the body and quickly cause an emergency. A day on the beach can end in sunstroke for children or cross-country skiing in frostbite for the skier. The following will teach you how to recognise thermal emergencies and how to act.

Hypothermia

There are many everyday situations which can lead to hypothermia: for example, long periods in cold water or no weatherproof clothing in winter. Affected persons can quickly become hypothermic after an accident if they lie on the asphalt and are not kept warm. Hypothermia occurs when the body gives off more heat than it produces for a lengthy period of time. The body temperature drops because hypothermia spreads throughout the entire body. Quick action is needed, because it can cause unconsciousness or circulatory arrest if not remedied in time.

Indications:

- Tremors, chills
- Rapid breathing
- Pale skin, blue lips
- Increased pulse and blood pressure

As things develop:

- Drowsiness, confusion, apathy
- Shallow, irregular breathing
- Blue-grey skin
- Muscular rigidity
- Slow pulse, low blood pressure

Providing assistance:

- Keep calm
- Ensure personal safety
- Take the affected person to a warm place, remove wet clothing
- Call 112
- Do not actively (by movement, e.g. running around) or passively (by massaging the extremities) warm up the affected person if they appear to be apathetic and confused
- Cover the affected person with a (rescue) blanket (golden side outwards). Do not place the blanket directly on their uncovered body, as heat reflection/heat retention is then reduced. If a blanket and a rescue blanket are available, place the blanket on the inside of the body and the rescue blanket on the outside
- Give them hot, sugar-sweetened drinks
- Act according to the situation (treat wounds if necessary)



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Advise the affected person that unfolding the rescue blanket will cause loud noises. If the affected person is lying on the ground, **place the (rescue) blanket under them** as follows:

- Hold the affected person by the shoulder and hip and turn them towards you
- Place the (rescue) blanket lengthwise along the back of the affected person with 2/3 folded or rolled with the edge as close as possible to the body
- Turn the affected person back on their back and pull the edge out from under the body. If necessary, slightly lift the body of the affected person
- Wrap the affected person completely in the (rescue) blanket. If desired, leave one arm free to avoid movement restrictions, especially with children
- If necessary, fix the (rescue) blanket using strips of plaster



Babies and small children can be wrapped in the (rescue) blanket and held on the arm. The head should be covered (leave the face free), so that they lose as little heat as possible.

Frostbite

Frostbite usually affects individual body parts, most commonly the fingers, toes, ears and nose. The blood supply to these parts is reduced when it is cold and they are therefore more susceptible.

Indications:

- Pale skin, possibly with grey-white or yellow-white discolouration
- Cold, hard skin
- Numbness
- If necessary, blisters

Providing assistance:

- Measures as for hypothermia (see page 36)
- Do not move the affected body parts
- Cover frozen body parts in such a way that there is as little microbiological contamination as possible

Sunstroke, heat stroke and heat exhaustion

	Sunstroke	Heat exhaustion	Heat stroke
Cause	Caused by an excessive amount of strong sunlight on the uncovered head. This irritates the cerebral membrane.	High temperatures cause extreme sweating, so that the body loses a lot of water.	Caused by physical exertion at high humidity. The body overheats. The body temperature rises as a result.
Indications	<ul style="list-style-type: none"> Bright red head Normal body temperature Headache Nausea/vomiting Dizziness Possible stiffness of the neck Possible impaired consciousness 	<ul style="list-style-type: none"> Paleness Heavy sweating Cold sweat Dizziness Nausea/vomiting Fast, weak pulse Possible impaired consciousness Possible muscular cramps 	<ul style="list-style-type: none"> Bright red head High body temperature (hot, dry skin) Stabbing headache Nausea/vomiting No sweating Fast, strong pulse Possible impaired consciousness
Providing assistance	Take the affected person out of the sun to a shady place Remove unnecessary clothing Position the affected person with the upper body slightly elevated		
	Cool the head with wet cloths		Cool the body with wet cloths (possibly use a leg compress)
	Care for and observe the affected person Call 112 Constantly monitor consciousness and breathing If unconscious with normal breathing: recovery position (see page 61 f.)		



Emergencies caused by heat can be easily prevented: Avoid the midday sun and wear a hat and light, breathable clothing. Babies and small children should always be kept in the shade. Drink plenty of fluids (e.g. water, tea or juice spritzers) at high temperatures and carry out strenuous outdoor work at cooler times of the day (e.g. early in the morning or in the evening).

Burns/scalding

Burns are caused by friction (e.g. blisters on the foot) and radiation as well as by contact with hot liquids and objects, electric current or naked flames. Hot water or steam cause scalding. The wound must be examined by a doctor if it is larger than the palm of the affected person's hand. The higher the temperature and the longer the heat is applied, the more severe the damage to skin and tissue.

Indications:

- 1st degree: Redness, slight pain or itching, possibly slight swelling
- 2nd degree: Redness with blistering and severe pain
- 3rd degree: Charring of the skin, slight or no pain

Providing assistance:

- Keep calm
- Ensure personal safety
- Extinguish the flames if the affected person is on fire:
 - Stop the affected person
 - Extinguish the fire by means of a fire extinguisher or a woollen blanket (dense fabric, natural fibres) held in such a way that your fingers/forearms do not get burnt.

- Cover the neck of the affected person with the blanket. Place the affected person on the ground and carefully remove/smooth out the blanket from the neck towards the feet (do not pat down). Watch out for re-ignition
- If possible, quickly remove clothing:
 - Cut open clothing. Do not pull it over the face
 - Do not remove clothing stuck to the skin
- Call 112
- Small areas of the body burnt, no larger than the area of the lower arm, cool down immediately with, if possible, running (tap) water until the pain eases
- Cover wounds in such a way that there is as little microbiological contamination as possible, fix the wound dressing
- Do not burst burn blisters and do not use burn ointments
- Care for and observe the affected person and keep them warm where appropriate
- Constantly monitor consciousness and breathing

In addition to water, jackets, coats and other similarly dense fabrics made of natural fibres are also suitable for **extinguishing clothing fires**.

Fire extinguishers must not be aimed at the face. Also follow the instructions on the fire extinguishers.

Sunburn

Excessive exposure to the sun and the associated UV radiation can cause sunburn. Other sources of radiation (e.g. solarium) can also cause permanent damage to the skin.

Indications:

- Redness, slight pain or itching
- Possible slight swelling
- If necessary, blistering and severe pain
- If necessary, fever and shivering
- If necessary, nausea/vomiting
- If necessary, dizziness

Providing assistance:

- Keep calm
- Place wet and cooling cloths on the skin
- Drink plenty of fluids (e.g. water, tea or juice spritzers)
- Avoid the sun for a few days
- If necessary, seek medical advice

Sunburn can be easily avoided:

Use sufficient sunscreen with a high protection factor. Wear a hat/UV protection clothing and avoid the midday sun. Babies and small children should always be kept in the shade.

4.4 Poisoning and chemical burns

Poisoning

Poisoning can be caused by chemical substances, pharmaceuticals, pesticides, poisonous plants or spoiled foodstuffs and can lead to impaired consciousness and unconsciousness. If first aiders find affected persons lying unconscious on the ground, it is usually not immediately obvious that this has been caused by poisoning. Therefore, you should also consider poisoning in unclear situations.

Indications:

- Nausea/vomiting
- Diarrhoea
- Profuse sweating
- Headache
- Dizziness
- Abdominal pain
- Cramps
- Impaired consciousness/unconsciousness
- Respiratory/circulatory disorders

Providing assistance:

- Keep calm
- Ensure personal safety
- Call 112
- Talk to, care for and observe the affected person and keep them warm
- Constantly monitor consciousness and breathing
- Don't give them anything to eat or drink
- Do not induce vomiting but assist the affected person if they vomit
- Secure the vomit and remnants of the poison
- In the event of shortness of breath: Slightly elevate the upper body and provide fresh air
- If unconscious without normal breathing: resuscitation (see page 67 ff.). For your own safety, do not give artificial respiration in the case of contact poisons.
- If unconscious with normal breathing: recovery position (see page 61 f.)

Information on the **Poison Information Centre** can be found on page 18.



Do not give any **household remedies** such as milk or lukewarm salt water to affected persons. Prevent emergencies involving poisoning by **keeping hazardous materials out of the reach of children**. Never store poisonous substances in beverage bottles. Always wear the prescribed **protective clothing** and comply with the relevant safety regulations when handling chemicals.

Carbon monoxide poisoning

Carbon monoxide is a respiratory poison which is always produced when carbon-containing substances (e. g. petrol, wood or gas) only burn incompletely because the oxygen supply is insufficient. Carbon monoxide can even reach explosive concentrations in closed rooms. Since it cannot be seen, smelled or tasted, having a barbecue in the garage can quickly become a deathtrap. When carbon monoxide is inhaled, it binds more easily to the red blood cells in the lungs than oxygen. This impairs the transport of oxygen in the blood.

Indications:

- Headache
- Nausea/vomiting
- Unconsciousness
- Possible rosy complexion (despite lack of oxygen)

Providing assistance:

- Keep calm
- Ensure personal safety
- Call 112
- Open windows and doors, provide plenty of fresh air
- If necessary, only remove the affected person from the danger area after extensive ventilation
- Talk to, care for and observe the affected person and keep them warm
- Act according to the situation (treat wounds if necessary)
- If unconscious without normal breathing: resuscitation (see page 67 ff.)
- If unconscious with normal breathing: recovery position (see page 61 f.)

Carbon dioxide poisoning

Carbon dioxide is produced during biological decomposition processes (e. g. fermentation). It is an odourless and colorless gas which is heavier than air and displaces oxygen.

Indications:

- Finding a person around silos or pits
- Unconsciousness

Providing assistance:

- Keep calm
- Ensure your personal safety and do not make any rescue attempts
- Call 112

Chemical burns

Chemical burns can occur when chemicals come into contact with the skin. Burns are often the result of improper handling of hazardous substances or violations of safety regulations.

Chemical burns to the eye

An eye burn can cause blindness. As it is very painful, affected persons usually screw their eye up. This can make first aid more difficult.

Indications:

- Swollen and reddened eye
- Open wound

Providing assistance:

- Keep calm and talk to the affected person
- Ensure your personal safety and wear acid-resistant gloves
- Protect the healthy eye, e. g. hold it closed or cover with a wound dressing
- Turn the head to the side. Pour water from a height of approx. 10 cm towards the nose so that it runs off the body via the outer corner of the eye (healthy tissue should not come into contact with the corrosive substance)
- Rinse with running water until the pain subsides
- Apply an eye bandage over both eyes
- Call 112
- Continue to care for and observe the affected person and keep them warm

Skin burns

Burns to the skin and tissue cause damage which depends on the type of chemical (e. g. acids, alkalis), its concentration, quantity and exposure time.

Indications:

- Swollen and reddened skin
- Open wounds, blisters

Providing assistance:

- Keep calm
- Ensure your personal safety and wear acid-resistant gloves
- Remove wet or contaminated clothing
- If possible, rinse the affected area with running water. Ensure that the water runs off the body without coming into contact with uninjured body parts
- Call 112
- If necessary, cover wounds in such a way that there is as little microbiological contamination as possible, fix the wound dressing
- Care for and observe the affected person and keep them warm

Special **eye rinsing bottles or eye showers** are provided in chemical plants with a hazard potential and accident risk. There are also so-called emergency showers in which affected persons can take a shower. In the case of burns with calcareous material, the particles must be removed from the eye without rinsing with water. Rinsing is permitted for calcareous liquids.



DON'T FORGET:

The measures which are always correct are of fundamental importance for all injuries and emergencies. They include keeping calm, ensuring your personal safety, caring for, covering up and appropriately positioning the affected person as well as calling 112 if necessary. Injuries often require different treatment: If muscles or joints are injured, apply RICE (Rest, Ice, Compression, Elevation; in German: PECH-Regel). Move the affected body parts as little as possible.

In the event of a head injury (e.g. bump), you can cool the affected area on the head if the wound is not open. Position the affected person with the upper body elevated and observe them.

In the case of burns and scalds, immediately cool body parts with small burned areas with water. In the case of major burns and emergencies involving poisoning (including those caused by gases), calling 112 takes top priority. In addition, you must provide the affected persons with intensive care. Burned body parts are best rinsed with water. As a basic principle, cover open wounds in such a way that there is as little microbiological contamination as possible.

5 Acute illnesses and emergencies

After an accident, affected persons are often visibly injured and first aiders can see what needs to be done – e.g. dressing a wound with a plaster or bandage. On the other hand, it is often unclear what the affected person needs and how they can be helped in the case of acute illnesses. It is even more difficult in the case of small children, because they are not yet able to express themselves properly. Rapid action is necessary in this respect, because acute, i.e. sudden illnesses are often life-threatening emergencies.

In this chapter, you will learn how to recognise acute illnesses and how you can provide practical assistance.

Indications:

- Impairment of consciousness
- Respiratory disorder
- Speech disturbance
- (Severe) pain, relieving posture
- Anxiety, restlessness
- Discomfort, nausea, vomiting
- Cold sweat
- Skin colour
- Freezing, shivering

In addition to the measures which are always correct (see page 18), the individual first aid measures described below are required.

5.1 Respiratory disorders

Hyperventilation

Hyperventilation is deep, rapid respiration which causes too much carbon dioxide to be exhaled. It is usually a psychological reaction to feelings such as joy or fear. Brain injuries/diseases can also trigger hyperventilation.

Indications:

- Rapid breathing (> 20 breaths/min)
- Respiratory distress

- Tingling (formication), cramps in the hands (carpopedal spasm) and lips (carp mouth)
- Tremors, muscle aches and occasional paralysis of the extremities
- Headache, dizziness, blurred vision and drowsiness

Providing assistance:

- Keep calm
- Ensure personal safety
- Talk to, care for and observe the affected person
- Elevate the upper body
- Ask the affected person to make a conscious effort to breathe more slowly
- If necessary, rebreathing: hold your hand close to the mouth of the affected person
- Call 112 if the condition has not improved significantly after 5–10 minutes



Bronchial asthma

Bronchial asthma (“asthma”) is a chronic, inflammatory disease of the respiratory tract in which the bronchial tubes are constricted. It can be triggered by overexertion of the body in asthmatics, an allergic reaction or psychological factors.

Indications:

- Respiratory distress
- Breathing noises, e. g. rattling and whistling in the lungs during exhalation
- Severe cough with ejection of thick mucus
- Restlessness, anxiety and sweating

Providing assistance:

- Keep calm
- Ensure personal safety
- Call 112
- Talk to, care for and observe the affected person
- Interrupt the contact/supply of the triggering substance in the case of an allergic reaction
- Remind the affected person of breathing techniques they have learned (e. g. pursed lip breathing)
- Support asthmatics in taking their medication
- Facilitate breathing: elevate the upper body, loosen tight clothing, help the affected person take a sitting position which makes breathing easier, provide fresh air if necessary
- Avoid excitement and exertion



Foreign bodies in the airways

A foreign body in the airways obstructs or blocks breathing; there is a danger of suffocation. A common cause in children is swallowing small objects such as toys, nuts or sweets. However, food that has not been chewed properly can also cause airway obstruction in children and adults.

Recognising a mild airway obstruction:

- The affected person can stand, breathe, cough and speak normally

Providing assistance:

- Ask the affected person to (continue to) cough vigorously
- Keep the affected person under constant observation until they feel better and the possibility of deterioration can be ruled out



Recognising a severe airway obstruction:

- The affected person suddenly struggles for air and can neither cough, breathe nor speak
- The affected person points to their neck
- Panic, anxiety
- Possibly bluish discolouration of the facial skin (cyanosis)

Helping adults/children:

- Keep calm
- Call 112
- First, hit them on the back:
 - Stand to the side and slightly behind the affected person and support the chest with one hand
 - Bend the affected person forward as far as possible and maintain this position throughout the entire procedure. Alternative method for children: The affected child lies over the upper legs of the seated first aider. Bend the child's upper body forwards as far as possible
 - Strike vigorously between the shoulder blades up to 5 times with the flat of the hand
 - Check to see if the airways are clear again after each blow
- If the back blows fail, carry out abdominal thrusts:
 - Stand behind the affected person, bend their upper body forward and place both arms around the upper abdomen
 - Make a fist with one hand, place it on the upper abdomen below the sternum between the navel and the end of the sternum of the affected person
 - Grasp the fist with the other hand and pull it inwards and upwards 5 times
 - Check to see if the airways are clear again after each abdominal thrust

- If the airways are still obstructed, continue with 5 back blows and 5 abdominal thrusts in alternation
- In the event of circulatory arrest, start resuscitation



Helping a baby:

- Keep calm
- Call 112
- First, hit them on the back:
 - Lay the baby face down along your forearm while supporting its head
 - Place your arm on your thigh if necessary for safety's sake
 - Strike between the shoulder blades up to 5 times with the flat of the hand
- If the back blows fail, carry out chest thrusts:
 - Lay the baby face up (on its back along your forearm while you support its head)
 - Place your arm on your thigh if necessary for safety's sake
 - Place 2 fingertips on the middle of the chest/lower third of the baby's sternum and push down up to 5 times
 - The thrusts are similar to chest compressions but jerkier and with a lower frequency (approx. 3 seconds apart)
 - Check to see if the airways are clear again after each thrust
- If the airways are still obstructed, continue with 5 back blows and 5 abdominal thrusts in alternation
- In the event of circulatory arrest, start resuscitation.



Insect sting/allergic reaction

Insect stings can cause an allergic reaction. In the case of stings in the mouth, the insect venom causes the mucous membranes in the mouth and throat or tongue to swell up, thereby constricting the airways. Stings to the body can cause reactions such as itching or swelling around the sting site.

Indications:

- The affected person suddenly struggles for air and can neither cough, breathe nor speak
- Panic, anxiety
- Pain, redness and increasing swelling of the sting site
- If necessary, wheal formation
- Possible bluish discolouration of the facial skin (cyanosis)

Providing assistance:

- Keep calm
- Ensure personal safety
- Call 112
- Talk to, care for and observe the affected person
- Cool the sting site
- In the case of stings in the mouth and throat: Cool the neck area and have the affected person suck ice
- Facilitate breathing: Elevate the upper body, loosen tight clothing, help the affected person take a sitting position which makes breathing easier
- Where appropriate, support the affected person in taking their medication (emergency kit)
- Avoid excitement and exertion

Sepsis (blood poisoning)

Sepsis, also known as blood poisoning, is a serious illness that can occur when the body does not properly fight an infection. It can be life-threatening and may require quick action.

Sepsis occurs when bacteria, viruses, or fungi enter the body and cause an infection. This infection may occur in any part of the body, such as, for instance, the lung, the skin, or the urinary tracts. If the infection spreads, pathogens can enter the bloodstream and spread to the entire body. Sepsis may lead to serious complications, including organ failure, shock, or death. It is therefore important to identify and treat sepsis at an early stage.

Indications:

- An unfamiliar feeling of illness, extreme pain
- Confusion, drowsiness, character changes
- Shortness of breath, rapid breathing (more than 20 breaths per minute)
- Heart palpitations, quick pulse (above 120 per minute)
- Clammy, bluish, blotchy skin

Providing assistance:

- Call 112

5.2 Cardiovascular system disorders

Heart attack

A heart attack is a vascular occlusion in the heart and usually occurs suddenly. It is promoted by risk factors such as stress, excess weight, lack of exercise, an unhealthy diet and diabetes mellitus. It is a life-threatening condition which requires rapid action.

Indications:

- Sudden, stabbing chest pain
- Feeling of tightness in the chest. Fear (of death)
- Pain in the left shoulder and left arm
- Nausea, vomiting, back and upper abdominal pain (especially in women)
- Palpitations
- Paleness, cold sweat
- Respiratory distress

Providing assistance:

- Keep calm
- Ensure personal safety
- Call 112
- Talk to, care for and observe the affected person and keep them warm
- Facilitate breathing: Elevate the upper body, loosen tight clothing, provide fresh air
- Avoid excitement and exertion
- If unconscious without normal breathing: resuscitation (see page 67 ff.)
- If unconscious with normal breathing: recovery position (see page 61 f.)



Electrical accident in the household

Electrical accidents in the household can have many causes – e.g. a power cable is accidentally cut with pliers without first switching off the fuse, or a child inserts a knitting needle into a socket. Since electric shocks can lead to cardiac arrhythmia, affected persons should always be examined by a doctor. Burns or other injuries are also possible.

Indications:

- Affected person holding the conductor in a convulsive manner
- Palpitations
- Nausea and vomiting
- Paleness, cold sweat
- If necessary, burns (current marks, entry/exit point)
- If necessary, circulatory arrest



Providing assistance:

- Keep calm
- Ensure personal safety, interrupt the circuit as a priority
- Call 112
- Talk to, care for and observe the affected person and keep them warm
- Facilitate breathing: Elevate the upper body, loosen tight clothing, help the affected person take a sitting position which makes breathing easier
- If necessary, treat burns
- If unconscious without normal breathing: resuscitation (see page 67 ff.)
- If unconscious with normal breathing: recovery position (see page 61 f.)

5.3 Impairments of consciousness

Hypoglycaemia

Hypoglycaemia can have many causes: strenuous exercise, a missed meal or excessive alcohol consumption. An overdose of insulin may be the cause in the case of diabetics.

Indications:

- Lack of concentration and impaired coordination
- Headache
- Speech disturbance und blurred vision
- Abnormal behaviour (aggressiveness)
- Impaired consciousness

- Possibly seizures
- Sweating
- Palpitations
- Ravenous hunger
- Tremors

Providing assistance:

- If the affected person is still responsive, administer carbohydrates immediately (e.g. dextrose, sugary drink)
- If unconscious with normal breathing: recovery position (see page 61 f.)
- Call 112 if the affected person loses consciousness

Stroke

A stroke is caused by a vascular occlusion or bleeding in the brain. Unfortunately, it is often not recognised immediately because the symptoms are not always clear and do not all occur at the same time. Immediate action is necessary in the case of a stroke, as brain cells are irreparably damaged by the undersupply of blood. It is a life-threatening condition which requires rapid action.

Indications:

- Sudden headache
- Speech disturbance und blurred vision
- Impaired coordination
- Nausea and vomiting
- Hemiplegia, drooping corner of the mouth and closed eyelid on one side
- Difficulty in swallowing

Providing assistance:

- Keep calm
- Ensure personal safety
- Call 112
- Talk to, care for and observe the affected person and keep them warm
- Elevate the upper body
- Cushion the paralysed side in the case of hemiplegia
- If unconscious without normal breathing: resuscitation (see page 67 ff.)
- If unconscious with normal breathing: recovery position (see page 61 f.)



Seizure

Seizures can have many different causes: head injuries, a sudden increase in fever (in children), acoustic stimuli, light effects, hypoglycaemia, loss of fluid, etc. can all trigger a seizure. Injuries can occur during the seizure (e. g. bruising, bite on the tongue, haematoma).

Indications:

- Possible initial cry at the onset of the seizure
- Sudden, uncontrolled movements (convulsions) of the extremities
- White-red foam formation in front of the mouth
- Possible bluish discolouration of the facial skin (cyanosis)
- If necessary, vomiting
- Possibly enuresis

Providing assistance:

- Keep calm
- Ensure personal safety
- If necessary, call 112
- Remove any objects which could injure the affected person
- Let the seizure run its course, do not restrain the affected person
- Talk to, care for and observe the affected person (also the seizure activity, e. g. body parts concerned, duration of the seizure) and keep them warm
- Lay the affected person down if they so desire, and shield them from onlookers
- If unconscious with normal breathing: recovery position (see page 61 f.)

5.4 Particular features in children – (Acute) childhood diseases

Infectious diseases very often start with flu-like symptoms: headache and aching limbs, loss of appetite, fatigue, possibly coughing and high temperature. Affected children are irritable and very clingy. Clear symptoms indicating a particular illness will only appear at a later stage.

Indications:

- Little body tension/movement
- (Severe) pain, relieving posture
- Discomfort, nausea, refusal to eat or drink
- Cold sweat, skin colour
- Deviation from normal body temperature, possibly high fever

- Freezing, shivering
- Abnormal body excretions
- Impairment of consciousness, apathy
- Respiratory disorder (e.g. strained breathing), breathing noises (e.g. hoarseness, croup cough, wheezing with whooping cough)
- Difficulty in swallowing
- Speech disturbance (e.g. speech difficulties, soft speech)
- Anxiety, restlessness

Providing assistance:

- Keep calm and reassure the child
- Talk to, care for and observe the affected child and keep them warm, take note of particular features
- Ensure personal safety, wear disposable gloves and a face mask if necessary (e.g. when handling body excretions/secretions)
- If necessary, call 112 or have the affected child examined by a doctor and give advance notice of the visit to the surgery. For information on other emergency numbers, see page 18
- Do not give any food or drink in acute cases (e.g. before surgery, danger of airway obstruction with impaired consciousness)
- Administration of medication: Parents (teachers, if authorised) support the children in taking the prescribed medication, e.g. in the case of a known seizure condition/ asthma.

Parents must be informed at an early stage in educational and care institutions for children. The responsible health authority must also be notified in the case of certain illnesses.

Leave affected children at home or separate them from siblings, sick or vulnerable family members/people at daycare:

- Fever (slight fever up to 38.5 °C, high fever over 39 °C and extremely high fever over 41 °C)
- Skin abnormalities (e.g. pustules, rash, peeling)
- Abnormalities of the mouth and throat (e.g. reddened, abnormal mucous membranes, coatings in the throat, swallowing disorders, difficulties in swallowing, feeling of obstruction in the throat, breath odour, raspberry tongue in scarlet fever)

Pseudocroup and epiglottitis

Pseudocroup and epiglottitis are respiratory diseases that lead to swelling of the mucous membranes in the area of the larynx and vocal cords or epiglottitis and make breathing more difficult. Both diseases can be life-threatening for the affected child. Pseudocroup occurs mainly in autumn and winter and frequently at night, usually in children between 1.5 and 5 years of age. Epiglottitis mainly affects children between the ages of 3 and 7.

Indications:

- Barking cough in pseudocroup
- Quiet speech and massive salivation in epiglottitis
- Breathing noises, difficulties in swallowing
- If necessary, respiratory distress
- If necessary, fever

Providing assistance:

- Keep calm and reassure the affected child, hold them if necessary
- Call 112, especially in acute, life-threatening situations such as respiratory distress and asphyxia
- Facilitate breathing: Elevate the upper body, loosen tight clothing
- Open windows in the bathroom; the cooler air helps reduce the swelling of the mucous membranes
- Keep the affected child under constant observation
- Medical consultation in non-life-threatening situations

Febrile seizure

Febrile seizures particularly affect children up to the age of 5. They are caused by a rapid rise in body temperature (sudden fever) and not – as is often assumed – by an extremely high fever. For this reason, it makes sense to take anti-febrile measures at an early stage (e.g. leg compress or suppository administration) if children are prone to febrile seizures.

See Seizure, page 53 for indications and assistance

If you wish to lower your child's fever with **leg compresses**, uncover the child's legs and place a rubber or plastic sheet on the bed to protect it from moisture. Wrap cotton cloths which have been soaked in cool water and wrung out around both lower legs, leaving the joints free. Wrap dry towels around the damp leg compresses and then wrap another towel or wool scarf around them. Alternatively, you can pull a woollen stocking over them. Leave the covers open, so that no heat builds up.



Remove the leg compresses after approx. 10 minutes to avoid stressing the circulation. Do not apply more than 2–3 times in succession. Then check the temperature and let the child rest. The type, frequency and duration of the application may be specified by the doctor where appropriate.

Vaccinations

Infectious diseases such as, for instance, measles, are not harmless childhood diseases. They are highly contagious, can spread very quickly, and have serious consequences. Ask your family doctor or paediatrician for advice on vaccination options and have the vaccination status checked.

You will find further information on the subject of “Vaccinations” on the website of the Standing Committee on Vaccination (in German: Ständige Impfkommission, STIKO) and in the current vaccination calendar.

www.rki.de/EN/Content/infections/Vaccination/Vaccination_node.html





DON'T FORGET:

Every acute illness has typical symptoms which make individual first aid measures necessary:

- Place in a position appropriate to the situation: Facilitate breathing in the case of breathing difficulties or respiratory distress; elevate the legs and cover them in the case of freezing, shivering and pale skin
- Support the relieving posture taken in the case of pain and do not change the affected person's position
- Cooling: Neck and throat with difficulties in swallowing (e. g. allergic reaction after insect sting); forehead with headache; affected skin areas with itching, redness, swelling, rash (never place cooling elements directly on the skin, risk of injury)
- Leg compress for hyperthermia/increased temperature/fever
- Warming up: In the case of hypothermia, bring into a warm environment, give hot, sugar-sweetened drinks, change wet clothes, cover with blanket
- Providing assistance with vomiting: Support and care for the child, rinse the mouth (note the risk of infection!)

Home care service

Care and help at home!



In the case of illness, disability or age-related restrictions:

The DRK home care service will make you an offer which takes your needs into account.

Information available free of charge nationwide:

08000 365000

Give us a call. We are at your service.

365 days a year.

Chickenpox

Route of infection:

Viral droplet and smear infection (from person to person, via objects, “flying” infection over long distances, e.g. by wind/fans)

Incubation period: Approx. 14–16 days

Duration of infectiousness:

Approx. 2 days before to approx. 7 days after occurrence of the rash

Vaccination possible: Yes, from the age of 11 months

Lifelong immunity after illness: Yes

First possible recognition characteristics:

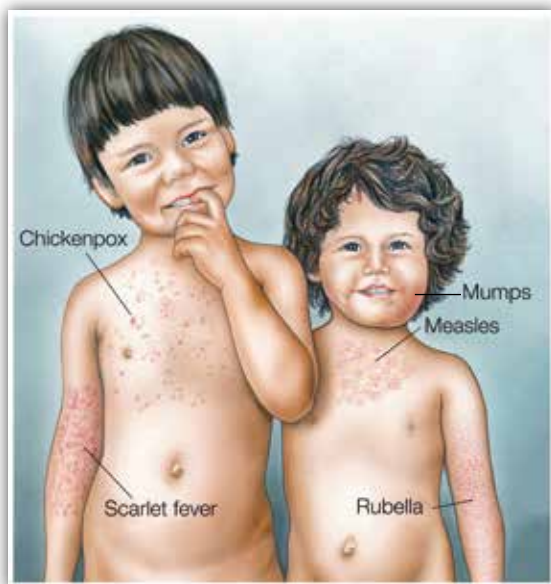
- Feeling unwell
- Fever, headache or aching limbs
- Skin rash/isolated red spots, first on the face and then on the torso

Disease-specific measures:

- Prevent scratching of the blisters to avoid further inflammations and scarring (e.g. cotton gloves for small children)
- Careful skin care

Tips for home care

- Ensure an adequate intake of fluids, especially in the case of fever, cough with secretion, diarrhoea and vomiting
- Provide fresh air (avoid draughts)
- Change night and bed linen regularly
- Pay attention to personal hygiene
- Vitamin- and carbohydrate-rich food, offering frequent, small meals
- Keep calm and take care of yourself
- Follow the rules of hygiene recommended by your doctor (e.g. concerning handling plates and dishes, using the toilet and hand-washing techniques)



Scarlet fever

Route of infection:

Bacterial droplet and smear infection (from person to person, via objects)

Incubation period: Approx. 2–7 days

Duration of infectiousness:

Up to 24 hours after the initial administration of antibiotics

Vaccination possible: No

Lifelong immunity after illness:

No

First possible recognition characteristics:

- Feeling unwell
- Abdominal pain, vomiting
- Headache/earache
- Sore throat and difficulty in swallowing
- High fever, shivering
- Increasingly red tongue (raspberry tongue)
- (Non-itching) skin rash/speckled papules starting on neck, groin, armpits



Disease-specific measures:

- Hot soft food and drinks are sufficient to facilitate swallowing
- Bed rest

Measles

Route of infection:

Viral droplet infection, highly contagious (from person to person, by air)

Incubation period: Approx. 8–10 days

Duration of infectiousness:

Approx. 5 days before to approx. 4 days after occurrence of the rash

Vaccination possible: Yes, from the age of 11 months

Lifelong immunity after illness: Yes

First possible recognition characteristics:

- Temperature rise/high fever
- Inflammation in the nose and throat and the conjunctiva
- Cough, head cold
- Skin rash, starting in the face and behind the ears
- Geographic tongue (white spots on the tongue)

Disease-specific measures:

- Darken the room in the case of sensitivity to light
- Moisten the room air in the case of a strong irritation of the throat

Tips on what to do in the case of (suspected) childhood diseases

- Leave sick children at home or separate them (from the group) until the symptoms subside
- In the case of infectious diseases, visitors should be prohibited from visiting unless they are immune
- Teach the child to turn away from other people when coughing and sneezing and to sneeze or cough into a disposable handkerchief or the crook of the elbow
- The doctor will determine when the risk of infection is over and the child can return to daycare/school

Mumps

Route of infection:

Viral droplet infection (from person to person)

Incubation period: Approx. 14–21 days

Duration of infectiousness:

7 days before to 9 days after occurrence of the swelling

Vaccination possible: Yes, from the age of 11 months

Lifelong immunity after illness:

Yes (usually)

First possible recognition characteristics:

- Discomfort, loss of appetite
- Fever, headache
- Redness and swelling in the area of the parotid and salivary glands
- Pain when chewing and swallowing

Disease-specific measures:

- Bed rest (especially in the case of testicular inflammation)
- To reduce pain, cool the parotid and salivary glands, have the child suck ice and avoid acidic food
- Maintain thorough oral hygiene

Rubella

Route of infection:

Viral droplet infection (from person to person)

Incubation period: Approx. 14–21 days

Duration of infectiousness: 1 week before to 1 week after occurrence of the rash

Vaccination possible: Yes, from the age of 11 months

Lifelong immunity after illness: Yes

First possible recognition characteristics:

- Slight fever, headache
- Inflammation of the respiratory tract and conjunctiva
- Swollen lymph nodes (neck area)
- Skin rash/raised red spots starting on the face

Disease-specific measures:

Prevent the child from having contact with unvaccinated, pregnant women as infection can damage the unborn child.

6 Unconsciousness

An affected person lying motionless on the ground, e.g. after a motorcycle accident, with no reaction to speech or touch shows typical symptoms of unconsciousness. Because the musculature relaxes in this situation, there is an acute danger of death through suffocation. A helmet makes it more difficult to check the breathing and must therefore be removed as quickly as possible. The recovery position supports free breathing. It is always used when patients are unconscious but are still breathing normally on their own.

This chapter explains in detail how to remove a helmet from an affected person and move them into the recovery position.

6.1 Impairments of consciousness

When a person is conscious, they can see, hear, feel, smell and taste. They can think, remember, react and their protective reflexes function and they can execute controlled movements. They are spatially and temporally oriented depending on the situation. If consciousness is impaired, important functions can fail partially or completely.

The causes include:

- Heart disease (heart attack, cardiac arrhythmia)
- Hypoglycaemia
- Head injuries (e.g. violent impact on the head, laceration)
- Weather-related effects (e.g. sun exposure)
- Fluid loss
- Poisoning

Impaired consciousness differs considerably in terms of the duration and consequences. Temporal and spatial disorientation as a result of a violent impact on the head can disappear after a short time without long-term consequences. However, the situation is very serious if the affected person no longer shows any reactions. This is caused by fainting or unconsciousness.

Fainting and unconsciousness

The difference between fainting and unconsciousness lies in the duration and the depth of unconsciousness. Fainting is usually caused by a rapid drop in blood pressure, but the affected person is responsive again after a few seconds. If the affected person does not

react after a short time, they are unconscious. The affected person is in acute danger of death as the protective reflexes cease to exist and the muscles relax. This can lead to the tongue closing the airways.

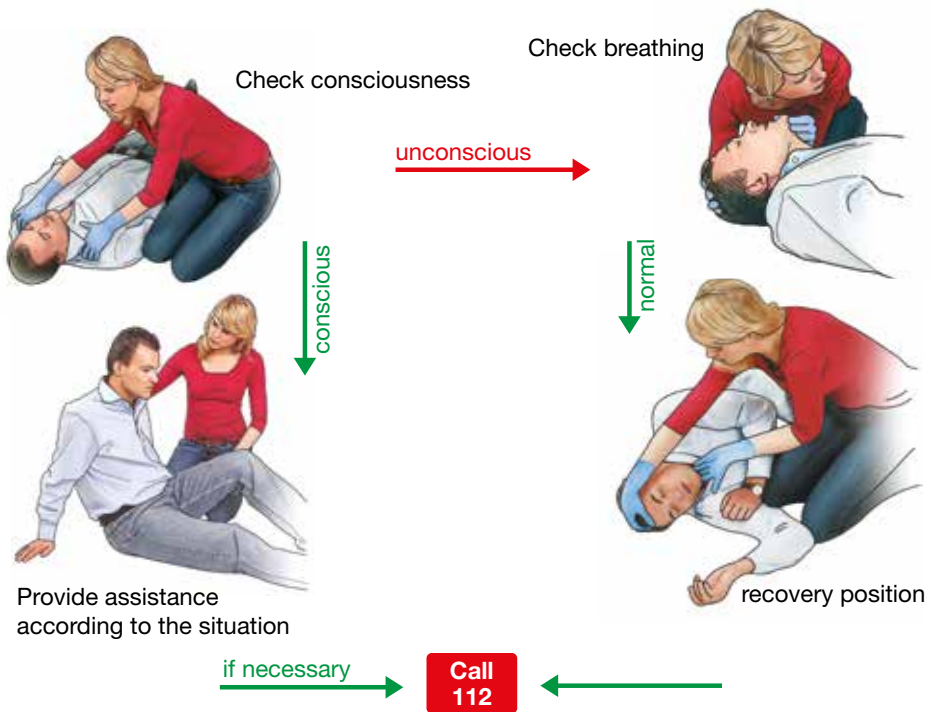
Indications of unconsciousness:

- Affected person is not responsive
- No visible reactions of the body

Providing assistance:

- Keep calm and ensure personal safety
- Place the affected person on their back, speak loudly and gently shake their shoulders
- If the affected person reacts, they are conscious: act according to the situation (e. g. provide care, observe)
- If the affected person does not respond, they are unconscious: call out loud for help and call 112
- Check the breathing (max. 10 seconds):
 - Place one hand on the forehead, the other hand under the chin so that the thumb is located between the lower lip and the tip of the chin and the index and middle fingers are on the underside of the chin
 - Carefully tilt the head backwards, lift the chin at the same time and pull the chin forward to open the airway
 - Remove any visible foreign bodies
 - Keep your ear close to the affected person's mouth and nose so that you can hear the airflow from the mouth and nose and feel it on your cheek; observe the chest at the same time to see if there are any chest movements
- The affected person is definitely breathing normally: Call 112 (bystanders)
- Put the affected person in the recovery position:
 - Kneel beside the affected person, remove glasses if necessary
 - Stretch out the legs of the affected person
 - Place the arm nearest to you at an angle to their body with their palm facing upwards
 - Take the other arm and bring it across their chest
 - Place the back of their hand on their cheek and hold it there
 - With the other hand, lift their far leg up (not by the knee joint!) until the foot is flat on the floor
 - Carefully roll them over towards you and onto their side
 - Adjust the top leg so that is at a right angle to the hip
 - Tilt the head back so that the airway remains open

- Turn the face slightly downwards to make sure the mouth is the lowest point and fluids can drain off
- Open the mouth slightly, adjust the hand lying on the cheek so that the head position is maintained
- Cover, observe and care for the affected person
- Important: check continuously whether the affected person is continuing to breathe normally



Unconscious babies

Babies may not be shaken or suddenly and quickly lifted to check their consciousness. Gently shake the baby's shoulder. If the baby is unconscious but definitely breathing normally, also put them in the recovery position. A small pillow/blanket against the back may be necessary to stabilise babies and small children.

Helmet removal

All motorcyclists and many cyclists and sportspeople wear a helmet. If they become unconscious as a result of an accident, first aiders must remove the helmet to avert the risk of suffocation. Only then are their injuries treated. If several first aiders are on site, they should remove the helmet in pairs. But it is also possible to remove the helmet alone. Ensure that the head of the affected person is not moved too much when doing so.

If the affected person is conscious, they should decide for themselves whether they want to take off their helmet or not. Many affected persons feel much better after taking off their helmets. If the affected person feels pain while removing their helmet, they will stop immediately.

Indications:

- Crashes involving cyclists or motorcyclists
- Unconsciousness

Federal Voluntary Service

Everyone can help!



Wanting to help other people is not a question of age: The DRK offers many attractive opportunities to get involved within the framework of the Federal Voluntary Service (in German: Bundesfreiwilligendienst, BFD).

Information available free of charge nationwide:

08000 365000

Give us a call. We are at your service.

365 days a year.

Providing assistance (two-person motorcycle helmet removal):

- If necessary, carefully turn the affected person onto their back first of all
- 1st person kneels above the head and stabilises the helmet by placing their hands on either side of it, ensuring that their fingers are on the affected person's lower jaw
- 2nd person kneels at the side of the affected person's head, opens the visor, removes glasses if necessary, puts them in a safe place and frees the mouth area (chin cup/balaclava). Then undo the chin strap
- 1st person continues to stabilise the helmet and lower jaw, do not turn the affected person's head
- 2nd person supports the head-neck area from below in a longitudinal axis with 2 hands
- 1st person pulls the helmet upwards, tilting the edge of the helmet over the affected person's nose (caution: danger of injury to the nose).
2nd person continues to stabilise the head and cervical spine
- 2nd person carefully places the affected person's head on the ground while continuing to stabilise the head and cervical spine
- 1st person again grasps the affected person's head, with their hands resting on the side of the affected person's head
- 2nd person bends the affected person's head towards the nape of neck and checks their breathing
- If the affected person is breathing, the 2nd person should carefully move them into the recovery position, while the 1st person continues to stabilise the cervical spine and carefully guides the head in the direction of rotation



Providing assistance (one-person motorcycle helmet removal):

- If necessary, carefully turn the affected person onto their back first of all
- Kneel at the side of the affected person's head, open the visor, remove glasses if necessary and put them in a safe place, free the mouth area (chin cup/balaclava), carefully undo the chin strap
- Kneel above the head and grasp the helmet with both hands
- Pull the helmet in a longitudinal direction, tilting the edge of the helmet over the affected person's nose (caution: danger of injury to the nose)
- Pull the helmet until the back of the head can be supported from below with one hand
- Check the breathing and if the affected person is breathing, carefully move them into the recovery position; continue to hold the head in place
- With one hand continuing to hold the forehead, use the other hand to move the affected person's hand which is furthest away from you to their cheek; hold the affected person's chin in place with 2 fingers
- Now, move the hand on their head to their chin

- With the other hand, lift the affected person's far leg up (not by the knee joint!) until the foot is flat on the floor
- Carefully roll the affected person over towards you and onto their side. Do not release the hand on their chin until the affected person is in the recovery position

Providing assistance (one-person bicycle helmet removal):

- If necessary, first carefully turn the affected person onto their back. If necessary, remove glasses and put them in a safe place
- Kneel above the affected person's head
- Carefully support the helmet with one hand and hold the nape of neck of the affected person and head in place with the other; the forearm must lie completely on the ground
- Stabilise the affected person's head/neck area during the entire procedure. Carefully undo the chinstrap, remove the bicycle helmet and ensure that the head does not hit the ground
- Carefully place the affected person's head on the ground
- Change your position and kneel at the side of the affected person's head, holding the head in place
- Check the breathing and if the affected person is breathing, carefully move them into the recovery position; continue to hold the head in place (same procedure as for one-person motorcycle helmet removal, see page 64 f.)

Safety helmets and helmets for skateboarders, skiers and extreme sportsmen and women are also removed as described above.

Although helmets can have **different fasteners**, this has no effect on the removal of the helmet. It is always carried out in the same way.



DON'T FORGET:

An unconscious person is in danger of suffocating, so quick action is required. If the affected person does not respond if you gently shake their shoulder and speak to them, call for help immediately and call 112. Remove the helmet first of all in the case of unconscious motorcyclists and cyclists – do this in pairs if possible. Then check their breathing. Move the affected person into the recovery position if they are breathing normally. Care for and observe the affected person and keep them warm. Check the breathing continuously.

7 Cardiovascular arrest

In the event of a circulatory arrest, every second counts until the rescue services arrive. At least 60,000 people are resuscitated outside of the hospital every year. According to estimates, the survival rate increases twofold to threefold if resuscitation is started immediately after the circulatory arrest (source: Fischer et al. 2023). The causes of a circulatory arrest vary: Acute heart diseases such as heart attack, but also poisoning, airway obstructions, or accidents may, in the worst case, cause the heart to stop.

In this chapter, you learn how to carry out a resuscitation on adults, children, and babies with and without AED (automated external defibrillator).

Indications:

- Unconsciousness
- No normal breathing or agonal respiration (snoring noise; isolated, irregular, slow and deep breaths)
- Possible bluish discolouration of the facial skin (cyanosis)

Providing assistance – Adults:

- Keep calm and ensure personal safety
- Call out loud for help if you find an unconscious person
- Place the affected person on their back, talk to them and shake their shoulders
- Check the breathing (max. 10 seconds!):
 - Place one hand on the forehead, the other hand under the chin so that the thumb is located between the lower lip and the tip of the chin and the index and middle fingers are on the underside of the chin
 - Carefully tilt the head backwards, lift the chin at the same time and pull the chin forward to open the airway
 - Remove any visible foreign bodies
 - Keep your ear close to the affected person's mouth and nose so that you can hear the airflow from the mouth and nose and feel it on your cheek; observe the chest at the same time to see if there are any chest movements
- Affected person is not breathing/is not breathing normally: Call 112 (bystanders)
- Have an AED brought to the scene of the emergency immediately. The search for an AED must not delay or interrupt the start of resuscitation measures!

- Perform resuscitation (30 : 2):

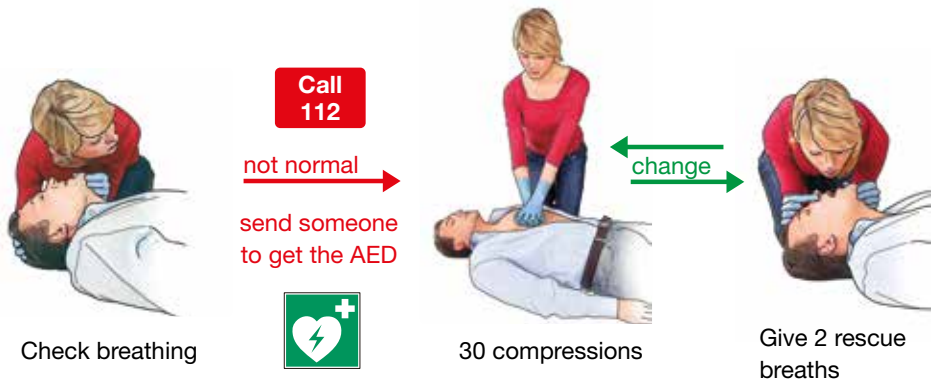
Chest compressions (press 30 times):

- If possible, lay the affected person on a hard surface
- Kneel by the side of the affected person as close as possible to the chest
- Expose the affected person's chest as far as necessary
- Place the heel of the hand in the middle of the rib cage (lower half of the sternum)
- Place the heel of other hand on the first hand, interlock the fingers to ensure that pressure is only applied to the sternum
- Position yourself vertically above the affected person's chest, keep your arms straight
- Press the sternum down 30 times, compressing the chest 5 to max. 6 cm (frequency is min. 100/min to max. 120/min); after each compression, release all the pressure on the chest. Compression and release should take equal amounts of time. Do not remove your hands from the affected person's chest

Artificial respiration (2 rescue breaths):

- Carefully tilt the head backwards, lift the chin at the same time and pull the chin forward to open the airway (maintain position)
- Pinch the soft part of the nose closed, using the index finger and thumb of your hand on the forehead
- Take a normal breath
- Open your mouth wide and place your lips around the affected person's mouth making sure that you have a good seal and are looking at the affected person's chest
- Blow air steadily into the affected person's mouth for one second, so that their chest visibly rises
- Lift your head to inhale again; do not change the affected person's head position
- Check that the affected person's chest falls; give another rescue breath
- If the chest does not rise during the first rescue breath – as is usual with normal breathing – correct the head position, if necessary, check the oral cavity and remove any foreign bodies; do not give more than 2 rescue breaths
- Continue with chest compressions and rescue breaths in a ratio of 30 : 2, i.e. press 30 times and give 2 rescue breaths; do not interrupt the chest compressions for more than 10 seconds when giving rescue breaths
- The most important factor are the chest compressions. If you are not able to provide respiration, the chest compressions are sufficient.

Optimally, control centre staff are also providing supporting instructions on the phone for carrying out resuscitation (**telephone resuscitation**). If not, request instructions. In the event of an increased risk of infection, it is the responsibility of the person providing assistance to perform mouth-to-mouth resuscitation. If you dispense with respiration, only chest compressions are carried out until the rescue services arrive.



Providing assistance – with AED (optional):

Continue alternating 30 compressions with 2 breaths while performing resuscitation until you hear the AED voice prompt „Patienten nicht berühren, Analyse läuft!“ (Do not touch the patient, analysis in progress!).

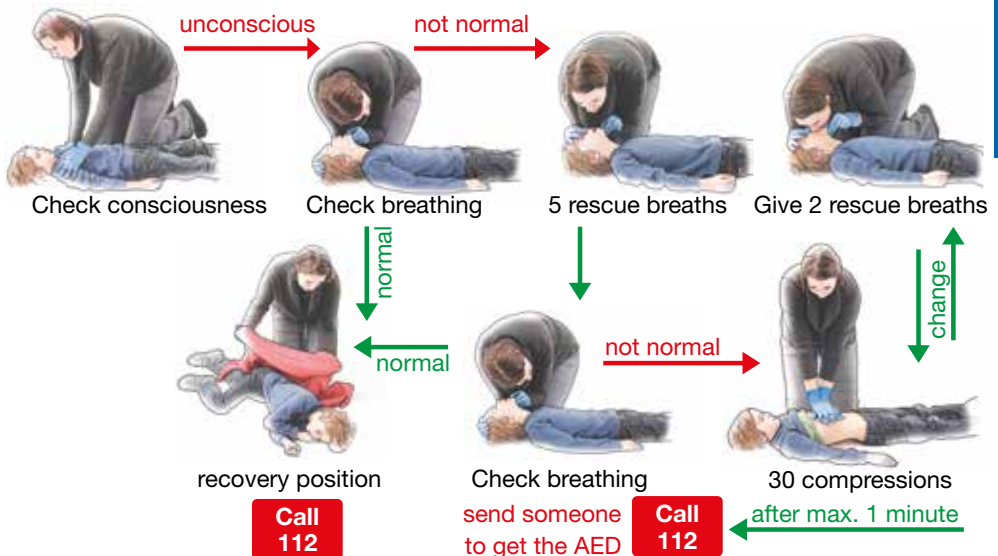
- Turn on AED and follow instructions of the device. If possible, other persons operate the AED, do not interrupt the chest compressions!
- Remove the electrodes from the pack and stick them on the exposed upper body as indicated. If necessary, use a disposable razor to remove any thick body hair in the areas concerned and/or wipe damp skin dry with a cloth before applying the electrodes
- Insert the electrode connector in the device (depending on the device type)
- The AED analyses the heart rhythm, the affected person must not be touched during this time
- If the AED recommends a shock, warn bystanders loudly and clearly: “Do not touch the patient” and comply with this yourself, then trigger the shock and follow the AED voice prompts
- If the shock is not recommended, continue resuscitation with 30 compressions and 2 rescue breaths for 2 minutes and follow the AED voice prompts



Standard AEDs can also be used for **children** from the age of 8. Special adhesive electrodes should be used if children under the age of 8 are resuscitated using an AED. If these are not available, the adult electrodes are attached according to the manufacturer's instructions (usually to the front and back of the chest). Some AED devices offer several languages and a differentiated approach for adults and children.

Providing assistance – Children:

- Call out loud for help if you find an unconscious child
- Place the child on their back, talk to them and shake their shoulders
- Check their breathing (same procedure as for adults)
- Child is not breathing (normally): initially give 5 rescue breaths
- Check their breathing again:
 - Child is not breathing/is not breathing normally: Call 112 (bystanders)
 - Child is breathing: recovery position, call 112
- Perform resuscitation (30 : 2):
 - If possible, lay the child on a hard surface
 - Kneel by the side as close as possible to the child's chest
 - Expose the child's chest as far as necessary
 - Place the heel of one hand in the middle of the chest (where appropriate, both hands on the lower half of the sternum)
 - Position yourself vertically above the child's chest, keep your arms straight
 - Press the chest down 30 times by at least one third (approx. 5 cm) (frequency is min. 100/min to max. 120/min); after each compression, release all the pressure on the chest. Compression and release should take equal amounts of time. Do not remove your hands from the child
 - Then give 2 rescue breaths, same procedure as for adults (see p. 67); do not interrupt the chest compressions for more than 10 seconds when giving rescue breaths
- Continue with chest compressions and rescue breaths in a ratio of 30 : 2, i. e. 30 compressions and 2 rescue breaths



Whether helpers perform the **chest compressions with the heel of one hand or both hands** depends on their physique as well as the child's size and body volume. If both hands are used, interlocking the fingers means that pressure is only applied to the sternum in the best case.

Providing assistance – Babies:

- Keep calm and ensure personal safety
- Call out loud for help if you find an unconscious baby
- Place the baby on their back, talk to them and gently shake their shoulders
- Check the breathing (max. 10 seconds!):
 - Move the baby's head to a horizontal neutral position by taking hold of the forehead and chin
 - With 2 fingertips under the point of the baby's chin, lift the chin slightly and open their mouth
 - Keep your ear close to the baby's mouth and nose, so that you can hear the airflow from the mouth and nose and feel it on your cheek; observe the chest and abdomen at the same time to see if there are any chest movements
- Baby is not breathing (normally): initially give 5 rescue breaths
 - Move the baby's head to a horizontal neutral position by taking hold of the forehead to open the airway (maintain position)
 - Open the baby's mouth with the chin still raised
 - Take a normal breath
 - Open your mouth wide and place your lips around the baby's mouth and nose making sure that you have a good seal and looking at the baby's chest
 - Blow air steadily and carefully into the baby's mouth and nose for one second, so that the chest visibly rises
 - Lift your head to inhale again; keep the baby's head in a neutral position with the chin raised
 - Check that the baby's chest falls; give another rescue breath
 - If the baby's chest does not rise during the first rescue breath – as is usual with normal breathing – correct the head position, if necessary, check the oral cavity and remove any foreign bodies. Do not give more than 2 rescue breaths
- Check their breathing again:
 - Baby is breathing: recovery position, call 112
 - Baby is not breathing/is not breathing normally: Call 112 (bystanders)

- Perform resuscitation (30:2):
 - Place the child on a hard surface
 - Kneel/stand by the side as close as possible to the chest
 - Expose the baby's chest as far as necessary (due to risk of hypothermia)
 - Place 2 fingertips on the middle of the chest (lower half of the sternum)
 - Press the chest down 30 times by at least one third (approx. 4 cm – frequency is min. 100/min to max. 120/min); after each compression, release all the pressure on the chest. Compression and release should take equal amounts of time. Do not remove your fingertips from the baby
 - Then give 2 rescue breaths. Do not interrupt the chest compressions for more than 10 seconds when giving these
- Continue with chest compressions and rescue breaths in a ratio of 30:2, i.e. 30 compressions and 2 rescue breaths



Note: Persons with medical professional training or Persons with professional medical training or specialised personnel who have already received repeated training in resuscitation and who are already very experienced in resuscitation at a 30:2 ratio are recommended to perform resuscitation on babies and children in pairs and to alternate constantly at a 15:2 ratio.

Perform resuscitation until the affected person begins to breathe normally or the rescue services take over. If **other helpers** are on site, you should take turns after about 2 minutes in order to avoid signs of fatigue and a loss of quality during the chest compressions. Attention: The change must not interrupt the resuscitation measures.



DON'T FORGET:

Unconscious people who are not breathing (normally) need your help immediately! Place the affected person on a hard surface and carry out the chest compressions (press 30 times) and artificial respiration (2 rescue breaths) in constant alternation until breathing starts again or the rescue services arrive and take over. Please note that the chest compression procedure differs for adults, children and babies.

An AED additionally increases the chance of survival. As highest priority is given to chest compressions and mouth-to-mouth resuscitation, the search for an AED must, however, under no circumstances, delay or even just interrupt the start of these measures. Bring in other helpers to fetch and operate the AED and support the resuscitation.

8 Support

In particular in the event of life-threatening emergencies, serious traffic accidents, or emergencies due to violence, first aiders are often placed under considerable stress. Directly after an emergency, first aiders may suffer from an acute stress reaction. This is a natural reaction to the exceptional situation they have experienced. As a general rule, the acute stress reaction eases after a short time.

Indications of an acute stress reaction include:

- Sleep disorders, nightmares
- Eating disorders and indigestion
- Nervousness, anxiety
- Reliving the experience/flashbacks
- Lethargy
- Emotional indifference
- Sadness, depression

The acute stress reaction normally subsides after a few hours or a few days. If it lasts longer than 3 days, affected persons should seek help to discuss the situation they experienced and its consequences. The German Red Cross (in German: DRK) in your area also offers appropriate advice. We can support you and provide you with help through Psychosocial Emergency Care (in German: Psychosoziale Notfallversorgung, PSNV).



Further information is available from the DRK at:
www.drk.de/hilfe-in-deutschland/bevoelkerungsschutz/psychosoziale-notfallversorgung (German only)



9 Accident at work

The German Social Code (Section 8 (1) of SGB VII) defines an accident at work as a temporary event affecting the body from the outside and leading to damage to health or death of an insured person as a result of an insured activity. Statutorily insured persons are not only employees in their professional activities (including while commuting to work, company sports and company outings) but also e.g. schoolchildren, children at kindergarten, volunteers under certain conditions or first aiders after a traffic accident. Insurance cover is provided by the statutory accident insurance. As a rule, it pays for rehabilitation and compensation payments (e.g. pensions).

9.1 Accident insurance doctor

If affected persons are unable to work after the day of the accident following an accident at work, they must consult an accident insurance doctor. These doctors are specially trained. Depending on their findings, they decide whether to carry out further treatment themselves or whether a panel doctor should carry it out.

More details can be found at the DGUV (German Social Accident Insurance) at:

www.dguv.de/en/benefits/index.jsp



9.2 Documentation of first aid services

Any first aid service in the event of an accident at work must be documented in accordance with DGUV Regulation 1, Section 24, Subsection 6. The German Social Accident Insurance (DGUV) provides various options for this; the current data protection regulations must be observed:

- DGUV Information 204-020 „Verbandbuch“ (accident book)
- DGUV Information 204-021 „Meldeblock“ (message block)
- Documentation form for first aid services

The records must be kept for at least 5 years.

Further information is available from the DGUV at:
www.dguv.de/fb-ersthilfe/themenfelder/dokumentation-von-erste-hilfe-leistungen/index.jsp (German only)



9.3 Transport of injured persons or an injured child

When affected persons need medical examination or hospitalisation, the following should be noted (Source: DGUV, 2021, p. 10):

- Affected children must always be accompanied by an appropriate adult, regardless of the severity of the injuries.
- Affected persons with injuries which are clearly minor can be taken to the doctor's surgery on foot, in a private car, by public transport or by taxi.
- The rescue services should be called for affected persons with more serious injuries. If necessary, the emergency doctor will decide on the type of transport.
- The costs for transport to the doctor's surgery or hospital are covered by the accident insurer.

Home emergency call service

Peace of mind 24 hrs a day!



The DRK home emergency call service offers peace of mind to elderly or disabled people who live alone: In an emergency, they can independently request help at any time at the push of a button.

Information available free of charge nationwide:

08000 365000

Give us a call. We are at your service.
365 days a year.



10 Personal emergency preparedness

Reports of disasters and extraordinary events give the impression that extreme situations are on the increase: Heatwaves, hail damage to cars, basement and garage flooding, trees uprooted by regional weather events, damage to roofs or power outages, restrictions on public transport or the failure of other infrastructure – the list of possible scenarios is long and shows that you should carefully prepare yourself to be left on your own with nobody to help for a few days. This chapter gives you some important tips.

10.1 Civil protection in the DRK

In extreme situations, such as those described above, you can get help from the Civil Protection Agency of the Federal states, which is provided by the relief organisations, fire brigades and the Federal Agency for Technical Relief (in German: Technisches Hilfswerk, THW). In case of floods or other disasters, the DRK helps by providing emergency shelter, clothing or food. In pandemic situations, the DRK is engaged nationwide to combat and contain the disease, e.g. it sets up and manages fever clinics and vaccination centres. It brings families together via the tracing service or uses special vehicles to transfer people from hospitals or nursing homes.

10.2 Self-help and neighbourhood assistance

A power failure in the Münsterland region in 2005 affected a total of around 250,000 people in 25 communities. The Civil Protection Agency cannot help each individual immediately in such a widespread area. The DRK is dependent on the assistance of everyone in such exceptional situations. You and your family can continue to live selfsufficiently in your familiar environment for some days without any problems by stocking up on food, energy resources and hygiene articles. You thereby support the DRK in helping people who need help first of all for health or age reasons. Think of people in your immediate area who cannot cope without outside help (e.g. due to care needs, reduced mobility) and single people. Neighbours who do not have a sufficient command of German must also be informed about the acute situation and supported.

So that you can be optimally prepared for an emergency, the DRK offers local courses on personal emergency provision and provides information on self-protection/self-help options. Systematic preparation will enable you to respond to almost any emergency situation.

Useful information

The Federal Office for Civil Protection and Disaster Assistance (BKK) provides further information on its website under the heading „Prepare for disasters“ – from food storage and emergency luggage to important tips on protecting your residential premises.

www.bbk.bund.de/EN/Home



NINA is an app from the BKK. It issues warnings and recommendations for action for different hazard situations (e.g. major fires or weather warnings) which are immediately transmitted to your mobile phone.

www.bbk.bund.de/EN/International-Visitors/international-visitors_node.html#vt-sprg-2



KATWARN is an app from Fraunhofer FOKUS which warns of dangerous situations. It transmits recommendations for action, which can also be sent by SMS and email. www.katwarn.de/en



10.3 First-aid kits

Apart from the warning triangle and the safety vest, there must be a car first aid kit in each vehicle so that you can administer first aid without delay in the event of a traffic accident. First aid kits contain the standard equipment for accidents and emergencies.

There are various sizes and versions, e.g. as car first aid kit (DIN 13164), or as first aid kit for companies small/large (DIN 13157/DIN 13169). The size and quantity of first aid kits required depends on the type of business and the number of employees.

You can find an overview of the first aid kit contents on the following double page.

More details and the currently required contents of first aid kits can be found on the homepage of the First Aid department of the DGUV at: www.dguv.de/fb-ersthilfe/themenfelder/erste-hilfe-material/index.jsp (German only)



10.4 Medicine cabinet

In order to be optimally prepared for accidents at home, the DRK recommends that the contents of a first-aid kit should be included in your medicine cabinet. It should be inaccessible to children and also contain the following items:

- 2 instant cold compresses for cooling, e.g. for blunt (sports) injuries
- 2 elastic bandages for the treatment of strains and sprains
- Medication as needed and after consultation with your doctor; Medication as required and in consultation with your doctor, we recommend remedies for fever, pain, diarrhoea, nausea/vomiting, colds, insect bites, and sunburn
- A digital clinical thermometer
- A pair of splinter tweezers, a pair of scissors
- A tick card or tick forceps

10.5 Red Cross first aid courses

You should refresh your first aid knowledge at regular intervals, so that you can provide immediate help in an emergency. Your local DRK offers a variety of courses. The initial and further training courses are specific to participants and target groups. The Red Cross first aid training course is aimed at driving license applicants and first aiders or people who are interested in learning first aid. It comprises a total of 9 course units and is usually carried out in one day.

Company first aiders who have already completed a Red Cross course should attend a further training course within 2 years. The first aid further training course also comprises 9 course units.

For athletes, the Red Cross course “First aid for active sportspeople” is particularly suitable. Typical sport injuries are discussed here and the measures applied in practical exercises. The Red Cross course „Erste Hilfe am Kind“ (First Aid on Children) is recommended for company first aiders from educational and care facilities for children and anyone who deals with children in their everyday lives.

In addition, the DRK also offers 90-minute „Fit in Erster Hilfe“ (Fit in First Aid) modules on various topics, such as senior citizens, traffic, etc., in which first aid measures are taught with a focus on the target group.

You will find your local DRK at:
www.drk.de/en/home



What should be provided in a first aid kit for vehicles and companies?



First aid guide

Vehicle: 1
Company: 1



Fixation bandages

FB-6

Vehicle: 2
Company: 2

FB-8

Vehicle: 3
Company: 2



Wet wipes

Vehicle: 2
Company: 4



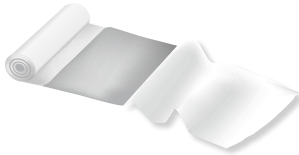
Face masks at least Type 1

Vehicle: 2
Company: 2



Instant cold compress

Company: 1



Bandage packs

K

Vehicle: 1
Company: 1

M

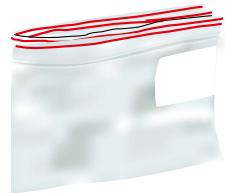
Vehicle: 2
Company: 3

G

Vehicle: 1
Company: 1

Disposable medical gloves

Vehicle: 4
Company: 4



Foil bags

Company: 2



Plaster set

Fingertip bandages

Vehicle: 2 Company: 6



Adhesive dressings

Vehicle: 4 Company: 12



Finger bandages

Vehicle: 2 Company: 6



Plaster strips, narrow

Vehicle: 2 Company: 6



Plaster strips, wide

Vehicle: 4 Company: 12



Eye pads

Company: 2

Dressing sheet A, 60x80 cm

Vehicle: 1
Company: 1



**Non-woven wipes**

Company: 5

**Triangular bandages**

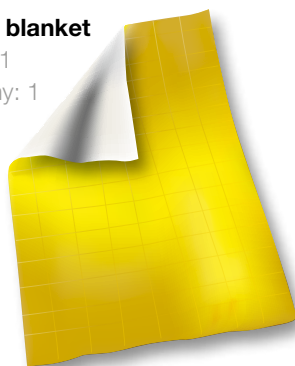
Vehicle: 1

Company: 2

Rescue blanket

Vehicle: 1

Company: 1

**Adhesive plaster**

Vehicle: 1

Company: 1

**Compresses**

Vehicle: 6

Company: 6

**First aid scissors**

Vehicle: 1

Company: 1

Version: 02/2022. Subject to change. For current information on the contents, please see the homepage of DGUV.

A first-aid kit, a warning triangle and a high-vis jacket are standard equipment for all motor vehicle drivers. Other items may also be useful in an emergency:

- A suitable high-vis jacket for each vehicle occupant (mandatory in some European countries)
- Hazard warning light
- Vehicle fire extinguisher (mandatory in some European countries)
- Torch/headlamp
- Woollen blanket

In addition to the first-aid kit according to DIN 13157, we recommend the following materials for sport:

- 2 blister plasters
- An elastic bandage/self-adhesive sports bandage
- A tick card
- A pair of tweezers
- A cool/warm pack
- A tubular net bandage, size 3
- Butterfly closure strip, 3 mm x 75 mm (10 pcs)
- A water bottle à 500 ml

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You will find further information and recommended links at:
www.drk-intern.de/eh.html (German only)

