

Voluntary E-learning for motorsport athletes and officials

Introduction

With this e-learning course on life-saving emergency measures, we would like to invite you to contribute to greater safety in motorsports.

We want to refresh first aid knowledge that may have faded over time but can make a crucial, life-saving difference in an emergency. Statistically speaking, first aid is most often administered in domestic settings.

You can apply the following information both in said private environment and in motorsports – even if, hopefully, this will not be necessary.

Recognizing and evaluating emergencies

- Assess risks: identify potential hazards to yourself and others
- Analyze the situation: determine what has happened and how many people are affected.

Ensuring and prioritizing self-protection

before you act – otherwise, withdraw if the situation is uncertain

- Use protective equipment: such as gloves, face mask, high-visibility vest, protective clothing, ...
- Secure the accident site: by using warning signals (e.g. warning triangle, flashing light, ...)
- Minimize hazards: switch off engines or electrical devices if this can be done safely
- Keep a safe distance: from existing dangers (e.g. fires, chemical substances)
- Inform others: warn people of potential dangers, call for assistance, and alert emergency services

Note: Even with the best first aid knowledge, you cannot help anyone effectively if you put yourself in danger, get injured, or become a victim yourself!

Securing the scene of a road traffic accident

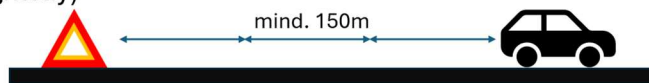
In town



Country roads



Autobahn (Highway)



Note: If there is a crest before the standard position for the warning triangle, the triangle should be placed before the crest to provide warning of the hazard in time.

Primary assessment in emergencies

The following traffic light system helps you with the initial assessment of injured persons – a motorsport-adapted version can be found in the appendix.:



not responsive/critical bleedings

responsive/injured/condition unclear

responsive/no obvious injuries

Place an emergency call

- emergency numbers:
112 - Fire department and rescue services
110 - Police
- "2 W"-motto (previously: "5 W"):
Where: did the accident happen?
Wait: for questions!



Helmet- and Hans-removal

The quick and proper removal of the helmet and HANS device (Head and Neck Support) is crucial to assess the driver's condition and prevent further injuries.

The HANS device is a special feature in motorsport and is unlikely to be encountered in public road traffic. Its removal requires particular care and technique.

Improper handling increases the risk of additional injuries.

When is the removal of helmets and HANS devices required?

- **If unconscious**

If the injured person is unconscious, the helmet should be removed to check the airways and mouth for foreign objects and to perform life-saving measures such as placing them in the recovery position or providing ventilation.

What's to be considered when removing the HANS device?

There are different systems for attaching the HANS device to the helmet, which must first be detached before the helmet can be removed. In an emergency, the straps can be cut.

Following videos show different mechanisms for attaching/detaching the HANS device:



What's to be considered when removing the helmet?

- the helmet should ideally be removed by two people, with clear and continuous communication between the helpers being crucial to avoid sudden movements
- If the injured person is responsive, you should first ask whether there is any objection to removing the helmet. If they agree, explain each of your steps.

Step-by-step guide for helmet and HANS removal with two assistants

1. Before removal: get positioned, stabilize the head, open the visor or chin strap, and remove any obstacles.

assistant 1: kneels sideways next to the injured person, **assistant 2: above the head**

assistant 2 stabilizes the head on both sides, while assistant 1 opens the visor, checks the condition and removes any obstacles (eg. glasses)

assistant 1 opens the chin strap (usually red) and releases the HANS device, **while assistant 2 further stabilizes the head**



2. Helmet removal: slowly, in a controlled manner, and with minimal head movement.



assistant 1 takes over stabilization on both sides of head and neck area

assistant 2 carefully lifts the helmet off. The helmet should be held on both sides and removed slowly and evenly upwards.

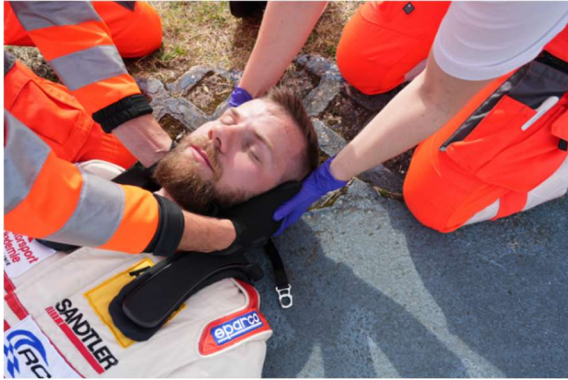
assistant 1 "reaches in" and gradually supports and stabilizes the head more and more.



3. After removal: stabilize the head, monitor the person, and initiate further measures.

assistant 2 takes over stabilization of the head again, allowing assistant 1 checking the condition

assistant 1 carefully rotates the HANS device by 180° and removes it.



4. Further action

The procedures for checking consciousness and breathing, as well as the subsequent actions, are described in the following chapters.

The following video demonstrates the procedure for helmet and HANS removal with two assistants:



In case of an emergency, helmet removal can also be performed with one assistant (not recommended):

1. Before removal: get positioned, stabilize the head, open the visor or chin strap, and remove any obstacles.

In a kneeling position above the head, the head is stabilized between the knees or hands. First, open the visor, check the condition, and remove any obstacles (e.g., glasses); then open the chin strap (usually **red**).

2. Helmet removal: slowly, in a controlled manner, and with minimal head movement.

Carefully grasp the helmet on both inner sides and lift it upwards until the lower edge of the helmet reaches nose level.

Then "re-grasp" with both hands so that one hand stabilizes or holds the head, while the other hand reaches into the front of the helmet to fully lift it over the head.

3. After removal: stabilize the head, monitor the person, and initiate further measures.

Continue to stabilize or carefully lay down the head so that the condition can be assessed.

(The procedures for checking consciousness and breathing, as well as the subsequent actions, are presented in the corresponding chapters.)

Recovery Position

The recovery position is one of the most fundamental techniques in first aid.

As preparation, check consciousness, the mouth, and breathing. The recovery position is only applied if the injured person

1. is unconscious
2. is breathing normally

The recovery position ensures that the airways remain clear and allows fluids or blood to drain freely by positioning the mouth of the affected person at the lowest point, preventing choking.



Step-by-step guide to the recovery position

1. Positioning next to the person and 'cactus-arm'

Kneel sideways next to the affected person.
Take the unconscious person's nearest arm and bend it upward so that the palm faces upward.



2. Placing arm and fixating hand 'hand in hand'

Grab the person's farther arm at the wrist and bring it across the chest so that the palm rests against the opposite cheek. Do not let go of the hand during this movement.

3. Bend the leg and prepare.

Hold the thigh of the farther leg and gently bend the knee upward.



4. Rolling the person into the recovery position

Gently pull the affected person toward yourself using the bent knee as leverage.

Position the upper leg so that the thigh is at a 90 ° angle to the hip.

5. Securing airways and stabilizing

Tilt the head back to keep the airways open.

Open the mouth of the affected person and position the hand on the cheek so that the head remains in this tilted position.



Important notes until professional help arrives:

- Check breathing, consciousness, and other vital signs regularly
- Make sure to maintain body warmth

Resuscitation (CPR)

The basics of resuscitation (CPR) should be familiar to you. When applied correctly, they can save lives or prevent serious consequences.

Adult resuscitation consists of 30 chest compressions followed by 2 rescue breaths.

Note: Adult resuscitation is not the same as resuscitation for children, infants, or animals.

When to perform CPR?

The person is:

1. unconscious and
2. is no longer breathing, or there is doubt about normal breathing

Procedure for resuscitation (30:2)

30 chest compressions

- positioning: kneeling next to the person's chest



- Druckpunkt: Compression point: place the heel of one hand in the center of the chest, place the other hand on top, stacking the hands.
- Compression depth: approximately 5–7 cm; use force from the upper body with straight arms and allow the sternum to fully recoil after each compression.
- Rhythm: 100 - 120 compressions per minute, or approximately 2 per second

2x mouth-to-mouth

- tilt back the head: tilt the person's head backward and lift the chin to open the airways.
- Cover the nose: Close the person's nose using your thumb.
- Ventilate: place your mouth firmly over the person's mouth and blow air evenly into the lungs. Watch for the chest to rise.



Notes:

- If a defibrillator (AED: automated external defibrillator) is available, you can use it without hesitation. The device provides detailed instructions

This can also be done later during resuscitation (e.g., by a second assistant).

BUT: CPR won't be interrupted during this process!



To ensure personal safety or in case of disgust, resuscitation can be performed without rescue breaths. In this case, continuous chest compressions are applied.

Extrication

Extrication refers to the removal of a person from an accident vehicle. In motorsports and everyday life, it may be necessary after accidents to immediately free the (co-)driver from their vehicle for safety reasons (e.g., in case of fire)

Basic procedure for extrication

- **Assess the situation:** while taking personal safety into account
- **Stabilizing the vehicle:** If necessary (e.g., placing chocks to prevent rolling; disconnecting the power/turning off the engine)
- **Prepare the person:** Fully release the harness, and remove or disconnect the radio and drinking tube
- **Perform Extrication:** In everyday situations, for example using the Rautek rescue grip.
- **Transport the person:** maintaining a safe distance from hazards
- **Further care of the person:** Provide first aid or hand over to professional personnel at a safe distance from hazards.

Types of extrication in motorsports

<u>1. gentle rescue</u> After helmet removal, if the (co-)driver is stable/responsive and using a KED system	Application by Extrication-teams
<u>2. Urgent, rapid rescue</u> after removing the helmet and using a rescue buoy	
<u>3. Crash-Rettung / Notfall-Emergency</u> bei Feuer oder unmittelbarer, lebensbedrohlicher Gefahr (z.B. bei Feuer oder Bewusstlosigkeit)	Application by extrication-teams, medical car, MIC as well as marshals

critical bleedings

In accidents, severe injuries with heavy bleeding can occur. Prompt treatment is essential in such cases to prevent life-threatening consequences. Always ensure your own safety when dealing with bleedings.

Various methods are available to control (critical) bleeding:

- **Elevated position** of the affected area
- **Manual pressure** on the wound
- **Compress/bandage**
- **Pressure bandage**
- **Tourniquet** (in cases of spurting bleeding and only with appropriate knowledge of the application)

Burn injuries

Burns can occur for a variety of reasons in motorsports, e.g., fire, electricity, hot objects/liquids, or steam.

Here too, rapid treatment is essential to avoid life-threatening consequences.

In the event of a fire on or in the vehicle, the integrated extinguishing system can be activated.

In such cases, it is essential to protect yourself (i.e. keep your distance) and call the emergency services as soon as possible.

Symptoms and severity of burns: Severe pain

- Level 1: redness
- Level 2: blistering
- Level 3: destruction of the skin

Measures for burns

- Emergency call
- In case of fire: extinguish burning person (e.g. with water, fire blanket, or suitable fire extinguisher)
- remove burnt clothing
- cover wounds with bandages
- afterwards: preserve warmth (e.g. with emergency blanket)

Mental health after extreme experiences

The topics covered can be experienced as extraordinary psychological stress in real life. If you find yourself in such a situation in the future, you can find further information and helpful tips in our guide to mental health after exceptional psychological situations in motorsport.

(https://www.dmsb.de/fileadmin_downloads/Guide_to_mental_health_Status_10.11.2025.pdf)

Task

Finally, complete the test (10 questions in 10 minutes).

You can access the test via the "Online Tests" button on the right-hand side.

Each question has at least one correct answer. However, multiple answers may also be correct.

Final note: This e-learning course does not replace a first aid course in accordance with SGB VII.

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