



Gebrauchsanweisung
User manual
Istruzioni per l'uso
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User manual

Please read these instructions carefully before using the device for the first time!

In the event of cardiac arrest, survival and the prevention of long-term neurological damage significantly depend on the immediate initiation of resuscitation measures by first aiders. The Cardio First Angel was developed and designed to help people without specialist knowledge overcome their fear of carrying out urgently required resuscitation measures, and to make an easy-to-use aid for cardiac massage available to them. The device is an entirely mechanical device and does not contain any electronic components, which means that the Cardio First Angel is always ready for immediate use.

I. Intended purpose

The Cardio First Angel is a handy and uncomplicated device which is used in emergency situations to support laypeople in starting the required resuscitation measures on another person.

In emergency situations, it is often a serious problem that people without specialist medical knowledge hesitate before they take urgently required first aid measures. There can be various reasons for this: the lack of first-aid knowledge and experience, the spontaneous feeling of helplessness, the fear of doing something wrong or a disinclination to come into direct contact with the patient's body. However, even if laypeople do initiate the resuscitation measures without hesitating, there is great uncertainty about how strongly and firmly or with what frequency you have to press on the thorax. It is often also not clear where exactly you have to place your hands for the cardiac massage.

The Cardio First Angel frees the user from all these considerations and concerns. Another advantage is that direct body contact is avoided.

II. Description of the Cardio First Angel

The Cardio First Angel has very compact dimensions of 110 mm x 170 mm, only weighs 130 grammes and is stored clean and sealed in a transparent red plastic box.

The Cardio First Angel is an entirely mechanical device, functioning without power supply and electronic components. This means the Cardio First Angel is ready for use at all times and without any further requirements. Please note that the Cardio First Angel is a disposable product that must not be used again after it has been used once in an emergency situation!

The central component of the Cardio First Angel is the white stable base plate made of PE plastic. Body-compatible dark grey polyurethane foam has been applied onto the bottom side of this base plate in order to ensure the uniform distribution of pressure and the absorption of fluids. The special outer shape of the Cardio First Angel facilitates correct positioning on the patient's chest.

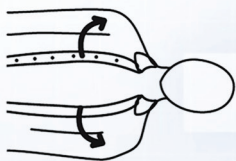
On the base plate, a complex arrangement of helical springs has been installed, which transmit the compressive force to the thorax. Applying a force of 410 +/- 30 N, corresponding to a compression depth ranging from 50 mm to 60 mm on the thorax, results in a clearly audible clicking sound.

The Cardio First Angel is completed by a round, signal red top side, serving as pressure application area when using the device. On this pressure application area, universally understandable pictograms show how the Cardio First Angel is to be used so that a brief glance ensures safety of use in an emergency situation. However, it is assumed that these detailed instructions for use have already been read and understood in advance.

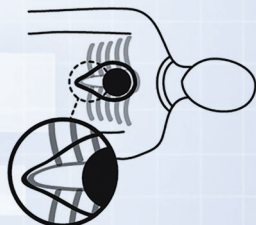
III. Mode of functioning

When performing a cardiac massage, the external pressure must be approx. 410 N, which might seem very high to the layperson. However, this is the only way to achieve the required pressure depth of 50 mm to 60 mm on the thorax. A special spring inside the Cardio First Angel signals when the correct compressive force of ca. 410 N has been reached by means of a clearly audible metallic clicking sound. When the pressure is released, an equally loud clicking sound can be heard. This continuous change between the "applying pressure click" and the "releasing pressure click" serves the user as a guide for the right rhythm for the intermittent change between actively applying pressure and releasing pressure again. Using this as a rhythm indicator, the first aider achieves the required pressure frequency of approx. 100 to 120 compressions per minute.

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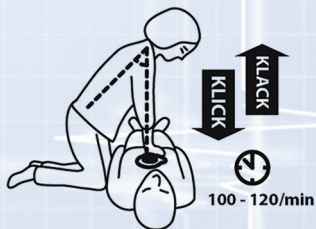


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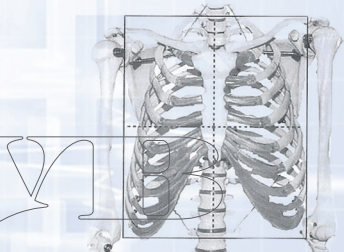
The special shape of the Cardio First Angel makes it easy to correctly position the device on the lower third of the patient's breastbone. Thus, the pressure can be transmitted optimally to the cardiac muscle inside the bony thorax.

IV. Application

General procedure to be followed if you have to initiate resuscitation measures on an unresponsive person:

- (1) Try to speak to the patient and shake them on their shoulder.
- (2) Call for help loudly, draw the attention of other people to this situation and have an emergency call made by calling the emergency telephone number 112 (Europe) or 911 (USA).
- (3) Carefully lift the chin and stretch the head backwards in order to open the patient's airways.
- (4) Use your senses of vision, hearing or feeling in order to check whether the patient is breathing.
- (5) If you cannot detect normal breathing, no lifting and lowering of the thorax or any other vital signs, you must immediately start with the cardiac massage.

For this purpose, take the Cardio First Angel in your hand, pull the top cover upwards with a jerk in order to open the transparent red plastic storage box and take out the Cardio First Angel. Remove all clothes from the patient's thorax until their chest and belly are exposed. Knee down next to the patient and turn yourself towards them at the height of their chest. With the foam side facing downwards, place the Cardio First Angel directly on the skin above the breastbone in such a way that the more pointed end of the Cardio First Angel faces towards the patient's feet and approximately ends at the tip of the breastbone. The full lifting force is then applied at a slightly higher point under the red pressure application area and must not be applied to the lower tip of the breastbone, but correspondingly higher (refer to the drawing).



Place your hands on top of each other on the signal red pressure application area and, with your arms extended, start resuscitation. For this purpose, you must apply such high pressure to the Cardio First Angel with a jerk that you hear the loud clicking sound. Afterwards, quickly release the pressure and exert full pressure again immediately after you hear the next clicking sound. The sequences consisting of applying pressure and releasing the pressure again must follow one another as fast as you hear the click clack of the two clicking sounds as a rhythm indicator. When doing so, think of the ticking of a clock. You must reach a frequency of 100 to 130 pressure impulses per minute. Your arms should always remain extended in order to ensure that the compressive force can be generated by your shoulder and the upper part of your body. You must continue with this resuscitation until you notice the first clear vital signs or until the paramedic or emergency doctor can carry out further resuscitation measures.

To sum up, here are the application steps for performing a cardiac massage using the Cardio First Angel again in brief:

- (1) Position the Cardio First Angel on the lower third of the patient's breastbone.
- (2) Make sure to lay your hands on the pressure application area of the Cardio First Angel in such a way that your arms are extended.
- (3) Each pressure impulse must be exerted so firmly that you hear the clicking sound.
- (4) The changing rhythm of applying pressure and releasing pressure is provided by the click clack of the two clicking sounds.
- (5) Perform the cardiac massage with a pressure frequency of at least 100 compressions per minute until you notice the first clear vital signs or until the emergency doctor can take over from you.



V. Limits

The Cardio First Angel in no way replaces the required professional medical treatment and care provided by paramedics and emergency doctors. Therefore, it is absolutely necessary that help is called for even after the resuscitation measures have been started. The Cardio First Angel is only an aid in order to use the crucial time until the rescue personnel arrives to take the first resuscitation measures.

Under no circumstances can it be guaranteed that the resuscitation measures will succeed, since this ultimately depends on the patient's state of health.

VI. Warnings

Use the Cardio First Angel only according to its intended use and never for any other purpose.

Treat the Cardio First Angel with care and store it protected from dust in the closed outer box in a clean environment and out of the reach of children. Do not expose it to frost or extreme heat. Under no circumstances should you open or disassemble the Cardio First Angel.

Please check at regular intervals (our recommendation: every 6 months) that the Cardio First Angel is functioning properly. In this context, you should also read these instructions for use again in order to safely master using the Cardio First Angel even in stressful situations.

In order to perform a routine functional test, place the Cardio First Angel on a clean and padded ground (e.g. carpeted floor) and firmly press the Cardio First Angel – as described in the instructions above – several times until you can hear the characteristic clicking sounds when pressing and releasing the device.

If the Cardio First Angel falls down or is otherwise damaged, you must replace it with a new device, since, in this case, it can no longer be guaranteed that the springs inside are still sound and in the correct position.

Pay attention to the use-by date which is specified in the month-year format on the white base plate of the Cardio First Angel. After this date has been reached, the Cardio First Angel must be replaced with a new device.

Once the Cardio First Angel has been used for resuscitation measures in an emergency situation, it must under no circumstances be used again. It is a disposable device (single use only)!

You can dispose of the Cardio First Angel together with plastic materials, as it is an entirely mechanical device and does not contain any electronic components.

The Cardio First Angel must not be used on people younger than 16 years! Special care must be taken when the Cardio First Angel is used on weak or elderly people.

Do not use the Cardio First Angel in the proximity of magnetic resonance imaging (MRI)! When using the device together with a defibrillator, observe the safety instructions provided by the manufacturer!

Do not use the Cardio First Angel on people with regular vital signs!

VII. Risks

A special spring inside the Cardio First Angel is designed in such a way that "clicks" indicate the right pressure during the cardiac massage. In individual cases, however, it cannot be excluded that further complications or injuries / damage are possible (e.g. individual ribs broken) even if the Cardio First Angel is used properly. Although the ease of use was one of the main objectives when developing and designing the Cardio First Angel, it is possible, especially in case of particular stress or shock, that the user feels overwhelmed when handling the Cardio First Angel and makes mistakes.

Further information:

The manufacturer reserves the right to make technical changes to the product as a result of the further development.

The Cardio First Angel is a class I medical device. DIMDI DE/CA64/128442/01, GMDN 60841

Symbols used on the white base plate of the Cardio First Angel:

CE mark

Hourglass Can be used by (use-by date)