

Cardiopulmonary resuscitation/secondary school (nurse)

Cardiopulmonary resuscitation (CPR) is indicated for loss of consciousness when normal breathing is not present.

Types of CPR

BLS – basic life support – basic emergency resuscitation without special equipment and aids = first aid.

ALS – advanced life support – extended emergency resuscitation, which is performed by a healthcare professional using drugs, aids and special procedures = provision of professional first aid.

Basic vital functions

The basic life (vital) functions include:

- consciousness;
- breathing;
- bloodstream;
- indoor environment.

The failure of one basic vital function leads to the collapse of the vital functions of the others → sudden cessation of circulation.

Unconsciousness within 10–15 s, up to 60 s gasping breaths, respiratory arrest, fixed mydriasis, central cyanosis or pallor; Within 4-5 minutes, irreversible damage to brain cells begins!

Circulatory arrest occurs in 4–10 minutes.

Procedure for basic emergency resuscitation

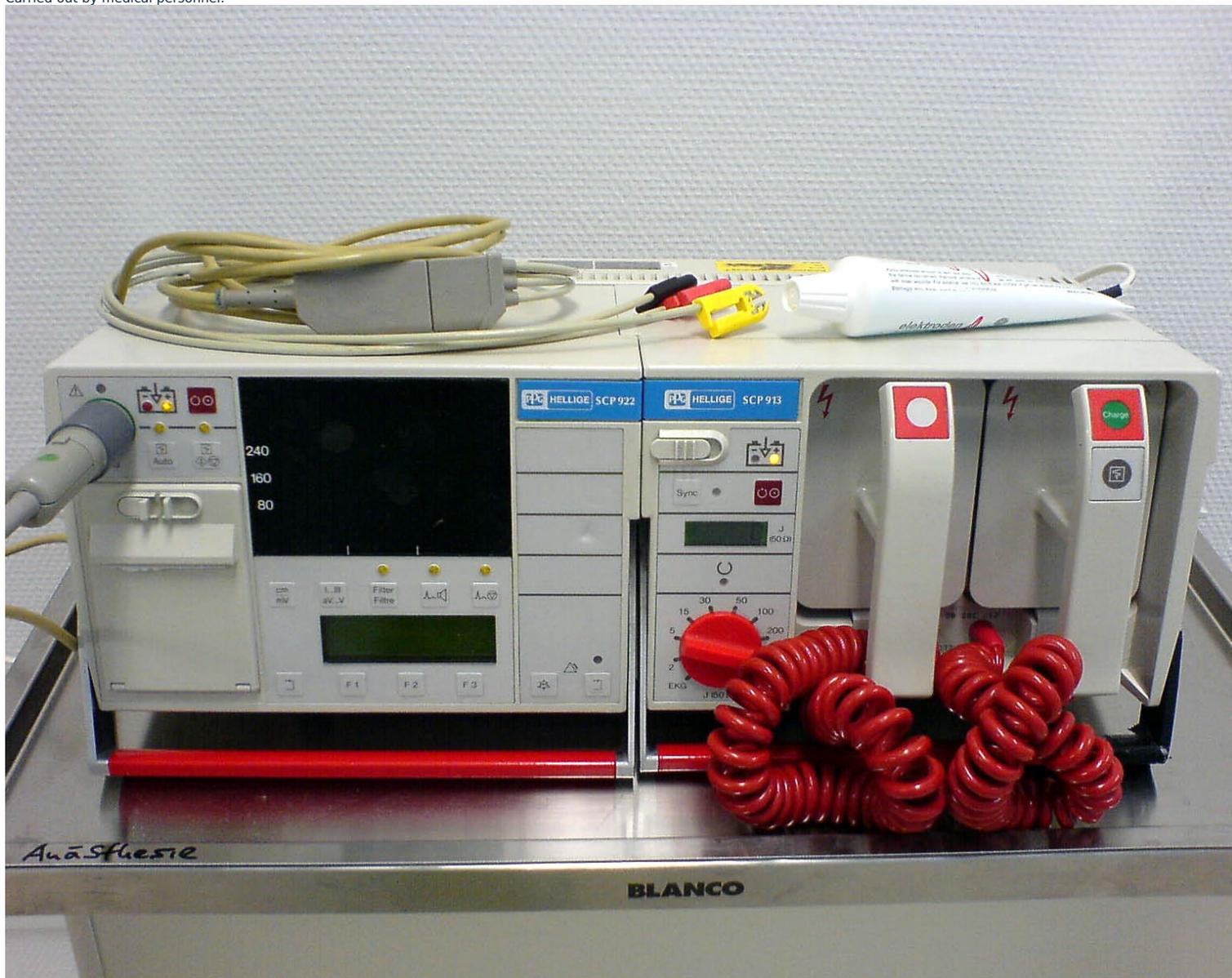
1. **Remember your own safety!**
2. Assess the situation, the quality of consciousness (addressing, shaking); in case of massive bleeding state of bleeding.
3. Call for help and call the EMS (155, 112).
4. Release the airways by tilting your head.
5. Check breathing (hear, see, feel); It must not last more than 10 seconds.
6. Is an AED within range? If YES, use it.
7. 30 chest compressions with a frequency of 100–120 per minute, compression depth 5–6 cm.
8. 2 inhalations – tilt your head, block your nose and inhale – consider the risk of transmitting the infection. Breathing must not be delayed by a heart massage!

Procedure for basic emergency resuscitation in children

We distinguish: Newborn and infant (different heart massage technique) and children from 1 year to 18 years.

1. Remember your own safety!
 2. Assess the situation, the quality of consciousness (addressing, shaking); in case of massive bleeding state of bleeding.
 3. Call for help from others.
 4. Relax the airways by tilting the head in a child older than 1 year, up to one year we put the head in a medium position (do not tilt!).
 5. Check breathing (hear, see, feel), it must not last longer than 10 seconds.
 6. Start CPR 5 inhalations.
 7. CPR for 1 minute, 30:2; two rescuers or one experienced rescuer trained in CPR of children 15:2, newborns and infants 3:1; We compress the chest by 1/3 of the height (up to 5 cm).
 8. Call EMS (155)
 9. Is an AED within range? Is it possible to use it for children? → If YES, use it. **Use of children's**, electrodes, sagittal gluing of electrodes, keys – switch to reduce the discharge energy to 4 J/kg (50–75 J for children 1–8 years).
 10. 30 chest compressions at a frequency of 100–120 per minute (depending on age – the younger, the faster), compression can be done with one hand, two fingers or both hands with adequate force in the middle of the chest.
1. 2 inhalations, stuff the nose (small children breathe into the nose and mouth at the same time).

Procedure for extended emergency resuscitation



1. Assess the situation, the quality of consciousness (addressing, shaking); in case of massive bleeding state of bleeding.
 2. Release the airways by tilting your head.
 3. Check breathing (hear, see, feel), it must not last longer than 10 seconds.
 4. As quickly as possible, use a defibrillator, evaluate the ECG curve, → ventricular tachycardia without a pulse and ventricular fibrillation are indications for the administration of discharge.
 5. Give the 1st discharge (monophasic defibrillator 360 J, biphasic defibrillator 200 J).
 6. CPR 30:2 (frequency 100 compressions per minute, depth 5–6 cm) + secure airways, provide IV entry (or intraosseous entry); Duration 2 minutes.
 7. Evaluate the ECG, give the 2nd discharge (monophasic defibrillator 360, biphasic defibrillator 200 J).
 8. KPR 30:2 + provide i.v. entry.
 9. Evaluate the ECG, give the 3rd discharge (monophasic defibrillator 360, biphasic defibrillator 360 J).
 10. CPR 30:2 + adrenaline 1 mg in asystole + amiodarone 300 mg in ventricular fibrillation.
 11. Evaluate the ECG, give the 4th discharge (monophasic defibrillator 360, biphasic defibrillator 360 J).
 - Adrenaline every 3-5 minutes.
 - We continue CPR + defibrillation + drug administration.
- If we evaluate the ECG as a non-defibrillable rhythm, we will administer adrenaline as soon as we provide i.v. or i.o. entry!

Links

Related articles

- Extended emergency resuscitation/secondary school (nurse)
- Basic emergency resuscitation/secondary school (nurse)

References

- NOLAN, Jerry P. European Resuscitation Council Guidelines for Resuscitation 2010 Section 1. Executive summary. *Resuscitation* [online]. 2010, y. 81, vol. -, p. 1219–1276, Available from <[http://resuscitation-guidelines.articleinmotion.com/article/S0300-9572\(10\)00447-8/pdf/european-resuscitation-council-guidelines-for-resuscitation-2010-section-1-executive-summary](http://resuscitation-guidelines.articleinmotion.com/article/S0300-9572(10)00447-8/pdf/european-resuscitation-council-guidelines-for-resuscitation-2010-section-1-executive-summary)>. ISSN 0300-9572.
- BYDŽOVSKÝ, Jan. *Acute conditions in context*. 1. edition. 2008. ISBN 978-80-7254-815-6.

External links

- Society of Emergency Medicine and Disaster Medicine (<https://www.urgmed.cz:443/>)
- Czech Resuscitation Council (<http://www.resuscitace.cz>)
- Ambulance: independent website about the ambulance service (<https://www.zachranasluzba.cz:443/>)