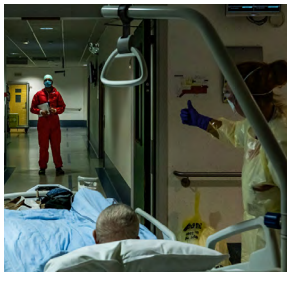
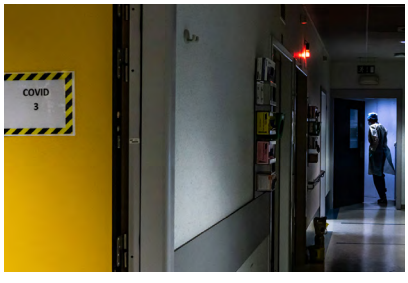
European Resuscitation Council COVID-19 Guidelines





EUROPEAN RESUSCITATION COUNCIL

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European Resuscitation Council COVID-19 Guidelines

Edition 1

Section 6

Education

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▶ *This guideline was provided on 24 April 2020 and will be subject to evolving knowledge and experience of COVID-19. As countries are at different stages of the pandemic, there may be some international variation in practice.*

The severe acute respiratory distress syndrome coronavirus 2 (SARS-CoV-2) has shifted the focus from patient safety to healthcare worker safety in (peri-) arrest situations. The increased infection risk for the rescuer modifies treatment approaches - this includes suspected and confirmed COVID-19 cases. On the other hand, delays in initiating resuscitation may cost the lives of those patients in cardiac arrest.

High-quality lifesaving CPR is still required during a pandemic and resuscitation training in some form remains important. Education in resuscitation is essential to provide proper treatment for cardiac arrest patients by improving resuscitation knowledge, CPR skills and patient-centred care. The fundamental educational strategies that change the rescuer's behaviour remain valid, especially during the current pandemic[1; 2]. Resuscitation training programmes need to include the emergency management of all patients (COVID-19 and Non-COVID-19 infected) and the application of personal protective equipment (PPE) beyond the standard CPR-measures described in existing ERC educational programmes:

- Basic life Support (P*BLS/BLS)
- Newborn Life Support (NLS)
- Immediate Life Support (EP*ILS) and Advanced Life Support (EP*ALS)
- Basic Instructor Course (BIC) and Generic Instructor Course (GIC)

The well-established interdisciplinary team training in ERC CPR courses remains most important because it is associated with better patient outcomes [3] and may reduce the risk of contamination of providers when performing life support activities in COVID-19 patients.

This educational guidance considers the infection risk for instructors and candidates during a pandemic, especially as most of them are healthcare workers, essential for the system. Therefore, all local and international guidelines and preventive regulations need to be applied with rigor: personal distance, protective use of masks, clothing and gear. The role of distance learning, self-directed learning, augmented and virtual learning will become much more important in CPR teaching.

General guidance for education in CPR during the pandemic

- Education in CPR is crucial for the survival of patients in cardiac arrest; therefore life support teaching programmes need to resume as soon as possible.
- These life support teaching programmes must include specific interventions for COVID-19 patients focusing on infection prevention whilst being adaptable for local needs and requirements.
- Self-protection and measures against infection (equipment and procedures) have to be part of CPR education.
- On-site teaching facilities need to be modified to avoid transmission of SARS-CoV-2 virus:
    - Candidates and instructors who are symptomatic should not attend courses.
    - Strict distance regulations – keep a minimum of 2 m distance between single persons.
    - Candidates and instructors should wear surgical face masks throughout the course.
    - During hands-on sessions when practising on a manikin, candidates and instructors should wear PPE which should be kept throughout the course.
    - Manikins and equipment should be cleaned following every single training session (or scenario) using disinfectant compatible with the materials.
    - Reduce the number of candidates working at one manikin at the same time to the absolute minimum, structuring the teams as in reality.
    - Keep sufficient space (2 m) around the manikin using coloured tape on the ground.
    - Course programmes should be rearranged to avoid simultaneous breaks for different groups.
- Whenever possible, and where applicable, teaching methods such as distance learning, self-directed learning, augmented and virtual learning should be implemented.
- Beyond the current team training (focusing on non-technical skills), specific education on human factors (e.g. briefing and debriefing, restrictions of leadership, and communication wearing PPE) during CPR in the pandemic should be provided as hands-on training in small group teaching sessions.
- During hands-on, small-group teaching, candidates and instructors should use standard PPE (minimum: eye protection, mask, gloves, gown). The specific differences in performing CPR wearing PPE are part of CPR educational programmes and should be practised, including doffing and donning in a "buddy" system.
- Course organisers should provide sufficient PPE to run courses; this will depend on the local availability and circumstances.
- Plenary sessions will initially be replaced by small group workshops, in the long-term e-learning content and webinars should be developed.
- Group size for hands-on training should not exceed 6 candidates and they should remain in the same groups throughout the course. Any social programmes, get togethers, formal and informal break meetings intended to strengthen the team building process, should be suspended during the pandemic.
- Sufficient disinfectant and hand-washing facilities should be made available.
- The validity of all ERC certificates has already been extended for one year to reduce pressure on candidates and instructors.
- Balancing the risk of infection (as CPR is an aerosol-generating procedure spreading the virus) against the benefit of CPR with the chance to save a life, should be part of the educational programmes.
- In case of limited resources for teaching CPR during this COVID-19 pandemic, those with close contact with COVID-19 patients and the risk of cardiac arrest should be trained first, followed by those with the longest gap in CPR teaching.

Basic courses during the COVID-19 pandemic

a) BLS education for laypeople

- During the pandemic, the ERC does not recommend face-to-face, hands-on BLS teaching for laypeople, and especially no mass training.
- During the pandemic, for BLS education for laypeople the ERC recommends individual self-directed learning, apps and Virtual Reality resources for BLS as they are available and proven to be effective to learn chest compressions and the use of an AED. This format is very suitable for BLS education for laypeople who wish to master BLS in cardiac arrest and for keeping up-to-date with refresher training.
- Self-directed learning or distance learning will reduce the infection risk for both candidates and instructors.
- Internet-based tutorials and video instruction are a suitable alternative, but the ERC does not have evidence about its effectiveness in learning BLS.
- The focus of BLS education for laypeople during the pandemic is on chest compressions and the use of an AED while minimising the risk of infection during that lifesaving help. No check of respiration and no ventilation will be taught
- Self-learning stations are intended to teach and test BLS competences without supervision, and should not be used because of the risk of transmitting infection

b) BLS education for professionals (additional to the points before)

- For professionals, self-directed learning or distance learning has the potential to reduce the infection risk for both candidates and instructors. It is feasible and effective.
- The ERC suggests self-directed learning for those professionals who have a duty to respond but who rarely treat cardiac arrest patients. For this group of rescuers, the educational focus is on chest compressions , the proper use of an AED, and the donning (putting-on) PPE as soon as possible.
- Professionals who have to provide BLS regularly should be educated in the donning and doffing of PPE, chest compression, use of an AED, and bag-mask ventilation with a high-efficiency particulate air (HEPA) filter between the mask and bag. Practice in small groups with PPE is possible.
- No check for breathing and no mouth to mouth/nose ventilations should be taught during the pandemic as these skills present an increased risk for infection.
- Face shields do not have sufficiently effective viral filters and should not be used.

Advanced courses during the COVID-19 pandemic (addressing only healthcare professionals with the duty to attend cardiac arrest patients)

- Where available, virtual learning environments should be used to teach advanced life support knowledge, and behavioural- and infection-prevention strategies. This will reduce the duration of hands-on sessions.
- During the pandemic the candidate/instructor ratio in advanced ERC courses may be modified to a maximum of 6:1 (instead of 3:1).
- CPR procedures should be practised with an emphasis on the specific considerations of using PPE
    - Donning (putting on PPE), doffing (taking off PPE)
    - Communication
    - Use of specific equipment
- Special circumstances should include the pandemic, and comprise the management of in-hospital cardiac arrest patients in the prone position.
- In cases when social distancing and overcrowding cannot be guaranteed, continuous assessment may be preferred over summative assessment to avoid pooling of candidates.
- Faculty meetings during advanced life courses should be minimised, keeping sufficient personal distance to minimise the risk of infection. Before and after courses, internet-based faculty meetings are encouraged.

Instructor education during the COVID-19 pandemic

- Instructor education in the form of the ERC Basic Instructor Course (BIC) or Generic Instructor Course (GIC) should be paused during the pandemic, as these courses are not essential for patient care. Instructor-Potential (IP) validity will be extended with one year during the pandemic.
- Information about teaching BLS and ALS during this pandemic will be provided to ERC instructors, course directors and educators in reading and internet-based sessions.
- Instructor-Candidates (ICs) will have an extension of one year to fulfil their requirements to become an ERC instructor.

EUROPEAN RESUSCITATION COUNCIL COVID-19 GUIDELINES

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