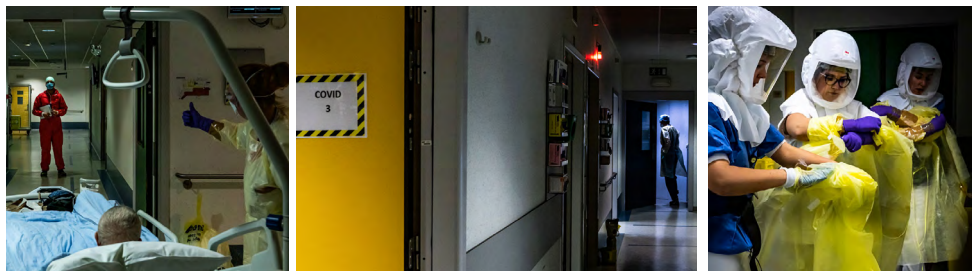


European Resuscitation Council COVID-19 Guidelines



EUROPEAN
RESUSCITATION
COUNCIL

24 April 2020

European Resuscitation Council COVID-19 Guidelines

Section 7

Ethics and End-of-Life Decisions

P. Van de Voorde, L. Bossaert, S. Mentzelopoulos, MT. Blom, K. Couper, J. Djakow, P. Druwé, G. Lilja, I. Lulic, V. Raffay, GD. Perkins, KG. Monsieurs

- ▶ *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.*

KEY MESSAGES

- ▶ Any 'temporary' adaptations to existing guidelines should be interpreted within the context of each healthcare system, taking into consideration the prevalence of COVID-19, the available resources, etc. Our knowledge about COVID-19 is still limited and guidelines may need to be updated as more data become available.
- ▶ The general principles of ethics in resuscitation remain valid. Where possible, advance care planning should be considered.¹ This may be particularly challenging in the context of the current COVID-19 pandemic due to knowledge gaps, social distancing measures), etc. We consider cardiopulmonary resuscitation (CPR) to be a 'conditional' treatment and suggest criteria for withholding or withdrawing resuscitation. Implementation of these criteria within a healthcare system will depend on the local context (legal, cultural, and organisational).

KEY MESSAGES

- ▶ Healthcare teams should carefully assess for each individual patient their chances of survival and/or 'good' long-term outcome, and their expected use of resources. As these are not static facts, such evaluation should be reviewed on a regular basis. We advise against the use of categorical or 'blanket' criteria (e.g. age thresholds) to determine the 'eligibility' of a patient to receive or not receive certain resources.
- ▶ The key challenge with resuscitation during the COVID-19 pandemic is the difficulty of reliably balancing the risk for the provider and the potential benefit for the patient. Whilst doing their best for an individual patient, healthcare providers should equally be aware of their responsibility towards their relatives, colleagues, and the wider community. Healthcare providers (including first responders) should use personal protective equipment (PPE) for all patients with confirmed or suspected COVID-19. The type of PPE should be defined at system level, proportionate to the presumed risk of transmission. Whilst protocols may be adjusted locally to the current reality of the pandemic, if excess morbidity and mortality from delayed CPR is to be avoided, it is imperative that we continue to provide dispatcher-assisted CPR and recruit, train and/or dispatch lay rescuers and first responders to CA.

— Introduction

The COVID-19 pandemic presents a worldwide crisis, causing significant morbidity and mortality in many regions. The SARS-CoV-2 virus is highly contagious and, without population immunity, substantially deadlier than seasonal Influenza, especially in those most vulnerable.² COVID-19 is a 'new' disease and, despite a lot of recently published studies, our knowledge about it is still very limited.

Many concomitant risks have been identified that might put further pressure on the already strained healthcare system and potentially lead to excess mortality:^{3,4}

- When many people become ill at the same time, the demand for resources may significantly exceed resource availability. This includes, among others, critical care beds, ventilators, medicines, test materials and personal protective equipment (PPE).
- Healthcare workers are at an increased risk of contracting COVID-19, creating additional challenges in providing adequate staffing for both direct patient care and support work.

- Disruptions to the healthcare system (because of insufficient resources, decreased delivery of non-COVID related care and, importantly, exaggerated fear) will also affect the care for patients with other medical problems, both acute and chronic. Eventually this could lead to more morbidity and mortality than caused by COVID-19 itself.⁵

In view of the above, the ERC Ethics writing group [WG] identified a clear need for ethical guidance. We are very much aware that important changes to resuscitation guidelines might have a significant and potentially long-lasting impact on subsequent outcomes.

Any 'temporary' adaptations of the existing guidelines should always be interpreted within the context of each healthcare system and take into account factors such as the prevalence of COVID-19 within a region, and the overall impact on available resources. Given the limited evidence available, most of the following statements are the result of expert consensus. They are based on the very recent ILCOR systematic review on the risk of transmission of COVID-19 to rescuers during resuscitation, on existing guidelines from other societies and councils and recent, mostly observational, clinical studies.^{4,6-12} Indirect evidence from non-clinical papers, such as those on pathophysiology, also informed our final 'insights'.

— Healthcare organisation during the COVID-19 pandemic

Based on the principles of beneficence, justice and equity, each individual patient should have access to the current standard of care. However, the harm-benefit for the individual patient needs to be balanced with those for the whole of society. Especially when demand for healthcare resources exceeds capacity, this may mean providing the best possible medical support to the maximum number of people (distributive justice).¹²⁻¹³

Whilst healthcare systems should essentially strive to help all those whom they serve, and be well-prepared to do so, the extent of the crisis is such that it could overwhelm the current existing resources in certain regions.^{2,14} When there is a clear imbalance between resource needs and capacity available, policies of resource allocation and distribution should be developed at system level (for example government, national agencies) rather than by individual institutions or healthcare providers.

Such policies should be informed by both healthcare professionals from different background and experts in medical ethics, law, economics and sociology. Special attention should be given to vulnerable populations who, despite a higher risk of contracting the disease, are more at risk of 'unjustified discrimination'.^{13, 15-16} The effectiveness of any measure will depend on the trust in, and credibility of public health authorities, political leaders, and institutions.^{14, 17-18} In view of this, fully transparent, fact-based communication is crucial.

— Ethical decision making when resources are lacking

Ethical decision making in disasters, by definition, demands a specific approach, especially when there is a major imbalance between resource availability and resource needs.^{8, 19-21} In such a situation, decisions are typically based upon contextual parameters (safety, accessibility, availability and ability), as well as the expected individual patient outcomes.¹⁴ It is fundamental that all patients receive care according to best standards as long as reasonably possible, but once this can no longer be guaranteed, prioritisation should include all patients needing resources, regardless of whether they became ill or injured as a direct consequence of the disaster or from any other cause.

The initial phase of the current pandemic has shown that the surge capacity of a certain healthcare system at a certain point in time may be overwhelmed and cause a real shortage of ICU beds, ventilators, PPE, and overall resuscitation capacity.² If and when this happens, decisions will have to be made with regard to resource allocation. Such decisions should be timely (not pre-emptive, but not too late) and consistent. As stated above, these decisions should not be made solely by individual institutions or healthcare providers, but be based on system-level protocols. At different operational levels, 'ethics teams' should be instituted to support and/or relieve individual healthcare providers of the responsibility of making rationing decisions.^{22,23} Once decisions have been made, healthcare providers should act accordingly and those who are unable to accept the defined ethical framework should preferably take up clinical support roles in areas where no rationing decisions are needed. At all times, such allocation decisions should be well documented (ideally also in a registry) to allow for transparency and future audit.

The ethical decision making in the context of a pandemic is complex. It should be based on the careful appreciation of different, sometimes conflicting, ethical principles and societal preferences, within the concrete context of resource availability and needs at that time.^{2,13} Although we acknowledge the fact that there is no universal 'truth', the ERC ethical WG wants to emphasize some considerations to inform healthcare systems in developing their local guidelines:

- When there is truly an imbalance between the available and needed resources, most authors would argue for some degree of 'distributive justice', meaning 'the greatest good for the greatest number of people', and value the needs of a society higher than that of a single individual.^{8,12,19,24}
- This concept is extremely challenging to apply in practice. A primarily 'welfare-based' approach might be reasonable in the context of disaster, but there is difficulty in defining what actually counts as 'welfare' and how to really maximise it. This includes potential conflicts between quantity and quality of life-years, and the challenge of assessing and predicting quality of life.
- Healthcare teams should carefully assess each individual patient's chances of survival and/or 'good' long-term outcome, and their expected use of resources. As these are not static facts, such evaluation should be reviewed on a regular basis. It

is our opinion that there is, in this specific context, no ethical difference between withholding or withdrawing medical support even if one is passive and the other active. While we acknowledge that viewpoints may differ depending on cultural and ethical background, we think withdrawal of medical support ethically differs from active life-ending procedures, which we consider not ethically permissible even during a pandemic.^{25,26} Appropriate end-of-life comfort care is always mandatory.

- What limited evidence there is from literature should be carefully considered, rather than just expert opinion.
- There are no ethical grounds to specifically favour distinct groups because of profession, rank, status or similar criteria. Neither should personal characteristics of people, such as ability to pay, lifestyle or merits to society, be counted as ethical criteria in prioritising. Some authors advocate the prioritisation of healthcare workers and other 'critical professions' because of their (difficult to replace) 'instrumental value' and the risks they are willingly taking.^{2,23} This argumentation, however, would only be relevant if the identified persons are really playing 'key' roles, which is often challenging to define precisely, and there is an anticipated long-term shortage in that type of 'key' professional.¹³ It is our opinion that categorical inclusion (as in the example above) or exclusion (severe chronic lung disease, severe cognitive impairment, etc.) are ethically flawed.^{4,23} Essentially, within the ethical boundaries of autonomy, beneficence and non-maleficence, every life is 'worth saving'. Rather than identifying populations for whom it is no longer needed to evaluate their 'eligibility' to receive certain resources when these resources are scarce, the ethical principles of justice and equity demand unbiased evaluation of each individual patient regardless.
- When patients are truly comparable, some would still rely on the principle of 'first come first served'. Other, however, have the opinion that this leads to unfairness, for example when persons become sick later in the pandemic because they adhered more strictly to recommended public health measures, or when persons have less access to healthcare due to social inequality, and would advocate a more egalitarian approach in these circumstances (e.g. by means of 'lottery').^{2,23} One way of dealing with this conundrum is to optimise, within the given ethical framework, the differentiation between individual cases, considering, for example, not only their initial status but also their evolution and how they respond to treatment.
- Criteria are not static and need to be timely adjusted to changes in COVID-19 treatment possibilities, in epidemiology and/or in hospital resources.⁴

Any decision with regard to treatment limitation at any moment in the care trajectory should be communicated, respectfully and empathically, with full transparency and directive, with the patient and/or their next of kin. At all times, proper attention should be given to patient comfort.

— Advance care planning

Advance care planning [ACP] should be considered in all patients with an increased risk of cardiac arrest, or predicted poor outcome in the event of cardiac arrest. ACP should include decisions on resuscitation, mechanical ventilation, admission to intensive care, and admission to hospital. For those with a pre-existing ACP, it might be necessary to re-evaluate its appropriateness within the given context. Discussion about ACP should involve the patient (if feasible), their relatives (if the patient agrees), their treating physician and other involved healthcare professionals (e.g., intensivists, nurses, palliative care team). We are aware that this may be challenging in the context of social distancing where much communication is done via telephone or video link.^{27,28} Moreover, important knowledge gaps still exist that make prognostication difficult in the context of COVID-19.

— Indications to withhold and withdraw CPR

The general principles of ethics in emergencies and resuscitation remain valid during the COVID-19 pandemic.^{1,12} Cardiopulmonary resuscitation (CPR) should be considered a 'conditional' treatment and healthcare systems should implement criteria for decision-making about resuscitation, taking into consideration their specific local context, legal, cultural and organisational. Resuscitation should not be started or continued in cases where the safety of the provider cannot be sufficiently assured, when there is obvious mortal injury or irreversible death, or when a valid and relevant advance directive becomes available (*see provider safety below*).

The outcome of non-shockable rhythm cardiac arrest caused by hypoxaemia from COVID-19 pneumonia is very poor.^{17,29} In such a case, healthcare systems (and/or providers) may consider the risk of harm outweighs the anticipated benefit of resuscitation, thus providing a reason for early termination of resuscitation.

— Changing CPR procedures in view of provider safety

Rescuer safety is important, be it a bystander or healthcare professional. For resuscitation, there is inevitably a trade-off between risk to the provider and benefit for the patient. Whilst trying to keep it as low as reasonably acceptable, healthcare providers routinely accept a certain risk as part of their profession. To a certain degree, this is also true for lay bystanders, and will depend on their relationship with the victim as well as their perception of risk. The key challenge with resuscitation during the COVID-19 pandemic is that the precise risk to the provider and the true benefit for the patient are both unknown.

Many healthcare professionals consider themselves to have a duty of care to the patient, regardless of risk, to help to the best of their abilities. For physicians, this is reflected in the Hippocratic oath). Whilst doing their best for an individual patient,

healthcare providers should also be aware of their responsibility to their relatives, colleagues, and the wider community.⁴ Healthcare professionals underestimating the risk of transmission may spread virus to the rest their team and within the larger community putting further strain on the healthcare system.^{30,31}

CPR carries a clear risk of transmission of infectious disease even if it is chest compression-only CPR.^{11,32} Healthcare providers should therefore use appropriate PPE (and be knowledgeable about its proper use) in all cases with confirmed or suspected COVID-19. The type of PPE is defined in the introductory section to these guidelines. Lay bystanders or first responders should protect themselves as far as feasible and avoid actions with a high risk of transmission, especially if they themselves are at high-risk of poor outcome in the event of transmission (elderly, chronic lung disease, heart disease).

Rescuers who are caregivers or household members of the victim may have already been exposed and may be more willing to deliver CPR regardless of the potential increased risk.

In the current setting, it is very important to systematically debrief after every resuscitation attempt, to address the team performance, the medical and ethical decision-making process, and potential issues such as personal protection and rescuer safety.

— Responsibilities of individual healthcare providers

Despite the considerable stress caused by the current pandemic, healthcare professionals should:

- help to the best of their abilities
- align their practice with guidelines provided
- protect themselves, their patients, and their colleagues from transmission
- steward resources, e.g. avoid wasting or inappropriate use
- properly document and communicate medical (ethical) decisions
- provide continuity of care to patients with acute or chronic problems not directly related to COVID-19
- be compassionate and empathic to the needs, emotional and psychological, of colleagues as well as patients and their relatives. Consider referral and follow-up where needed.

REFERENCES

1. Bossaert LL, Perkins GD, Askitopoulou H, et al. European Resuscitation Council Guidelines for Resuscitation 2015: Section 11. The ethics of resuscitation and end-of-life decisions. *Resuscitation*. 2015; 95:302–311
2. Emanuel EJ, Persad G, Upshur R, et al. Fair Allocation of Scarce Medical Resources in the Time of COVID-19 [published online ahead of print, 2020 Mar 23]. *N Engl J Med*. 2020;10.1056/NEJMs2005114
3. Gostin LO, Friedman EA, Wetter SA. Responding to COVID-19: How to Navigate a Public Health Emergency Legally and Ethically [published online ahead of print, 2020 Mar 26]. *Hastings Cent Rep*. 2020;10.1002/hast.1090
4. Chan PS, Berg RA, Nadkarni VM. Code Blue During the COVID-19 Pandemic [published online ahead of print, 2020 Apr 7]. *Circ Cardiovasc Qual Outcomes*. 2020;10.1161/CIRCOUTCOMES.120.006779
5. Lazzarini M, Putoto G. COVID-19 in Italy: momentous decisions and many uncertainties [published online ahead of print, 2020 Mar 18]. *Lancet Glob Health*. 2020;. doi:10.1016/S2214-109X(20)30110-8
6. Couper K, Taylor-Phillips S, Grove A, Freeman K, Osokogu O, Court R, Mehrabian A, Morley PT, Nolan JP, Soar J, Perkins GD. COVID-19 in cardiac arrest and infection risk to rescuers: a systematic review *Resuscitation* <https://doi.org/10.1016/j.resuscitation.2020.04.022>
7. Resuscitation council UK statements; url: <https://www.resus.org.uk/media/statements/resuscitation-council-uk-statements-on-covid-19-coronavirus-cpr-and-resuscitation/>; accessed 05 April 2020
8. Biddison LD, Berkowitz KA, Courtney B, et al. Ethical considerations: care of the critically ill and injured during pandemics and disasters: CHEST consensus statement. *Chest*. 2014;146(4 Suppl):e145S–55S
9. Disaster bioethics; url: <https://disasterbioethics.com/covid-19/>; accessed 05 April 2020
10. Edelson DP, Sasson C, Chan PS, et al. Interim Guidance for Basic and Advanced Life Support in Adults, Children, and Neonates With Suspected or Confirmed COVID-19: From the Emergency Cardiovascular Care Committee and Get With the Guidelines®-Resuscitation Adult and Pediatric Task Forces of the American Heart Association in Collaboration with the American Academy of Pediatrics, American Association for Respiratory Care, American College of Emergency Physicians, The Society of Critical Care Anesthesiologists, and American Society of Anesthesiologists: Supporting Organizations: American Association of Critical Care Nurses and National EMS Physicians [published online ahead of print, 2020 Apr 9]. *Circulation*. 2020;10.1161/CIRCULATIONAHA.120.047463.
11. Denis et al, Transdisciplinary insights – Livin Paper Rega Institute Leuven Belgium, version 6 April 2020; https://rega.kuleuven.be/if/corona_covid-19
12. Ethical guidance Belgian Resuscitation Council, Belgian Society of Emergency and Disaster Medicine; url: https://www.besedim.be/wp-content/uploads/2020/03/Ethical-decision-making-in-emergencies_COVID19_22032020_final-1.pdf; accessed 05 April 2020
13. Kim SYH, Grady C. Ethics in the time of COVID: What remains the same and what is different [published online ahead of print, 2020 Apr 6]. *Neurology*. 2020;10.1212/WNL.0000000000009520.
14. Koonin LM, Pillai S, Kahn EB, Moulia D, Patel A. Strategies to Inform Allocation of Stockpiled Ventilators to Healthcare Facilities During a Pandemic [published online ahead of print, 2020 Mar 20]. *Health Secur*. 2020;10.1089/hs.2020.0028
15. Schiariti V. The human rights of children with disabilities during health emergencies: the challenge of COVID-19 [published online ahead of print, 2020 Mar 30]. *Dev Med Child Neurol*. 2020;10.1111/dmcn.14526
16. Lewnard JA, Lo NC. Scientific and ethical basis for social-distancing interventions against COVID-19 [published online ahead of print, 2020 Mar 23]. *Lancet Infect Dis*. 2020;. doi:10.1016/S1473-3099(20)30190-0
17. Fritz Z, Perkins GD. Cardiopulmonary resuscitation after hospital admission with covid-19. *BMJ*. 2020;369:m1387. Published 2020 Apr 6. doi:10.1136/bmj.m1387
18. Legido-Quigley H, Asgari N, Teo YY, et al. Are high-performing health systems resilient against the COVID-19 epidemic? *Lancet*. 2020;395(10227):848–850. doi:10.1016/S0140-6736(20)30551-1
19. Satkoske VB, Kappel DA, DeVita MA. Disaster Ethics: Shifting Priorities in an Unstable and Dangerous Environment. *Crit Care Clin*. 2019;35(4):717–725. doi:10.1016/j.ccc.2019.06.006
20. Somes J, Donatelli NS. Ethics and disasters involving geriatric patients. *J Emerg Nurs*. 2014;40(5):493–496. doi:10.1016/j.jen.2014.05.013
21. Mezinska S, Kakuk P, Mijaljica G, Waligóra M, O'Mathúna DP. Research in disaster settings: a systematic qualitative review of ethical guidelines. *BMC Med Ethics*. 2016;17(1):62. Published 2016 Oct 21. doi:10.1186/s12910-016-0148-7
22. Arie S. COVID-19: Can France's ethical support units help doctors make challenging decisions?. *BMJ*. 2020;369:m1291. Published 2020 Apr 2. doi:10.1136/bmj.m1291
23. White DB, Lo B. A Framework for Rationing Ventilators and Critical Care Beds During the COVID-19 Pandemic [published online ahead of print, 2020 Mar 27]. *JAMA*. 2020;10.1001/jama.2020.5046
24. Merin O, Miskin IN, Lin G, Wisner I, Kreiss Y. Triage in mass-casualty events: the Haitian experience. *Prehosp Disaster Med*. 2011;26(5):386–390. doi:10.1017/S1049023X11006856
25. Mentzelopoulos SD, Slowther AM, Fritz Z, et al. Ethical challenges in resuscitation. *Intensive Care Med*. 2018;44(6):703–716. doi:10.1007/s00134-018-5202-0
26. Sprung CL, Ricou B, Hartog CS, et al. Changes in End-of-Life Practices in European Intensive Care Units From 1999 to 2016 [published online ahead of print, 2019 Oct 2] [published correction appears in *JAMA*. 2019 Nov 5;322(17):1718]. *JAMA*. 2019;322(17):1–12. doi:10.1001/jama.2019.14608
27. Boettcher I, Turner R, Briggs L. Telephonic advance care planning facilitated by health plan case managers. *Palliat Support Care*. 2015;13(3):795–800.

28. Tieu C, Chaudhry R, Schroeder DR, Bock FA, Hanson GJ, Tung EE. Utilization of Patient Electronic Messaging to Promote Advance Care Planning in the Primary Care Setting. *Am J Hosp Palliat Care*. 2017;34(7):665–670
29. Shao F, Xu S, Ma X, Xu Z, Lyu J, Ng M, Cui H, Yu C, Zhang Q, Sun P, Tang Z. In-hospital cardiac arrest outcomes among patients with COVID-19 pneumonia in Wuhan, China, *Resuscitation* (2020), doi: <https://doi.org/10.1016/j.resuscitation.2020.04.005>
30. Ofner-Agostini M, Gravel D, McDonald LC, et al. Cluster of cases of severe acute respiratory syndrome among Toronto healthcare workers after implementation of infection control precautions: a case series. *Infect Control Hosp Epidemiol*. 2006;27(5):473–478
31. Marineli F, Tsoucalas G, Karamanou M, Androutsos G. Mary Mallon (1869-1938) and the history of typhoid fever. *Ann Gastroenterol*. 2013;26(2):132–134
32. Ott M, Krohn A, Jaki C, Schilling T, Heymer J. CPR and COVID-19: Aerosol-spread during chest compressions. *Zenodo* (2020, April 3); <http://doi.org/10.5281/zenodo.3739498>



www.erc.edu