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This year, the American Heart Association (AHA) released the updated 2020 Guidelines for Cardiopulmonary Resuscitation and Emergency Cardiovascular Care; the first major update to the internationally recognized guideline in five years. In collaboration with the AHA, the authors highlighted the “Top 10 Things to Know” regarding the guideline updates. As in previous years, the authors emphasize recognizing prevalence and mortality of cardiac arrest in both a community and hospital setting. They also reaffirm the well-known components of high-quality CPR, epinephrine use, early defibrillation, and vascular access. Special circumstances are discussed, including opioid overdose and cardiac arrest in pregnancy. Evidence for new technologies such as point-of-care ultrasound is also discussed. Found below are the updates in detail: 1. Over 350,000 Emergency Medical Services-assessed cardiac arrests and 209,000 in-hospital cardiac arrests occur annually in the United States. Despite advances in resuscitation science, survival rates for out of hospital cardiac arrest are only at best about 10%. Survival from in-hospital cardiac arrest is about 25%. 2. The 2020 Guidelines is based on the extensive evidence evaluation performed in conjunction with the International Liaison Committee on Resuscitation and affiliated International Liaison Committee on Resuscitation member councils. Three different types of evidence reviews (systematic reviews, scoping reviews, and evidence updates) were used in the 2020 process. Each of these resulted in a description of the literature that facilitated guideline development. 3. These guidelines reaffirmed the components of high-quality CPR, including compression depth (5 cm) and rate (100-120/min). In addition, the guidelines reaffirmed early epinephrine administration emphasizing epinephrine administration as soon as feasible for nonshockable rhythms, and epinephrine administration of epinephrine for shockable rhythms to occur after initial defibrillation attempts have failed. 4. Along with CPR, early defibrillation is critical to survival when sudden cardiac arrest is caused by ventricular fibrillation or pulseless ventricular tachycardia. Double sequential defibrillation—shock delivery by 2 defibrillators nearly simultaneously—has emerged as a new technological approach to manage these patients; however, its usefulness for refractory shockable rhythms has not been established. 5. The peripheral IV route has been the traditional approach for giving emergency pharmacotherapy, although the IO route has grown in popularity and is increasingly implemented as a first-line approach for vascular access. This recommendation has been updated to include emphasis on IV as the first attempt, and IO may be used when IV access is unsuccessful or not feasible. 6. Not all cardiac arrest events are identical, and specialized management may be critical for optimal patient outcome. These guidelines focus on two special circumstances that require individualized management of resuscitation; opioid overdose and cardiac arrest in pregnancy. 7. This guideline also discusses the synthesis of evidence for new technologies like point-of-care ultrasound for prognostication and whether their use is advised. 8. These guidelines also looked at post resuscitative care, including post-cardiac arrest care and guidance in improving Neuroprognostication. For post-cardiac arrest care, there is a new algorithm that describes the initial stabilization phase and additional emergency activities after return of spontaneous circulation (ROSC). This guideline also considers guidance needed for accurate neurologic prognostication in cardiac arrest survivors who do not regain consciousness with ROSC is critically important to ensure that patients with significant potential for recovery are not destined for certain poor outcomes due to care withdrawal. 9. We have added an additional link in the Chain of Survival: recovery from cardiac arrest. Recovery expectations and survivorship plans that address treatment, surveillance, and rehabilitation need to be provided to cardiac arrest survivors and their caregivers at hospital discharge to address the sequelae of cardiac arrest and optimize transitions of care to independent physical, social, emotional, and role function. 10. Cardiac arrest remains a condition with considerable morbidity and mortality that broadly affects individuals across age, gender, race, geography, and socioeconomic status. Although there have been modest improvements in survival, there is still considerable work to be done to address the significant burden of this disease. To learn more about the Must Know changes around the other guidelines, check out here. This post was copyedited by Samuel Wilson (@samwilson 95) and Andy Tolmie (@atolm6). Heart & Stroke 2020 Guidelines for CPR and Emergency Cardiovascular Care American Heart Association 2020 Guidelines for CPR and Emergency Cardiovascular Care (Visited 1,840 times, 1 visits today) Skip to main content Login | Signup Adult Pediatrics Neonatal Customer Service 1-800-AHA-USA-1 1-800-242-8721 Contact Us Hours Monday - Friday: 7AM - 9PM CST Saturday: 9AM - 5PM CST Closed on Sundays Tax Identification Number 13-5613797 ×Sorry to interruptCSS Error Approximately every five years the International Liaison Committee on Resuscitation (ILCOR), updates the guidelines for CPR and ECC (Emergency Cardiac Care). The content contained herein is based on the most recent ILCOR publications on BLS. Recommendations for adult basic life support (BLS) from the 2020 Guidelines for CPR and ECC include the following: The importance of early initiation of CPR by lay rescuers has been re-emphasized. The risk of harm to the patient is low if the patient is not in cardiac arrest. Bystanders should not be afraid to start CPR even if they are not sure whether the victim is breathing or in Cardiac Arrest. A sixth link, Recovery, was added to the Chains of Survival for both Pediatric and Adults. Care of the patient after the return of spontaneous circulation (ROSC) requires close attention to oxygenation, blood pressure control, evaluation for percutaneous coronary intervention, targeted temperature management, and multimodal neuroprognostication. Because recovery from cardiac arrest continues long after the initial hospitalization, patients should have formal assessment and support for their physical, cognitive, and psychosocial needs. After a resuscitation, debriefing for lay rescuers, EMS providers, and hospital-based healthcare workers may be beneficial to support their mental health and well-being. Management of cardiac arrest in pregnancy focuses on maternal resuscitation, with preparation for early perimortem cesarean delivery if necessary to save the infant and improve the chances of successful resuscitation of the mother. About NHCPS CertificationsContact NHCPS Certifications at customerservice@nhcps.com Back to: Advanced Cardiac Life Support (ACLS) Certification Course > ACLS Basic Life Support The Adult Cardiac Arrest Algorithm was modified to emphasize the role of early epinephrine administration for patients with nonshockable rhythms.Changes include: Amiodarone and lidocaine are now equivalent as antiarrhythmics in cardiac arrest Added a step to consider appropriateness of continued resuscitation Moved epinephrine to as soon as possible for nonshockable rhythms to emphasize early administration after starting CPRPost-Cardiac Arrest Care AlgorithmThe Post-Cardiac Arrest Care Algorithm is updated to emphasize the need to prevent hyperoxia, hypoxemia, and hypotension.Changes include: Oxygen saturation of 92% to 98% Separated out initial stabilization phase to include “Manage airway,” “Manage respiratory parameters,” and “Manage hemodynamic parameters” Added step to consider emergent cardiac interventions Added “Obtain brain CT,” “EEG monitoring,” and “Other critical care management” If patient is comatose Added guidance on reversible etiologies Removed Doses and Details boxes on right Added sections on Initial Stabilization Phase and Continued Management and Additional Emergent Activities on rightAdult Bradycardia AlgorithmChanges include: Atropine dose changed from 0.5 mg to 1 mg Dopamine dose changed from 2-20 mcg/kg per minute to 5-20 mcg/kg per minute Under “Identify and treat underlying cause,” added “Consider possible hypoxic and toxicologic causes” Under “Atropine,” transcutaneous pacing has “and/or” for dopamine or epinephrine (changed from “or”)Acute Coronary Syndromes AlgorithmAn updated algorithm is provided for acute coronary syndromes.Changes include: Upon EMS arrival at the hospital, transport to the emergency department or cath lab per protocol. Best practice is to deliver directly to the cath lab, as long as personnel are present for the procedure, to shorten the time to treatment First medical contact-to-balloon inflation (percutaneous coronary intervention) goal of 90 minutes or less 12-lead electrocardiographic analysis is now classified into 2 main categories, ST-segment elevation myocardial infarction (STEMI) and non-ST-segment elevation acute coronary syndromes (NSTE-ACS). NSTE-ACS has 2 branches under it, attempting to have emergency departments conduct further testing before releaseAdult Tachycardia With a Pulse AlgorithmThe Adult Tachycardia With a Pulse Algorithm includes updates to IV access and synchronized cardioversion.Changes include: Moved IV access and 12-lead ECG to step 2 (earlier in the algorithm) Added step 5 to guide on what to do if refractory (if synchronized cardioversion is not working, or if have wide QRS and adenosine/antiarrhythmic infusion is not working)Cardiac Arrest in Pregnancy In-Hospital ACLS AlgorithmA revised algorithm is provided for cardiac arrest in pregnancy.Changes include: Layout is more streamlined Added step for administering 100% O2 and avoiding excessive ventilation Removed step to assess for hypovolemia/treatment Changed “If no ROSC in 4 minutes” to “5 minutes” Maternal Cardiac Arrest box that highlights: Team planning Priorities of high-quality CPR and relief of aortocaval compressions with lateral uterine displacement Goal of perimortem cesarean delivery Deliver in 5 minutes (depending on provider resources and skill sets)Adult Suspected Stroke AlgorithmAn updated algorithm is provided for adult suspected stroke.Changes include: EMS should now use a stroke severity tool after performing a stroke screening to determine if a large-vessel occlusion exists New EMS stroke routing algorithm should be used to determine the hospital destination Upon EMS arrival at the hospital, transport to the emergency department or imaging lab per protocol. Best practice is to deliver directly to the imaging lab to shorten the time to treatment Patients can be treated with alteplase and endovascular therapy if time goals are met and contraindications do not exist The window for conducting endovascular therapy has been extended to up to 24 hoursNeuroprognosticationA visual aid is provided to guide and inform neuroprognostication.Because any single method of neuroprognostication has an intrinsic error rate and may be subject to confounding, multiple modalities should be used to improve decision-making accuracy.Physiologic Monitoring of CPR Quality2020 (Updated): It may be reasonable to use physiologic parameters such as arterial blood pressure or end-tidal CO2 when feasible to monitor and optimize CPR quality.2015 (Old): Although no clinical study has examined whether titrating resuscitative efforts to physiologic parameters during CPR improves outcome, it may be reasonable to use physiologic parameters (quantitative waveform capnography, arterial relaxation diastolic pressure, arterial pressure monitoring, and central venous oxygen saturation) when feasible to monitor and optimize CPR quality, guide vasopressor therapy, and detect ROSC.Why: Similar to the above, although the use of physiologic monitoring such as arterial blood pressure and/or end-tidal CO2 to monitor CPR quality is an established concept, new data support its inclusion in the Guidelines. Data from the AHA Get With the Guidelines-Resuscitation registry show higher likelihood of ROSC when CPR quality is monitored by using either end-tidal CO2 or diastolic blood pressure. This monitoring depends on the presence of an endotracheal tube or arterial line, respectively. Targeting compressions to an end-tidal CO2 value of at least 10 mmHg, and ideally 20 mm Hg or greater, may be useful as a marker of CPR quality. An ideal target has not been identified.Double Sequential Defibrillation Not Supported2020 (New): The usefulness of double sequential defibrillation for refractory shockable rhythm has not been established.Why: Double sequential defibrillation is the practice of applying near-simultaneous shocks with 2 defibrillators. Although some case reports have shown good outcomes, a 2020 ILCOR systematic review found no evidence to support double sequential defibrillation and recommended against its routine use. Existing studies are subject to multiple forms of bias, and observational studies do not show improvements in outcome. A recent pilot randomized clinical trial suggested that changing the direction of defibrillation current by repositioning the pads may be as effective as double sequential defibrillation, while avoiding the risks of harm from increased energy and damage to defibrillators. Based on current evidence, it is not known whether double sequential defibrillation is beneficial.Intravenous Access Preferred Over Intraosseous2020 (New): It is reasonable for providers to first attempt establishing IV access for drug administration in cardiac arrest.2020 (Updated): IO access may be considered if attempts at IV access are unsuccessful or not feasible.2010 (Old): It is reasonable for providers to establish IO access if IV access is not readily available.Why: A 2020 ILCOR systematic review comparing IV vs IO (principally prebital placement) drug administration during cardiac arrest found the IV route was associated with better clinical outcomes in 5 retrospective studies; subgroup analyses of RCTs that focused on other clinical questions found comparable outcomes when IV or IO was used for drug administration. Although IV access is preferred, there are situations in which IV access is difficult, and in such situations IO access is a reasonable option.Do Not Use Point-of-Care Ultrasonography for Prognostication During Resuscitation2020 (New): The AHA suggests against the use of point-of-care ultrasound for prognostication during cardiopulmonary resuscitation. This recommendation does not preclude the use of ultrasound to identify potentially reversible causes of cardiac arrest or detect ROSC.2020 (New): If an experienced sonographer is present and use of ultrasound does not interfere with the standard cardiac arrest treatment protocol, then ultrasound may be considered as an adjunct to standard patient evaluation, although its usefulness has not been well established.Why: Point-of-care cardiac ultrasound can identify cardiac tamponade or other potentially reversible causes of cardiac arrest and identify cardiac motion in patients with pulseless electrical activity. However, cardiac ultrasound is also associated with longer interruptions in chest compressions. A single small RCT found no improvement in outcomes with use of cardiac ultrasound during CPR. A recent systematic review found that no sonographic finding had consistently high sensitivity for clinical outcomes to be used as the sole criterion to terminate cardiac arrest resuscitation.Care and Support During Recovery2020 (New): The AHA recommends that cardiac arrest survivors have multimodal rehabilitation assessment and treatment for physical, neurologic, cardiopulmonary, and cognitive impairments before discharge from the hospital.2020 (New): The AHA recommends that cardiac arrest survivors and their caregivers receive comprehensive, multidisciplinary discharge planning, to include medical and rehabilitative treatment recommendations and return to activity/work expectations.Why: The process of recovery from cardiac arrest extends long after the initial hospitalization. Support is needed during recovery to ensure optimal physical, cognitive, and emotional well-being and return to social/role functioning. This process should be initiated during the initial hospitalization and continue as long as needed. These themes are explored in greater detail in a 2020 AHA Scientific Statement (Sawyer 2020).Ventilation in Respiratory and Cardiac ArrestRespiratory Arrest: If an adult victim with spontaneous circulation (ie, strong and easily palpable pulses) requires support of ventilation, it may be reasonable for the healthcare provider to give rescue breaths at a rate of about 1 breath every 6 seconds, or about 10 breaths per minute.Cardiac Arrest: It may be reasonable for EMS providers to use a rate of 10 breaths per minute (1 breath every 6 seconds) to provide asynchronous ventilation during continuous chest compressions before placement of an advanced airway. If an advanced airway is in place, it may be reasonable for the provider to deliver 1 breath every 6 seconds (10 breaths/min) while continuous chest compressions are being performed.Why: Studies have indicated that one breath every 6 seconds (10 breaths per minute) improve survival and neurological outcomes.Epinephrine AdministrationFor educational purposes, healthcare providers can administer acls protocol 2020 pdf. aha acls protocol 2020. what is the acls protocol. what’s new in acls protocol. acls 2020 review

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