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Woods Current For 2020 Look Inside This Book And Buy Now From Amazon Book Description From The Introduction ACLS Certification Exam Q&A With Explanations will certainly help you pass any Advanced Cardiac Life Support Certification Course. As you look through the book, you will quickly see that this book's format is different from all other review and test preparation books. This book is specifically geared toward healthcare students and new healthcare professionals that are preparing to take the ACLS certification exam for the first time. This book will also give the seasoned healthcare professional lots of great review information as well as a way to update themselves on the latest research and guidelines. Whichever certifying agency's program you are taking, either in a classroom or on the internet, this book and its contents will help you succeed in this course. In this book we give you all the essential information that you will need to successfully pass the certification course and exam on your first attempt. Joe and I have been teaching this course to healthcare professionals and students since 1984. We know what works and what doesn't when it comes to helping our students be successful. We had to develop almost all of the study materials for our students by ourselves because very little existed at the time. The Zombie Notes Study Charts were some of the first study aids we developed to help our students learn a large amount of information very quickly. We know that this format works very well because hundreds of thousands of healthcare professionals and students, in hospitals and colleges all over the world, have used this handy, no-nonsense chart to help them successfully pass the ACLS certification exams. Therefore, in order for you to be successful on the certification exam, and on the job, we expect you to memorize every bit of information contained within the Zombie Notes Study Charts and within this book. It is essential that you know this information by heart and can recall it at a moment's notice. This information is not only essential for the exam, but for your career, and the survival of your patients, as well. We have also included the actual course outline that we use in our certification course. We give you our outline here so that you can get a better understanding of what a typical ACLS certification course will involve. It will give you a general idea of what to expect in the course. You'll find that the key to passing the certification exam and course lies in applying your knowledge through questions and answers, not rote memory alone. Memorization is simply the first step to learning and committing the information to your long-term memory. You will find that studying our book ACLS Certification Exam Q&A With Explanations, and the Zombie Notes Study Charts, and taking practice exams, is a very powerful combination and a very productive and quick way to prepare yourself for success on the exam. Therefore, we have included 101 practice questions that are designed to simulate actual exam conditions. The practice exam questions simulate the real exam. The subject of ACLS covers a lot of material. It is an interesting topic, and a working knowledge of the material is essential to do your job properly. In addition, we have tried to make studying for this exam as painless and as easy as possible. We have included all the essential information necessary for you to be successful on this exam. We have also included additional material to make studying this topic more fun and less painful. How This Book Will Help You •This book will help you pass the ACLS certification exam on your first attempt. •We have created a video for every topic and article in this book, all available on YouTube.com/MicheleKunz. •Lots of practical and usable information and advice about the ACLS class and exam. •101 practice questions that cover every possible medical and nursing scenario and topic on the ACLS certification exam. •No confusing wrong answers to clutter your brain. •Contains all the essential information for ACLS exam success. •This book, together with Michele's YouTube videos, will greatly reduce your test-taking anxiety. •All information in this book has been updated to the current guidelines. •Michele is always available for your email questions about this book, or any aspect of nursing or hospital work. •Hot tips for surviving your first code. •Hot tips to help you memorize lots of new information. •Learn all of the biggest myths about the AED. Amazon Best Selling Ranking 2017 Who This Book Is Meant For All licensed healthcare providers and emergency responders such as: •Physicians (MD's, DO's, DPM's) •Nurses •Paramedics •Emergency Medical Technicians •Physician's Assistants •Nurse Practitioners •Residents and Fellows •Medical and Nursing Students •Medical and Nursing Assistants •Dentists •For all licensed healthcare professionals Available on Amazon Paperback – ISBN: 978-1-687583-78-9 08/20/2019 – 8.5" x 11" – 148 pgs. Amazon Reviews for ACLS Certification Exam Q&A With Explanations Book American Inspirations: Medical Educators with Heart (and business brains) About The Authors Michele and Joe have been on the front-line of teaching healthcare professionals in New York City and Long Island since 1984. They have built their medical training company into New York City's and Long Island's most sought after training company. Michele is also a nursing educator at one of New York's best hospitals, and Joe has been building and managing the business and finding and creating new and better ways to reach out and help more healthcare professionals. Their Zombie Notes Study Charts are America's best selling study guides of their type. Together, the Kunz's have helped many thousands of medical professionals pass the certification exams. Now, they can help you be successful too. Book Reviews from BookWorks.com for ACLS Certification Exam Q&A With Explanations It was really nice to meet and chat with @ibpa Terry Nathan at @BookExpoAmerica in New York City. pic.twitter.com/tbBoYnKdX0 — Joseph C. Kunz, Jr. (@jckunzjr) June 2, 2017 ACLS draws heavily on Basic Life Support (BLS). In fact, it is assumed that all people who are pursuing ACLS will be competent in the techniques of BLS—so much so that it is considered a prerequisite to ACLS The first step in any resuscitation is to make sure the rescuers (you) and the victim are safe. Therefore, if your victim is in the middle of the highway or in a burning building, the first step is to move the victim to safety. Assuming you and the victim are in a safe location, the next step is to assess whether the patient is responsive If patient is not responsive, move to BLS survey If patient is responsive, move to ACLS survey The BLS Survey 1. Responsive? Shake and Shout! Don't be afraid to make noise. Check for effective breathing for 5 to 10 seconds. 2. Activate EMS/Call Code In the hospital, you can call a "code" and send someone to get a defibrillator. In the community, call 911 and send for an AED 3. Circulation Check the carotid pulse for no more than 10 seconds. If no pulse, begin high quality CPR. 4. Defibrillation If there is a shockable rhythm, pulseless ventricular tachycardia or ventricular fibrillation, provide a shock Adult BLS is slightly different if there is one provider (solo) or more than one provider (team) present. The difference between solo provider BLS and team BLS is that responsibilities are shared when more than one person is present. These will be detailed in Solo and Team Adult BLS. For healthcare providers, the difference between a witnessed cardiac arrest and a victim who is found down is the order of the initial steps. If you are alone and witness a victim suddenly collapse: Assume cardiac arrest with a shockable rhythm. If you can get an AED quickly, you may activate EMS, leave the victim to get an AED, provide CPR for 2 minutes, and use the AED. If you are alone and find an unresponsive adult: Tailor response to the prospective cause of injury. If you suspect cardiac arrest: Activate EMS, get AED, 2 min of CPR, use AED If you suspect asphyxia: 2 min of CPR, Activate EMS, get AED, use AED Always make sure that you are safe and the victim is safe before you start BLS. Check to see if the victim is responsive. Shake and shout! Is the victim breathing effectively? Does the victim have a pulse in the carotid artery? If you witnessed the victim suddenly collapse, assume cardiac arrest with a shockable rhythm. If you can get an AED quickly, you may activate EMS, leave the victim to get an AED, CPR for 2 minutes, and use AED If you find an unresponsive adult, tailor response to the presumed cause of injury. If you suspect cardiac arrest: Activate EMS, get AED, 2 min of CPR, use AED If you suspect asphyxia: 2 min of CPR. Activate EMS, get AED, use AED High Quality CPR includes Fast and deep compressions, 100 compressions per minute Two inches deep, complete rebound If you can provide respiration, 2 breaths for 30 comps If you cannot provide respiration, just give chest comps Check for a pulse and cardiac rhythm every two minutes. Follow directions on the AED. After providing a shock, immediately resume CPR. Keep going until EMS arrives or the victim regains circulation. Always make sure that your team is safe and the victim is safe before you start BLS. Check to see if the victim is responsive. Shake and shout! Is the victim breathing effectively? Does the victim have a pulse in the carotid artery? One provider activates EMS and retrieves an AED. The other provider(s) stays with the victim. Provide High Quality CPR includes Fast and deep compressions, 100 compressions per minute Two inches deep, complete rebound If you can provide breaths, just give chest comps The provider who retrieved the AED applies the AED and follows directions given by the device. The provider that stayed with the victim provides CPR until the AED is ready. Check for a pulse and cardiac rhythm every two minutes. Follow directions on the AED. If a shock is indicated, clear everyone and administer a shock. After providing a shock, immediately resume Team CPR. In Team CPR, the provider giving chest compressions changes every 2 minutes Keep going until EMS arrives or the victim regains spontaneous circulation. Cardiac arrest is the sudden sensation cessation of blood flow to the tissues in brain the results from a heart that is not pumping effectively. Four rhythms may occur during cardiac arrest: ventricular fibrillation, pulseless ventricular tachycardia, pulseless electrical activity, and asystole. The primary intervention for ventricular fibrillation and pulseless ventricular tachycardia is unsynchronized cardioversion, more commonly known as a "shock." The primary intervention for pulseless electrical activity and asystole is pharmacological, beginning with the administration of epinephrine. While ACLS provides algorithms for each of these cardiac arrest rhythms, in the real world a patient may move between these rhythms during a single instance of cardiac arrest. Therefore, the provider must be able to accurately assess and adapt to changing circumstances. After every 2 minutes of CPR, check for a pulse and check the cardiac rhythm. If the rhythm has switched from shockable or to shockable, then switch algorithms. In ventricular fibrillation or pulseless ventricular tachycardia, the heart's conduction system exhibits a disordered rhythm that can sometimes be corrected by applying energy to it. This energy may come in the form of an automated external defibrillator (AED) defibrillator paddles, or defibrillator pads. VFib and VTach are treated with unsynchronized cardioversion, since there is no way for the defibrillator to decipher the disordered waveform. In fact, it is important not to provide synchronized shock for these rhythms. Ventricular fibrillation is recognized by a disordered waveform, appearing as rapid peaks and valleys as shown in this ECG rhythm strip: Ventricular tachycardia may provide waveform similar to any other tachycardia; however, the biggest difference in cardiac arrest is that the patient will not have a pulse and, consequently, will be unconscious and unresponsive. Two examples of ventricular tachycardia are shown in this ECG rhythm strips. The first is narrow complex tachycardia and the second is wide complex tachycardia: Once you have determined that a patient has a shockable rhythm, immediately provide an unsynchronized shock. If you are using biphasic energy, use recommended settings on the device. If you do not know what that setting is, use the highest available setting, (120 to 200 J). If you are using a monophasic energy source, administer 360 J. Resume CPR immediately after a shock. Minimize interruptions of chest compressions. Provide 2 rescue breaths for each 30 compressions. Epinephrine (1 mg IV/IO) is given every 3 to 5 minutes (two 2 minute cycles of CPR) Vasopressin (40 units IV/IO) can be used instead of the first or second dose of epinephrine Amiodarone (IV/IO) First dose 300 mg Second dose 150 mg Lidocaine may replace amiodarone when amiodarone is not available. First dose: 1-1.5 mg/kg IV Second dose: 0.5-0.75 mg/kg IV every 5 to 10 min If the arrest rhythm is no longer shockable, move to PEA/Asystole algorithm If the patient regains consciousness, move to ROSC algorithm for him and him Pulseless electrical activity or PEA is a cardiac rhythm that does not create a palpable pulse is even though it should. A PEA rhythm can be almost any rhythm except ventricular fibrillation (incl. torsade de pointes) or pulseless ventricular tachycardia. Asystole is the "flatline" on the ECG monitor. It represents a lack of electrical activity in the heart. It is critically important not to confuse true asystole with disconnected leads or an inappropriate gain setting on an in-hospital defibrillator. Asystole may also masquerade as a very fine ventricular fibrillation. If the ECG device is optimized and is functioning properly, a flatline rhythm is diagnosed as asystole. Note that asystole is also the rhythm one would expect from a person who has died. Consider halting ACLS efforts in people who have had prolonged asystole. It is inappropriate to provide a shock to pulseless electrical activity or asystole. Cardiac function can only be recovered in PEA or asystole through the administration of medications. As long as the patient is in PEA or asystole, the rhythm is not shockable. Chest compressions/high-quality CPR should be interrupted as little as possible during resuscitation. After 2 min. of high-quality CPR, give 1 mg of epinephrine IV/IO. Remember, chest compressions are a means of artificial circulation, which should deliver the epinephrine to the heart. Without chest compressions, epinephrine is not likely to be effective. Chest compressions should be continued while epinephrine is administered. Rhythm checks every 2 min. Epinephrine (1 mg IV/IO) is given every 3 to 5 minutes (after two, 2 minute cycles of CPR) Vasopressin (40 units IV/IO) can be used instead of the first or second dose of epinephrine If the arrest rhythm becomes shockable, move to VFib/Pulseless VTach algorithm If the patient regains circulation, move to ROSC algorithm While cardiac arrest is more common in adults than respiratory arrest, there are times when patients will have a pulse but are not breathing or not breathing effectively (e.g., agonal breathing). A person who has a pulse but is not breathing effectively is in respiratory arrest. When you encounter a patient in need, you will not know he or she is in respiratory arrest, so perform a BLS survey: In ACLS, the term airway is used to refer both to the pathway between the lungs and the outside world and victim in the devices that help keep that airway open. The simplest way to "manage an airway" is the head tilt-chin lift, which creates the straightest passageway for air to flow into the lungs. As if the victim may have experienced head or neck trauma, airway management should include a jaw thrust, which leaves the head and neck unmoved, but which opens up the airway. If one is to use a pocket mask or a bag mask to perform ventilations, it is important to make a tight seal with a mask on the victim's face. Proper use of these masks may require the rescuer to use one or even two hands to secure the mask to the victim's face. A nasopharyngeal airway, which extends from the nose to the pharynx, can be used in both conscious and unconscious patients. An oropharyngeal airway can only be used in unconscious patients because it may stimulate the gag reflex. Advanced airways such as endotracheal tubes (ET tubes) and laryngeal mask airways (LMAs) usually require specialized training, but are useful in-hospital resuscitations (especially LMAs). While nasopharyngeal and oropharyngeal airways are basic airways, they do require a bit of preparation and skill to use correctly. Inserting an Oropharyngeal Airway Select an airway that is the correct size for the patient Too big and it will damage the throat Too small and it will press the tongue into the airway Place the device at the side of the patient's face. Choose the device that extends from the corner of the mouth to the earlobe Clear the mouth or blood or secretions with suction, if possible. Insert the device so that the point is toward the roof of the mouth or parallel to the teeth Do not press the tongue back into the throat Once the device is almost fully inserted, turn it so that the tongue is cupped by the interior curve of the device. Inserting a Nasopharyngeal Airway Select an airway that is the correct size for the patient Place the device at the side of the patient's face. Choose the device that extends from the tip of the nose to the earlobe. Use the largest diameter device that will fit. Lubricate the airway with a water-soluble lubricant Insert the device slowly, straight into the face (not toward the brain!) It should feel snug; do not force the device. If it feels stuck, remove it and try the other nostril. Tips on Suctioning Adequate suctioning usually requires negative pressures of – 80 to –120 mmHg. Well-mounted suction can deliver this, but portable devices may not. When suctioning the oropharynx, do not insert the catheter too deeply. Extend the catheter to the maximum safe depth and suction as you withdraw. When suctioning an endotracheal tube, remember that the tube is within the trachea and you may be suctioning near the bronchi/lung. Therefore sterile technique should be used. Each suction attempt should be for no longer than 10 seconds. Prior to suctioning, give a brief period of 100% oxygen— remember that the patient will get no oxygen during suctioning. Monitor vital signs during suctioning and stop suctioning immediately if the patient experiences hypoxemia (O2 sat's 94 has a new arrhythmia, or becomes cyanotic. The patient who has been successfully resuscitated will regain spontaneous circulation. You can detect spontaneous circulation by feeling a palpable pulse at the carotid artery. Even after Return of Spontaneous Circulation (ROSC), the patient still needs close attention and support. The patient is at risk for reentering cardiac arrest at any time. Therefore, the patient should be moved to an intensive care unit. Titrate the patient's blood oxygen levels to ≥94% Does the person need an advanced airway? If so, it should be placed. Add quantitative waveform capnography Titrate the patient's systolic blood pressure to at least 90 mmHg, this may require the addition of fluids and/or vasopressors o Epinephrine IV 0.1-0.5 mcg/kg/min o Dopamine IV 5-10 mcg/kg/min o Norepinephrine IV 0.1-0.5 mcg/kg/min o 1-2 liters of fluid resuscitation Does the person follow verbal commands? If not, there may be neurological compromise. Consider inducing therapeutic hypothermia with 4°C fluids during fluid resuscitation. Does the person have signs of myocardial infarction by ECG? Move to ACS algorithm. Many different disease processes and traumatic events can cause cardiac arrest, but in an emergency, it is important to be able to rapidly consider and eliminate or treat the most typical causes of cardiac arrest. To facilitate remembering the main, reversible causes of cardiac arrest, they can be organized as the Hs and the Ts. The Hs Symptoms/Signs/Tests Intervention Hypovolemia Rapid heart rate, narrow QRS complex, Fluid resuscitation Hypoxia Decreased heart rate Airway management, oxygen Hydrogen Ion (Acidosis) Decreased heart rate Airway management, oxygen Hypoglycemia Fingerstick glucose testing IV Dextrose Hypokalemia Flat T waves, pathological U wave IV Magnesium Hyperkalemia Peaked T waves, wide QRS complex Calcium chloride, sodium bicarb, insulin/glucose, hemodialysis Hypothermia History of cold exposure Rewarming blankets/fluids The Ts Symptoms/Signs/Tests Intervention Tension Pneumothorax Slow heart rate, narrow QRS complex, acute dyspnea, history of chest trauma Thoracotomy, needle decompression Tamponade (cardiac) Rapid heart rate and narrow QRS complex Pericardiocentesis Toxins Variable, prolonged QT interval, neuro deficits Antidote/antivenom (toxin-specific) Thrombosis (pulmonary) Rapid heart rate, narrow QRS complex Fibrinolytics, embolectomy Thrombosis (coronary) ST segment elevation/depression, abnormal T waves Fibrinolytics. Percutaneous intervention Bradycardia is any heart rate less than 60 bpm. In practice, however, bradycardia is only a concern if it is unusual or abnormal for the patient or causing symptoms. New cases of bradycardia should be evaluated, but most will not require specific treatment. Evaluation of bradycardia includes cardiac and blood oxygen monitoring and a 12 lead ECG if available. Bradycardia may be treated by providing supplemental oxygen and supporting the patient's airway if needed. Unstable bradycardia (i.e., an abnormally slow heart rate that causes altered mental status, hypotension, symptoms of shock, cardiac chest pain, or new signs and symptoms of heart failure) should be treated immediately. Unstable bradycardia is first treated with intravenous atropine at a dose of 0.5 mg. Additional doses can be given every 3 to 5 min. up to a maximum of 3 mg. Pulseless bradycardia is considered PEA. If atropine is unsuccessful in treating symptomatic, unstable bradycardia, consider transcutaneous pacing, dopamine or norepinephrine infusion, or transvenous pacing. An intensive or cardiologist may need to be consulted for these interventions and the patient may need to be moved to the intensive care unit Atrial fibrillation is the most common arrhythmia. It is diagnosed by electrocardiogram, specifically the RR intervals follow no repetitive pattern. Some leads may show P waves while most leads do not. Atrial contraction rates may exceed 300 bpm. The ventricular rate often range is 100 to 180 bpm. The pulse may be "irregularly irregular." Atrial flutter is a cardiac arrhythmia that generates rapid, regular atrial depolarizations at a rate of about 300 bpm. This often translates to a regular ventricular rate of 150 bpm, but may be far less if there is a 3:1 or 4:1 conduction. By electrocardiogram, or atrial flutter is recognized by a sawtooth pattern sometimes called F waves. These waves are most notable in leads II, III, and aVF Narrow QRS complex tachycardias include several different tachyarrhythmias. A narrow QRS complex tachycardia is distinguished by a QRS complex of less than 120 ms. One of the more common narrow complex tachycardias is supraventricular tachycardia, shown below. Wide complex tachycardias are difficult to distinguish from ventricular tachycardia. Ventricular tachycardia leading to cardiac arrest should be treated using the ventricular tachycardia algorithm. A wide complex tachycardia in a conscious patient should be treated using the tachycardia algorithm. Tachycardia is any heart rate greater than 100 bpm. In practice, however, tachycardia is usually only a concern if it is New cases of tachycardia should be evaluated with cardiac and blood oxygen monitoring and a 12 lead ECG if available. Tachycardia may be treated by providing supplemental oxygen, supporting the patient's airway if needed, vagal maneuvers, and IV adenosine. Adenosine IV rapid push First dose: 6 mg Second dose: 12 mg Unstable tachycardia (i.e., an abnormally slow heart rate that causes altered mental status, hypotension, symptoms of shock, cardiac chest pain, or new signs and symptoms of heart failure) should be treated with synchronized cardioversion or adenosine. Consider beta-blocker or calcium channel blocker. Wide QRS tachycardia may require antiarrhythmic drugs. Procainamide Amiodarone Sotalol 20-50 mg IV, stop if hypotensive or max dose of 17 mg/kg. Maintenance infusion at 1-4 mg/min. 150 mg IV over 10 minutes with second dose for recurrent VT. Maintenance at 1 mg/min for 6 h 100 mg (1.5 mg/kg) over 5 min. Atrioventricular block or heart block is a failure of the heart's electrical system to properly coordinate conduction. There are four main types of atrioventricular block: first degree, second degree type I, second degree type II, and third degree heart block. The types of second degree heart block are referred to as Mobitz type I and Mobitz type II. Second degree heart block Mobitz type I is also known as the Wenckebach phenomenon. Atrioventricular blocks may be acute or chronic. Chronic heart block may be treated with pacemaker devices. From the perspective of ACLS assessment and intervention, heart block is important because it can cause hemodynamic instability and can evolve into cardiac arrest. In ACLS, heart block is often treated as a bradyarrhythmia. The PR interval is a consistent size, but longer or larger than it should be in first degree heart block. The PR interval increases in size until a QRS complexes dropped, resulting in missed "beat." A QRS wave will occasionally drop, though the PR interval is the same size. Complete dissociation between P waves and the QRS complex. No atrial impulses reach the ventricle. Acute coronary syndrome or ACS is a spectrum of signs and symptoms ranging from angina to myocardial infarction. ACS includes ST segment elevation myocardial infarction (STEMI) non- ST segment elevation myocardial infarction (NSTEMI), and unstable angina. Cardiac chest pain (a new chest discomfort) should be evaluated promptly. This includes high degree of suspicion by individuals in the community, prompt rapid action by EMS personnel, assessment in the emergency department, and definitive treatment. Myocardial infarction with symptoms of cardiac ischemia should be given oxygen, aspirin (if not allergic), nitroglycerin, and possibly morphine. Obtain a 12 lead ECG ASAP. The patient should be assessed in the ED within 10 min. of arrival. Draw and send labs (e.g., cardiac enzymes, coags). Obtain IV access. Give statin (if not contraindicated). Obtain chest Xray. The results of the ECG will be the primary guidance for how the patient with possible cardiac chest pain is managed. The ECG diagnosis of acute coronary syndrome can be complex. STEMI is recognized by ST segment elevation with/without pathological Q waves. NSTEMI can be a more challenging electrocardiographic diagnosis. It may result in ST segment depression, "flipped" T waves (T wave flattening or inversion), peaked T waves, U wave inversion, and bundle branch block. The electrocardiographic diagnosis of an NSTEMI is beyond the scope of ACLS. Unstable angina is new onset cardiac chest pain without ECG changes, angina that occurs at rest and lasts for more than 20 min., and/or angina that has become rapidly and progressively worse. STEMI and NSTEMI patients will have elevated cardiac markers in the blood (e.g. troponins) several hours after the acute event. People with unstable angina will not have elevated cardiac markers. STEMI patients should be treated per hospital protocol. His may include anti-platelet drug(s), anticoagulation, a beta-blocker, an ACE inhibitor, a statin, and either PCI or a fibrinolytic, unless they do not improve with medical therapy. Patients with unstable angina are admitted and monitored for evidence of MI. Patients who do not "rule in" (develop MI) can undergo cardiac stress testing the next day or as an outpatient. The EMS team should take patients with suspected stroke to a stroke center. While in transit, the EMS team should try to determine the time at which the patient was last normal, which is considered the onset of symptoms. EMS administer oxygen via nasal cannula or face mask, obtain a fingerstick glucose measurement, and alert the stroke center. Within 10 min. of the patient's arrival at the hospital, personnel should assess the patient. They should obtain vital signs and IV access, draw and send labs (e.g. coags), obtain a 12-lead ECG, order CT, and perform a general assessment. Within 25 min. of the patient's arrival at the hospital, the stroke team should determine symptom onset, perform and narrow exam including the NIH stroke scale or equivalent, perform the fibrinolytic checklist, have the results of the CT scan of the brain. Within 45 min. of the patient's arrival at the hospital, the CT scan of the brain should be read for the presence of ischemic or hemorrhagic stroke. Within 60 min. of the patient's arrival at the hospital, fibrinolytic therapy should be administered in cases of ischemic stroke if the patient is a candidate. If the patient with an ischemic stroke is not a candidate for fibrinolytic, administer aspirin if the patient is not allergic. If the patient is having a hemorrhagic stroke, neurosurgery should be consulted. Within three hours of the patient's arrival at the hospital, the patient should be moved to the neurology/neurosurgery intensive care unit, stroke unit, or med/surg intensive care unit. In people who are candidates for fibrinolytics, the goal is to administer the agent within 3 hours of the onset of symptoms. Fibrinolytic Checklist Inclusion Criteria Exclusion Criteria Ischemic stroke with neurological deficit Stroke/ head trauma in last 3 months Onset of symptoms 3 hours History of brain Age 18 years old Brain tumor, arteriovenous malformation, or aneurysm Brain or spine surgery in last arterial line or blood draw in last week Possible subarachnoid hemorrhage Systolic ≥ 185 mmHg or diastolic ≥ 110 mmHg consistently Serum glucose Currently bleeding internally or bleeding diathesis Platelet 1.7 or PT ≥15 seconds (if known) Elevated aPTT (if known) Currently taking anticoagulants Hemorrhage on CT Stroke includes > 1/3 of entire cerebrum Relative Exclusion Criteria Minor neurologic deficits Rapidly improving neurologic deficits Major surgery/serious trauma in last 2 weeks Gastrointestinal/urinary tract bleeding in last 3 weeks Heart attack in last 3 months Seizure with stroke with postictal period Pregnant in select individuals, the window for fibrinolytics can be extended to 4.5 hours. Fibrinolytic Checklist for 3 to 4.5 Hours from Symptom Onset Meets all criteria for fibrinolytic use at 3 hours plus these criteria: Inclusion Criteria Exclusion Criteria Ischemic stroke with neurological deficit Currently taking anticoagulants Onset of symptoms 3 to 4.5 hours Severe stroke; NIH Stroke Scale score >25 Age 18 to 79 years old Previous ischemic stroke and diabetes The 2015 edition of the AHA ACLS guidelines highlights the importance of effective team dynamics during resuscitation. ACLS in the hospital will be performed by several providers. These individuals must provide coordinated, organized care. Providers must organize themselves rapidly and efficiently. The AHA recommends establishing a Team Leader and several Team Members. The Team Leader is usually a physician, ideally the provider with the most experience in leading ACLS codes. Resuscitation demands mutual respect, knowledge sharing, and constructive criticism, after the code. Team Leader Responsibilities Team Member Responsibilities Usually stands at the foot of the bed Stands in a position dictated by role Competent in all ACLS duties Competent in specific role (at least) Directs Team Members in a professional, calm voice Responds with eye contact and voice affirmation Assigns roles Clearly states when he/she cannot perform a role Lists for confirmation from Team Member Informs Team Leader when task is complete Ask for ideas from Team Members when needed Openly share suggestions if it does not disrupt flow Listens for confirmation from Team Member Provides constructive feedback after code Documents resuscitation in patient chart Provides information for documentation as needed When performing a resuscitation, the Team Leader and Team Members should assort themselves around the patient so they can be maximally effective and have sufficient room to perform their role. Overview of Advanced Cardiovascular Life Support..... 2 Updates to ACLS in 2015..... 3 Chain of Survival..... 4 Adult BLS Chain of Survival..... 4 BLS and ACLS Surveys..... 5 The BLS Survey..... 5 Solo Provider Adult BLS..... 6 Team Adult BLS..... 7 Cardiac Arrest..... 8 Ventricular Fibrillation and Pulseless Ventricular Tachycardia..... 9 Ventricular Fibrillation and Pulseless Ventricular Tachycardia Algorithm..... 10 Pulseless Electrical Activity and Asystole..... 11 PEA and Asystole Algorithm..... 12 Respiratory Arrest..... 13 Airway Management..... 14 Return of Spontaneous Circulation (ROSC) and Post Arrest Care..... 16 Rapid Differential Diagnosis of Cardiac Arrest..... 17 Bradycardia..... 18 Bradycardia Algorithm..... 18 Tachycardia..... 19 Tachycardia Algorithm..... 20 Atrioventricular (Heart) Block..... 21 Acute Coronary Syndrome..... 22 Acute Coronary Syndrome Algorithm..... 23 Acute Stroke..... 24 Time is Brain! Stroke Time Goals for Evaluation and Therapy..... 25 Team Dynamics..... 26 Resuscitation and Life Support Medications..... 27 Advanced Cardiac Life Support, or ACLS, is a system of algorithms and best practice recommendations intended to provide the best outcome for patients in cardiopulmonary crisis. ACLS protocols are based on basic and clinical research, patient case studies, clinical studies, and reflect the consensus opinion of experts in the field. While the term Advanced Cardiovascular Life Support was coined by the American Heart Association, the content contained in this manual is based on the most recent guidelines published by the American Heart Association, the American College of Cardiology, the American Red Cross, and The European Society of Cardiology. Prior to taking ACLS, it is assumed that you are proficient and currently certified in Basic Life Support (BLS). Once you become certified in ACLS, the certification is valid for two years. However, we encourage you to regularly login back in to your account to check for updates on resuscitation science advances. This Advanced Life Support provider manual includes: Updates to ACLS in 2015 Solo and Team BLS The ACLS Survey Cardiac and Respiratory Arrest Return of Spontaneous Circulation (ROSC) and Post Arrest Care Bradycardia and Tachycardia Management ECG Rhythm Recognition Atrioventricular Blocks Acute Coronary Syndrome and Acute Stroke Management Resuscitation Medications Team Dynamics and Systems of Care As we learn more about resuscitation science and medicine, physicians and researchers realize what works best and what works fastest in a critical, life-saving situation. Therefore, it is necessary to periodically update life-support techniques and algorithms. If you have previously certified in advanced cardiovascular life support, then you will probably be most interested in what has changed since the latest update in 2010. The table below also includes changes proposed since the last AHA manual was published. These changes will likely appear in future editions of the provider manual. 2015 Science Summary Changes Table Topic 2010 2015 Systematic Approach BLS Assessment (Name Change) 1-2-3-4 Check for response by tap and shout and watching the chest for movement Activate the area emergency response system Obtain an AED Check the pulse for 10 seconds or less if no pulse, begin chest compressions Defibrillate Check for response by tap and shout Call for help and Activate the area emergency response system Obtain an AED Check breathing and pulse at same time If no pulse, begin chest compressions Defibrillate Systematic Approach Primary Assessment (name change) Airway Breathing Circulation Evaluate H's and T's Airway Breathing Circulation Disability Exposure Systematic Approach Secondary Assessment (new) SAMPLE acronym H's and T's High Quality CPR Compression rate = at least 100 per minute Compression depth of at least 2 inches in adults Allow complete chest recoil after compressions Compressions should not be interrupted for more than 10 seconds Excessive ventilation should be avoided Switch providers of compressions every 2 minutes Compression rate of 100 to 120 per minute Compression depth of at least 2 inches in adults. If a feedback device is in place, depth can be adjusted to maximum of 2.4 inches in adults or adolescents Allow complete chest recoil after compressions Compressions should not be interrupted for more than 10 seconds Excessive ventilation should be avoided Chest compression fraction (% of time spent doing chest compressions during CPR) should be at least 60% but ideally 80% Switch providers of compressions every 2 minutes ACLS Post Cardiac Arrest Care Consider hypothermia treatment for 12 to 24 hours in comatose patients Consider hypothermia treatment for at least 24 hours in comatose patients Not recommended to cool patients in out of hospital setting with cold IV fluids ACLS Airway Management If an advanced airway is in place, ventilate every 6 to 8 seconds If an advanced airway is in place, ventilate every 6 seconds ACLS Bradycardia Dopamine dose = 2 to 10 mcg per kg per minute Consider hypothermia treatment for at least 24 hours in comatose patients ACLS Airway Management NTEMI Titrate oxygen to create oxygen saturation > 94% NSTE-ACS Titrate oxygen to create oxygen saturation > 90% Advanced Cardiovascular Life Support continues to emphasize the Chain of Survival. The Chain of Survival is a sequence of steps or links that, when followed to its completion, increases the likelihood that a victim of a life-threatening event will survive. The adult and pediatric chains of survival are slightly different. The person who is providing BLS is only responsible for the early links, that is, making sure the person is cared for by emergency personnel. The emphasis on early care is to reinforce that time is a critical factor in life supportcare. The 2020 standards include the concept of out of hospital care versus in-hospital care. Adult BLS Chain of Survival The links of the Adult ACLS Chain of Survival are: EMS – Early activation of EMS CPR – Early administration of High-quality CPR AED – Early use of an AED ACLS – Early Advanced Cardiovascular Life Support Post-Arrest Care – Transport victim to the hospital acs exam questions and answers 2017 pdf. acs questions and answers 2017 american heart association. free acs test questions and answers 2017

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