

2020 Science Summary Table

This table compares 2015 with 2020, providing a quick reference to what has changed and what is new in the science of advanced cardiovascular life support.

Table. Topical Comparison of 2015 and 2020 ACLS Science

ACLS topic	2015	2020
Ventilation	<ul style="list-style-type: none"> • 1 breath every 5 to 6 seconds for respiratory arrest, with a bag-mask device • 1 breath every 6 seconds for ventilation with an advanced airway in place 	<ul style="list-style-type: none"> • 1 breath every 6 seconds for respiratory arrest with or without an advanced airway and also for cardiac arrest with an advanced airway (use this rate with a bag-mask device if your local protocol is continuous compressions and asynchronous ventilations for cardiac arrest)
Bradycardia	<ul style="list-style-type: none"> • Atropine dose: 0.5 mg • Dopamine dosing: 2 to 20 mcg/kg per minute • Atropine is the first-line medication for all unstable bradycardias. 	<ul style="list-style-type: none"> • Atropine dose: 1 mg • Dopamine dosing: 5 to 20 mcg/kg per minute • Give atropine to all unstable bradycardia patients as a first-line medication except heart transplant patients. Use pacing and/or dopamine or epinephrine for heart transplant patients.
Tachycardia	<ul style="list-style-type: none"> • Synchronized cardioversion initial recommended doses: <ul style="list-style-type: none"> – Narrow QRS complex, regular rhythm: 50 to 100 J – Narrow QRS complex, irregular rhythm: 120 to 200 J – Wide QRS complex, regular rhythm: 100 J • Wide QRS complex, irregular rhythm: defibrillation dose (not synchronized) 	<ul style="list-style-type: none"> • Follow your specific device's recommended energy level to maximize the success of the first shock • Wide QRS complex, irregular rhythm: defibrillation dose (not synchronized)
Post-Cardiac Arrest Care	<ul style="list-style-type: none"> • Titrate oxygen saturation to 94% or higher 	<ul style="list-style-type: none"> • Titrate oxygen saturation to 92% to 98%
Adult Chain of Survival	<ul style="list-style-type: none"> • 5 links for both chains (in-hospital cardiac arrest and out-of-hospital cardiac arrest) 	<ul style="list-style-type: none"> • 6 links for both chains (in-hospital cardiac arrest and out-of-hospital cardiac arrest): added a Recovery link to the end of both chains
IV/IO Access	<ul style="list-style-type: none"> • IV access and IO access are equivalent 	<ul style="list-style-type: none"> • IV preferred over IO access, unless IV fails (then OK to proceed to IO)
ACLS topic	2020	
Cardiac Arrest	<ul style="list-style-type: none"> • Epinephrine 1 mg every 3 to 5 minutes or every 4 minutes as a midrange (ie, every other 2-minute rhythm check) • Amiodarone and lidocaine are equivalent for treatment (ie, either may be used) • Added maternal cardiac arrest information and algorithms (in-hospital) • Added ventricular assist device information (left and right ventricular assist device) and algorithm • Added new prognostication diagram and information • Recommend using waveform capnography with a bag-mask device 	
Stroke	<ul style="list-style-type: none"> • Revised stroke algorithm • New stroke triage algorithm for EMS destination • Focus on large vessel occlusion for all healthcare providers • Endovascular therapy: treatment window up to 24 hours (previously up to 6 hours) • Both alteplase and endovascular therapy can be given/performed if time criteria and inclusion criteria are met • Consider having EMS bypass the emergency department and go straight to the imaging suite (computed tomography [CT]/magnetic resonance imaging); initial assessment can be performed there to save time • Titrate oxygen saturation to >94% 	