The Emergency Cardiac Care Committee (ECC)

and the

International Liaison Committee on Resuscitation

(ILCOR) present the

American Heart Association

2020 Guidelines

ACLS 2020 Algorithms

Brought to you by:

FLORIDA HEART CPR*

AMERICAN HEART ASSOCIATION

BLS/ACLS/PALS TRAINING CENTER

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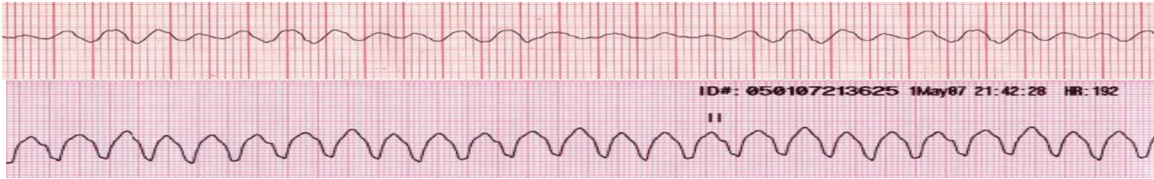


Ventricular Fibrillation/Pulseless V-Tach

*****Start Immediate High Quality CPR*****

If un-witnessed code or down time > 4 minutes, 2 minutes of CPR ***prior to defibrillation***

Defibrillate 200j*

*biphasic (or device specific dose)

Continue CPR immediately

← w/o pulse or rhythm check 100-120BPM

Secure the airway without prolonged intubation attempts (BVM) and maintain 02@92-98% And establish IV or IO with Saline or LR

Epinephrine 1mg

Defibrillate

Amiodarone 300mg IVP →→

If Amiodarone is not available, Lidocaine may be used. First dose is 1-1.5mg/kg IVP;
2nd dose is 0.5-0.75mg/kg

Defibrillate

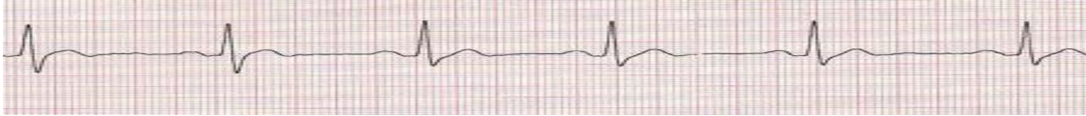
Epinephrine 1mg

Defibrillate

Amiodarone 150mg IVP

Continue with Epi every 3-5 minutes (or q2-4 minutes to coincide with rhythm checks) while searching for and treating reversible causes

- ✓ **Considerations: Sodium Bicarbonate 1meq/kg** if suspected acidosis, Tricyclic overdose, hyperkalemia or extended down time.
- ✓ **Consider Magnesium Sulfate 1-2 grams I.V. (if Torsades is present)**.
- ✓ **DO NOT MIX antiarrhythmics (such as Amiodarone & Lidocaine) as it may increase the chance of asystole.**
- ✓ **Upon return of spontaneous circulation (ROSC):** V/S, Labs, 12 Lead EKG (if STEMI call cath lab). Consider maintenance anti-arrhythmic bolus or infusion, support B/P, consider targeted temperature management, maintain capnography 35-40mmHg.



Pulseless Electrical Activity (PEA)

& Asystole

HIGH QUALITY CPR

Provide 02, IV or IO access

Epinephrine 1 mg

(Repeat every 3 – 5 minutes (or q 2-4 to coincide with rhythm checks)

Consider possible causes and correct

The 5 **H's** and the 5 **T's, while beginning drug therapy**

Hypoxia
Hypovolemia
Hyper/hypokalemia
Hypothermia
Hydrogen ion/acidosis

Toxins/overdose
Thromboemboli-coronary
Thromboemboli-pulmonary
Tension pneumothorax
Tamponade (cardiac)

***Note: Repeated unsuccessful intubation attempts are not recommended. BVM support of the airway is acceptable until advanced airway can be placed.**

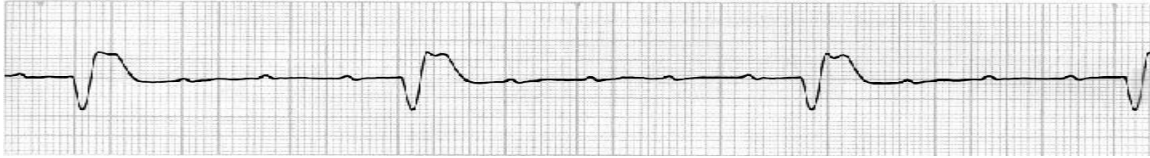
Several factors should be considered when making the decision to terminate resuscitation efforts on a patient in extended Asystole:

Down Time
Cold Water Drowning
Age
Blood Pooling
DNR, family wishes

Cause of death
Chronic Medical Conditions
Skin Temperature
Trauma
Co-morbidities

And most importantly……….quality of life!

**2020 Guidelines suggest to administer epinephrine as soon as reasonably possible in a non-shockable pulseless patient.*



Symptomatic Bradycardia

Heart rate <50bpm and inadequate for clinical condition, such as altered mental status, chest pain, or signs of shock.

Assess, maintain ABC's

↓

AIRWAY, MAINTAIN OXYGEN >92%
IV, Monitor, vitals, EKG

↓

Signs or symptoms of poor perfusion caused by the bradycardia?

↓

Adequate perfusion?

↓

DRAW LABS

OBSERVE/MONITOR

Consider expert consultation

If the patient has serious signs and symptoms, you may assume they are related to the bradycardia. Signs and symptoms include altered mental status, shortness of breath, chest pain or other signs of shock.

↓

Poor Perfusion?

↓

Atropine 1 mg IVP**

Place TCP pads

Consider fluids?

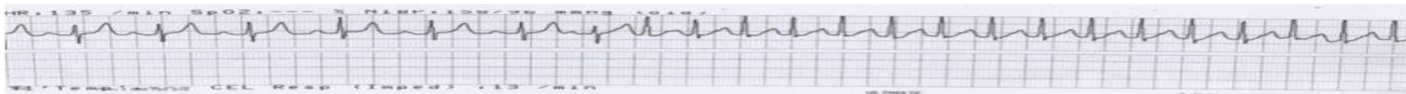
also consider Dopamine or epi drip to maintain hemodynamics and increase the heart rate and blood pressure.

↓

If Dopamine or EPI is ineffective, consider pacing. They are equally effective!

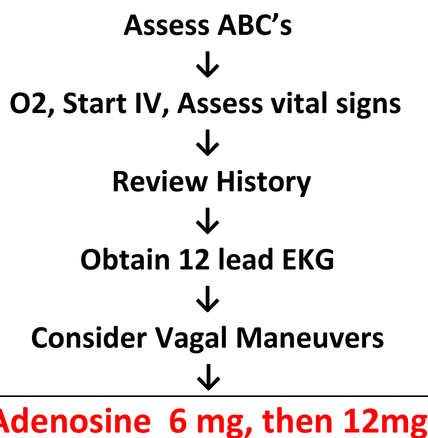
Epinephrine (2-10ug/min) or Dopamine (5-20ug/kg per minute) infusion while awaiting pacer or if pacing is ineffective.**
Inotropes may be considered before pacing if possible.

****change from 2015 guidelines***



Supraventricular Tachycardia

STABLE



Assess ABC's

↓

O2, Start IV, Assess vital signs

↓

Review History

↓

Obtain 12 lead EKG

↓

Consider Vagal Maneuvers

↓

Adenosine 6 mg, then 12mg

If rhythm persists, consider
beta blocker (Lopressor)

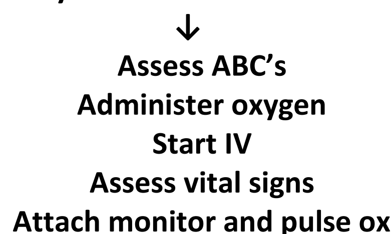
NOTE: Adenosine is given as rapidly as possible, followed by a saline flush!

You may also use Adenosine as a diagnostic test to diagnose A-fib or A-flutter if you cannot interpret the rhythm.

UNSTABLE

Look for symptoms related to the tachycardia, such as chest pain, heart failure, shortness of breath altered mental status or hemodynamic instability.

↓



Assess ABC's
Administer oxygen
Start IV
Assess vital signs
Attach monitor and pulse ox

Synchronized Cardioversion
Start at 50-100 joules*

↓

If rhythm does not convert, continue

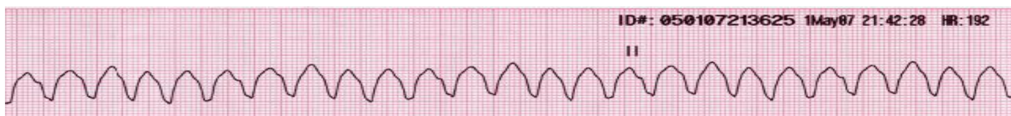
↓

Adenosine 6mg

↓

Adenosine 12mg

*2020 Guidelines suggest using the Manufacturer's recommendations for the Biphasic energy dose, or you may use the clinically equivalent monophonic energy dose. Be sure to have suction, IV line established, intubation, and pulse oximetry available.



Ventricular Tachycardia

STABLE

Assess ABC's, Secure airway and provide oxygen, 12 Lead EKG
Start IV, draw labs

AMIODARONE
150 mg (mixed in a 100mL bag given over 10min) bolus (15 mg/min)
***or* ADENOSINE 6mg, 12mg**

Assess vital signs, attach pulse ox
If rhythm does not resolve, consider Synchronized Cardioversion
Start at 100 joules*
(Pre-medicate whenever possible)

IF SUCCESSFUL TERMINATION OF V-TACH *DO NOT CONTINUE*

If Polymorphic V-Tach
(Torsades de Pointes)
1-2 grams of Magnesium sulfate

Some clinicians may choose DC cardioversion as their first treatment for all wide complex tachycardias regardless of cardiac function. Do not mix antiarrythmics. If you choose to use Amiodarone for example, do not give any other antiarrhythmic

****Amiodarone should never be given IVP unless the patient is pulseless!**

UNSTABLE

Assess ABC's, vitals
Administer oxygen
Start IV
↓

Perform immediate Synchronized Cardioversion
Start at 100 joules*

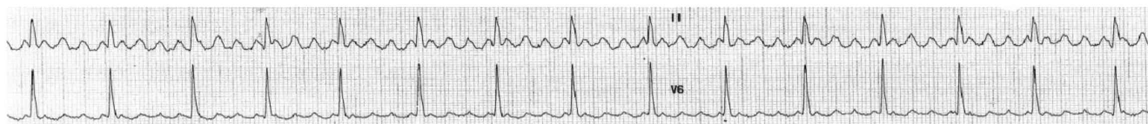
(Pre-medicate whenever possible)

IF SUCCESSFUL TERMINATION OF V-TACH DO NOT CONTINUE

To prevent reoccurrence, consider an Amiodarone bolus, 150 mg over 10 minutes (15 mg/min)

Do not mix antiarrythmics. If you choose to use Amiodarone, for example, do not give any other antiarrhythmic. (increases chances of asystole)

2020 Guidelines suggest using the manufacturer's recommended Biphasic energy dose, or you may use the clinically equivalent monophasic energy dose



Atrial Fibrillation/Atrial Flutter

Stable w/uncontrolled rate

Assess ABC's, obtain 12 lead EKG

Start IV, vital signs, BP, Sa02

Review history of A-fib/flutter

Cardizem 0.25 mg/kg (bolus)

A Cardizem drip will then be administered per doctor's orders as a maintenance infusion, usually 5-15 mg/hr

Consider expert consultation

Unstable w/uncontrolled rate and symptomatic

Assess ABC's, obtain 12 lead EKG

Start IV, vital signs, BP, Sa02

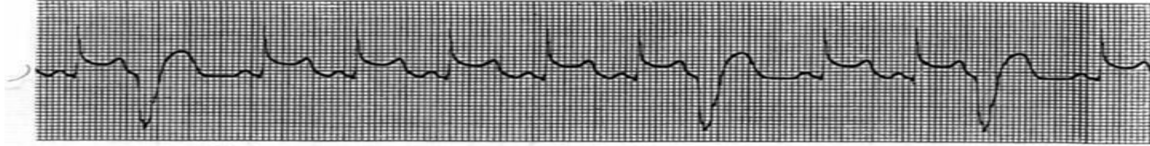
Provide oxygen if needed and review patient's history,

If determined a new onset, consider **synchronized cardioversion** @
120-200 joules for a-fib,
50-100 joules for a-flutter
(Consider Sedation)

OR CONSIDER

Cardizem 0.25 mg/kg (given over two minutes). Consider re-evaluating BP halfway through to avoid drop in BP

***Note: never delay cardioversion in lieu of sedation if the patient is unstable. (You can always apologize later)**
If rhythm has been present for >48 hours, a risk of systemic embolization exists with conversion to sinus rhythm unless patients are adequately anticoagulated. Electrical cardioversion and the use of antiarrhythmic agents should be avoided unless the patient is unstable or hemodynamically compromised. Cardizem must be given over 2 minutes to avoid a drop in blood pressure.



Chest Pain of Cardiac Origin

STEMI/Acute Coronary Syndrome (ACS)

Assess ABC's
2 IV lines, pulse oximetry, titrate **02** ≥92% Sa02
Draw baseline labs,
Review history
(O.P.Q.R.S.T. - A.S.P.N)*
↓
IMMEDIATE 12 LEAD EKG FOR EVALUATION BY PHYSICIAN WITHIN 10 MINUTES OF ARRIVAL
↓
Aspirin 160-325 mg PO
↓
Nitroglycerin 0.4 mg SL x 3
(Systolic BP must be >90)
Document pain/BP between doses
↓
If pain is not relieved, Morphine 2-4 mg
(Systolic BP must be > 90)
(May be repeated up to 10 mg)
↓
Perform Thrombolytic / Fibrinolytic Screening
(See ACLS text for criteria)
And consider patient for immediate catheterization
Pre-hospital: Notify hospital/interventionalist
or cath lab early if presumed STEMI

***O.P.Q.R.S.T.** Onset, Provocation, Quality, Radiation, Severity, Time
A.S.P.N. Associated Symptoms, Pertinent Negatives