

High Performance CPR

Applies to:	
E	EMT
P	Paramedic

Clinical Indications:

All out-of-hospital cardiac arrests (OHCA) which results in the activation of the EMS System shall be managed using High Performance CPR (HP-CPR)

Purpose:

The purpose of HP-CPR is to provide a structured, standardized, and choreographed approach to cardiac arrest management.

Principles:

1. Resuscitation is based on proper planning and organized execution. Procedures require space and patient access. Make room to work. Utilize a team focused approach assigning responders to predetermined tasks.
2. The unit first on scene shall establish and follow the HP-CPR script. Efforts should be taken to ensure adequate timekeeping occurs throughout the resuscitation.
3. Cardiac arrest management efforts should be directed at high quality, continuous chest compressions with limited interruptions. The goal is to provide two (2) minutes of continuous compressions with a less than ten (10) second pause.
4. In cardiac arrest, drugs are of limited usefulness. High quality compressions and defibrillation are far more important.
5. Approach resuscitation with goal of preserving cerebral function through meticulous attention to procedure.
6. The patient should be ventilated using a BLS airway and BVM at a rate of ten (10) ventilations/minute (1:6 seconds) with continuous CPR. Placement of an advanced airway should be deferred unless a provider is unable to ventilate the patient with a BLS airway and BVM.
7. If transport is deemed appropriate or the patient has experienced a return of spontaneous circulation (ROSC) at any time throughout the resuscitation; transport to a STEMI receiving Center.

High Performance CPR

Time (mins)	Non-Shockable Rhythm (Asystole/ PEA)	Shared Interventions	Shockable Rhythm (V-Fib/ Pulseless V-Tach)
0-2	<ul style="list-style-type: none"> Stopwatch/ full code Begin chest compressions 	<ul style="list-style-type: none"> Apply defib pads BLS airway: OPA, BVM, O₂ 15L Set up IV/ IO supplies Charge defibrillator 	<ul style="list-style-type: none"> Stopwatch/ full code Begin chest compressions
Shockable rhythm? DEFIBRILLATION at 200J or manufacturer recommendation			
2-4	<ul style="list-style-type: none"> EPI 1:10,000 IV/IO 	<ul style="list-style-type: none"> Continue chest compressions Set up MCD; if V-Fib, apply 2nd set of pads Continue ventilations at 10/ min Establish IV/ IO Charge defibrillator 	<ul style="list-style-type: none"> Consider H's and T's Consider narkan for OD Consider sodium bicarb/ calcium for renal failure or hyperkalemia
Shockable rhythm? DEFIBRILLATION at 300J or manufacturer recommendation			
4-6	<ul style="list-style-type: none"> Consider H's and T's Consider narkan for OD Consider sodium bicarb/ calcium for renal failure or hyperkalemia 	<ul style="list-style-type: none"> Continue compressions Continue ventilations at 10/ min If not in use, add EtCO₂ Charge defibrillator 	<ul style="list-style-type: none"> Use alternately placed pads for future shocks; may alternate between different pads LIDOCAINE
Shockable rhythm? DEFIBRILLATION at 360J or manufacturer recommendation			
6-8	<ul style="list-style-type: none"> EPI 1:10,000 IV/IO 	<ul style="list-style-type: none"> Continue chest compressions Continue ventilations at 10/ min Place advanced airway Charge defibrillator 	<ul style="list-style-type: none"> EPI 1:10,000 IV/ IO
Shockable rhythm? DEFIBRILLATION at 360J or manufacturer recommendation			
8-10		<ul style="list-style-type: none"> Continue chest compressions Continue ventilations at 10/ min Charge defibrillator 	<ul style="list-style-type: none"> LIDOCAINE
Shockable rhythm? DEFIBRILLATION*** at 360J or manufacturer recommendation			
10-12	<ul style="list-style-type: none"> EPI 1:10,000 IV/IO 	<ul style="list-style-type: none"> Continue chest compressions Continue ventilations at 10/ min Charge defibrillator at 	<ul style="list-style-type: none"> EPI 1:10,000 IV/ IO Consider transport to STEMI Receiving Center
Shockable rhythm? DEFIBRILLATION at 360J or manufacturer recommendation			
12-14		<ul style="list-style-type: none"> Continue chest compressions Continue ventilations at 10/ min Charge defibrillator at 	
Shockable rhythm? DEFIBRILLATION at 360J or manufacturer recommendation			

It is important to adhere to the prescribed 2-minute interval as closely as possible.

*Lidocaine is only indicated in shockable rhythms refractory to two (2) shocks.

***Early transport to a STEMI Receiving Center is indicated under the following circumstances:

- Witnessed arrest with suspicion of pulmonary embolism; or
- V-Fib arrest resistant to four (4) shocks (refractory V-Fib).

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Time (mins)	Non-Shockable Rhythm (Asystole/ PEA)	Shared Interventions	Shockable Rhythm (V-Fib/ Pulseless V-Tach)
14-16		<ul style="list-style-type: none"> Continue chest compressions Continue ventilations at 10/ min Charge defibrillator 	
Shockable rhythm? DEFIBRILLATION at 360J or manufacturer recommendation			
16-18		<ul style="list-style-type: none"> Continue chest compressions Continue ventilations at 10/ min Charge defibrillator 	
Shockable rhythm? DEFIBRILLATION at 360J or manufacturer recommendation			
18-20		<ul style="list-style-type: none"> Continue chest compressions Continue ventilations at 10/ min Charge defibrillator 	
Shockable rhythm? DEFIBRILLATION at 360J or manufacturer recommendation			
20-22		<ul style="list-style-type: none"> Continue chest compressions Continue ventilations at 10/ min Charge defibrillator 	
Shockable rhythm? DEFIBRILLATION at 360J or manufacturer recommendation			
22-24		<ul style="list-style-type: none"> Continue chest compressions Continue ventilations at 10/ min Charge defibrillator 	
Shockable rhythm? DEFIBRILLATION at 360J or manufacturer recommendation			
24-26		<ul style="list-style-type: none"> Continue chest compressions Continue ventilations at 10/ min Charge defibrillator 	
Shockable rhythm? DEFIBRILLATION at 360J or manufacturer recommendation			
26-28		<ul style="list-style-type: none"> Continue chest compressions Continue ventilations at 10/ min Charge defibrillator 	
Shockable rhythm? DEFIBRILLATION at 360J or manufacturer recommendation			
28-30		<ul style="list-style-type: none"> Continue chest compressions Continue ventilations at 10/ min Charge defibrillator 	
Shockable rhythm? DEFIBRILLATION at 360J or manufacturer recommendation			
30	Termination of efforts: If asystolic confirmed by 12-Lead ECG, apneic, and EtCO ₂ < 20 mmHg, consider termination of resuscitation		Consider transport for patients with multiple rhythms, intermittent perfusing rhythms, or when scene conditions warrant transportation for safety issues

Reference Policy 507 – Determination of Death

