

ROC CONTINUOUS CHEST COMPRESSIONS STUDY (CCC): MEDICAL CARDIAC ARREST MEDICAL DIRECTIVE

A Primary Care Paramedic will provide the treatment based on the randomization scheme and as prescribed in this medical directive if certified and authorized

INDICATIONS

Non-traumatic cardiac arrest

CONDITIONS

CPR

AGE: ≥ 18 years

LOA: Altered

HR: N/A

RR: N/A

SBP: N/A

Other: N/A

Manual Defibrillation

AGE: ≥ 18 years

LOA: Altered

HR: N/A

RR: N/A

SBP: N/A

Other: VF or pulseless VT

AED Defibrillation

AGE: ≥ 18 years

LOA: Altered

HR: N/A

RR: N/A

SBP: N/A

Other: Shockable rhythm
Alternative to
manual
defibrillation

CONTRAINDICATIONS

Study exclusion

Blunt or penetrating trauma or burn based arrest
DNR / DNAR
Primary asphyxia or respiratory based arrest
Advanced airway placed prior to arrival
Uncontrolled bleeding or exsanguination
Prisoner
Witnessed arrest

CPR

Obviously dead as per BLS standards
Meet conditions of DNR standard

Manual Defibrillation

Rhythms other than VF or pulseless VT

AED Defibrillation

Non-shockable rhythms

TREATMENT

Consider **CPR**:

	Standard CPR	Continuous compressions
<i>Initial cycle</i>	Until CPR process measuring pads in place	Until CPR process measuring pads in place
<i>Subsequent cycles</i>	2 min	2 min
<i>Ventilation</i>	2 every 30 compressions	1 every 10 compressions

Consider **Manual defibrillation**:

VF / pulseless VT	
<i>Dose</i>	1 shock
<i>First dose</i>	As per Base Hospital
<i>Subsequent doses</i>	As per Base Hospital
<i>Dosing interval</i>	2 min.
<i>Maximum doses</i>	4

Consider **AED defibrillation**: (alternative to manual defibrillation)

Shockable rhythm	
<i>Dose</i>	1 shock
<i>Max. single dose</i>	As per Base Hospital
<i>Dosing interval</i>	2 min.
<i>Max. # of doses</i>	4

Consider **supraglottic airway insertion**: after a minimum of 6 minutes (3 full cycles) of CPR

Consider **CPR**:

	Advanced Airway		
	Yes	No	
	Continuous compressions	Randomized Standard 30:2	Randomized Continuous compressions
<i>Cycle duration</i>	N/A	2 min.	N/A
<i>Ventilation</i>	1 every 10 compressions	2 every 30 compressions	1 every 10 compressions

Consider **titrating oxygen**: after ROSC with palpable pulses for more than 20 min to 94-98%

Consider ***calling the notification line***: as soon as possible after arriving the receiving facility

In Toronto it is the cardiac Arrest Notification (CAN) line

In Ottawa it is the Study Notification line

CLINICAL CONSIDERATIONS

1. Early application, even with BVM, of ETCO₂ is desirable to guide quality of CPR and confirm placement of an advanced airway.
2. Unless airway compromise is present, delay the insertion of the advanced airway until after 3 full cycles of CPR.
3. If an advanced airway is inserted, compressions are to be performed continuously and the ventilations interposed. If the advanced airway is not placed, continue compressions and ventilations as per the current randomization scheme.
4. CPR to be performed to Guidelines 2010 recommendations:
 - Compressions: minimum 5 cm in depth at a rate of 100 to 110 per minute.
 - Ventilations: Standard CPR: ventilation volume is 500 ml over 1-2 seconds
Continuous compressions: ventilation volume is 500 ml during the upstroke of every 10th compression without pausing compressions
5. In AED mode, chest compressions may be performed during the defibrillator charge cycle to minimize pre-shock pause and maximize chest compression fraction.