Automated External Defibrillator

EMT/FR Skill (AED)

Whatcom County EMT and FR trained personnel will follow the most current American Heart Association/American Red Cross or equivalent guidelines for AED use, with the following Modifications.

The expectation is that every provider receives, at a minimum, annual training and testing on American Heart Association current CPR and AED guidelines.

Procedure: You are authorized to perform the following:

A. Upon arrival, verify respiratory and circulatory arrest by the absence of consciousness, respirations and pulse.

B. Initiate CPR. Continue with defibrillation protocol **The AED is configured to shock patients over 20 kg (45 lbs).**

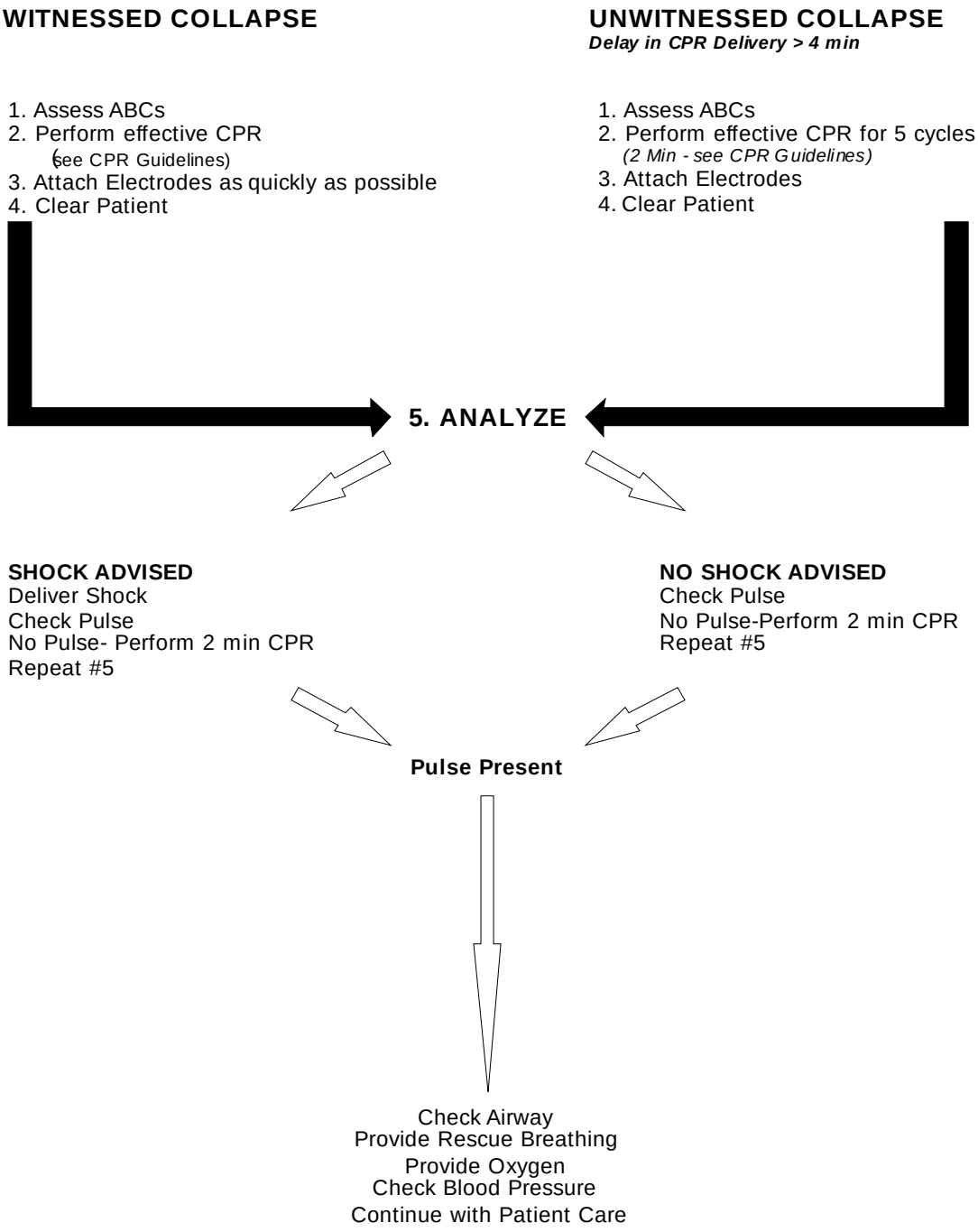
1. Patients less than 20 kg (45lbs) without a pulse can benefit from AED defibrillation after airway issues have been resolved. If electrode pads fit, there is no significant harm in applying the AED. Anterior posterior position may be used on pediatric patients.

C. **GENERAL DEFIBRILLATION PROTOCOL**:

Emergency personnel are authorized to deliver electric shocks with an automatic external defibrillator (AED) to patients unconscious and pulseless when a shockable rhythm is recognized by the device. This should be done as quickly as possible, with minimum interruptions of CPR. For an unwitnessed collapse, 2 minutes of CPR before delivering first shock is recommended. The exact details of sequencing can vary as long as the following overall goals are met:

1. CPR is interrupted for a minimum of time.
2. Overall patient care and EMS personnel safety are never neglected.
3. Current cardiac care guidelines endorsed by the county MPD are followed.

Defibrillation Guidelines



CLINICAL GUIDELINES:

1. **Pediatric Considerations:** The AED is configured to shock patients over 20 kg (45 lbs). Patients less than 20 kg (45lbs) without a pulse can benefit from AEDefibrillation after airway issues have been resolved. If electrode pads fit in either the traditional anterior (white to right, red to ribs) placement or in an anterior/posterior placement there is no significant harm in applying the AED and it could potentially be life saving.

2. **Rapid defibrillation.** No prescribed period for initial CPR in a witnessed collapse. The first shock should be delivered within 60-90 seconds of the provider's arrival at the patient's side. However it may be reasonable to do CPR for 2 minutes if down time of 4 or more minutes is suspected.

3. **Defibrillation takes precedence** over basic CPR, oxygenation, suctioning, history-taking, etc.

4. **No excessive interruptions of CPR.** If delays in CPR of 5 seconds or more are encountered (e.g. battery problems), resume CPR until the problem is resolved. Then reassess. Delays in CPR for more than 5 seconds are permitted only during rhythm assessment. In particular, do not delay CPR while checking to see if a rhythm is producing a pulse. **CPR must be performed continuously for 1 to 2 minutes to achieve central circulation.**

5. **Should the patient vomit during the analyze mode:** Do not delay the delivery of electrical shocks to respond to the airway. Clear the airway at the first opportunity during the CPR cycle.

6. **Blood pressure less than 60.** If the patient's systolic blood pressure persists $\leq$ 60 mm/Hg, after treating for shock, and the patient remains unconscious, continue CPR. Do not stop compressions just because the heart has started to beat. The beat may be inadequate for survival but still give a pulse. Use of CPR in these patients may also be determined by the clinical picture i.e., does the patient appear to have evidence of adequate perfusion?

7. **Hypothermia,** AED in the setting of severe hypothermia is usually ineffective. Limit shocks to three unless long delays to ALS, then several minutes of CPR between shocks with core warming efforts.

8. **Written documentation,** in accordance with WCEMS Policies, must be made on all cases in which an AED attempt was made whether successful or unsuccessful. The EMT/FR who is in charge of patient care is responsible for the written **reports**. *In addition to standard MIR reports kept at the user's agency, reports of AED use, for statistical and quality assurance purposes, will be forwarded to the EMS/TC Council office. This report needs to be done for* ***ALL*** *events including those initiated by the lay public. Reports can be submitted either electronically with Medtronic Physio-Control software or with the written AED use report. Either method requires forwarding of reports to the Whatcom County Medical Program Director at the* ***EMSC/TC Council office.***

CPR Standards

From American Heart Association/American Red Cross guidelines to be implemented in 2006 as instructor materials become available. As per Whatcom County MPD, Health Care Providers will need to use this standard beginning January 1, 2006.

Maneuver	Adult	Child	Infant
ACTIVATE EMS (lone rescuer)	As soon victim found HCP: Asphyxial arrest likely do 2 min of CPR first	After performing 5 cycles of CPR For Sudden witnessed collapse active after verifying unresponsiveness	See Child
AIRWAY	Head tilt-chin-lift	For all (HCP: trauma	use jaw thrust)
Breaths initial	2 breaths at 1 sec/breath	2 effective breaths	1 sec/breath
HCP rescue breathing	10-12 breaths/min (1 breath 5 to 6 sec)	12-20 breath/min (1 breath 3 to 5 sec)	See child
HCP rescue breath with advanced airway	8-10 breaths/min	For all	
FBAO	Abdominal Thrust	See adult	Back slap-chest thrust
Circulation HCP	Carotid	Carotid (femoral optional)	Brachial or femoral
Compression Landmarks	Center of chest between nipples	See adult	Just below nipple line
Compression method	2 hands: heel of 1 hand with other on top	2 hands: as adult -or- 1 hand: heel of 1 hand	1 rescuer: 2fingers HCP: 2 rescuer: 2 thumbs- encircling hands
Compression Depth	1 ½ to 2 inches	1/3 to ½ depth of chest	See child
Compression Rate	100/ min for all		
Compression/ventilation ratio	30:2	30:2 (single rescuer) HCP:15:2 without interrupting compressions (2 rescuer)	See child
AED	Use adult pads HCP: 5 cycles of CPR before shock if response > than 4 minutes and arrest not witnessed	HCP: after 5 cycles of CPR use child pad/system if available or use adult pads	HCP: after 5 cycles of CPR if the pads fit there is no harm and could potentially save them