Singapore Resuscitation and First Aid Council

CPR and AED Protocol for BCLS+AED and CPR+AED

Important Notes:

1. All existing BCLS TC/ITC will need to be on the BCLS+AED track by 1st June 2019.
2. Accredited BCLS+AED TCs will be able to conduct BCLS+AED and CPR(Mouth-To-Mouth/Hands-Only)+AED courses, while accredited CPR+AED TCs are only allowed to conduct CPR(Mouth-To-Mouth/Hands-Only)+AED courses.
3. Specific manikins are required to be used for all BCLS+AED and CPR(Mouth-To-Mouth/Hands-Only)+AED practical assessment of one rescuer CPR from 1st June 2019. For more information, refer to the document "*SRFAC BCLS+AED and CPR+AED Manikin Specification*" in the Media section after logging in to the SRFAC website.

Cardio-Pulmonary Resuscitation Steps		
Stage/Course	**CPR(Mouth-To-Mouth)+AED**	**CPR(Hands-Only)+AED**
Danger	Ensure environment is safe for the rescuer and casualty.	
Response	Tap casualty's shoulders firmly and ask: "Hello! Hello! Are you OK?"	
Shout for Help	If unresponsive: Get help from bystanders. ➢ Call "995" for an Ambulance.	
AED	➢ If there is another person around, ask him/her to get an AED. ➢ If alone, only get the AED if it is visible and nearby.	
Breathing (Includes pulse check for BCLS+AED)	Look for the rise and fall of the chest and check for pulse for not more than 10 seconds.	Look for the rise and fall of the chest for not more than 10 seconds.
CPR/**C**hest Compressions	➢ 30 chest compressions and 2 ventilations. ➢ Re-assess breathing and pulse every 5 cycles of CPR (for practical assessment only). ➢ During practice, the learner must perform CPR cycles for at least 4 minutes. **Assessment:** ○ 5 cycles of CPR to be completed within 130 seconds ○ At least 150 chest compressions ○ Up to 30 errors allowed: • insufficient recoil • incorrect depth • improper hand position (within lower sternum but not on the Xiphoid Process or on	➢ Provide continuous chest compressions. ➢ During practice, the learner must perform continuous chest compressions for at least 4 minutes. **Assessment:** ○ Continuous compressions for 120 seconds (timing cut-off at 120 seconds) ○ At least 180 chest compressions ○ Up to 30 % errors allowed based on total number of compressions: • insufficient recoil • incorrect depth • improper hand position (within lower sternum but not on the Xiphoid Process or on

	the ribs) – must be visually verified by Instructor ○ Immediate failure for wrong hand position (outside lower sternum, on Xiphoid Process or on the ribs) visibly outside body of sternum – must be visually verified by Instructor ○ At least 5 ventilations above 400ml	the ribs) – must be visually verified by Instructor ○ Immediate failure for wrong hand position (outside lower sternum, on Xiphoid Process or on the ribs) visibly outside body of sternum – must be visually verified by Instructor *If rest is needed, do not exceed 10 seconds (only for hands-only CPR phase without AED), preferable after 100 chest compressions.*
When to stop CPR	➢ Paramedic takes over from rescuer. ➢ AED arrives and analyses heart rhythm. ➢ Casualty wakes up or regains normal breathing/pulse. (Ensure no external injuries before turning casualty to recovery/lateral position).	➢ Paramedic takes over from rescuer. ➢ AED arrives and analyses heart rhythm. ➢ Casualty wakes up or regains normal breathing. (Ensure no external injuries before turning casualty to recovery/lateral position).

Automated External Defibrillation Steps		
Stage	**CPR(Mouth-To-Mouth)+AED**	**CPR(Hands-only)+AED**
Scene Safety	Rescue scene should be free from: ➢ Wet surfaces ➢ Metallic surfaces ➢ Flammable gases nearby	
Instruction to first rescuer on scene (if any)	Ensure the first rescuer is performing quality chest compressions/CPR at the correct position while informing first rescuer that AED is here and to continue chest compressions/CPR.	
AED operation	Turn on the AED and follow voice prompts.	
Expose and prepare chest	➢ Expose chest adequately. ➢ Shave chest hair in the affected area (if obstructing pad placement). ➢ Shift jewelry (necklace) away from the path of defibrillation. ➢ Ensure electrode pads are placed 4 fingers distance away from pacemaker (if situated at the right). ➢ Remove medicated patches and wipe clean. ➢ Wipe dry the chest. ➢ Ensure chest compressions are performed during this process.	
Apply pads	➢ Apply the electrode pads as indicated by the device. ➢ Ensure chest compressions are performed during this process.	
AED analysis and charging	When AED starts analyzing/charging, chest compressions/CPR must be paused, and no one should be in physical contact with the casualty.	
Shock advised	**Apply Shock when ready and safe to do so.**	

	➢ Provide CPR cycles of 30 chest compressions and 2 ventilations. ➢ Follow AED prompts. *In a two-rescuer scenario, the AED operator may assist with ventilations or compressions so long as quality CPR can be maintained.*	➢ Provide continuous chest compressions. ➢ Follow AED prompts. *In a two-rescuer scenario, the AED operator may assist with compressions so long as quality CPR can be maintained.*
No Shock advised	➢ Provide CPR cycles of 30 chest compressions and 2 ventilations. ➢ Follow AED prompts. *Return of spontaneous breathing/circulation in a pre-hospital environment is extremely rare. Therefore, provision of CPR is advised.*	➢ Provide continuous chest compressions. ➢ Follow AED prompts. *Return of spontaneous breathing in a pre-hospital environment is extremely rare. Therefore, provision of continuous chest compressions is advised.*
When to stop CPR and AED operations	➢ Paramedic takes over from rescuer. ➢ Casualty wakes up or regains normal breathing/pulse – AED must not be turned off or disconnected until paramedic is ready. (Ensure no external injuries before turning casualty to recovery/lateral position).	➢ Paramedic takes over from rescuer. ➢ Casualty wakes up or regains normal breathing – AED must not be turned off or disconnected until paramedic is ready. (Ensure no external injuries before turning casualty to recovery/lateral position).
Post-incident	➢ Basic information* may be requested by the paramedics. ➢ Return the AED to the person-in-charge**. ** De-emphasis of lengthy reporting or "story-telling", especially for OHCA scenarios for lay providers.* *** De-emphasis of maintenance checks as different AEDs are installed in the workplaces and public places. Responsibility of care of the AED should be on the owner of the device.*	