



## COVID-19 – CPR procedure: First responders guidance

31st March 2020

### Enhanced Respiratory Protection control measure for all cardiac arrest and trauma management involving airway care during COVID-19 Pandemic

**Target Audience:** All Operational Firefighting and frontline staff.

#### 1. Introduction

- 1.1 The following information is presented on the basis of adopt and/or adapt for Fire and Rescue Services. However, the key safety points are presented as the minimum safe standard for carrying out CPR during the COVID-19 pandemic.
- 1.2 Appendix 1 outlines the PPE requirements for any casualty care on patients suffering or believed to be suffering from COVID-19<sup>1</sup>. Appendix 2 outlines the steps to take when considering CPR/ resuscitation of a casualty as published by the Resuscitation Council UK.

#### 2. Background

- 2.1 As a result of the infection risk posed by the current COVID-19 pandemic, the initial approach to the resuscitation of a casualty has been adjusted by the Resuscitation Council UK<sup>2</sup>.
- 2.2 The guidance reflects the very high risk of infection unless effective personal protection is worn correctly during any situation involving the practice of CPR. Of particular note is that:

- THE PRACTICE OF CARRYING OUT MOUTH TO MOUTH RESUSITATION IS **NOT TO BE CARRIED OUT DURING THE COVID-19 OUTBREAK. WITH OR WITHOUT A POCKET MASK**
- PERSONNEL SHOULD MINIMISE CONTACT WITH THE CASUALTY'S CLOTHING AND SKIN BUT ESPECIALLY THE HANDS AND HEAD, AND

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<sup>1</sup> COVID-19 Guidance for infection prevention and control in health care settings (2020). Dept Health & Social Care (DHSC)

<sup>2</sup> Guidance for the resuscitation of COVID-19 patients in hospital: Resuscitation Council UK, Ver2, 24 March 2020

AT ALL TIMES AVOID LIKELY CONTAMINATION FROM EXHALED  
BREATH FROM THE CASUALTY

**3. Level of PPE required for first responders to carry out CPR during the COVID-19 pandemic**

- 3.1 Any Firefighter who is faced with a situation where CPR is required **must** wear level 3 PPE. Within the Fire and Rescue Service, full firefighting tunic and leggings with Breathing Apparatus and nitrile gloves provides the necessary level of protection. This protection must be donned prior to approaching the casualty and before commencing any CPR.
- 3.2 The hazards associated with carrying out CPR on a casualty who is or is believed to be suffering from COVID-19 is that some CPR procedures employed by Firefighters can create aerosol rich environments and this presents a serious risk of spreading the virus. Aerosol Generating Procedures (AGPs) produce small particulates that can linger in the air for extended periods of time and therefore could be inhaled if no respiratory protection is being worn. AGP that may be commonly used by Firefighters includes:
- Bag, valve and mask, airway suction and the effects of chocking, coughing or removal of airway obstructions. Accordingly, this level of protection is required to mitigate against the risks of carrying out basic life support.

**4. Actions when you identify a person requiring CPR, no notice or come across them.**

- I. Withdraw and don Full Firefighting PPE, BA and nitrile gloves;
- II. Ensure an ambulance has been requested and inform control that this is a COVID-19 casualty.
- III. Return to the casualty and commence CPR as below.
- IV. All other personnel should be at least 2 metres away from the patient.
- V. Establish a cordon greater than 2 metres to stop any unauthorised person approaching the scene.
- VI. If using AGPs consider steps to minimise exposure:
  - a. Only the minimum number of individuals necessary to effectively carry out CPR should be present with the patient. **Before** any aerosol generating procedures commence **all non-essential persons should be assertively requested to leave the area to COVID-19 prevent transmission.**

- b. Optimising the ventilation of the room will assist minimising aerosol concentration (e.g. open windows, if practical given the environment, physical characteristics of the individual, nature of injury or illness quickly move casualty out of confined space).

## **5. Actions when dealing with a casualty suffering from a cardiac arrest at fire and rescue**

### **service incidents**

- I. You should approach and assess the casualty wearing **Full Firefighting PPE, BA and nitrile gloves**
  - II. These are the actions carried out by a single firefighter going forward:
    - Take an AED and responder bag and oxygen.
    - Leave the responder bag and oxygen at least 2 metres from the patient initially.
    - Assess casualty to confirm cardiac arrest e.g. feeling for a carotid pulse (note: whilst wearing double gloves), by looking for the absence of signs of life and the absence of normal breathing.
    - Only assess breathing by **LOOKING - do not assess breathing by listening or feeling** to avoid placing your face in close proximity to the patient's face.
    - Attach the AED/defibrillator if there is one available and deliver a shock if indicated.
    - Perform chest compression only CPR initially delivering 30 compressions.
    - Open airway with manual manoeuvres.
    - Manage the airway but **do not suction the airway.**
    - Place a tight-fitting trauma mask over the patient's face and turn the flow rate to 15 litres/min
    - **Do not ventilate using a POCKET MASK or BVM – these are NOT to be used.**
    - Continue chest compression only CPR.
    - Defibrillate as instructed by the AED.
    - Report back initial assessment to officer in charge on scene.
- ## **6. Post incident**
- I. The dry-peel procedure should be adopted following the incident,
  - II. The contaminated **Firefighting PPE** must be double bagged using dissolvable bags and paperwork filled out detailing COVID-19 as the contaminant.
  - III. Staff should have familiarised themselves in advance with the dry-peel procedure.
  - IV. After use, blue nitrile gloves **MUST** be disposed of as clinical waste.

- V. The AED must be decontaminated using an appropriate antiviral substance while wearing eye protection, double gloves and suitable RPE
- VI. BA sets should be decontaminated along with cleaning of the back plate, harness and webbing using copious amounts of warm, soapy water and dried accordingly. BA facemask etc. should also be cleaned using antiviral solution and/or wipes.

**7. Use of Face fit respirators and or Tyvek or similar type suits**

- 7.1 The highest standard of PPE proposed for frontline staff responding to a potential cardiac arrest and requiring to carry out CPR is as set out above as Full firefighting kit, BA and nitrile gloves.
- 7.2 However, should any service provide their staff with personal issue / access to Respirators that are of a standard that ensures that it is a filtering face piece (class 3 (FFP 3), then this would provide the necessary standard of respiratory protection for close contact with casualties with COVID-19.

However, face and eye protection would be required as the respirators would most likely not cover the eyes.

- 7.3 Face and eye protection: Eye protection can be of a disposable type if available or provided via protective eye wear or with a face shield if available. Where possible this would be used in conjunction with the helmet visor in the down position.
- 7.4 The cleaning and disposal of items used if respirators, eye and face protection is utilised should be in accordance with the principles and requirements as set out in paragraph six.

## Appendix 1

<b>STOP</b>	Only one firefighter (e.g. FREC Level 4 SBA wearing <b>Full Firefighting PPE and BA with double blue nitrile gloves</b> should assess casualty. Ventilate the area where possible. Limit personnel in the risk area.
<b>TAKE KIT 2 Meter Rule</b>	Take an AED and Trauma bag with oxygen. Leave the responder bag and oxygen more than 2 metres from the patient initially.
<b>ASSESS</b>	Confirm cardiac arrest e.g. feeling for a carotid pulse, looking for the absence of signs of life and the absence of normal breathing.
<b>BREATHING</b>	Only assess breathing by LOOKING - Do not assess breathing by listening or feeling. Avoid placing your face near the patient's face.
<b>999 REPORT</b>	Ensure 999 ambulance response has been requested – inform control this is a suspected / known COVID-19 casualty.
<b>START CHEST COMPRESSION</b>	Perform chest compression only CPR if AED is not immediately available.
<b>AED</b>	Attach the AED/defibrillator and deliver a shock if indicated.
<b>AIRWAY</b>	Open airway with simple manual manoeuvres. Insert a correctly sized OPA/NPA.
<b>NO SUCTION</b>	Do not suction the airway
<b>COVER FACE</b>	Place a tight-fitting trauma mask over the patient's face and turn the flow rate to 15 litres/min
<b>NO VENTILATION</b>	Do not ventilate using a POCKET MASK or BVM – these are NOT to be used
<b>CHEST COMPRESSION</b>	Restart chest compression only CPR
<b>REPORT</b>	Report back initial assessment to officer in charge on scene or to Fire Control if a solo responder.
When handover to Ambulance service has been completed, the Dry Peel procedure should be carried out.	

## Appendix 2: Extract of PPE Requirements for CPR activity

**Table 1: Transmission based precautions (TBPs): Personal protective equipment (PPE) for care of patients with pandemic COVID-19**

	Entry to cohort area (only if necessary) no patient contact*	Within 1 metre of a patient with possible/confirmed COVID-19*	High risk units where AGPs are being conducted eg: ICU/ITU/HDU	Aerosol generating procedures (any setting)
<b>Disposable Gloves</b>	No	Yes	Yes	Yes
<b>Disposable Plastic Apron</b>	No	Yes	Yes	No
<b>Disposable Gown</b>	No	No	No	Yes
<b>Fluid-resistant (Type IIR) surgical mask (FRSM)</b>	Yes	Yes	No	No
<b>Filtering face piece (class 3) (FFP3) respirator</b>	No	No	Yes	Yes
<b>Disposable Eye protection</b>	No	Risk assessment	Yes	Yes

\*Personal protective equipment (PPE) for close patient contact (within 1 metre) also applies to the collection of nasal or nasopharyngeal swabs.

### Source:

COVID-19 Guidance for infection prevention and control in health care settings (2020). Dept Health & Social Care (DHSC)