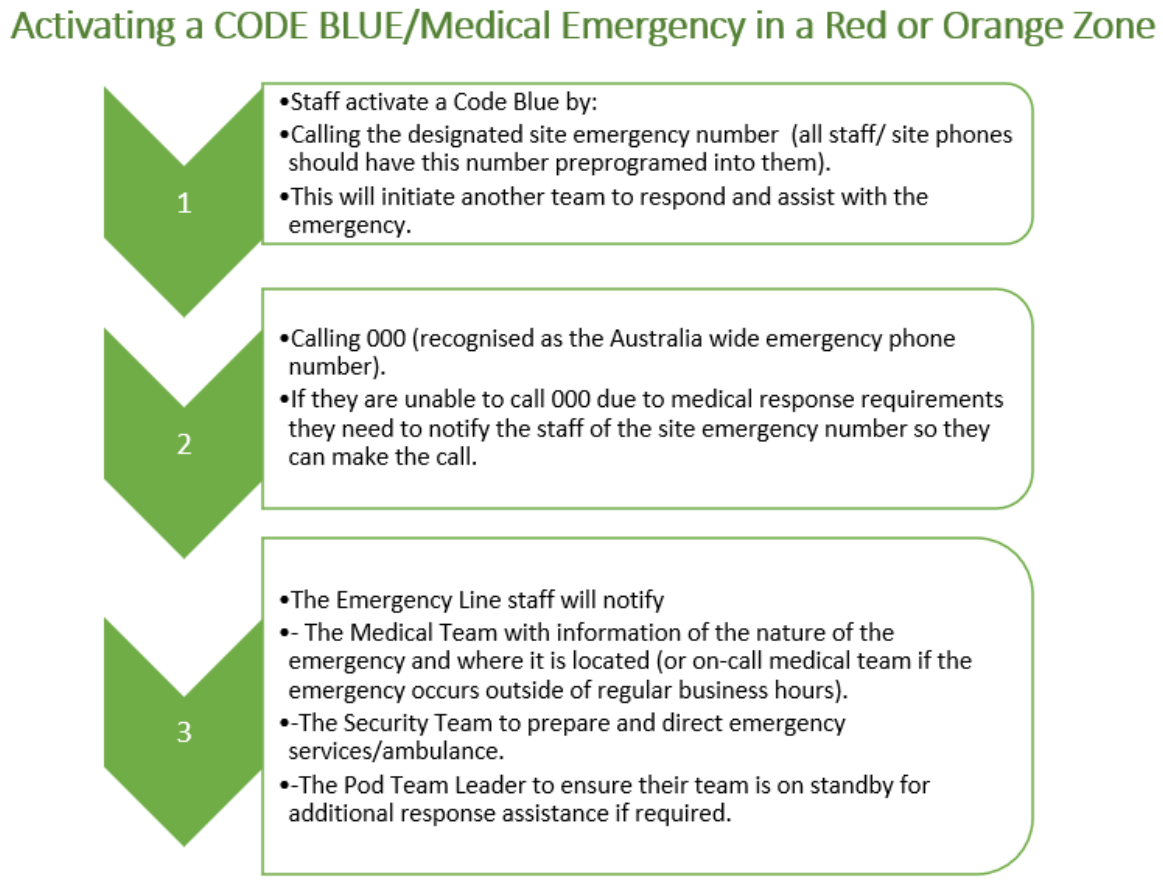
Medical emergencies (includes BLS)

Establishing a clear process for responding to medical emergencies on-site is the responsibility of the Medical and Health Leadership Team. Once established this requires education and training of all health team members to ensure staff are aware of the process and feel confident to carry out the process if required.

All residents are provided with a site emergency call number to contact staff in the event of a medical emergency or a Code Blue. A Code Blue may include a cardio-respiratory arrest, a clinically deteriorating person requiring urgent medical attention, a person with a compromised airway requiring urgent intervention and any collapse or loss of consciousness.

The response to a Code Blue in the quarantine setting is present in the below figure.



Section 5: Figure 1: Steps in activating a Code Blue/Medical Emergency in a Red or Orange Quarantine Zone.

- It is noted that often staff will be carrying a radio rather than a phone in which case they would call a code over the radio by declaring the code and the zone twice. As an example; "*Code Blue Zone 1 Foxtrot 2 6 Alpha; I Repeat; Code Blue Zone 1 Foxtrot 2 6 Alpha*".
  If a code is called over the radio, the Site Controller will respond and give further direction.
- If staff have no access to a phone or radio and there is no-one else with them, staff should still send for help in any medical emergency – this can include telling a resident in quarantine to alert or attend the security officer at the zone entrance.
- If a resident calls 000 (ambulance), the Ambulance will advise the site Medical Team of the call. Medical staff will then dispatch a site response team to the identified location and work in collaboration with Ambulance personnel.

Chest pain response

Chest pain can indicate impending cardiac arrest and therefore any resident complaint of chest pain is taken seriously and is reviewed by a Senior Nurse or Medical Officer within 15 minutes.

Infection prevention and control considerations when attending to a resident with chest pain

It is noted that even in emergency situations the attending Medical Officer should have a buddy to accompany them into the zone and must wear PPE for a full contact (GMEG) role.

Equipment such as the electrocardiogram and sphygmomanometer can be taken into the zone and cleaned on exit.

Where possible interventions are conducted on the balcony in an open air environment, if this is not possible the Medical Officer should leave the room door open whilst in the room and remain in sight of their buddy.

If there is any sign of cardiorespiratory compromise the attending team will call the site emergency number and 000 for ambulance announcing a Code Blue which will alert the Medical Officer and Pod Team Leader on-site. They will proceed to commence safe BLS practising additional steps to reduce risk of disease transmission as presented below.

If the treating health professional has any concerns about their ability to safely manage the resident as an outpatient at the quarantine facility then the resident needs to be referred to hospital.

Causes of chest pain that may be considered for management at the quarantine facility.

- Known stable angina responsive to usual medication resolving quickly
- Mild pneumonia not requiring oxygen therapy and suitable for oral antibiotics
- Pleuritic chest pain and chostochondritis just requiring analgesia
- Gastroesophagela reflux disease (GORD) managed with antacid and regular proton pump inhibitor (PPI)
- Peptic ulcer disease (PUD) managed with antacid and regular proton pump inhibitor (PPI)
- Oesophageal spasm
- Anxiety or panic disorder managed by mental health assessment and intervention

Causes of chest pain that may need transfer to hospital for further investigation

- Pulmonary embolism
- Pericarditis
- Cardiac tamponade
- Aortic dissection
- Aortic stenosis
- Mitral valve prolapse
- Pneumothorax
- Acute cholecystitis
- Acute hepatitis

If the resident is haemodynamically stable and a high or intermediate risk of cardiac cause has not been determined on the residents history, the site Medical Officer may use the *iHeart* score to assess risk and determine if the resident requires transfer to hospital for review. If the site is unable to transfer the resident's blood test to a pathology department for analysis the resident is recommended to be transferred to the hospital.

The iHeart Score is a clinical tool to aid risk assessment in suspected cardiac chest pain.

Patients receive a score based on risk factors, clinical parameters, and troponin levels. Patients scoring 3 or less had less than 2.5% risk of a MACE (major adverse coronary event) over the following 6 weeks, and are generally considered safe for outpatient follow up (Six, Backus, & Kelder, 2008).

The iHeart modifies the original score with the addition of a point for Indigenous status and a binary approach to troponin level, with the removal of a +1 score for a mildly elevated troponin. This iHeart score should be calculated for all patients with suspected cardiac chest pain, if STEMI has been excluded and first troponin negative.

Whilst assessment is underway, unless contraindicated, 300mg aspirin, 1g of paracetamol and 30mls gaviscon can be administered (refer to the section on medication and pharmacology in quarantine for a guide on administering medication in quarantine).

1. If the iHeart score (see Appendices A) is > 4 even without ECG/troponin, then monitoring at very least is likely to be required for 24 hours and patient should be immediately transferred by ambulance to hospital (RDH)

2. If iHeart score is <4

    a) Perform ECG and POC troponin as well as pulse oximetery and temperature

    b) If troponin is elevated or ECG is acutely abnormal, resident requires urgent transfer to hospital.

    c) If troponin is negative and ECG has no acute changes they should be repeated after 3 hours and if pain has not resolved also at 6 hours. The resident does not require monitoring in between, but ECG machine could remain in Residents room until final ECG.

If the cardiac cause is unlikely then clinical assessment to determine cause of the pain should include consideration of other causes of chest pain – some alternate diagnoses may also require transfer to hospital and require a medical risk assessment to be performed.

Basic life support

The flow chart for basic life support is well known by all who have completed their first aid and basic life support training. Additional considerations are added in regard to disease transmission risk in quarantine settings.

These are recognised as:

Danger- Risk of viral transmission (for example does the person have COVID-19) requires the responder to check and consider the level of PPE required. In quarantine zones these circumstances require full PPE (GMEG) for the responder.

Airway- Responders should check for airway obstruction as per the usual BLS recommendations. If they are requiring the person to cough then they need to be strategically placed to avoid the exhalation. If the person is unable to cough the staff administers back blows for release of obstruction and checks the airway in-between.

Breathing- Even if the responder is wearing PPE they are not to put their face close to listen and feel for breath, they are to observe for chest rise and fall only as an indicator of respiratory function.

Cardiopulmonary resuscitation (chest compressions)- the responder is to prioritise chest compressions and not issue any breaths. They are to place a N95 or P2 mask (or a cloth if these are not available) on the collapsed individual's face covering the mouth and nose.

Administration of oxygen- this is contradicted in the quarantine zone due to the high risk of disease transmission associated with the pressurised airflow. Quarantine health staff are not required to administer oxygen, this will instead be administered by the ambulance team or the sites Medical Officers once they arrive.

Assisted airway management- use of oropharyngeal airways (guedels), nasopharyngeal airways (nasal tubes) laryngeal masks and endotracheal tubes is contradicted in the zone due to the high risk of disease transmission associated with the insertion and maintenance of these airways. Quarantine health staff are not required to administer assisted airways tools, this will instead be administered by the ambulance team or the sites Medical Officers once they arrive.

AED- Implementation of the AED should proceed as usual.

Basic life support in quarantine

D — **Danger?**
Yes, the person may have COVID-19
Don full PPE

R — **Response?**

S — **Send for help**
Call **designated site emergency number** THEN 000

A — **Open airway**

B — **Normal breathing?**
Look but do not listen or feel

C — **Start CPR**
Chest compressions only (no breaths)
Place a N95 or P2 mask over the person's nose and mouth

D — **Attach defibrillator (AED)**
As soon as available, follow prompts

Continue CPR until responsive or normal breathing returns or relieved by Ambulance personnel

Dispose of disposable equipment in the yellow bin near the doffing area. Isolate or clean used items. The backpack can then be restocked and returned to the pod.
Doff as per usual

References

Six, A. J., Cullen, L., Backus, B. E., Greenslade, J., Parsonage, W., Aldous, S., … Than, M. (2013). The HEART score for the assessment of patients with chest pain in the emergency department: a multinational validation study. Critical Pathways in Cardiology, 12(3), 121– 126

Content Acknowledgement

Content in this resource has been created and, in some cases, directly copied with permission from documents and resources owned and prepared by the Northern Territory Government, Department of Health, Centre for National Resilience, Howard Springs Quarantine Facility and the National Critical Care and Trauma Response Centre.

Appendices A

iHEART Guide for managing a resident presentation of chest pain at the quarantine facility.	
History f the presenting complaint, not relating to resident risk factors.	
Highly suspicious (Mainly suspicious elements, such as middle- or left-sided, heavy chest pain, radiation, and/or relief of symptoms by sublingual nitrates)	+2
Moderately suspicious (both nonspecific and suspicious elements)	+1
Slightly or non-suspicious (absence of specific elements in the patient history for coronary ischemia)	0
Electrocardiograph (ECG)	
Significant ST-depression	+2
Non-specific repolarisation disturbance	+1
Normal	0
Age	
≥ 65 years	+2
45- 65 years	+1
≤ 45 years	0
Risk factors Hypercholesterolaemia ☐ Hypertension ☐ Diabetes Mellitus ☐ Smoking ☐ Obesity ☐	
≥ 3 risk factors or history of atherosclerotic disease	+2
1-2 risk factors	+1
No risk factors known	0
hs Troponin	
Above normal limit	+2
≤ normal limit	0
Identifies as Indigenous	
Yes	+1
No	0
Total score	
0 to 3 - Low risk, safe for discharge 4 or more – Intermediate to high risk, transferred to hospital All positive troponins are transferred to hospital regardless of iHEART score.	