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| **Title** | **Demonstrate knowledge of management of patients with acute respiratory & cardiovascular symptoms in an ambulance context** | | |
| **Level** | **5** | **Credits** | **15** |

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| **Purpose** | This unit standard is intended for people who are working in an ambulance context, and who are responsible for developing management plans for patients, making appropriate decisions, and who need to be able to do this independently.<br><br>People credited with this unit standard are able to:<br>– demonstrate knowledge of the structures and functions of the human respiratory system, cardiovascular system, and traumatic chest injury for an ambulance context;<br>– demonstrate knowledge of common respiratory and cardiac conditions, their signs, symptoms, and differential diagnoses, for an ambulance context; and<br>– develop a management plan for a patient with acute respiratory and cardiac symptoms, and traumatic chest injury in an ambulance context. |

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| **Classification** | Emergency Services > Ambulance |

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| **Available grade** | Achieved |

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| **Prerequisites** | Unit 29323, *Gather and record information to support patient assessment*, or demonstrate equivalent knowledge and skills. |

**Guidance Information**

1 Definitions

*Ambulance context* – situations where emergency care is delivered in a variety of out-of-hospital environments. Out-of-hospital environments refer to any situation in which people require medical assistance outside of a controlled medical environment, such as a medical centre. These out-of-hospital environments include situations both in and away from an ambulance vehicle.

*Best practice* – for the purposes of this standard, a clinical technique or methodology that has proven to be most effective at delivering a desired outcome and is actively promoted across the ambulance and/or emergency care sector.

*Clinical procedures and guidelines* – the written procedures particular to each ambulance service and endorsed by Ambulance New Zealand.

*Standing orders* – written instructions issued by a medical practitioner that authorise individuals engaged in the delivery of health services to supply and administer certain medicines without a prescription in circumstances specified in the instruction.

2 References
Health and Disability Commissioner (Code of Health and Disability Services Consumers' Rights) Regulations 1996;
and all subsequent amendments and replacements.

3 Range
Performance in relation to the outcomes in this unit standard is to comply with current clinical procedures and guidelines and/or standing orders and/or current best practice and be appropriate to the patient's condition.

## Outcomes and performance criteria

### Outcome 1

Demonstrate knowledge of the structures and functions of the human respiratory and cardiovascular systems, and of the thoracic cavity, for an ambulance context.

### Performance criteria

1.1 Describe the location and structure of parts of the human respiratory system according to their functions.

Range includes but is not limited to – alveoli bronchi, bronchioles, larynx, lungs, mouth, nose, tongue, trachea.

1.2 Describe the location and structure of parts of the cardiovascular system according to their functions.

Range includes but is not limited to – ventricles, atria, heart valves, myocardium, pericardium, major blood vessels, cardiac conduction cycle.

1.3 Describe functions of the respiratory system according to physiological processes.

Range includes but is not limited to – internal respiration, external respiration.

1.4 Describe the cardiac cycle according to mechanical and electrical events.

1.5 Describe the components of an ECG, to include sinus rhythm.

1.6 Describe the way the myocardium receives its blood supply.

1.7 Define veins, arteries, and capillaries and describe differences in structure according to their function.

1.8 Describe how the body maintains homeostasis in the cardiac and respiratory systems.

Range respiratory physiology and gas exchange, blood pressure, cardiac output.

1.9 Describe the gross structure and function of cells and the characteristics of cells with specialised functions.

Range includes but is not limited to – cardiac, respiratory, cell membrane, nucleus.

**Outcome 2**

Demonstrate knowledge of common respiratory and cardiac conditions, their signs, symptoms, and differential diagnoses, for an ambulance context.

**Performance criteria**

2.1 Describe common respiratory conditions according to their pathophysiology.

Range includes but is not limited to – asthma, chronic obstructive pulmonary disease (COPD), hyperventilation, chest infection, pulmonary embolism.

2.2 Describe common cardiac conditions according to their pathophysiology.

Range includes but is not limited to – cardiac chest pain, heart failure, acute cardiopulmonary oedema.

2.3 Describe common traumatic chest injury according to its pathophysiology.

Range includes but is not limited to – rib fractures, pneumothorax, haemothorax, lung contusion, cardiac tamponade.

2.4 Describe signs and symptoms of common respiratory conditions, cardiac conditions, and traumatic chest injury.

2.5 Describe differential diagnoses for common respiratory, cardiac, non-cardiac conditions, and traumatic chest injury.

**Outcome 3**

Develop a management plan for a patient with acute respiratory symptoms, a patient with cardiac symptoms, and a patient with traumatic chest injury, in an ambulance context.

**Performance criteria**

3.1 Describe the general management steps for patients with respiratory symptoms.

Range life threatening, high acuity, low acuity, chronic.

3.2 Describe the general management steps for patients with cardiac symptoms.

Range life threatening, high acuity, low acuity, chronic.

3.3 Describe the general management steps for a patient with traumatic chest injury.

Range life threatening, high acuity, low acuity.

3.4 Describe specific therapies used in the management of patients with acute respiratory symptoms.

Range includes but is not limited to – bronchodilators, oxygen, adrenaline Positive End Expiratory Pressure (PEEP) corticosteroids, glyceryl trinitrate (GTN).

3.5 Acquire and interpret a 3 lead ECG.

Range includes but is not limited to – sinus, ventricular fibrillation, ventricular tachycardia, asystole)

3.6 Acquire a 12 lead ECG.

3.7 Describe specific therapies used in the management of patients with acute cardiovascular symptoms.

3.8 Describe specific therapies used in the management of a patient with traumatic chest injury.

3.9 Develop, explain, and justify a management plan for a patient.

Range patient with acute respiratory symptoms, patient with acute cardiac symptoms, patient with traumatic chest injury.

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| **Replacement information** | This unit standard replaced unit standard 24855, unit standard 24856, and unit standard 24861. |

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| **Planned review date** | 31 December 2021 |

**Status information and last date for assessment for superseded versions**

| Process | Version | Date | Last Date for Assessment |
|---|---|---|---|
| Registration | 1 | 5 May 2016 | N/A |
| Revision | 2 | 25 July 2019 | N/A |

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| **Consent and Moderation Requirements (CMR) reference** | 0121 |

This CMR can be accessed at http://www.nzqa.govt.nz/framework/search/index.do.

**Comments on this unit standard**

Please contact The Skills Organisation reviewcomments@skills.org.nz if you wish to suggest changes to the content of this unit standard.