22503VIC Course in Providing Support to People Using Ventilators and C-PAP Machines

Version 1

This course has been accredited under Part 4.4 of the *Education and Training Reform Act* 2006.

Accreditation period: 1 February 2019 – 31 January 2024

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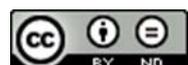|		
1.	**Copyright owner of the course**	Copyright of this document is held by the Department of Education and Training, Victoria © State of Victoria (Department of Education and Training) 2019.
2.	**Address**	Executive Director Engagement, Participation and Inclusion Division Higher Education and Skills Group Department of Education and Training (DET) PO Box 4367 Melbourne VIC, 3001 Organisational Contact: Manager Training Products Unit Higher Education and Skills Group Telephone: (03) 7022 1619 Email: course.enquiry@edumail.vic.gov.au Day-to-Day Contact: Curriculum Maintenance Manager – Human Services Swinburne University of Technology PO Box 218 Hawthorn VIC 3122 Ph: 03 9214 8501 / 03 9214 5034 Email: cmmhs@swin.edu.au
3.	**Type of submission**	Re-accreditation of the *22210VIC Course in Personal Carer Training Using Non-Invasive Ventilation*
4.	**Copyright acknowledgement**	Not applicable
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		Copies of this publication can be downloaded free of charge from the DET website here.
6.	**Course accrediting body**	Victorian Registration and Qualifications Authority (VRQA)
7.	**AVETMISS information**	**ANZSCO** [Australian and New Zealand Standard Classification of Occupations] 423313 Personal Care Assistant **ASCED Code – 4 digit** (Field of Education) 0699– Other Health **National course code** 22503VIC
8.	**Period of accreditation**	1 February 2019 – 31 January 2024

Section B: Course information

1. Nomenclature	*Standard 1 AQTF Standards for Accredited Courses*
1.1 Name of the qualification	*Course in Providing Support to People Using Ventilators and C-PAP Machines*
1.2 Nominal duration of the course	45 hours
2. Vocational or educational outcomes of the course	**Standard 1 for AQTF Standards for Accredited Courses**
2.1 Purpose of the course	Successful completion of the *Course in Providing Support to People Using Ventilators and C-PAP Machines* will enable carers to support people in using non-invasive ventilators, C-PAP machines and invasive ventilators in the home or residential care facility.
3. Development of the course	*Standards 1and 2 AQTF Standards for Accredited Courses*
3.1 Industry /enterprise/ community needs	There are many people in the community who have respiratory health problems requiring the assistance of ventilation machines. This course is designed to train carers in supporting clients who use the following two types of ventilators and C-PAP machines:

1. Non-invasive ventilation (NIV)

Non-invasive ventilation involves wearing a mask which is connected to a small pump supplying the correct airflow to support the user's breathing. A non-invasive ventilation machine is usually used at night, but might be used at times during the day as well. Some people living with respiratory muscle weakness may become reliant on non-invasive ventilators 24 hours per day.

Non-invasive ventilation provides relief from symptoms such as fatigue, breathlessness and disturbed sleep patterns, but does not prevent progressive weakening of the respiratory muscles.

Staff at the Victorian Respiratory Support Service (VRSS) at the Austin Hospital have confirmed the need for training professional personal care workers, clients' family members and friends in the use of non-invasive ventilators for people with decreased lung capacity due to muscle weakness or lung disease, for example motor neurone disease or emphysema. This training need has been further supported by Motor Neurone Disease Association of Victoria, Yooralla and other industry specialists.

The VRSS reported that there were approximately 850 non-invasive ventilator dependent adults living in Victoria in 2017. This number is increasing by around 10%

annually especially for clients with health issues related to obesity who make up approximately 30% of the users of non-invasive ventilators.

Within their role of assisting clients in the use of non-invasive ventilators, the VRSS Outreach delivers an initial one hour of (informal) training in the use of these machines to each client's carer/s. This training does not extend to professional carers who may work in service organisations, for example in aged care, disability, palliative care and community care services.

This accredited course developed for carers in the use of non-invasive ventilation is seen as an extension of this initial training undertaken by the VRSS. The VRSS currently runs another 3 hour non-accredited training session at times according to demand, attended primarily by professional carers sent by their agency for training. It is expected that the VRSS course will be superseded by this course.

2. Continuous Positive Airway Pressure (C-PAP)

During this reaccreditation process health industry experts identified the need for carers to receive training in the use of C-PAP machines which are very similar to non-invasive ventilators. Currently there is no training for carers in the use of C-PAP machines.

C-PAP machines operate by continuously blowing air into a client's airways to keep them open. While this is a different mode of operation from non-invasive ventilators, the support needed by clients and the process of operating the machines is the same as non-invasive ventilators.

Sleep apnoea is an example of a condition requiring a client to use a C-PAP machine.

3. Invasive ventilation

Discussions with health industry experts during the mid-cycle review of this course and confirmed during this re-accreditation, identified the need for accredited training for carers in the use of invasive ventilators and tracheostomy care. There is no formal training currently available for carers in supporting clients using invasive ventilation.

Invasive ventilators deliver air and other gasses according to the clients' needs via a machine attached to an endotracheal tube and an inflatable cuff which sits in the client's airway. This mechanism relieves the client of the effort of breathing.

The presence of a tracheostomy tube interferes with the client's speech and swallowing and increases the risk of infection and associated airway complications.

Invasive ventilation is usually used by clients with neuro muscular conditions and spinal cord injury.

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	Users of invasive ventilators and are often unable to attend to the operation, cleaning, maintenance or alarms of their own invasive ventilation machines due to health limitations, and therefor rely on the support of caregivers. Personal caregivers need to suction, clean, and change the client's tracheostomy tube and identify problems with the ventilation process.

Clients requiring invasive ventilation are considered to be 'high care' and require 24/7 support. They have multiple personal carers, all requiring familiarity with invasive ventilation and its effective operation. As there is a high turn-over of personal care staff there is a constant need for training in invasive ventilation.

The VRSS provides initial training to carers in the use of invasive ventilator machines (as they do for users of NIV). However the Steering Committee acknowledged an ongoing need for training of people for employment as carers of clients using invasive ventilation. Professional carers then may be employed in clients' own homes, in residential care or aged care, disability care and palliative care facilities.

The need for accredited training for carers to support people in using invasive ventilators was acknowledged and supported by members of this Steering Committee (listed below).

National policy implications for this training

The National Disability Insurance Scheme (NDIS) was introduced in 2016 and is currently being rolled out across Victoria. It provides people with disability, their families and carers with information and referrals to existing support services in the community. As part of this scheme, individual Care Plans are developed for those with permanent or significant disabilities who may then allocate their NDIS funding to training for their chosen carer/s, alternatively they may elect to engage carers who have gained this qualification. The role of the NDIS provides additional justification for the development of this course.

Skills and Knowledge Profile

Within the reaccreditation process for this course and the development of the new unit of competency, the Skills and Knowledge Profile for the existing unit of competency *VU20908 Operate a non-invasive ventilator in the home or residential care facility*, was reviewed by the Steering Committee. This was expanded to include the use of C-PAP machines. An additional Skills and Knowledge Profile was developed for the new unit *VU22706 Operate an invasive ventilator in the home or residential care facility*. |

	Members of the Steering Committee
	The reaccreditation of the *22210VIC Course in Personal Carer Training Using Non-invasive Ventilation* has been revised and expanded to become the *22503VIC Course in Providing Support to People Using Ventilators and C-PAP Machines.* The process was guided by the following members of the Steering Committee: • Anne Duncan (Chair) - Victorian Respiratory Support Service (VRSS), Austin Hospital • Alison Jones -Motor Neurone Disease Association of Victoria • Natasha Carfi - Skills Training Australia • Andrew Fleming - Community Services & Health Industry Training Board (Vic) • Kristy Murray -Ventilator Accommodation Support Service (VASS), Yooralla. • Belinda McRae - Calvary Health Care Bethlehem. In attendance: • Autumn Shea CMM –Human Services • Anne Newton Accreditation consultant
3.2 Review for re-accreditation	**The mid-cycle review** The mid-cycle review of the 22210VIC *Course in Personal Carer Training Using Non-invasive Ventilators* was conducted by the CMM - Human Services in 2015-16. It confirmed that one RTO had the 22210VIC *Course in Personal Carer Training Using Non-invasive Ventilators* on its scope of registration. There had been few enrolments in this course prior to August 2017. However the numbers of enrolments have been slowly increasing since then. The total enrolment number was 38 by July 2018. This modest number of enrolments does not reflect VRSS predictions of 1,234 people using non-invasive ventilators in 2018 and therefore needing support from trained carers. The slow up-take of the training appears initially to have been due to the lack of an RTO adding the course to its scope of registration. This was attributed to the cost of providing NIV equipment for learners. This limitation was removed by the VRSS through a donation of equipment to the RTO Skills Training Australia. The exclusion of this course from the Funded Courses Report before January 2015 may be another reason for the low enrolment figures. More recently there has been an expectation of increasing enrolments in 2018 because of the roll-out of the NDIS. It was for this expected increase in demand that the accreditation of

the 22210VIC *Course in Personal Carer Training Using Non-invasive Ventilation* was extended beyond its original expiry on 31 December 2017 to 31 December 2018.

The Department of Education and Training has funded a project to reaccredit the original *22210VIC Course in Personal Care Training Using Non-Invasive Ventilation*.

Extension of the original course

During the reaccreditation process:

1. The original unit of competency was revised and extended to become VU22705 Operate a non-invasive ventilator and C-PAP machine in the home or residential care facility.

2. A new unit of competency was developed, VU22706 Operate an invasive ventilator in the home or residential care facility.

These two units form the re-accredited course titled *Course in Providing Support to People Using Ventilators and C-PAP Machines*.

The two units of competency in the *Course in Providing Support to People Using Ventilators and C-PAP Machines*:

- do not duplicate, by title or coverage, the outcomes of an endorsed training package qualification

- are not a subset of a single training package qualification that could be recognised through one or more Statements of Attainment or a Skill Set

- do not include units of competency additional to those in a training package qualification that could be recognised through Statements of Attainment in addition to the qualification

- do not comprise modules that duplicate units of competency of a training package qualification.

This confirms the need for a formal training program for carers and employed personal care workers in the use of non-invasive ventilators and C-PAP machines, and invasive ventilators.

Transition

22503VIC Course in Providing Support to People Using Ventilators and C-PAP Machines replaces, and **IS NOT EQUIVALENT to,** the course *22210VIC Course in Personal Carer Training Using Non-invasive Ventilation*. There can be no new enrolments in the *22210VIC Course in Personal Carer Training Using Non-invasive Ventilation* after 31 December 2018.

The following table identifies the relationship between the unit of competency from the previous *22210VIC Course in Personal Carer Training Using Non-invasive Ventilation* and the two units in this courses.

Current code and title	Superseded code and title	Relationship
VU22705 Operate a non-invasive ventilator and C-PAP machine in the home or residential care facility	VU20908 Operate a non-invasive ventilator in the home or residential care facility	Not equivalent
VU22706 Operate an invasive ventilator in the home or residential care facility	N/A	New unit, no equivalent

4. Course outcomes	*Standards 1, 2, 3 and 4 Standards for Accredited Courses*
4.1 Qualification level	*Reference: Standards 1, 2, and 3 AQTF Standards for Accredited Courses.* The 22503VIC *Course in Providing Support to People Using Ventilators and C-PAP Machines* does not align with any specific level of the Australian Qualifications Framework (AQF). This course meets health industry and community need, but does not have the breadth, depth or volume of learning of a qualification.
4.2 Employability skills	*Reference: Standard 4 AQTF for Standards for Accredited Courses* Not applicable.
4.3 Recognition given to the course	*Reference: Standard 5 AQTF Standards for Accredited Courses* Not applicable.
4.4 Licensing/ regulatory requirements	*Reference: Standard 5 of AQTF Standards for Accredited Courses* Not applicable.
5. Course rules	*Standards 2, 6, 7 and 9 AQTF Standards for Accredited Courses*
5.1 Course structure	To gain the award of a Statement of Attainment for the 22503VIC *Course in Providing Support to People Using Ventilators and C-PAP Machines,* participants must complete the two (2) units of competency listed below. If both units are not completed, a Statement of Attainment will be issued for the unit successfully completed.

Unit of competency code	Field of Education code	Unit of competency title	Pre-requisite	Nominal hours
VU22705	069999	Operate a non-invasive ventilator and a C-PAP machine in the home or residential care facility	None	15
VU22706	069999	Operate an invasive ventilator in the home or residential care facility	None	30
			Total nominal duration	**45**

5.2 Entry requirements	*Reference: Standard 9 AQTF Standards for Accredited Courses* There are no entry requirements for the *22503VIC Course in Providing Support to People Using Ventilators and C-PAP Machines.* Learners who have literacy and numeracy competencies equivalent to the Australian Core Skills Framework Level 2 (refer to the framework on the Department of Education and Training website here) are best equipped to successfully complete this course. Learners with English language, literacy and numeracy skills at levels lower than those noted above may require additional support to successfully undertake the qualification.
6. Assessment	*Reference: Standard 10 and 12 AQTF Standards for Accredited Courses*
6.1 Assessment strategy	*Reference: Standard 10 AQTF Standards for Accredited Courses* All assessment, including Recognition of Prior Learning (RPL), must be compliant with the requirements of: • Standard 1 of the AQTF: Essential Conditions and Standards for Initial/Continuing Registration and Guidelines 4.1 and 4.2 of the VRQA Guidelines for VET Providers, or • the Standards for Registered Training Organisations 2015 (SRTOs), or • the relevant standards and Guidelines for RTOs at the time of assessment. Assessments should be undertaken in a real or simulated home or residential care facility environment, with access to real or simulated clients. Where simulation is used, it must reflect real working conditions by modelling industry operating conditions

	and contingencies, as well as, using suitable facilities, equipment and resources.
	In order to achieve the outcomes of the course, an integrated approach to assessment of the individual or combined units is recommended to:
	• maximise opportunities for holistic skill development and evidence gathering for assessment
	• make the assessment evidence gathering more efficient for learners and teachers / assessors.
	Consistent with the requirements of Element 1.5 of Standard 1 of the AQTF: Essential Conditions and Standards for Continuing (or initial) Registration, RTOs must ensure that RPL is offered to all applicants in determining their competency.
	Assessment strategies are recommended to:
	• incorporate feedback of individual progress toward, and achievement of the competencies
	• address the skills and knowledge which underpin performance
	• gather sufficient evidence to judge achievement of competence
	• utilise a variety of different processes/sources, written, oral and observation
	• be flexible in the range and type of evidence provided by the learner
	• allow learners to negotiate alternative assessment arrangements e.g. for learners with special needs
	• provide an opportunity for the learner to challenge the assessment and/or participate in reassessment.
6.2 Assessor competencies	*Reference: Standard 12 AQTF Standards for Accredited Courses*
	• Assessment must be undertaken by a person or persons in accordance with:Standard 1.4 of the AQTF: Essential Conditions and Standards for Initial/Continuing Registration and Guidelines 3 of the VRQA Guidelines for VET Providers,
	or
	• the *Standards for Registered Training Organisations 2015* (SRTOs),
	or
	• the relevant standards and Guidelines for RTOs at the time of assessment.

7. Delivery	*Standards 11 and 12 AQTF Standards for Accredited Courses*
7.1 Delivery modes	*Reference: Standard 11 AQTF Standards for Accredited Courses* The *22503VIC Course in Providing Support to People Using Ventilators and C-PAP Machines* may be delivered using a variety of delivery modes or combination of modes including: • flexible delivery • classroom delivery • within a real or simulated home environment • through mentoring There are no restrictions on offering the program on either a full-time or part-time basis. Delivery strategies should actively involve the learner, and learning should be largely experiential. Where areas of content are common to more than one element or unit integration of delivery may be appropriate.
7.2 Resources	*Reference: Standard 12 AQTF Standards for Accredited Courses* Training must be undertaken by a person or people in accordance with: • Standard 1.4 of the AQTF: Essential Conditions and Standards for Initial/Continuing Registration and Guideline 3 of the VRQA Guidelines for VET Providers, or • the *Standards for Registered Training Organisations 2015* (SRTOs), or • the relevant standards and Guidelines for RTOs at the time of assessment. Resources include: • training facilities and equipment • related texts, references, online and audio/visual material • a range of non-invasive and invasive ventilation and C-PAP equipment, suction equipment, tubes and masks • cleaning equipment • access to real clients or mannequins

	• a residential care facility, or a simulated home environment • current online resources e.g. those produced by the VRSS.
8. Pathways and articulation	***Standard 8 AQTF Standards for Accredited Courses***
	No formal pathways or articulation and credit transfer arrangements have been negotiated with other Registered Training Organisations or higher education providers.
9. Ongoing monitoring and evaluation	***Standard 13 AQTF Standards for Accredited Courses***
	The *22503VIC Course in Providing Support to People Using Ventilators and C-PAP Machines* is maintained and monitored by the Curriculum Maintenance Manager – Human Services. A review of the course will take place at the mid-point of the accreditation period. Feedback will be sought from industry, those providers offering the course, and other relevant stakeholders as part of the review process. Recommendations for any significant changes will be reported to the Victorian Registration and Qualification Authority (VRQA).

Section C: Units of competency

VU22705	**Operate a non-invasive ventilator and a C-PAP machine in the home or residential care facility**

Unit Descriptor	This unit provides the knowledge and skills to enable a carer to operate and maintain a non-invasive (NIV) ventilator and a Continuous Positive Airway Pressure (C-PAP) machine safely and effectively within a client's home or a residential care environment.
	No licensing, legislative, regulatory or certification requirements apply to this unit at the time of publication.
Employability Skills	Not applicable
Application of the Unit	This unit applies to carers who are required to provide respiratory support to a client using a non-invasive ventilator (NIV) and/or a C-PAP machine in the client's home or a residential care facility. This role requires minimal supervision.

ELEMENT	**PERFORMANCE CRITERIA**
Elements describe the essential outcomes of a unit of competency. Elements describe actions or outcomes that are demonstrable and assessable.	Performance criteria describe the required performance needed to demonstrate achievement of the element – they identify the standard for the element. Where bold/italicised text is used, further information or explanation is detailed in the required skills and knowledge and/or the range statement. Assessment of performance is to be consistent with the evidence guide.
1. Confirm the client's need to use NIV and/or C-PAP machine support	1.1 Observe the client for signs of fatigue, drowsiness or ***respiratory distress***
	1.2 Negotiate with the client and/or nominated others, the need to apply NIV and/or C-PAP machine support
	1.3 Organise the client's environment to facilitate NIV and/or C-PAP machine use
	1.4 Establish a suitable NIV or C-PAP machine station for regular use, as required
2. Set up the NIV and C-PAP equipment for operation	2.1 Refer to the circuit diagram in Discharge Document Folder for the specific ***NIV model*** and C-PAP device.
	2.2 Connect the ***components*** of the NIV and C-PAP equipment, in accordance with the manufacturer's instructions.
	2.3 Ensure that the ***humidifier*** (if in use) and breathing unit are placed on stable and secure bases for use
	2.4 Assemble and apply the prescribed ***breathing mask(s)***, as per the manufacturer's instructions
3. Operate and monitor the NIV and C-PAP equipment	3.1 Follow the instructions in the Discharge Document Folder provided or the manufacturer's instruction manual
	3.2 Fill the humidifier chamber (if in use) with clean water to the level indicated and fit it to the humidifier unit.

3.3 Set the required temperature on the humidifier (if in use) as per manufacturer's instructions

3.4 Apply the selected breathing mask ensuring a comfortable fit for the client by adjusting its position to minimise leaks

3.5 Confirm that the client is comfortable with the mask fitting and the NIV and C-PAP machine arrangement

3.6 Start the ventilator and monitor the client's breathing to confirm the NIV and C-PAP machine effectiveness

3.7 Attach an intra circuit nebuliser with the NIV, if required

3.8 Apply appropriate *personal hygiene* and *infection control* and (Occupational Health and Safety) *OHS/WHS* (Work Health and Safety procedures for NIV and C-PAP machine use

3.9 Troubleshoot *common problems* with NIV and C-PAP machine use and propose corrective options, or seek support from health professional

4. Maintain the NIV and C-PAP equipment

4.1 Confirm the regular routine *maintenance* requirements of the equipment according to the manufacturer's instructions.

4.2 Conduct maintenance on the equipment in accordance with the manufacturer's instructions

REQUIRED SKILLS AND KNOWLEDGE

This describes the essential skills and knowledge and their level required for this unit.

Skills

- Communicate effectively with the client, their family or nominated others

- Identify the differences between NIV and C-PAP machines

- Assist clients with respiratory problems

- Recognise signs of fatigue, drowsiness or shortness of breath

- Check regularly on skin care

- Connect the components of NIV and C-PAP equipment in accordance with manufacturer's instructions

- Operate NIV and C-PAP equipment effectively

- Maintain NIV and C-PAP equipment in accordance with manufacturer's instructions

- Apply personal hygiene and infection control procedures

- Troubleshoot common problems encountered with the operation of NIV and C-PAP equipment

- Seek appropriate advice and/or support

Knowledge

- Client centred care approach

- Basic anatomy and physiology of the human respiratory system

- Potential health reasons causing a client to need NIV and C-PAP machines

- Conditions resulting in respiratory failure

- Relevant policy, legislation, codes of practice and guidelines, including any organisational requirements for Working with Children Check and/or Police Records Check

- Differentiate between NIV and C-PAP therapy

- How to add a nebuliser to a ventilator circuit

- Maintain NIV and C-PAP pressure area care

- Components of the NIV and C-PAP equipment

- Volume and bi-level NIV

- Range of breathing masks

- Infection control

- Routine maintenance requirements of NIV and C-PAP equipment

RANGE STATEMENT

The Range Statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold / italicised wording in the Performance Criteria is detailed below.

Respiratory distress may include but is not limited to:	• Increased breathing rate, gasping for air • Wheezing • Cyanosis • Grunting • Sweating
NIV model may include but is not limited to:	• Volume devices • Bi-level devices
Components may include but are not limited to:	• Ventilator • Circuit, the tubing that carries the air • Mask • Humidifier • Alternative power source (back-up battery)
Humidifier refers to:	• A device that maintains the moisture content of the air entering the lungs at a suitable level
Breathing mask may include but is not limited to:	• Full-face • Nasal • Intra-nasal
Personal hygiene may include but is not limited to:	• Cleanliness • Secretion management • Oral care and nasal care • Pressure care • Hand cleaning
Infection control may include but is not limited to:	• Daily cleaning of equipment • Regular changing of air filters • Equipment decontamination
OHS/WHS may include but is not limited to:	• Maintenance of the clinical environment • Manual handling • Electrical safety • Personal protective equipment (PPE)

Common problems may include but are not limited to:	• Wrong humidifier temperature
	• Unsatisfactory fit of the breathing mask
	• Mask being too high causing leakage
	• Pressure areas/sores caused by a mask
	• Power failure and need for alternative power source
	• Secretion management
	• Confusing NIV with C-PAP equipment

Maintenance may include but is not limited to:	• Monitor the battery to ensure power supply
	• Maintaining alternative power back-up
	• Daily maintenance:
	– Washing mask and breathing equipment in pure (unperfumed) soap
	– Wiping with a damp cloth and drying with a towel
	– Emptying water from the humidifier, rinsing with clean water and drying
	– Filling the humidifier to required level with clean water before use
	• Weekly maintenance:
	– Removing any dust from equipment
	– Cleaning equipment with warm soapy water
	– Washing the humidifier chamber and drying
	– Rinsing breathing tubes with clean water and hanging to dry
	– Dismantling the components of the face mask, washing with soapy water, rinsing in clean water and leaving to dry
	• Monthly maintenance:
	– Charging back-up battery
	– Replacing the Sure Guard filter on the humidifier
	• Quarterly maintenance:
	– Replacing the dust filter on the ventilator unit

EVIDENCE GUIDE

The evidence guide provides advice on assessment and must be read in conjunction with the Elements, Performance Criteria, Required Skills and Knowledge, the Range Statement and the Assessment section in Section B of the Accreditation Submission.

Critical aspects for assessment and evidence required to demonstrate competency in this unit	Participants must demonstrate that they are able to:
	• Discuss ventilation needs with the client and observe signs of respiratory distress
	• Recognise the need to use two types of NIV equipment and a C-PAP machine in consultation with the client
	• Set up both a bi-level and a volume NIV machines and a C-PAP machine for effective use
	• Operate this equipment in accordance with instructions
	• Conduct regular maintenance on this equipment while adhering to relevant personal hygiene, infection control and OHS/WHS procedures
	Assessment must be conducted at least once on a bi-level and once on a volume non-invasive ventilator and once on a C-PAP machine.
Context of and specific resources for assessment	Assessment should be conducted in a simulated environment, real home or residential care facility
	Assessment will require access to:
	• A minimum of two current models of NIV and equipment, and a C-PAP machine.
	• Real clients requiring NIV and C-PAP support or mannequins
	• Relevant instruction manuals and Emergency Plans
	• Access to online resources such as the VRSS YouTube channel for resources e.g. *Ventilator use at home*.
Method(s) of assessment	Assessment must include demonstration of practical skills with real clients or mannequins. It may also include:
	• Verbal/written questions
	• Case study analysis
	• Assignments
	• Third party evidence

VU22706	**Operate an invasive ventilator in the home or residential care facility**

Unit Descriptor	This unit provides the knowledge and skills to enable a carer to operate and maintain an invasive ventilator and suction equipment safely and effectively within a home or residential care environment. This includes the safe transfer of the client for personal care activities.
	No licensing, legislative, regulatory or certification requirements apply to this unit at the time of publication.
Employability Skills	Not applicable
Application of the Unit	This unit would apply to carers who are required to provide respiratory support to clients using an invasive ventilator system. This function may take place in the client's home or a residential care facility.

ELEMENT

Elements describe the essential outcomes of a unit of competency. Elements describe actions or outcomes that are demonstrable and assessable.

PERFORMANCE CRITERIA

Performance criteria describe the required performance needed to demonstrate achievement of the element – they identify the standard for the element. Where bold/italicised text is used, further information or explanation is detailed in the required skills and knowledge and/or the range statement. Assessment of performance is to be consistent with the evidence guide.

1. Support a client in the use of invasive ventilation

1.1 Observe the client for signs of fatigue, drowsiness or *respiratory distress*

1.2 Talk to the client about any need to change the invasive ventilation arrangements

1.3 Speak to the health care provider about issues with invasive ventilation

1.4 Consult with the client about their environment to ensure effective invasive ventilation, within the role of a carer

1.5 Establish a suitable invasive ventilator station for regular use, and maintain (Occupational Health and Safety) *OHS/WHS* (Work Health and Safety) requirements

1.6 Support the client in maintaining the stock levels of invasive ventilation and suction equipment items

2. Set up the invasive ventilation equipment for operation

2.1 Refer to the instruction manual in the Discharge Document Folder for the specific invasive ventilator model and *operating mode*

2.2 Connect the *components* of the invasive ventilation equipment, in accordance with the manufacturer's instructions

2.3 Ensure that the *humidifier* and breathing unit are placed on stable and secure base/s for use

2.4 Assemble the prescribed *ventilator circuit* to the tracheostomy as per the manufacturer's instructions

	2.5	Ensure that suction equipment is assembled and ready to use
3. Operate the invasive ventilation equipment	3.1	Follow the instructions for the ventilator in the Discharge Document Folder provided
	3.2	Fill the humidifier chamber with clean water to the level indicated and fit to the humidifier unit
	3.3	Start the ventilator
	3.4	Attach the ventilator circuit to the tracheostomy
	3.5	Monitor the client's breathing to confirm ventilation effectiveness
	3.6	Apply appropriate *personal hygiene* and *infection control* procedures
	3.7	Identify *common problems* with ventilation and take corrective action by referring to the Discharge Document Folder, or seek support from health professional
4. Set up and operate the suction equipment	4.1	Refer to the instruction manual for the *suction machine* model located in the ventilator information in the Discharge Document Folder
	4.2	Assemble the suction canister
	4.3	Check the *power supply* to the unit
	4.4	Perform the suction procedure using the equipment
	4.5	Apply appropriate personal hygiene, infection control and OHS/WHS procedures for invasive ventilator use
	4.6	Dispose of the suction catheter safely
	4.7	Rinse the silicone tube with a small amount of water
5. Manage a tracheostomy	5.1	Change the tracheostomy tapes
	5.2	Maintain and clean the tracheostoma
	5.3	Connect and disconnect the ventilation circuit
	5.4	Identify the volume of air or water required in the cuff and ensure this is maintained by taking corrective action in adjusting the volume of air or water with a syringe
	5.5	Inflate and deflate the tracheostomy cuff as needed or requested by the client
	5.6	Apply a one-way speaking valve in the ventilator circuit after deflating the tracheostomy cuff
	5.7	Apply a nebuliser via the ventilator circuit, where required, and ensure sufficient humidification
	5.8	Assess the tube patency and take appropriate action
6 Maintain effective client ventilation and the safe	6.1	Communicate with the client about their movement
	6.2	Maintain client posture

transfer of the client for personal care activities	6.3 Safely transfer the client
	6.4 Position the client for effective ventilation
	6.5 Secure the circuit following transfer
	6.6 Ensue safe manual handling during the transfer
	6.7 Maintain OHS/WHS and electrical safety
7. Respond to a medical emergency	7.1 Consult with the client where possible, about their health status
	7.2 Maintain familiarity with a client Emergency Plan
	7.3 Comply with the Emergency Plan
	7.4 Follow the guidelines for an emergency tube change
	7.5 Communicate the *medical emergency* to the health care provider
	7.6 Call an ambulance if needed as per the Emergency Plan
8. Respond to an alarm on a ventilator	8.1 Consult with the client and the Discharge Document Folder to identify which of the *alarms* sounded
	8.2 Silence the alarm
	8.3 Check the breathing and well-being of the client
	8.4 Resolve the problem with the ventilator using the ventilator information in the Discharge Document Folder
	8.5 Change to back-up ventilator if the issue has not been resolved
	8.6 Confirm that the client is comfortable
	8.7 Communicate the issue to the health care provider
9. Maintain the equipment	9.1 Confirm the regular routine *maintenance* requirements of the equipment according to the manufacturer's instructions.
	9.2 Conduct maintenance on the equipment in accordance with the manufacturer's instructions

REQUIRED SKILLS AND KNOWLEDGE

This describes the essential skills and knowledge and their level required for this unit.

Skills

- Communicate effectively with the client, their family or nominated others

- Recognise the signs of breathing difficulty – shortness of breath, fatigue, drowsiness, wheezing, anxiety

- Determine the correct pressures or volume for a tracheostomy cuff

- Correctly apply one-way speaking valves

- Respond to and resolve ventilator alarms

- Check regularly on skin care and maintain invasive ventilation specific pressure area care

- Connect the components of invasive ventilation equipment in accordance with the Discharge Document Folder

- Operate invasive ventilation and suction equipment safely and effectively

- Safely transfer a client, maintaining safe manual handling during client movement

- Maintain invasive ventilation and suction equipment in accordance with the Discharge Document Folder

- Apply personal hygiene, infection control and OHS/WHS procedures

- Troubleshoot common problems encountered with the operation of invasive ventilation and suction equipment

- Seek appropriate advice and/or support in emergencies

Knowledge

- Client centred care approach

- Relevant policy, legislation, codes of practice and guidelines, including any organisational requirements for Working with Children Check and/or Police Records Check

- How a tracheostomy may impact on client communication

- Alternative communication options for clients with invasive ventilation

- Basic anatomy and physiology of the human respiratory system

- Health conditions causing a client to develop respiratory failure and need invasive ventilation

- Issues related to incorrect pressures or volume for the tracheostomy cuff

- Components of the invasive ventilation and suction equipment

- Different models of ventilation equipment and their modes of operation

- Range of tracheostomy tubes

- Different volumes and pressures of different types of tracheostomy tube cuffs

- Infection control

- The potential risks in the use of a one-way speaking valve

- Common emergency procedures for tracheostomy care

- Routine maintenance requirements of invasive ventilation equipment

- Routine maintenance of suction equipment as recommended by manufacturer

RANGE STATEMENT

The Range Statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold / italicised wording in the Performance Criteria is detailed below.

Respiratory distress may include but is not limited to:	• Increased respiratory rate or shortness of breath • Wheezing • Cyanosis • Grunting • Perspiration
OHS/WHS may include but is not limited to:	• Maintenance of the clinical environment • Manual handling • Electrical safety • Personal protective equipment (PPE)
Operating mode includes, but is not limited to**:**	• Volume mode • Assisted pressure control • Security volume with pressure support • Spontaneous timed mode with positive end expiratory pressure (PEEP) and pressure support
Components may include but are not limited to:	• Ventilator • Circuit, the tubing that carries the air • Tracheostomy connector (double swivel) • Humidifier • Alternative power source (back-up battery) • One-way speaking valve • Syringe for cuff management
Humidifier refers to:	• A device that maintains the moisture content of the air entering the lungs at a suitable level
Ventilator circuit may include but is not limited to:	• Tracheostomy connector (double swivel) • Flex tube • Exhalation manifold • 72" or 1.8 m air tube • 2 x pressure lines
Personal hygiene may include but is not limited to:	• Cleanliness • Secretion management • Oral care

	• Pressure care
	• Personal protective equipment (goggles, gloves etc.)
Common problems may include but are not limited to:	• Power supply
	– Low battery
	• Ventilator alarms
	– Low pressure
	– High pressure
Infection control may include but is not limited to:	• Daily cleaning of equipment
	• Regular changing of air filters
	• Oral care and nasal care
	• Hand hygiene
	• Washing contaminated equipment
Suction machine may include but is not limited to:	• Portable
	• Wall suction
Power supply may include but is not limited to:	• Battery
	• AC power and power supply
Medical emergency may include but is not limited to:	• Secretion management
	• Unexplained bleeding
	• Tube blockages
	• Dislodgement
	• Bleeding from the stoma
	• Equipment failure
Alarms may include but are not limited to:	• Low pressure
	• High pressure
	• Information on the machine's display screen
Maintenance may include but is not limited to:	• Monitor the battery to ensure power supply
	• Maintaining alternative power back-up
	• Daily maintenance:
	– Washing breathing circuit in pure soap
	– Wiping with a damp cloth and drying with a towel
	– Emptying water from the humidifier, rinsing with clean water and drying
	– Filling the humidifier to required level with clean water before use

- Weekly maintenance:
  - Removing any dust from equipment
  - Cleaning equipment with warm soapy water
  - Washing the humidifier chamber and drying
  - Rinsing breathing tubes with clean water and hanging to dry
  - Dismantling the components of the breathing circuit, washing with soapy water, rinsing in clean water and leaving to dry
- Monthly maintenance:
  - Charging back-up battery
  - Replacing the Sure Guard filter on the humidifier
- Quarterly maintenance
  - Replacing the dust filter on the ventilator unit
  - Replacing the suction filter or if it gets wet

EVIDENCE GUIDE

The evidence guide provides advice on assessment and must be read in conjunction with the Elements, Performance Criteria, Required Skills and Knowledge, the Range Statement and the Assessment section in Section B of the Accreditation Submission.

Critical aspects for assessment and evidence required to demonstrate competency in this unit

Participants must demonstrate each of the following:

- Support and consult with the client in using invasive ventilation equipment

- On three separate occasions:

  - Set up current models of ventilators in the following modes:

    1. Volume mode

    2. Assisted pressure control

    3. Security volume with pressure support

    4. Spontaneous timed mode with PEEP and pressure support

  - Operate the equipment in accordance with instructions for effective use

  - Operate large and small suction devices and trouble shoot problems

  - Demonstrate:

    1. tracheostoma care

    2. Cuff management

    3. Stoma care

- Assess client's (or simulated client's) breathing

- Safely transfer a client (or simulated client) for a personal care activity

- Respond to a ventilator alarm

- Respond to a simulated emergency

- Conduct maintenance of the invasive ventilation equipment on one occasion while adhering to relevant personal hygiene, infection control and OHS/WHS procedures

Context of and specific resources for assessment

Assessment should be conducted in a simulated environment, real home or residential care facility

Assessment will require access to:

- A current model of ventilator

- A stationary and a portable suction device

- Real clients or mannequins

- Relevant instruction manuals and Emergency Plans

Method(s) of assessment	Assessment must include demonstration of practical skills with real clients or mannequins. It may also include:

- Verbal/written questions

- Case study analysis

- Assignments

- Third party evidence