



Australian Government

Department of Education, Employment and Workplace Relations

HLTPAT407C Perform electrocardiography (ECG)

Release: 1

HLTPAT407C Perform electrocardiography (ECG)

Modification History

Not Applicable

Unit Descriptor

Descriptor

This unit of competency describes the skills and knowledge required to use an electrocardiograph, and to provide a client's ECG trace under the supervision of an appropriate health professional

Application of the Unit

Application

Work performed requires a range of well-developed skills where some discretion and judgment is required. Individuals will take responsibility for their own outputs and limited responsibility for the output of others

Licensing/Regulatory Information

Not Applicable

Pre-Requisites

Not Applicable

Employability Skills Information

Employability Skills

This unit contains Employability Skills

Elements and Performance Criteria Pre-Content

Elements define the essential outcomes of a unit of competency.

The Performance Criteria specify the level of performance required to demonstrate achievement of the Element. Terms in italics are elaborated in the Range Statement.

Elements and Performance Criteria

ELEMENT

PERFORMANCE CRITERIA

1. Prepare electrocardiography (ECG) machine for use

- 1.1 Check *ECG machine* against a checklist before each use for good electrical working order, for cleanliness, calibration, and for correct settings
- 1.2 Check ECG machine to ensure that it is maintained according to the AS 3551 Technical Management Program for Medical Devices

2. *Prepare client* and attach ECG leads

- 2.1 Correctly identify, reassure and inform client, regarding the ECG procedure
- 2.2 Record client information eg name, medical record number, date and time, and whether client has chest pain or is pain free
- 2.3 Position client for the attachment of leads
- 2.4 Attach leads according to procedure manual, and correct lead placement is double checked

ELEMENT**PERFORMANCE CRITERIA**

- | | |
|---|--|
| 3. Produce ECG trace according to the documented procedures | 3.1 Label leads as they are recorded, and record if a filter is used |
| | 3.2 Record lead 2 'rhythm strip', being of a length prearranged with the requesting practitioner |
| | 3.3 Produce trace eliminating sources of interference and maintaining a straight base line |
| | 3.4 Clean client's chest and ECG electrodes on completion of procedure |
| | 3.5 Forward trace to cardiologist for reading |
| 4. Recognise and manage common ECG interference patterns | 4.1 Identify and manage electrical interference |
| | 4.2 Identify and manage skeletal muscle tremor |
| | 4.3 Identify and manage excessive muscle activity |
| | 4.4 Identify and manage a wandering baseline |

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

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

Essential knowledge:

The candidate must be able to demonstrate essential knowledge required to effectively do the task outlined in elements and performance criteria of this unit, manage the task and manage contingencies in the context of the identified work role

This includes knowledge of:

- All steps in the production of a client ECG trace
- Anatomy and physiology relevant for safe and accurate ECG monitoring
- Attachment locations of all the ECG leads
- Calibration procedures for manual ECG machines
- Identifies causes of the common trace interference and the appropriate remedies
- Obligations with respect to confidentiality of client information

REQUIRED SKILLS AND KNOWLEDGE

- Rationale for routine safety checks that must be performed with each use of the apparatus
- Understanding of the need for medical equipment to be listed with TGA, and that it must be accompanied by documentary evidence of that listing
- Understanding that ECG Apparatus must comply with AS 3551 'Technical Management Program for Medical Devices' which specifies the minimum maintenance program
- Understanding that medical equipment must comply with AS/NZS 3200 'Electrical Standard', which lists test specifications for medical and electrical equipment and requirements for safety testing of Electrocardiographs.

Essential skills:

Ability to:

- Comply with policies and procedures including those of OHS and infection control
- Demonstrate all steps that must be taken to ensure equipment is safe
- Demonstrate the attachment of all leads to a client
- Follow procedure for client identification
- Identify an ECG trace that is unsatisfactory for diagnostic purposes
- Identify and manage all forms of interference
- Manage clients who may have difficulties with this procedure
- Manage the known common interferences in the production of an ECG trace
- Operate an ECG machine and leads
- Produce a good client ECG trace
- Provide appropriate level of care reflecting courtesy, responsiveness and helpfulness
- Reassure and assist clients to feel comfortable and relaxed
- Recognise boundaries of responsibilities and refer problems to supervisor
- Take into account opportunities to address waste minimisation, environmental responsibility and sustainable practice issues

Evidence Guide

EVIDENCE GUIDE

The evidence guide provides advice on assessment and must be read in conjunction with the Performance Criteria, Required Skills and Knowledge, the Range Statement and the Assessment Guidelines for this Training Package.

EVIDENCE GUIDE

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

- The individual being assessed must provide evidence of specified essential knowledge as well as skills
- Observation of workplace performance is essential for assessment of this unit
- Consistency of performance should be demonstrated over the required range of situations relevant to the workplace
- Where, for reasons of safety, space, or access to equipment and resources, assessment takes place away from the workplace, the assessment environment should represent workplace conditions as closely as possible

Context of and specific resources for assessment:

- Relevant ECG equipment and leads
- ECG procedure manual
- Emergency response procedures
- Infection control procedures
- Clinical risk assessment policy and procedures
- Workplace health and safety guidelines
- Other organisation policies and procedures
- Duties statements and/or job descriptions

Method of assessment may include:

- Observation in the work place
- Written assignments/projects or questioning should be used to assess knowledge
- Case study and scenario as a basis for discussion of issues and strategies to contribute to best practice
- Clinical skills involving direct client care are to be assessed initially in a simulated clinical setting (laboratory). If successful, a second assessment is to be conducted during workplace application under direct observation of performance
- Interviewing and questioning
- Computer-aided assessment
- Staff/client feedback
- Supporting statement of supervisor(s)

EVIDENCE GUIDE

- Access and equity considerations:*
- All workers in the health industry should be aware of access and equity issues in relation to their own area of work
 - All workers should develop their ability to work in a culturally diverse environment
 - In recognition of particular health issues facing Aboriginal and Torres Strait Islander communities, workers should be aware of cultural, historical and current issues impacting on health of Aboriginal and Torres Strait Islander people
 - Assessors and trainers must take into account relevant access and equity issues, in particular relating to factors impacting on health of Aboriginal and/or Torres Strait Islander clients and communities
- Related units:*
- This unit can be delivered and assessed independently, however holistic assessment practice with other pathology units of competency is encouraged

Range Statement

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. Add any essential operating conditions that may be present with training and assessment depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts.

- An appropriate health professional may include:*
- Registered nurse
 - Pathologist
 - Medical officer
 - ECG technician

RANGE STATEMENT

ECG trace requests may come from:

- A registered medical practitioner
- Nominated nursing staff eg nurse practitioner

ECG machines may be:

- Manual
- Automatic

Client preparation and ECG recording may need to take into account:

- Clients may be inflexible, arthritic, in pain, tense or stressed
- Clients may be large or small
- Difficulties in obtaining an accurate trace at the first attempt
- Electrical interference may be caused by corroded electrodes or poor electrode skin contact
- Skeletal muscle tremor is usually due to pain, discomfort or anxiety
- Skeletal muscle activity is most commonly due to a cold environment and/or client movement
- Wandering base line interference is commonly due to loose electrodes, but may also be due to a swaying cable or an unusually heavy diaphragm action in clients

Protective clothing may include:

- Gloves
- Gowns

Venues for electrocardiography may include:

- Centres/clinics
- Hospitals
- Other institutions - ie Psychiatric institutions
- Home

Unit Sector(s)

Not Applicable