



**Australian Government**

**Department of Education, Employment and Workplace Relations**

# **HLTNE604D Assist with nerve conduction studies and electromyography (EMG)**

**Release: 1**

## HLTNE604D Assist with nerve conduction studies and electromyography (EMG)

### Modification History

HLT07 Version 4	HLT07 Version 5	Comments
HLTNE604C Assist with nerve conduction studies and electromyography (EMG)	HLTNE604D - Assist with nerve conduction studies and electromyography (EMG)	Unit updated in V5. ISC upgrade changes to remove references to old OHS legislation and replace with references to new WHS legislation. No change to competency outcome.

### Unit Descriptor

#### Descriptor

This unit of competency describes the skills and knowledge required to prepare a client for, and provide assistance to the neurologist during, nerve conduction studies and to provide a technical summary to assist in the final medical report

### Application of the Unit

#### Application

Work will be performed within a prescribed range of functions involving routine and non-routine methods and procedures which require the exercise of some discretion and judgement

Nerve conduction studies and EMG's are commonly conducted in hospitals and neurologists' rooms

All activities are carried out in accordance with organisation policies, procedures and infection control guidelines

Supervision by a neurologist is required where Medicare involved

Learner is required to demonstrate their ability to perform basic cardiopulmonary resuscitation

## Licensing/Regulatory Information

Not Applicable

## Pre-Requisites

### Pre-requisite unit

This unit must be assessed after successful achievement of pre-requisite:

- HLTNE401D Perform electroencephalography (EEG)

## 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 *equipment, materials* and environment
  - 1.1 Review client booking list for client details
  - 1.2 Identify special needs of client
  - 1.3 Ensure equipment and materials selected are clean, dry, in working order, and, where applicable, calibrated
  - 1.4 Review relevant, current literature and protocols reviewed
  - 1.5 Ensure normal control data is available
  - 1.6 Confirm neurologists' requirements and preferences
  
2. Prepare client for procedure
  - 2.1 Arrange client bookings according to organisation procedures, clients' needs, and reason for study
  - 2.2 Ensure information on access to test location and test to be attended is received by client
  - 2.3 Receive and process request for test and give to Neurologist to read prior to test commencing
  - 2.4 Correctly identify client, reassure and inform regarding the procedure
  - 2.5 Give client/carer the opportunity to ask questions and discuss areas of concern
  - 2.6 Check client consent has been obtained
  - 2.7 Review client's medical history, seek clarification on specific details and action, as required by Neurologist

**ELEMENT****PERFORMANCE CRITERIA**

3. Assist neurologist with performance of nerve conduction study

- 3.1 Utilise *personal protective equipment* in accordance with standard and additional precautions
- 3.2 Inform and reassure the client as appropriate throughout the procedure
- 3.3 Make selections according to client details and concurrent results under the directions of the neurologist
- 3.4 Recognise, annotate, eliminate or reduce artefacts
- 3.5 Monitor client's response to electrical stimulus and adapt procedure accordingly under the direction of the neurologist
- 3.6 Add/attach further monitoring equipment and/or electrodes in response to concurrent findings under the direction of the neurologist
- 3.7 Test appropriate nerves and muscles according to standards, medical referral and concurrent results under the direction of the neurologist
- 3.8 Identify and respond to severe reactions and complications in accordance with organisation emergency procedures

4. Completion of procedure

- 4.1 Perform post test calibration as required
- 4.2 Provide client with assistance as required, on completion of the procedure
- 4.3 Confirm timely follow up with referring doctor for results
- 4.4 Record test details for retrieval and statistical purposes according to department procedures
- 4.5 Provide information to client and carer according to duty of care and organisation policies
- 4.6 Clean dry and store equipment in accordance with manufacturer's guidelines and infection control guidelines
- 4.7 Dispose of disposable materials in accordance with waste management procedures and infection control guidelines

**ELEMENT****PERFORMANCE CRITERIA**

- |                               |   |
|-------------------------------|---|
| 5. Generate technical summary | 5.1 Review <i>client details</i> and amend as required                                  |
|                               | 5.2 Review annotations and amend to provide accurate and concise information            |
|                               | 5.3 Calculate amplitudes, latencies and conduction velocities                           |
|                               | 5.4 Forward technical summary with accompanying documentation to neurologist for review |

## 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:

- Anatomy and physiology relevant for providing assistance in the performance of nerve conduction studies and EMG
- Basic pharmacology related to neurological and muscular function
- Common causes of interference and the appropriate remedies
- Complications and contraindications for clients undergoing nerve conduction study and EMG
- Confidentiality requirements of client information
- Electrical safety requirements
- Emergency procedures in the event of complications relevant in the provision of assistance in the performance of nerve conduction study and EMG
- Infection control policies, including standard and additional precautions, in relation to neurophysiology testing procedures
- Medical terminology relevant to providing assistance in the performance of nerve conduction studies and EMG
- Nerve conduction disturbance and appropriate test alterations relevant for providing assistance in the performance of nerve conduction studies
- Normal nerve conduction study and EMG results
- Protocols for nerve conduction study and EMG
- Purpose of nerve conduction studies and EMG eg: diagnostic, prognostic classification of events
- Routine maintenance policy and procedures for equipment

### *Essential skills:*

It is critical that the candidate demonstrate the ability to:

- Apply knowledge of boundaries of responsibilities and refer problems to supervisor, neurologist or other appropriate health professional
- Assist with a diagnostic nerve conduction study and EMG
- Communicate effectively with clients/carers in relation to the procedure and manage

clients' and/or carers' anxiety level

- Comply with policies and procedures including those of WHS and infection control
- Identify steps that must be taken to ensure equipment is safe for use

*continued ...*

*Essential skills (contd):*

In addition, the candidate must be able 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 the ability to:

- Assist in identifying a nerve conduction study result that is unsatisfactory for diagnostic purposes
- Assist in identifying and validating abnormal findings
- Assist with a nerve conduction study and EMG of diagnostic quality
- Correctly operate equipment
- Correctly prepare client
- Deal with conflict
- Demonstrate computer skills relevant to workers' role
- Manage the known common interferences in the production of a nerve conduction study and EMG
- Solve problems including an ability to use available resources
- Take into account opportunities to address waste minimisation, environmental responsibility and sustainable practice issues
- Undertake basic cardiopulmonary resuscitation
- Use correct equipment
- Use numeracy skills including the ability to complete basic arithmetic calculations, recording stock levels, statistical information, measuring accurate amplitudes, and calculating correct velocities from accurate latency and distance measurements
- Use oral communication skills required to fulfil job roles in a safe manner and as specified by the organisation, including skills in:
  - access and utilise interpreter service when necessary
  - asking questions
  - clarifying workplace instructions when necessary
  - listening to and understanding workplace instructions
  - literacy in English or a community language, depending on client group and organisation requirements
  - providing clear information
  - using effective verbal and non verbal communication skills with a range of internal and external persons
- Use reading and writing skills required to fulfil job roles in a safe manner and as specified by the organisation at a level of skill that involves reading and documenting clinical information and understanding complex policy and procedure manuals



- Work with others and display empathy with client and relatives

## 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.

*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
- 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
- Consistency of performance should be demonstrated over the required range of situations relevant to the workplace

*Context of and specific resources for assessment:*

- Relevant organisation policy, guidelines, procedures and protocols

*Method of assessment:*

- 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 supervision
- Observation of work activities when assisting with performance of nerve conduction studies and electromyogram (EMG)
- Observation of simulation and/or role play when assisting with performance of nerve conduction studies and electromyogram (EMG)
- Discussion of physical and/or behavioural contingency scenarios involving duty of care
- Authenticated transcripts of relevant education/training courses
- Recognition of relevant life/work experience
- Questioning, written assessments/projects, e-learning can be used to assess knowledge
- Authenticated reports of experience in assisting with performance of nerve conduction studies and electromyogram (EMG) (Documentation associated with performance reviews, supervisor/co-ordinator evaluations of work performance)
- Training records associated with First Aid, OH Safety training, Orientation/Induction Training, Safe Manual Handling, Universal infection control procedures
- Case study and scenario as a basis for discussion of issues and strategies to contribute to best practice

*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 should be assessed after or in conjunction with:

- HLTAP501C Analyse health information

## 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.

*Equipment may include:*

- Nerve conduction study/electromyography machine
- Electrical stimulator
- Magnetic stimulator
- Thermometer/skin temperature monitor
- Additional electrical leads
- Tape measure
- Calculator
- Ruler

*Materials may include:*

- Local anaesthetic ie topical, subcutaneous
- Stimulating probes
- Recording electrodes
- EMG needles
- Ground plate

**RANGE STATEMENT**

*Client details may include:*

- Referral letter/request
- Medical history
- Address and telephone number
- Date of birth and age
- Medications
- Client's presenting condition
- In care client/out of care client
- Private/public
- Clients' expectations
- Tests requested
- Referring doctor address, telephone number and provider number

*Clients may include:*

- Neonates
- Infants
- Children
- Adolescents
- Adults
- Elderly

*Client medical history may include:*

- Event(s) leading to referral
- Neurological disorder
- Respiratory disorder
- Muscular disorder
- Orthopaedic disorders
- Vascular disorder
- Infectious diseases
- Behavioural abnormalities

*Action in response to client's medical history may include:*

- Alteration of procedure under the direction of the Neurologist

**RANGE STATEMENT**

*Personal protective equipment may include:*

- Gloves
- Mask
- Goggles
- Gown

*Complications and severe reactions may include:*

- Seizure
- Cardio-respiratory arrest

*Information provided to client's and carer's may include:*

- Appropriate follow up period with referring doctor for report

**Unit Sector(s)**

Not Applicable