Australian Government

Department of Education, Employment and Workplace Relations

HLTTEC304D Perform X-Ray examination

Release: 1

HLTTEC304D Perform X-Ray examination

Modification History

HLT07 Version 4	HLT07 Version 5	Comments
HLTTEC304C Perform X-Ray examination	HLTTEC304D - Perform X-Ray examination	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 describes the competencies required to undertake basic radiographic examinations

Application of the Unit

Application

Note:

- This unit of competency applies in Queensland only to health sector employees who do not have formal qualifications in diagnostic radiography and who are seeking, or have obtained, a licence under the Radiation Safety Act as approved by the Chief Executive, Queensland Health
- The licence applies to rural and remote areas as determined by the Chief Executive, Queensland Health, and is limited to the use of radiation apparatus for plain film radiography of the chest and extremities

This unit of competency does not apply to dental radiography

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. Obtain information about the client	1.1 Initiate contact with the client 1.2 Interview client and confirm X-ray request information 1.3 Review client notes and other relevant documentation (including previous X-rays and exposure factors) to ensure maximum care of client

ELEMENT	PERFORMANCE CRITERIA
2. Perform the X-ray examination	2.1 Explain X-ray procedure to the *client* in plain language 2.2 Obtain client's verbal consent to proceed with the examination 2.3 Position client and equipment for the radiographic procedure, in accordance with a recognised radiographic positioning guide, to produce radiographs of optimal diagnostic value 2.4 Treat client with *care* in accordance with WHS guidelines 2.5 Position client, ensuring their protection from radiation in accordance with radiation safety guidelines 2.6 Take X-ray exposure safely and correctly
3. Set exposure factors	3.1 Set exposure factors for the radiographic examination in accordance with an exposure guide specifically compiled for the X-ray machine 3.2 Ensure exposure factors are set in accordance with radiation safety guidelines
4. Use radiation protection	4.1 Use appropriate radiation protection during the radiographic examination in accordance with radiation safety guidelines 4.2 Undertake radiation monitoring in accordance with *legislative guidelines*
5. Assess film and implement follow up care	5.1 Assess technical quality of radiographic images 5.2 Inform client the procedure has been completed 5.3 Arrange for radiographs to be reviewed (and reported on) by a radiologist and/or medical practitioner 5.4 Arrange for continuation of treatment in consultation with the client and health staff 5.5 Ensure client confidentiality is maintained at all times

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:

- Basic knowledge of the genetic and somatic effects of radiation
- Basic understanding of the Radiation Safety Act 1999
- Demonstrated knowledge of skeletal anatomy
- Methods of minimising radiation exposure to clients, staff, and the general public
- Radiographic radiation safety
- Technical quality of a radiograph and a working knowledge of the factors that contribute to image quality
- Working knowledge of exposure factors relevant to examinations permitted for particular licence classifications ie kilovoltage (peak), milliaperage, time, milliamperage seconds, distance, filtration, beam collimation
- Working knowledge of anatomy relevant to radiographic examinations permitted for particular licence classifications
- Working knowledge of client positioning techniques relevant to radiographic examinations permitted for particular licence classifications

Essential skills:

It is critical that the candidate demonstrate the ability 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:

- Apply problem solving skills to use available resources, prioritise workload and to communicate effectively in the range of client contact situations
- Assess the technical quality of a radiograph and apply working knowledge of the factors that contribute to image quality
- Comply with radiation protection, legislative and organisation requirements
- Conduct X-ray examination in accordance with correct radiographic techniques (positioning, projection, exposure factors, radiation protection, image assessment)
- Correctly position the client relative to the X-ray machine and film cassette
- Determine client requirements and gather all relevant information prior to X-ray

examination
- Direct and control the X-ray beam and use protective devices
- Follow radiation monitoring procedures
- Implement follow up procedures correctly
- Set exposure factors appropriate for the X-ray examination
- Take into account opportunities to address waste minimisation, environmental responsibility and sustainable practice issues, including appropriate practices to ensure efficient use of resources
- Use numeracy skills ranging from the ability to complete basic arithmetic calculations such as addition, subtraction, multiplication, division to recording data
- Use oral communication skills as required to fulfil job roles in a safe manner and as specified by the organisation, including skills in:
  - asking questions
  - providing clear information
  - listening to and understanding workplace instructions
  - clarifying workplace instructions when necessary
  - literacy in English or a community language, depending on client group and organisation requirements
- Use reading and writing skills as required to fulfil job roles in a safe manner and as specified by organisation at a level of skill that may range from the ability to understand symbols used in WHS signs, to reading workplace safety pamphlets and procedure manuals, keeping maintenance records and following manufacturer specifications for equipment use and maintenance
- Use literacy support available in the workplace that may range from having access to support or assistance from radiographer, to having no communication supports available

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.

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 • This unit is most appropriately assessed in the workplace or in a simulated workplace setting under the normal range of workplace conditions

EVIDENCE GUIDE

	• Assessment may be conducted on one occasion but should include a range of clients, reflecting the diverse nature of those for whom service is provided in the workplace context • A diversity of assessment tasks is also essential for holistic assessment

Context of and specific resources for assessment:	• Assessment should replicate workplace conditions as far as possible
	• Resources essential for assessment include:
	  • Radiation Safety Act 1999
	  • Radiation safety and protection plan
	  • X-ray machine operating manuals
	  • Occupational health and safety guidelines
	  • Procedures manuals
	  • Access to relevant workplace or appropriately simulated environment where assessment can take place

Method of assessment may include:	• Written examination to assess theoretical and applied knowledge relative to positioning the client, choice of exposure factors, radiation protection, and image quality • On-the-job or role play assessment of prescribed skills, in particular accurate client positioning, directing and controlling the X-ray beam, setting appropriate exposure factors, application of appropriate radiation protection procedures, and assessment of technical quality of the radiographic image • Observation of work activities • Authenticated transcripts of relevant education/training courses

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 assessed independently
- However holistic assessment practice with other X-ray operation 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.

RANGE STATEMENT

Equipment and consumables must include:	• Radiographic positioning guide/manual • Exposure factor guide • Radiation protection devices (lead rubber gowns, aprons, thyroid protectors, gloves and shields) • Radiation monitoring devices • X-ray machine • X-ray cassette and film
Organisation and legislative guidelines may include:	• X-ray operator licence (for use of irradiating apparatus for diagnosis) • Radiation Safety Act 1999 • X-ray machine operating manuals • OHS guidelines
Clients may include	All or any persons referred for a diagnostic X-ray examination by a medical practitioner including: • Infants • Children • Adults • Pregnant women • Persons with physical and intellectual disabilities
Care may include:	• Explanation of the X-ray examination • Ascertaining whether the person is pregnant and, if so, seek clarification about the radiography from a medical practitioner before proceeding • Checking with the client that the information provided on the X-ray request form is correct • Protecting the client and others from unnecessary radiation exposure • Application of slings/splints • Returning the client and radiographs to the referring medical practitioner

Unit Sector(s)

Not Applicable