



Australian Government

Department of Education, Employment and Workplace Relations

HLTDA412D Produce a dental radiographic image

Release: 1

HLTDA412D Produce a dental radiographic image

Modification History

HLT07 Version 4	HLT07 Version 5	Comments
HLTDA412C Produce a dental radiographic image	HLTDA412D Produce a dental radiographic image	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 operate dental radiographic equipment and position the client and radiographic film in order to produce a diagnostic image

All procedures are carried out in accordance with work health and safety (WHS) policies and procedures, current infection control guidelines, Australian and New Zealand Standards for maintaining infection control and the policies and procedures of the dental practice or organisation

All tasks are carried out in accordance with state or territory legislative requirements

Application of the Unit

Application

This unit applies to dental assisting work

Licensing/Regulatory Information

Not Applicable

Pre-Requisites

Pre-requisite units

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

- HLTIN301C Comply with infection control policies and procedures
- HLTIN302C Process reusable instruments and equipment in health work
- HLTWHS300A Contribute to WHS processes

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. Position client to obtain radiographic image

- 1.1 Implement and maintain *radiation safety measures* for the client, operator and others throughout the procedure
- 1.2 Position the client correctly
- 1.3 Maintain communication with the client

ELEMENT	PERFORMANCE CRITERIA
2. Position dental radiographic film	<p>2.1 Select the <i>appropriate technical variables</i> on the dental radiographic unit according to manufacturer specifications, procedure and client requirements</p> <p>2.2 Select the <i>appropriate radiographic technique</i> according to the tooth under investigation and the anatomy of the oral cavity</p> <p>2.3 Select and position correctly the appropriate film for the <i>client's requirements</i></p> <p>2.4 Select and use film locating devices to position the film correctly when appropriate</p> <p>2.5 Select <i>accessories</i> when appropriate according to manufacturer specifications</p>
3. Operate radiographic imaging equipment safely to produce image	<p>3.1 Operate equipment according to manufacturer specifications and legislative requirements for the safe use of radiation in dentistry</p> <p>3.2 Ensure the client does not move and remains visible throughout the procedure</p> <p>3.3 Remove the exposed dental radiographic film package carefully from the mouth</p> <p>3.4 Label the exposed radiographic film package correctly prior to processing</p>
4. Process and provide quality assurance for the exposed dental radiographic film	<p>4.1 Process the radiographic film correctly</p> <p>4.2 Assess visual qualities of the processed film</p> <p>4.3 Identify and correct <i>processing errors</i></p> <p>4.4 Identify and correct <i>errors in technique</i></p> <p>4.5 Mount and store radiographic images correctly</p>

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:

- Features and characteristics including range of movements of a range of dental radiographic equipment
- Fundamental knowledge of the radiographic appearance of anatomic landmarks, normal dentition and associated bony structures for intraoral radiographs
- Fundamental knowledge of the radiographic appearance of dental anomalies and common oral pathological conditions
- Legislative and ethical responsibilities for the safe use of radiation in dentistry
- Range of dental radiographic imaging techniques and the reasons for selection of each technique
- Reasons for processing and technique inaccuracies and methods to minimise errors
- Relevant legislation and statutory requirements of consent

Essential skills:

It is critical that the candidate demonstrate the ability to

- Consistently prepare different clients across a range of procedures
- Correctly operate a range of radiographic imaging equipment across a range of procedures
- Consistently produce high quality dental radiographic images
- Consistently apply code of practice for the safe use of radiation in dentistry

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:

- Consistently demonstrate interpersonal skills when relating to people from a range of social, cultural and religious backgrounds and physical and mental abilities
- Consistently use problem solving skills required including:
 - prioritising tasks
 - selecting and preparing instruments and equipment as directed by the operator
 - using available resources
- Deal with conflict
- Identify and correctly use terms for technical inaccuracies in dental radiographic images
- Minimise technical inaccuracies in dental radiographic images
- Operate radiographic unit safely and correctly

- Process and maintain quality assurance in exposed dental radiographic film
- Select and apply the procedures to perform a range of tasks; follow sequenced written instructions, record accurately and legibly client details
- Use literacy skills to read and follow directions, policies and procedures including:
 - WHS policies and procedures
 - infection control policies and procedures
 - Practice policies and procedures
- Use interpersonal skills to relate to people from a range of social, cultural and ethnic backgrounds and physical and mental abilities
- Use oral communication skills (language competence) required to fulfil the job role as specified by the dental practice/organisation, including skills in:
 - negotiation
 - asking questions
 - active listening
 - asking for clarification from client/carer
 - acknowledging and responding to a range of views
- Work with others and an ability to empathise 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
- Observation of workplace performance is essential for assessment of this unit
- Consistent compliance with infection control guidelines, Australian and New Zealand Standards and legislative requirements as they relate to the dental assistant's specific job role
- Consistency of performance should be demonstrated over the required range of workplace situations
- Completion of a logbook, which registers all radiographs taken, in accordance with the licensing requirements of Radiation Health

Context of and specific resources for assessment:

- Where, for reasons of safety, access to equipment and resources and space, assessment takes place away from the workplace, simulations should be used to represent workplace conditions as closely as possible
- Resources essential for assessment include:
 - access to dental radiographic imaging units and resources normally used in the workplace
 - radiographic viewing equipment
- Competency in this unit should be assessed using all the relevant resources commonly provided in dental practice. Specific resources may include:
 - relevant dental practice/organisation policy and procedures manuals such as:
 - incident reporting procedures
 - infection control guidelines and relevant Australian and New Zealand Standards
 - WHS policy and procedures
 - relevant state and territory legislation
 - manufacturer specifications for dental radiographic units

Method of assessment

- Observation in the work place is essential. Assessment in the workplace must be flexible to allow for client confidentiality and organisation policies
- Evidence of essential knowledge and understanding may be provided by:
 - traditional or online (computer-based) assessment
 - written assignments/projects
- Case study and scenario as a basis for discussion of issues and strategies to contribute to best practice
- Questioning
- Staff and/or client feedback
- Supporting statement of supervisor
- Authenticated evidence of relevant work experience and/or formal/informal learning

- 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 in conjunction with the following related competency units:

- HLTDA410D Apply the principles of radiation biology and protection in dental practice
- HLTDA411D Prepare to expose a prescribed dental radiographic image

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.

- Radiation safety measures for the client may include:*
- Appropriate technique
 - Correct processing procedures to minimise re-takes
 - Film selection
 - Legislative requirements and codes of practice
 - Technical features of the radiographic unit as determined by manufacturer specifications including:
 - kilovoltage
 - filtration
 - x-ray beam collimation
 - Use of film locating devices
 - Use of lead aprons
- Radiation safety for the operator and others includes but is not limited to:*
- Determination of pregnancy
 - Distance from primary beam
 - Legislative requirements
 - Maintenance of radiographic equipment
 - Maximum permissible dose (MPD) of radiation
 - Use of lead lined barriers
- Appropriate technical variables may include:*
- Technical variables, milliamperage, kilovoltage and tube length are pre-determined by manufacturer specifications for radiographic unit or selected by the dentist or dental specialist prior to the procedure:
 - selection of technical variables of dental radiographic units by the dental assistant in accordance with manufacturer's specifications and client requirements may include but is not limited to exposure times.
- Appropriate radiographic technique may include:*
- The bisected angle technique
 - The paralleling angle technique
 - Extra oral techniques:
 - horizontal and vertical angulation
 - film selection and placement
 - correct assembly of film locating device
 - positioning of client
 - use of intensifying screens

Client requirements may include but are not limited to consideration of:

- Ability to comply with instructions
- Age
- Physical capabilities
- Pregnancy
- Size
- Weight

Accessories may include but are not limited to:

- Film locating devices
- Film holders
- Immobilisation equipment
- Intensifying screens
- Modifications for the use of film locating devices

Processing errors in films may include but are not limited to:

- Film that is marked
- Film with inadequate or low contrast
- Film that is too dark
- Film that is too light

Errors in techniques may include but are not limited to:

- Failure to remove oral appliances and jewellery
- Incorrect assembly and use of film locating device
- Incorrect film placement
- Incorrect horizontal and vertical angulation
- Incorrect tubehead placement
- Movement of client or film
- Over/under exposure

Unit Sector(s)

Not Applicable