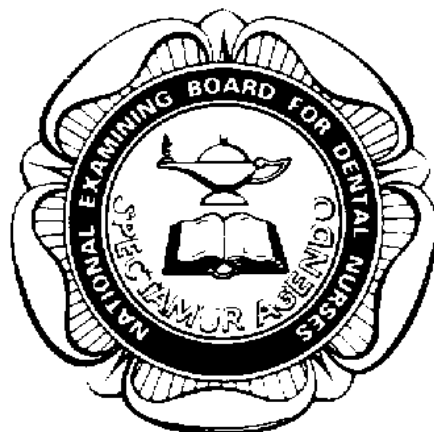


# NATIONAL EXAMINING BOARD FOR DENTAL NURSES



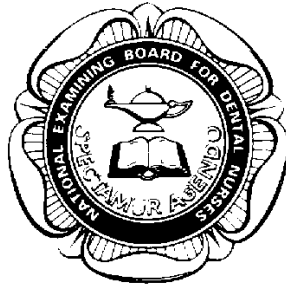
## CERTIFICATE IN DENTAL RADIOGRAPHY

## PROSPECTUS

108-110 LONDON STREET  
FLEETWOOD  
LANCASHIRE  
FY7 6EU

*NEBDN is a limited company registered in England & Wales No. 5580200  
Registered with the Charity Commissioners No 1112331*

**TEL: 01253 778417  
FAX: 01253 777268**



# **NATIONAL EXAMINING BOARD FOR DENTAL NURSES**

## **OBJECTIVE**

**TO ADVANCE THE EDUCATION OF DENTAL NURSES  
FOR THE BENEFIT OF THE PUBLIC.**

**NEBDN undertakes this duty by:**

- ◇ setting examinations for Dental Nurses which reflect the needs of patients and the profession;
- ◇ publishing syllabuses of study for the examinations set by the Organisation for the benefit of candidates and trainers;
- ◇ encouraging eligible candidates to sit for the examinations set by the Organisation;
- ◇ issuing Certificates and qualification badges to successful candidates;
- ◇ managing quality assurance systems to ensure that the standards of the qualifications are maintained;
- ◇ liaising with other bodies to promote the education and qualification of Dental Nurses.

# CEERTIFICATE IN DENTAL RADIOGRAPHY

## CONTENTS

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AWARDING BODY PROFILE	Page 1
INFORMATION FOR CANDIDATES	Pages 2 - 5
CURRICULUM	Pages 6 -10
REFERENCES	Page 11
OTHER NEBDN QUALIFICATIONS	Page 12
USEFUL CONTACTS	Page 13

# CERTIFICATE IN DENTAL RADIOGRAPHY

## AWARDING BODY PROFILE

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### **NEBDN**

Since its inception in 1943 the National Examining Board for Dental Nurses (NEBDN), which is a registered charity managed by a board of trustees, has become the most widely recognised awarding body for dental nurses in the United Kingdom. The Head Office and administrative staff are based in Fleetwood, Lancashire.

### **Panel of Examiners**

The Panel of Examiners is made up of registered dental nurses and dentists who have been qualified for more than four years and demonstrate an active involvement in and commitment to the training and qualification of dental nurses. On appointment examiners are required to undergo a residential induction and training programme before examining.

There are currently almost 400 members of the Panel of Examiners with the largest proportion coming from general dental practices. The policy and procedures of the Board, in relation to examinations, are determined by a Qualifications Council of elected members, with representation from the British Association of Dental Nurses, British Dental Association and the Association of Dental Hospitals. The Board also has an educational adviser to ensure the qualifications develop in line with current education and training principles.

Individual examinations are the responsibility of Qualifications Committees comprised of Panel members with appropriate knowledge and expertise to set examination papers and moderate and verify results.

*The National Examining Board for Dental Nurses aims to provide equality of opportunity for all without hindrance because of race, gender, sexual orientation, disability, age or socio-economic background.*

# CERTIFICATE IN DENTAL RADIOGRAPHY

## INFORMATION FOR CANDIDATES

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### **Scope of the qualification**

The Certificate in Dental Radiography is a qualification suitable for dental nurses, therapists and hygienists who are required to x-ray patients under the direction of a dentist. The need for this arises from the Ionising Radiation (Medical Exposure) Regulations 2000 (IR(ME)R) 2000. This legislation describes various positions of responsibility including **practitioner** and **operator**. Dental nurses, therapists and hygienists are designated as **operators**. This legislation requires **all operators** who are directly involved in x-raying patients to be **adequately trained**. Dental nurses, therapists and hygienists, who are commonly delegated the responsibility of radiography, should be trained to the highest possible level to ensure that the radiographs produced are of optimum diagnostic quality and that they are taken with the minimum possible radiation dose to patients and staff.

### **Entry requirements**

In order to undertake the qualification, a dental nurse, therapist or hygienist must:

- a) be registered with the General Dental Council
- b) have the support of their employing dentist to act as supervisor and validate the workplace activities for the Record of Experience
- c) be registered with an approved Training Provider

### **Curriculum**

The Curriculum for the Certificate in Dental Radiography, approved by the British Society of Dental and Maxillofacial Radiology (BSDMFR), reflects the theoretical knowledge and practical skills which a dental nurse directly involved in x-raying patients needs to develop in order to comply with the legislation.

### **Training**

**Practical training** should be undertaken in dental practice under the supervision of a dentist or in Dental Radiography Departments in Dental Hospitals or Radiography Education Centres.

**Theoretical training** must be undertaken by attendance on an NEBDN accredited course. An on-line training programme is also available through the British Dental Association. Centres providing formal training programmes may apply to have these validated by BSDMFR or the College of Radiographers.

# CERTIFICATE IN DENTAL RADIOGRAPHY

## INFORMATION FOR CANDIDATES

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The course may be covered using lectures, practical radiography and seminars. Other teaching methods may also be used such as Computer Assisted Learning and Problem Based Learning. The main objective of the course is that, upon completion, dental nurses, therapists and hygienists should be competent to undertake dental radiography to a level and standard required for general practice.

It is suggested that a total of 40 hours (including practical experience and theoretical teaching) is normally sufficient to cover the course but this is not prescriptive as the delivery may vary from centre to centre.

Candidates are required to record their clinical experience, although some of this may be limited by the nature of the environment in which they work. Theoretical instruction in all techniques of radiography is essential. It is also desirable that as broad a range of practical experience as possible is obtained, as an understanding of all techniques will be required for the examination. Dental practices and course organisers are therefore encouraged to make local arrangements to facilitate obtaining practical experience.

### ***Record of Experience***

The Record of Experience of taking dental radiographs must be completed in order to demonstrate competence in relation to:

- preparing equipment, materials and patients
- intra-oral and extra-oral radiography techniques
- radiation safety
- assuring the quality of dental radiographs.

# CERTIFICATE IN DENTAL RADIOGRAPHY

## INFORMATION FOR CANDIDATES

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The Record of Experience consists of:

### **Part A: Log sheets**

Must be completed by the candidate and their dentist to demonstrate competence in the taking of a minimum of **fifty** radiographs to include:

- at least **ten** dental panoramic
- **ten** pairs of bitewing radiographs
- paralleling technique periapical radiographs.

The remainder will be largely dependent upon the practice but should include a **minimum of two** of each of the following:

- bisected angle technique periapicals
- occlusal views
- cephalometric lateral skull views.

### **Part B: Expanded Case Studies**

**Three** case studies, of 1000 words each, relating to the taking of a dental panoramic, a bitewing and a paralleling technique periapical radiograph, to be completed.

### **Part C: Appendices**

Written exercise in the taking and processing of oblique lateral radiographs.

### ***Examination dates and format***

The examination takes place on the first Saturday of June and December each year at centres in selected major towns and cities throughout the UK. It consists of a multiple choice question paper which candidates are allowed one hour to complete.

### ***Closing dates***

All documentation must be submitted to NEBDN by the following closing dates by the training provider, who will be issued with an invoice for the appropriate fees.

June examination	Record of Experience, application form and fee	20 April
December examination	Record of Experience, application form and fee	20 October

Any late submissions will be returned immediately to the training provider.

# CERTIFICATE IN DENTAL RADIOGRAPHY

## INFORMATION FOR CANDIDATES

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### **Results**

All candidates receive the results of their examination by post, indicating pass or failure, by the end of July for the June examination and the end of January for the December examination.

### **Certification**

In order to be awarded the Certificate in Dental Radiography, a candidate must:

- complete the Record of Experience to meet the national standard  
**and**
- achieve a pass standard in the examination.

Certificates are issued to successful candidates, who are also eligible to apply for a Dental Radiography qualification badge, which complements the National Certificate qualification badge.

### **Registration for the qualification**

Candidates must register with NEBDN through their Training Provider by submitting documentation relating to the Record of Experience and applications for entry to the examination. Registration and examination fees are payable to NEBDN and arrangements must be made through the Training Provider.

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# CERTIFICATE IN DENTAL RADIOGRAPHY

## CURRICULUM

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### **Introduction**

It is 4 years since the 'Core curriculum in dental radiography for dental nurses' was produced, and it was felt by BSDMFR council at the April 2008 meeting that there had been sufficient developments to warrant further revision.

Regulation 11, paragraph 1 of these regulations states that no **practitioner** or **operator** shall carry out a medical or dental exposure or any practical aspect without having been adequately trained. The Schedule states that **practitioners** and **operators** shall have completed training, including theoretical knowledge and practical experience in:

1. radiation production, radiation protection and statutory obligations relating to ionising radiations, as are relevant to their functions as practitioner or operator;
2. diagnostic radiology as relevant to their specific area of practice.

This core curriculum for DCPs, acting as **operators** involved with the radiography of patients, is based on the core curriculum for dental students and is intended to meet the requirements for adequate training in those subjects specified in Schedule 2 of IR(ME)R 2000, which are indicated by an asterisk (\*) in the text that follows. Implementation of this core curriculum into the course will also fulfil the requirements of 'Developing the Dental Team, Curricula Frameworks for Registrable Qualifications for Professionals Complementary to Dentistry'.<sup>2</sup>

### **Curriculum**

#### **THEORETICAL INSTRUCTION**

##### ***Radiation Physics***

Electromagnetic spectrum

Background radiation – natural and man-made

\*Production of X-rays

Relationship of energy, frequency and wavelength

\*Properties of radiation

\*Attenuation of ionising radiation.

\*Factors affecting attenuation

\*Scattering and absorption

\*Biological effects of radiation

\*Risks/benefits of radiation

\*Dose optimisation

# CERTIFICATE IN DENTAL RADIOGRAPHY

## CURRICULUM

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\*Dosimetry – absorbed dose, dose equivalent, effective dose and their units

\*Factors affecting radiation dose

\*Image quality versus radiation dose

### ***Radiation Protection***

\*General radiation protection including the IRCP principles of radiation protection

\*Use of radiation protection devices

- patient
- personal

\*Procedures for untoward incidents involving over exposure to ionising radiation

\*Pregnancy and potential pregnancy

\*Infants and children

\*Justification of the individual exposure including selection criteria

\*Patient identification and consent

\*Use of existing appropriate radiological information

\*Alternative techniques

\*Clinical evaluation of outcome

\*Medico-legal issues

\*Regulations

\*Local rules and procedures

\*Individual responsibilities relating to medical exposures

\*Responsibility for radiation safety

\*Routine inspection and testing of equipment

\*Notification of faults and Health Department hazard warnings

\*Clinical audit

### ***Apparatus and equipment***

X-ray equipment – intra-oral and extra-oral

X-ray tube – cathode, anode, focal spot size and vacuum

Heat production and how it is dispersed

Basic components of the dental X-ray set

Timers

Applied potential (kV), tube current (mA) and exposure setting (mA s) – how change affects X-ray quality and quantity

# CERTIFICATE IN DENTAL RADIOGRAPHY

## CURRICULUM

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### ***Films and processing***

Film types – direct action and indirect action/screen film

Intensifying screens

Black and white final image production – effect of exposure

Emphasis on processing – chemistry, wet and automatic processing and film faults

Darkroom – design and safelights

### ***Digital imaging***

Principles of digital image production

Intra oral and extra-oral systems using

- Solid state detectors
- Photostimulable phosphor plates

Digital image faults and Quality Assurance

Data storage and retrieval, and data protection

### **PRACTICAL INSTRUCTION**

Dental nurses should obtain practical experience in those radiographic techniques normally available in dental practice, to a level such that they are able to comply with current legislation.

### ***Principles of imaging***

Geometric requirements for image production

Importance of quality of image – effects of distortion

Use and limitation of radiography as a diagnostic aid

### ***Film handling***

Storage – protection from heat, damp and radiation

\*Conventional film processing

Film fault identification

Filing and retrieval

Information exchange

### ***Digital imaging***

Care of digital imaging receptors

Identification of digital image faults

Image storage and data protection

# CERTIFICATE IN DENTAL RADIOGRAPHY

## CURRICULUM

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### ***Techniques***

Dental nurses should know the \*Fundamentals of radiological techniques used in dentistry and be able to select and use the correct equipment

#### ♦ **Intra-oral techniques (using conventional and digital systems)**

Bitewings

Periapical views:

- paralleling technique
- bisected angle technique

Image receptor holders and secondary collimation

Endodontic radiography

Occlusal radiography

#### ♦ **Extra-oral techniques (using conventional and digital systems)**

Oblique lateral view of the jaws

Panoramic radiography (dental panoramic tomography)

Cephalometry

#### ♦ **Quality assurance for conventional and digital imaging systems**

\*Quality assurance and quality control

The use of the three-point quality rating scale for radiographs

#### ♦ **Care of patients**

Children

Special care patients

Infection control

Communication of risks to patients

# CERTIFICATE IN DENTAL RADIOGRAPHY

## CURRICULUM

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### RADIOLOGY

#### ***Principles and practice of interpretation***

Viewing conditions

Nature and limitations of the radiographic image

Critical assessment of radiographic quality

#### ***\*Fundamentals of radiological anatomy***

Normal anatomy of the teeth and jaws as depicted on intra-oral and extra-oral radiographs

#### ***Identification of common dental pathology such as***

Caries

Periapical disease

Periodontal disease

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# CERTIFICATE IN DENTAL RADIOGRAPHY

## REFERENCES

---

### 1. Radiography and Radiology for Dental Nurses

Author Eric Whaites  
ISBN number: 0443102139  
Publisher: Churchill Livingstone

### 2. National Radiological Protection Board

Guidelines on radiology standards for primary dental care. Report by the Royal College of Radiologists and the National Radiological Protection Board.

**Documents of the NRPB 1994 5: No 3.**

### 3. The Ionising Radiation (Medical Exposure) Regulations 2000

SI 2000 Number 1059 London: The Stationery Office 2000.

### 4. General Dental Council

The First Five Years. A framework for undergraduate dental education second edition London: General Dental Council 2002.

### 5. National Radiological Protection Board/Department of Health 'Guidance Notes for Dental Practitioners on the Safe Use of X-Ray Equipment'

Chilton: NRPB 2001.

### 6. Rohlin M and Hirschmann PN

Designing an undergraduate curriculum in oral radiology is more than hours and content (Editorial).

**Dentomaxillofac Radiol 1998 27 1-2.**

# CERTIFICATE IN DENTAL RADIOGRAPHY

## OTHER NEBDN QUALIFICATIONS

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### ***Post-Registration Qualifications***

As well as the Certificate in Dental Radiography, NEBDN offers the following post-registration qualifications for dental nurses who have registered with the General Dental Council and who undertake specific roles requiring further skills and knowledge.

#### **Certificate in Oral Health Education**

This qualification tests the practical skills and theoretical knowledge necessary for the provision of oral health education in dental practice in a one to one situation or in small groups.

#### **Certificate in Orthodontic Nursing**

This qualification is suitable for dental nurses who assist in orthodontic procedures.

#### **Certificate in Dental Sedation Nursing**

This qualification tests the practical skills and theoretical knowledge necessary for the dental nurse assisting in the surgery during routine conscious sedation. The examination is only suitable for candidates engaged in this type of work on a regular basis.

#### **Certificate in Special Care Dental Nursing**

This qualification is suitable for dental nurses who assist during the treatment of people whose health and social care needs may require special oral health care provision.

Prospectuses and further details on the above qualifications are available from the Qualifications Administrators, NEBDN, 108-110 London Street, Fleetwood, Lancashire, FY7 6EU.

# CERTIFICATE IN DENTAL RADIOGRAPHY

## USEFUL CONTACTS

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British Association of Dental Nurses (BADN)  
PO Box 4 Room 200  
Hillhouse International Business Centre  
Thornton-Cleveleys  
Lancashire  
FY5 4QD

Tel: 0870 211 0114  
Website: [www.badn.org.uk](http://www.badn.org.uk)

BADN National Education Group (BADN NEG)  
As above

General Dental Council  
37 Wimpole Street  
London  
W1M 8DQ

Tel: 0207 887 3800  
Website: [www.gdc-uk.org](http://www.gdc-uk.org)  
Email: [dcp@gdc-uk.org](mailto:dcp@gdc-uk.org)

British Society of Dental and Maxillofacial Radiology  
Website: [www.bsdmfr.org.uk](http://www.bsdmfr.org.uk)

Society and College of Radiographers  
207 Providence Square  
Mill Street  
London  
SE1 2EW

Tel: 020 7740 7200  
Fax: 020 7740 7204  
Website: [www.sor.org](http://www.sor.org)