

IONISING RADIATION (NURSE PRESCRIPTIVE AUTHORITY)

Standards and requirements



Bord Altranais agus
Cnáimhseachais na hÉireann
Nursing and Midwifery Board
of Ireland

These standards and requirements were originally published in February 2008 as *Requirements and Standards for Nurse Education Programmes for Authority to Prescribe Ionising Radiation (X-Ray)* (First Edition)

This document was re-issued in October 2015 for the relaunch of the NMBI website. This involved reviewing the content, updating dated references and redesigning the document. However, the standards and requirements themselves reflect what is in the 2008 edition.

About NMBI

The Nursing and Midwifery Board of Ireland (NMBI) is the independent, statutory organisation which regulates the nursing and midwifery professions in Ireland. For more information about our role and functions, visit www.NMBI.ie/What-We-Do.

Nurses Rules 2010

This programme is governed by the Nurses and Midwives Act 2011 and by the Nurses Rules, which provide titles of recognised qualifications under the Register of Nurses and Midwives. For more information on the Act, and on the Nurses Rules, visit the What we Do/Legislation section of NMBI's website, www.NMBI.ie.

Approval of Higher Education Institutions and associated Health Care Providers

Details of approval of HEIs and associated HCPs along for provision of such programmes are published on our website. For more information, visit www.NMBI.ie/Education/Higher-Education-Institutions.

Glossary

A full glossary of all the terms used in this and other NMBI publications is published on our website on www.NMBI.ie/Standards-Guidance/Glossary.

CONTENTS

Introduction	4
Learning Outcomes	5
Competencies For Entry to the Register	6
Domain 1 - Professional/Ethical Practice	7
Domain 2 - Holistic Approaches To Care And The Integration Of Knowledge	8
Domain 3 - Interpersonal Relationships	9
Domain 4 - Organisation And Management Of Care	9
Domain 5 - Personal And Professional Development	10
Syllabus/Indicative Content	11
Professional Accountability And Responsibility	11
Legal And Ethical Aspects	11
Ionising Radiation	12
Radiation Protection	12
Principles Of The Prescribing Process For Ionising Radiation (X-Ray)	12
Theoretical And Clinical Instruction	14
Essential Requirements	14
Scope Of Prescribing Practice	15
The Approval Process	16
The Approval Process	16
Approval of Programmes/Units of Learning	16
General Provisions regarding the Process of Approval	17
References	18

INTRODUCTION

These Standards and Requirements are intended to facilitate the development of nurse education programmes for authority to prescribe ionising radiation (X-Ray). The education programme for nurse authority to prescribe ionising radiation (X-Ray) may not be delivered without prior approval by the Nursing and Midwifery Board of Ireland (NMBI).

It is recognised that the delivery of nurse education for authority to prescribe ionising radiation (X-Ray) requires inter-professional input. NMBI supports the concept of inter-professional education. The interests of no single professional group should dominate inter-professional education initiatives and such education initiatives should be planned in a collaborative manner. Inter-professional education as part of the education for authority to prescribe ionising radiation (X-Ray) should occur in a way that supports the professional identity and unique perspective of the nurse in her/his practice.

Minimum Entry Requirements for Admission to Education and Training Programmes Leading to Authority to Prescribe Ionising Radiation (X-Ray)

Students must be registered in the General Nurse Division of the Register with NMBI. Registered Children's Nurses, within their Scope of Practice, may undertake the programme. It is recommended that students have the equivalent of a minimum of one year recent post-registration experience, recent being within the last three years.

LEARNING OUTCOMES

The purpose of the education programme is to ensure that upon successful completion the nurse is equipped with the knowledge, skills and competence to prescribe ionising radiation (X-Ray) safely and appropriately within her/his scope of practice.

The education programme enables the nurse to:

1. Demonstrate a systematic understanding of the regulatory framework associated with authority to prescribe ionising radiation (X-Ray), including the legislation and professional guidelines, supporting safe practice
2. Critically utilise evidence based knowledge and skill of patient/client assessment and consultation to achieve a holistic approach to patient/client care in prescribing ionising radiation (X-Ray)
3. Apply clinical decision making skills in relation to prescribing ionising radiation (X-Ray) within her/his scope of practice
4. Demonstrate an understanding of radiological sciences in relation to ionising radiation (X-Ray) and its implication on patient/client safety
5. Demonstrate effective communication skills and knowledge of the role of the multi-disciplinary team management involved in safe and appropriate use of ionising radiation (X-Ray).

COMPETENCIES FOR ENTRY TO THE REGISTER

Competence is a complex multidimensional phenomenon. It is defined as the ability of the Registered Nurse to practice safely and effectively, fulfilling her/his professional responsibility within her/his scope of practice. All five Domains of Competence represent the level the nurse must reach on completion of the education programme for nurse authority to prescribe ionising radiation (X-Ray).

The aim of the competency framework is to ensure that participants acquire the skills of critical analysis, problem-solving, decision-making and reflective skills and abilities essential to the art and science of nursing in this expanded role. Safe and effective practice requires a sound underpinning of theoretical knowledge that informs practice and is, in turn, informed by that practice. Within complex and changing healthcare environments, it is essential that practice is based on the best available evidence. This is reflected in the competencies.

The Domains of Competence represent a broad enabling framework to facilitate the assessment of the nurse's prescribing practice for ionising radiation. Each domain consists of performance criteria and relevant indicators. For each indicator, critical elements should be developed at local level by the partnership institutions to reflect patient/client and service need.

A team and partnership approach should be applied when assessing the participant. The assessor will consult with professional colleagues in determining the participant's competence. The education providers and the clinical practice sites will agree in relation to the assessment process. Participants are deemed to be either competent or not competent. There are no ratings in the verification of competence. The achievement of competence as outlined for the education programme is required for nurse authority to prescribe ionising radiation (X-Ray).



Domain 1- Professional/Ethical Practice

		Indicators
1.1	Practices in accordance with legislation and professional guidance affecting nursing practice	<ul style="list-style-type: none"> Practices within the legislation and professional regulation and guidelines relevant to her/his scope of practice and care setting Integrates accurate and comprehensive knowledge of ethical principles, Scope of Nursing and Midwifery Practice Framework (2015) and Code of Professional Conduct and Ethics for Registered Nurses and Registered Midwives (December 2014) within the scope of professional practice in the delivery of nursing care involving prescribing ionising radiation (X-Ray) Accepts personal accountability for prescribing ionising radiation (X-Ray), understanding the legal implications of doing so
1.2	Practices within the limits of own competence and takes measures to develop and maintain own competence	<ul style="list-style-type: none"> Recognises own abilities and level of professional competence Conducts self audit of practice incorporating reflective practice/thinking to identify competence to prescribe ionising radiation (X-Ray) within the nurse's scope of practice Maintains current knowledge of advances in practice and radiation protection concerns related to prescribing ionising radiation (X-Ray) Consults appropriately with the medical practitioner for a patient/client when the individual nurse perceives limitations in her/his knowledge or scope of practice of prescribing ionising radiation (X-Ray) Identifies a mechanism to support continuing professional development needs to ensure continued competence
1.3	Practices within a framework of professional accountability and responsibility in relation to prescribing ionising radiation (X-Ray)	<ul style="list-style-type: none"> Adheres to legislation, professional regulation and guidelines and employing organisation's standards/policies for authority to prescribe ionising radiation (X-Ray) Complies with the requirements/policies of the employing organisation for: <ol style="list-style-type: none"> Reporting prescribing errors/incidents and near misses Audit of prescribing patterns/practices

Domain 2 - Holistic Approaches to Care and the Integration of Knowledge

		Indicators
2.1	Conducts a systematic holistic assessment of patient/client needs	<ul style="list-style-type: none"> Performs an assessment of the patient/client encompassing history taking, physical examination and identification of health risk factors Requests and evaluates relevant diagnostic tests and procedures to inform appropriate and safe prescribing of ionising radiation (X-Ray) within scope of practice
2.2	Plans care in consultation with the patient/client taking into consideration the therapeutic regimes of all members of the interdisciplinary team	<ul style="list-style-type: none"> Critically utilises assessment data with expert clinical decision-making skills to formulate a plan of care based on scientific rationale, evidence based care and practice guidelines supporting the maintenance and promotion of health Integrates appropriate interventions into a plan of care and advises the patient/client on the use of such interventions Involves patient/client or carer as active participants in the decision-making process and plan of care that is mutually agreed Initiates appropriate and timely consultation and/or referral when the problem exceeds the nurse's scope of practice and expertise
2.3	Implements planned nursing care/interventions to achieve the identified outcomes of the plan of care	<ul style="list-style-type: none"> Implements care based on knowledge, skills and competence within her/his scope of practice Considers appropriate diagnostic and therapeutic interventions as part of ongoing plan of care within her/his scope of practice Provides guidance and advice regarding the agreed care/interventions to the patient/client
2.4	Evaluates patient/client progress towards expected outcomes and reviews plans in accordance with evaluation data and consultation with the patient/client	<ul style="list-style-type: none"> Evaluates and provides evidence based rationale for clinical decision and nursing intervention with regard to ionising radiation treatment choice or referral to medical practitioner if applicable Schedules appropriate follow-up care to monitor the patient/client and evaluate his/her treatment
2.5	Demonstrates and integrates knowledge of ionising radiation (X-Ray) for safe prescribing practices	<ul style="list-style-type: none"> Identifies when ionising radiation (X-Ray) may be contra-indicated and plans care accordingly Identifies and integrates appropriate monitoring systems for ionising radiation (X-Ray) safety and efficacy Applies the principles of evidence-based practice and cost-effectiveness when prescribing ionising radiation (X-Ray)

Domain 3 - Interpersonal Relationships

		Indicators
3.1	Establishes and maintains caring therapeutic interpersonal relationships with individuals/clients/ groups/ communities for safe and effective prescribing of ionising radiation (X-Ray)	<ul style="list-style-type: none"> Assesses the patient/client's understanding of his/her care plan recognising relevant individual patient/client characteristics (i.e. age, gender, co-morbidity, culture) and expectations, involving carers where appropriate Communicates sensitively, respecting patient/client's emotions and concerns
3.2	Collaborates with all members of the health care team and documents relevant information	<ul style="list-style-type: none"> Identifies the roles and responsibilities of other health care professionals in the prescribing process for ionising radiation (X-Ray) Establishes relationships with other health care professionals based on understanding and mutual respect Maintains comprehensive documentation and patient/client records of plan of care within a legal and ethical framework Participates in interdisciplinary team collaboration relating to the patient/client's care plan Establishes mechanisms for referral pathways and consultation regarding practice decisions including follow up

Domain 4 - Organisation and Management of Care

		Indicators
4.1	Effectively manages the nursing care of clients/ groups/communities	<ul style="list-style-type: none"> Demonstrates quality assurance and quality management in prescribing ionising radiation (X-Ray) through a structure of audit and report Integrates the principles of clinical risk management and health and safety in prescribing ionising radiation (X-Ray)

Domain 5 - Personal and Professional Development

		Indicators
5.1	Acts to enhance the personal and professional development of self and others	<ul style="list-style-type: none">• Demonstrates a commitment to life-long learning• Accepts personal responsibility for professional development and the maintenance of professional competence• Maintains current knowledge of advances in scope of practice associated with prescribing ionising radiation (X-Ray)• Develops professional links with others practising in the same specialist area• Uses the outcomes of audit of prescribing practices to improve service provision and develop own practice

SYLLABUS/ INDICATIVE CONTENT

Nursing is an interpersonal caring process that acknowledges the uniqueness of the individual. Students may enter this programme with a wide range of previous professional and educational experiences; these should be acknowledged and developed. The Nurse Education Programme for Authority to Prescribe Ionising Radiation (X-Ray) contains the essential elements that facilitate the development of professional knowledge, skills, attitudes and competencies necessary to meet the needs of patients within this area of practice expansion. The list of topics included provides an indication of the content of the Education Programme for Authority to Prescribe Ionising Radiation (X-Ray). Curriculum planners will be required to demonstrate that the programme is relevant and responsive with the most recent evidence, policy and legislative changes.

To meet the learning outcomes, it is expected that education programme planning teams will include the following areas of study and develop these into a detailed curriculum, which will enable nurses to develop knowledge and competence in prescribing ionising radiation (X-Ray).

The sections into which the indicative content is organised should not be viewed as discrete, neither is the list of topics included in the syllabus exhaustive. The manner in which the content is interwoven and interlinked is individual to each programme. Access to inter professional learning should be encouraged.

Professional Accountability and Responsibility

- Professional regulations and guidelines
- Accountability and responsibility for prescribing ionising radiation (X-Ray)
- Critical review and self audit
- Risk management
- Evidence-based practice and clinical governance in relation to prescribing ionising radiation (X-Ray)

Legal and Ethical Aspects

- Legislation for Nursing and Prescribing Ionising Radiation (X-Ray)
 1. Ionising Radiation
 2. Radiation Protection
- Legal liability and clinical indemnity for prescribing ionising radiation (X-Ray) and expansion of nursing practice
- Informed consent of patient/client for treatment

Ionising Radiation

- Principles of ionising radiation
- Radiation physics
- Radiation biology
- Imaging modalities
- Dosimetry

Radiation Protection

- Principles of radiation protection
- Practical aspects of radiation protection in X-Ray
- Radiation protection during pregnancy
- Radiation protection techniques

Principles of the Prescribing Process for Ionising Radiation (X-Ray)

- Assessment of patient/client – history and physical examination
- Consultation skills
 1. Knowledge and skills for decision-making
 2. Diagnostic reasoning
 3. Risk vs. benefit ratio in treatment decisions
- Writing/electronic processing of an X-Ray request
- National and local health care provider's guidelines, policies and procedures for prescribing ionising radiation (X-Ray)

Collaboration/Referral with other Health Care Professionals

- Interpersonal and communication skills necessary to foster collaborative relationships with allied health professionals
- Role and function of other health care professionals involved in the process of prescribing, providing and/or interpreting ionising radiation (X-Ray) procedures
- Interdisciplinary sharing of patient/client medical records - Documentation
- Scope of Practice
- Clinical audit

THEORETICAL AND CLINICAL INSTRUCTION

This section presents the requirements for the education and training of nurses for authority to prescribe ionising radiation (X-Ray). The education programme is developed on the assumption that participants are pursuing an expansion of practice beyond the point of initial registration.

The theoretical and clinical instruction are intended to be broad statements of principles that the education providers can apply in a dynamic and flexible manner to permit meaningful and appropriate programmes of education. This programme may be provided as a stand-alone unit of learning or assigned academic credits that the student may transfer to a larger programme of study.

Essential Requirements

Theoretical instruction shall be	no less than 30 hours
Clinical instruction shall be	no less than 10 episodes of prescribing ionising radiation (X-Ray) and a demonstration of competence

The nurse must be working in the area where the clinical practicum will occur. The clinical instruction must be delivered while undertaking the education programme. There must be confirmation from a medical practitioner for medical supervision of the nurse and agreement to provide the required term of supervised practice. The methodology of the education providers to support the nurse in the clinical practicum must be identified in the curriculum. Learning outcomes/objectives to be achieved by the nurse in the clinical area must also be made explicit. This education programme should be completed within a six month period.

Practice placements should be of sufficient length of time to enable students achieve the professional competence required. The curriculum should indicate how this will be facilitated within a six month period.

Discretionary practice placement experiences may be selected based upon the identified needs of the students, the competencies to be achieved and current health care policy initiatives and developments.

The discretionary placements will be selected to enable the students to achieve the programme learning outcomes and develop the competencies essential to prescribe ionising radiation (X-Ray).

Following any interruption in the education programme the education providers in partnership with the health care institution(s) ensure that the participant meets the theoretical and the practice requirements.

SCOPE OF PRESCRIBING PRACTICE

The following is a list of the usual range of X-Rays that nurses can prescribe. This list should be interpreted as a guide when determining the range of X-Rays an individual can prescribe. The nurse must consider her/his scope of practice and any local guidelines/policies relating to this role.

Chest	Abdomen	Pelvis	Upper Limb	Lower Limb
<ul style="list-style-type: none"> • Chest 	<ul style="list-style-type: none"> • Abdomen 	<ul style="list-style-type: none"> • Pelvis • Hip 	<ul style="list-style-type: none"> • Shoulder • Elbow • Wrist • Clavicle • Acromioclavicular joint • Humerus • Forearm • Scaphoid • Hand • Finger/thumb 	<ul style="list-style-type: none"> • Femur • Knee • Ankle • Foot • Patella • Tibia and fibula • Toe

THE APPROVAL PROCESS

For Educational Provider for the provision of education for authority to prescribe ionising radiation (X-Ray)

The Approval Process

The approval process consists of two separate parts:

- Approval of the education provider - utilising appropriate internal and external quality assurance criteria as determined by the relevant awarding bodies and the Requirements and Standards of NMBI.
- Approval of the post-registration nursing and midwifery education programmes/units of learning.

The respective education providers must declare through a self-declaration audit of compliance that their programmes/units of learning comply with NMBI's Post Registration Nursing and Midwifery Programmes Standards and Requirements (2015).

Each education provider must establish a post-registration educational committee or equivalent representative of the educational and service stakeholders to oversee the post-registration educational provision.

In respect of post-registration education programmes/units of learning NMBI will satisfy itself as to the suitability of the education providers' internal and external Quality Assurance mechanisms. Such mechanisms should reflect national and international best practice in terms of internal and external Quality Assurance structures and processes. NMBI reserves the right to conduct an audit in respect of education programmes submitted to it for approval.

Approval of Programmes/Units of Learning

All education programmes/units of learning will be accredited by the relevant academic councils and the relevant awarding bodies. The education providers will make a written submission to NMBI in the form of detailed programmes/units of learning including evidence of its self-audit and compliance with NMBI's Post Registration Nursing and Midwifery Programmes.

The Education and Training Committee of NMBI will consider for approval programmes/units of learning. This committee includes representatives of the education providers (elected and nominated to the Board). Once approval has been granted, up to a period of five years, it will be maintained through annual monitoring and review. An annual report which will include statistics on attrition, success rate and evaluation data incorporating the views of stakeholders including students is to be forwarded by the end of February each year to NMBI.

General Provisions regarding the Process of Approval

1. Review by Education Officer(s) and/or representatives of NMBI
2. Review by Education and Training Committee
3. A decision is made by the Education and Training Committee and the decision is reported to the Board of NMBI
4. Education provider is informed of the decision of the Education and Training Committee by the Chief Education Officer or a designated Officer of the Board
5. Approved programmes are placed on the Nursing Careers Website, www.nursingcareers.ie

The approval process will take place within a time-scale agreed with education providers at the outset. The course submission time frame will take cognisance of the meetings' schedule of the Education and Training Committee within NMBI. Notification of approval of the programmes/units of learning will be in writing from NMBI. Conditions and recommendations may be attached to the approval of programmes/units of learning. These conditions and recommendations will include a time frame for response. After approval has been given, any subsequent changes within the education provider or in the education programmes/units of learning that affect any aspect of the programmes/units of learning must be notified to NMBI.

Standards and Requirements for this programme Requirements and Standards for Nurse Education Programmes for Authority to Prescribe Ionising Radiation (X-Ray) (First Edition) should take due regard of NMBI's Post Registration Nursing and Midwifery Programmes. This includes standards for:

- The Approval of Education providers and Health Care Providers
- Programmes/Units of Learning Design and Development
- Clinical Practice Experience (if appropriate to programmes/units of learning)
- Assessment Process
- External Examiners

References

An Bord Altranais (2005) Requirements and Standards for Nurse Registration Education Programmes. 3rd Edn. , Dublin

An Bord Altranais. (2007) Nurses Rules, 2007, Dublin

An Bord Altranais (2007), Requirements and Standards for Post-Registration Nursing and Midwifery Education Programmes – incorporating the National Framework of Qualifications 1st Edn., Dublin

European Commission (2000), Radiation Protection 116. Guidelines in Education and Training in Radiation Protection for Medical Exposures. Directorate-General Environment, European Commission, Luxembourg.

European Commission (2000), Radiation Protection 118. Referral Guidelines for Imaging. Directorate-General for the Environment, European Commission, Luxembourg.

European Commission (2007), Radiation Protection 118 Update Mars 2008. Referral Guidelines for Imaging. Guidelines for Healthcare Professionals who prescribe Imaging Investigations involving Ionising Radiation. Directorate-General for Energy and Transport, European Commission, Luxembourg.

Government of Ireland (2002), Statutory Instrument No. 478 of 2002. European Communities (Medical Ionising Radiation Protection) Regulations 2002. The Stationery Office, Dublin.

Government of Ireland (2007), Statutory Instrument No. 303 of 2007 European Communities (Medical Ionising Radiation Protection) (Amendment) Regulations 2007. The Stationery Office, Dublin.

Government of Ireland Nurses and Midwives Act 2011 (No. 41 of 2011) Irish Statute Book

Nursing and Midwifery Board of Ireland (2014) Code of Professional Conduct and Ethic for Registered Nurses and Registered Midwives Dublin, NMBI

Quality and Qualifications Ireland (2014) The National Framework of Qualifications – an Overview (NFQ) - Policy Summary, Dublin

Remedios D., McCoubrie P. on behalf of the Royal College of Radiologists Guidelines Working Party (2007). Making the Best Use of Clinical Radiology Services: a new approach to referral guidelines. Clinical Radiology 62 (10), 919-920 (editorial).

The Royal College of Radiologists (2007) Making the Best Use of Clinical Radiology Services. Referral Guidelines. 6th Edition. The Royal College of Radiologists, London.