
Standards of proficiency

Radiographers

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Foreword

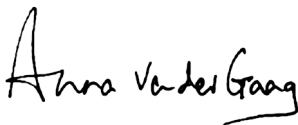
I am pleased to present the Health Professions Council's standards of proficiency.

We first published the standards of proficiency when our Register opened in July 2003. We began to review them in October 2005 to look at how they were working and to check whether they continued to reflect current practice as experienced by registrants, employers, educators and others. The review was led by a professional liaison group (PLG), which included members of our Council, as well as representatives from professional bodies and patient groups. We also held a formal consultation on the draft proposed standards. The review process and consultation produced extremely valuable feedback and we are grateful to all those who gave their time to help us in shaping the standards that follow.

We made a small number of changes to the previous standards, mainly to reflect developments in education, to clarify our intentions and to correct any errors or omissions. We also revised the introduction to explain more clearly the purpose behind the standards, especially in relation to registrants who specialise or move into non-clinical areas of practice.

I am confident that the standards are both fit for purpose and reflect current thinking in relation to safe professional practice across the professions.

These standards are effective from 1 November 2007 and were revised in September 2009.

A handwritten signature in black ink that reads "Anna van der Gaag". The signature is written in a cursive style with a long, sweeping underline.

Anna van der Gaag
Chair

Introduction

This document sets out the **standards of proficiency**. These are the standards we have produced for the safe and effective practice of the professions we regulate. They are the minimum standards we consider necessary to protect members of the public.

You must meet these standards when you first become registered. After that, every time you renew your registration you will be asked to sign a declaration that you continue to meet the standards of proficiency that apply to your scope of practice.

We also expect you to keep to our **standards of conduct, performance and ethics**, which are published in a separate document.

The standards of proficiency in this document include both generic elements, which apply to all our registrants, and profession-specific elements that are relevant to registrants belonging to one of the professions we currently regulate. The **generic standards are written in black**, and the **profession-specific standards are written in blue** to help you distinguish between them.

The generic standards explain the key obligations that we expect of you. Occasionally, we have pointed out specific elements of those key obligations. We have not attempted to create exhaustive lists of all the areas that each generic standard covers; we have simply highlighted specific elements where we consider this to be helpful.

A note about our expectations of you

The standards of proficiency play a central role in how you can gain admission to, and remain on, the Register and thereby gain the right to use the protected title(s) of your profession.

It is important that you read and understand this document. If your practice is called into question we will consider these standards (and our **standards of conduct, performance and ethics**) in deciding what action, if any, we need to take.

The standards set out in this document complement information and guidance issued by other organisations, such as your professional body or your employer.

Your scope of practice

Your scope of practice is the area or areas of your profession in which you have the knowledge, skills and experience to practise lawfully, safely and effectively, in a way that meets our standards and does not pose any danger to the public or to yourself.

We recognise that a registrant's scope of practice will change over time and that the practice of experienced registrants often becomes more focused and specialised than that of newly registered colleagues. This might be because of specialisation in a certain clinical area or with a particular client group, or a movement into roles in management, education or research.

Your particular scope of practice may mean that you are unable to continue to demonstrate that you meet all of the standards that apply for the whole of your profession.

As long as you make sure that you are practising safely and effectively within your given scope of practice and do not practise in the areas where you are not proficient to do so, this will not be a problem. If you want to move outside of your scope of practice you should be certain that you are capable of working lawfully, safely and effectively. This means that you need to exercise personal judgement by undertaking any necessary training and experience.

Meeting the standards

It is important that our registrants meet our standards and are able to practise lawfully, safely and effectively. However, we don't dictate how you should meet our standards. There is normally more than one way in which each standard can be met and the way in which you meet our standards might change over time because of improvements in technology or changes in your practice. As an autonomous professional you need to make informed, reasoned decisions about your practice to ensure that you meet the standards that apply to you. This includes seeking advice and support from education providers, employers, colleagues and others to ensure that the wellbeing of service users is safeguarded at all times.

In particular, we recognise the valuable role played by professional bodies in representing and promoting the interests of their members. This often includes guidance and advice about good practice which can help you meet the standards laid out in this document.

Service users

We recognise that our registrants work in a range of different settings, which include clinical practice, education, research and roles in industry. We recognise that different professions sometimes use different terms to refer to those who use or who are affected by their practice and that the use of terminology can be an emotive issue.

We have tried to use a term in the generic standards which is as inclusive as possible. Throughout the generic standards we have used the term ‘service users’ to refer to anyone who uses or is affected by the services of registrants. Who your service users are will depend on how and where you work. For example, if you work in clinical practice, your service users might be your patients or your staff if you manage a team. The term also includes other people who might be affected by your practice, such as carers and relatives. In the profession-specific standards, we have retained the terminology which is relevant to each individual profession.

These standards may change in the future

We have produced this new version of our standards after speaking to our stakeholders about how the standards were working and how relevant they were to registrants’ practice.

We will continue to listen to our stakeholders and will keep our standards under continual review. So we may make further changes in the future to take into account changes in practice.

We will always publicise any changes to the standards that we make by, for instance, publishing notices on our website and informing professional bodies.

Expectations of a health professional

1a Professional autonomy and accountability

Registrant radiographers must:

1a.1 be able to practise within the legal and ethical boundaries of their profession

- understand the need to act in the best interests of service users at all times
- understand what is required of them by the Health Professions Council
- understand the need to respect, and so far as possible uphold, the rights, dignity, values and autonomy of every service user including their role in the diagnostic and therapeutic process and in maintaining health and wellbeing
- be aware of current UK legislation applicable to the work of their profession
- [be able to practise in accordance with current legislation governing the use of ionising and non-ionising radiation for medical and other purposes](#)

1a.2 be able to practise in a non-discriminatory manner

1a.3 understand the importance of and be able to maintain confidentiality

1a.4 understand the importance of and be able to obtain informed consent

1a.5 be able to exercise a professional duty of care

1a.6 be able to practise as an autonomous professional, exercising their own professional judgement

- be able to assess a situation, determine the nature and severity of the problem and call upon the required knowledge and experience to deal with the problem
- be able to initiate resolution of problems and be able to exercise personal initiative

- know the limits of their practice and when to seek advice or refer to another professional
- recognise that they are personally responsible for and must be able to justify their decisions

1a.7 recognise the need for effective self-management of workload and resources and be able to practise accordingly

1a.8 understand the obligation to maintain fitness to practise

- understand the need to practise safely and effectively within their scope of practice
- understand the need to maintain high standards of personal conduct
- understand the importance of maintaining their own health
- understand both the need to keep skills and knowledge up to date and the importance of career-long learning

1b Professional relationships

Registrant radiographers must:

1b.1 be able to work, where appropriate, in partnership with other professionals, support staff, service users and their relatives and carers

- understand the need to build and sustain professional relationships as both an independent practitioner and collaboratively as a member of a team
- understand the need to engage service users and carers in planning and evaluating diagnostics, treatments and interventions to meet their needs and goals
- be able to make appropriate referrals
- be able to interpret and act upon information from other healthcare professionals, in order to maximise health gain whilst minimising radiation dose to the service user

- be aware of the general working of health and social care services

1b.2 be able to contribute effectively to work undertaken as part of a multi-disciplinary team

1b.3 be able to demonstrate effective and appropriate skills in communicating information, advice, instruction and professional opinion to colleagues, service users, their relatives and carers

- be able to communicate in English to the standard equivalent to level 7 of the International English Language Testing System, with no element below 6.5¹
- understand how communication skills affect the assessment of service users and how the means of communication should be modified to address and take account of factors such as age, physical ability and learning ability
- be able to select, move between and use appropriate forms of verbal and non-verbal communication with service users and others
- be aware of the characteristics and consequences of non-verbal communication and how this can be affected by culture, age, ethnicity, gender, religious beliefs and socio-economic status
- understand the need to provide service users (or people acting on their behalf) with the information necessary to enable them to make informed decisions
- understand the need to use an appropriate interpreter to assist service users whose first language is not English, wherever possible
- recognise that relationships with service users should be based on mutual respect and trust, and be able to maintain high standards of care even in situations of personal incompatibility
- be able to advise other healthcare professionals about the

¹ The International English Language Testing System (IELTS) tests competence in spoken and written English. Applicants who have qualified outside of the UK, whose first language is not English and who are not nationals of a country within the European Economic Area (EEA), have to provide evidence that they have reached the necessary standard. We accept a number of other tests as equivalent to the IELTS examination. Please visit our website for more information.

relevance and application of radiotherapy or imaging modalities to the service user's needs

Therapeutic radiographers only

- understand the behaviour of people undergoing radiotherapy, as well as that of their families and carers
- understand the information and psychosocial needs of service users

Diagnostic radiographers only

- understand the psychology of illness, anxiety and uncertainty and the likely behaviour of people undergoing diagnostic radiographic imaging procedures, as well as that of their families and carers

1b.4 understand the need for effective communication throughout the care of the service user

- recognise the need to use interpersonal skills to encourage the active participation of service users
- be aware of the need to empower service users to participate in the decision-making processes related to their radiotherapy or diagnostic imaging examination

The skills required for the application of practice

2a Identification and assessment of health and social care needs

Registrant radiographers must:

2a.1 be able to gather appropriate information

- be able to use physical, graphical, verbal and electronic methods to collect information from a range of sources including service user history, radiographic images and biochemical reports

2a.2 be able to select and use appropriate assessment techniques

- be able to undertake and record a thorough, sensitive and detailed assessment, using appropriate techniques and equipment
- be able to assess, monitor and care for the service user before, during and after irradiation

2a.3 be able to undertake or arrange investigations as appropriate

2a.4 be able to analyse and critically evaluate the information collected

- be able to interrogate and process data and information gathered accurately in order to conduct the imaging procedure or radiotherapy most appropriate to the service user's needs

2b Formulation and delivery of plans and strategies for meeting health and social care needs

Registrant radiographers must:

2b.1 be able to use research, reasoning and problem-solving skills to determine appropriate actions

- recognise the value of research to the critical evaluation of practice
- be able to engage in evidence-based practice, evaluate practice

systematically and participate in audit procedures

- be aware of a range of research methodologies
- be able to demonstrate a logical and systematic approach to problem solving
- be able to evaluate research and other evidence to inform their own practice
- understand the problems encountered at the interface of the service user and radiation / technology and be able to find appropriate solutions to such problems
- be able to select and explain the rationale for examination and treatment techniques and immobilisation procedures appropriate to the service user's physical and disease management requirements

2b.2 be able to draw on appropriate knowledge and skills in order to make professional judgements

- be able to change their practice as needed to take account of new developments
- be able to demonstrate a level of skill in the use of information technology appropriate to their practice
- be able to apply the risk-benefit philosophy to radiation exposure to protect both individual service users and the population gene pool
- be able to calculate radiation doses and exposures

2b.3 be able to formulate specific and appropriate management plans including the setting of timescales

- understand the requirement to adapt practice to meet the needs of different groups distinguished by, for example, physical, psychological, environmental, cultural or socio-economic factors

2b.4 be able to conduct appropriate diagnostic or monitoring procedures, treatment, therapy or other actions safely and skilfully

- understand the need to maintain the safety of both service users and those involved in their care

- ensure service users are positioned (and if necessary immobilised) for safe and effective interventions
- be able to manage complex and unpredictable situations including the ability to adapt planned diagnostic imaging examinations, interventions or treatments and to manage adverse and critical care incidents, to prioritise workload and use of resources
- be able to use independent methods to establish and confirm service user identity prior to treatment or imaging
- recognise the need for spatial awareness, visual precision and manual dexterity in the precise and safe manipulation of treatment units or imaging equipment and related accessory equipment
- be able to operate radiotherapy or diagnostic imaging equipment safely and accurately
- be able to check that equipment is functioning accurately and within the specifications, and to take appropriate action in the case of faulty functioning and operation
- know and be able to apply the key concepts which are relevant to safe and effective practice as a supplementary prescriber (this standard applies **only** to registrants who are eligible to have their name annotated on the Register)
- be able to appraise image information for clinical manifestations and technical accuracy, and take further action as required

Diagnostic radiographers only

- be able to perform the full range of plain film and standard contrast agent examinations, including those undertaken on service users suffering from acute trauma, and where the service user's medical, physical or mental health needs require examinations to be carried out in non-standard imaging environments
- be able to manage and assist with fluoroscopic and complex contrast agent procedures
- be able to perform a standard head computed tomographic (CT) examination, assist with CT examinations of the spine, chest and

abdomen in acute trauma and to contribute effectively to other CT studies

- be able to assist with standard magnetic resonance imaging procedures
- be able to assist with ultrasound imaging procedures
- be able to manipulate exposure and image recording parameters to optimal effect
- be able to use to best effect the processing and related technology supporting film-based and computer-based imaging systems
- be able to distinguish disease and trauma processes as they manifest on diagnostic images

Therapeutic radiographers only

- be able to scrutinise and interpret the radiation prescription in such a way that radiotherapy is delivered accurately and reproducibly
- be able to undertake complex radiation dose delivery calculations involving a range of radiation types and energies
- be able to generate a treatment plan and verify treatment parameters ensuring optimal radiotherapy prescription delivery
- be able to perform the full range of radiotherapy processes and techniques accurately and safely
- be able to localise the target volume precisely in relation to external surface markings and anatomical reference markings
- be able to interpret and evaluate images obtained during radiotherapy planning and treatment
- be able to recognise changing signs and symptoms and the progression of disease, decide not to treat (if necessary) and make appropriate referrals before administering any further radiation treatment

- be able to manipulate exposure and image recording parameters to optimal effect and interpret and evaluate images obtained during radiotherapy planning and treatment
- be able to use to best effect the processing and related technology, including computer-based imaging systems for radiotherapy purposes

2b.5 be able to maintain records appropriately

- be able to keep accurate, legible records and recognise the need to handle these records and all other information in accordance with applicable legislation, protocols and guidelines
- understand the need to use only accepted terminology in making records

2c Critical evaluation of the impact of, or response to, the registrant's actions

Registrant radiographers must:

2c.1 be able to monitor and review the ongoing effectiveness of planned activity and modify it accordingly

- be able to gather information, including qualitative and quantitative data, that helps to evaluate the responses of service users to their care
- be able to evaluate intervention plans using recognised outcome measures and revise the plans as necessary in conjunction with the service user
- recognise the need to monitor and evaluate the quality of practice and the value of contributing to the generation of data for quality assurance and improvement programmes
- be able to make reasoned decisions to initiate, continue, modify or cease treatment or the use of techniques or procedures, and record the decisions and reasoning appropriately

2c.2 be able to audit, reflect on and review practice

- understand the principles of quality control and quality assurance
- be aware of the role of audit and review in quality management, including quality control, quality assurance and the use of appropriate outcome measures
- be able to maintain an effective audit trail and work towards continual improvement
- participate in quality assurance programmes, where appropriate
- understand the value of reflection on practice and the need to record the outcome of such reflection
- recognise the value of case conferences and other methods of review

Knowledge, understanding and skills

3a Knowledge, understanding and skills

Registrant radiographers must:

3a.1 know and understand the key concepts of the bodies of knowledge which are relevant to their profession-specific practice

- understand the structure and function of the human body, relevant to their practice, together with knowledge of health, disease, disorder and dysfunction
- be aware of the principles and applications of scientific enquiry, including the evaluation of treatment efficacy and the research process
- recognise the role of other professions in health and social care
- understand the theoretical basis of, and the variety of approaches to, assessment and intervention
- know the physical principles of radiation generation, interaction, modification and protection underpinning the use of radiation for diagnosis or treatment
- understand the risk-benefit philosophy and principles involved in the practice of diagnostic or therapeutic radiography
- understand the radiobiological principles on which the practice of radiography is based
- understand concurrent and common pathologies and mechanisms of disease
- understand the capability, applications and range of technological equipment used in diagnostic imaging or radiotherapy
- understand radiation dosimetry and the principles of dose calculation
- know the pharmacology of drugs used in diagnostic imaging, or oncology as it relates to radiotherapy practice
- understand the methods of administration of drugs
- understand the philosophy underpinning the development of the profession of radiography

- understand the role of the radiographer in the promotion of health and health education in relation to healthy living and health screening for disease detection
- be aware of the current developments and trends in the science and practice of radiography
- understand the quality assurance processes in place within diagnostic imaging or radiotherapy
- understand the legislative, policy, ethical and research frameworks that underpin, inform and influence the practice of radiography
- know the concepts and principles involved in the practice of diagnostic imaging or radiotherapy and how these inform and direct clinical judgement and decision making
- be able to formulate and provide information to service users about the treatment or imaging process and procedures, with regular reappraisal of their information needs, as appropriate
- be able to remove and re-apply dressings and supports appropriately and in a safe, effective and considerate manner
- distinguish between normal and abnormal appearances evident on images
- know the physical and scientific principles on which image formation using ionising and non-ionising radiation is based

Therapeutic radiographers only

- know the biochemical science of radiation pathophysiology
- know the structure and function of the human body in health and disease, especially regional and cross-sectional anatomy of the head and trunk, histology, haematology, and the lymphatic and immune systems
- know the diagnostic procedures, investigations and physiological symptoms which result in referral for radiotherapy
- understand oncology, the pathophysiology of solid and systemic malignancies, epidemiology, aetiology and the management and

impact of cancer

- understand the influence of concurrent treatment such as chemotherapy on dose prescription, radiotherapy timing and post-treatment complications

Diagnostic radiographers only

- know the signs and symptoms of disease and trauma that result in referral for diagnostic imaging procedures
- know the structure and function of the human body in health, disease and trauma, especially the musculoskeletal system, the soft tissue organs, regional and cross-sectional anatomy of the head and trunk, and the cardiovascular, respiratory, genito-urinary, gastro-intestinal and neuro-endocrine systems

3a.2 know how professional principles are expressed and translated into action through a number of different approaches to practice, and how to select or modify approaches to meet the needs of an individual, groups or communities

3a.3 understand the need to establish and maintain a safe practice environment

- be aware of applicable health and safety legislation, and any relevant safety policies and procedures in force at the workplace, such as incident reporting, and be able to act in accordance with these
- be able to work safely, including being able to select appropriate hazard control and risk management, reduction or elimination techniques in a safe manner in accordance with health and safety legislation
- be able to select appropriate personal protective equipment and use it correctly
- be able to establish safe environments for practice, which minimise risks to service users, those treating them, and others, including the use of hazard control and particularly infection control
- understand the need to ensure the physical and radiation safety

of all individuals in the immediate work environment at all times

- be aware of immunisation requirements and the role of occupational health
- know the correct principles and applications of disinfectants, methods for sterilisation and decontamination, and for dealing with waste and spillages correctly
- know and be able to apply appropriate moving and handling techniques
- be able to use basic life support techniques and be able to deal safely with clinical emergencies

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