**Standard of Proficiency for a Sonographer**

These standards are based on the HCPC standards of proficiency for a Radiographer1. Some aspects have been amended to relate to ultrasound practice, where relevant.

| **Standard of proficiency** | **Mapping to programme and module aims and learning outcomes** |
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| **Sonographers must:** |  |
| 1. be able to practise safely and effectively within their scope of practice
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| **1.1** know the limits of their practice and when to seek advice or refer to another professional |  |
| **1.2** be able to manage their own workload and resources effectively and be able to practise accordingly |  |
| 1. be able to practise within the legal and ethical boundaries of their profession
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| **2.1** understand the need to act in the best interests of service users at all times |  |
| **2.2** understand what is required of them by the Health and Care Professions Council |  |
| **2.3** understand the need to respect and uphold the rights, dignity, values, and autonomy of service users including their role in the diagnostic and therapeutic process and in maintaining health and wellbeing |  |
| **2.4** 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 |  |
| **2.5** know about current legislation applicable to the work of their profession |  |
| **2.6** be able to practise in accordance with current legislation governing the use of ultrasound for medical and other purposes |  |
| **2.7** understand the importance of and be able to obtain informed consent |  |
| **2.8** be able to exercise a professional duty of care |  |
| * 1. understand the legislative, policy, ethical and research frameworks that underpin, inform and influence the practice of ultrasound
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| 1. be able to maintain fitness to practise
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| **3.1** understand the need to maintain high standards of personal and professional conduct |  |
| **3.2** understand the importance of maintaining their own health |  |
| **3.3** understand both the need to keep skills and knowledge up to date and the importance of life-long learning |  |
| 1. be able to practise as an autonomous professional, exercising their own professional judgement
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| **4.1** be able to assess a professional situation, determine the nature and severity of the problem and call upon the required knowledge and experience to deal with the problem |  |
| **4.2** be able to make reasoned decisions to initiate, continue, modify or cease ultrasound examinations and record the decisions and reasoning appropriately |  |
| **4.3** be able to initiate resolution of problems and be able to exercise personal initiative |  |
| **4.4** recognise that they are personally responsible for and must be able to justify their decisions |  |
| **4.5** be able to make and receive appropriate referrals |  |
| **4.6** understand the importance of participation in training, supervision, and mentoring |  |
| 1. be aware of the impact of culture, equality, and diversity on practice
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| **5.1** understand the requirement to adapt practice to meet the needs of different groups and individuals |  |
| **5.2** understand the emotions, behaviours and psychosocial needs of people undergoing ultrasound imaging, as well as that of their families and carers |  |
| **5.3** be able to provide appropriate information and support for service users throughout their ultrasound examination and care  |  |
| 1. be able to practise in a non-discriminatory manner
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| 1. understand the importance of and be able to maintain confidentiality
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| **7.1** be aware of the limits of the concept of confidentiality |  |
| **7.2** understand the principles of information governance and be aware of the safe and effective use of health and social care information |  |
| **7.3** be able to recognise and respond appropriately to situations where it is necessary to share information to safeguard service users or the wider public |  |
| 1. be able to communicate effectively
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| **8.1** be able to demonstrate effective and appropriate verbal and non-verbal skills in communicating information, advice, instruction and professional opinion to service users, colleagues and others |  |
| **8.2** be able to communicate in English to the standard equivalent to level 7 of the International English Language Testing System with no element below 6.5 |  |
| **8.3** understand how communication skills affect assessment and engagement of service users and how the means of communication should be modified to address and take account of factors such as age, capacity, learning ability and physical ability  |  |
| **8.4** be aware of the characteristics and consequences of verbal and non-verbal communication and how this can be affected by factors such as age, culture, ethnicity, gender, socio-economic status and spiritual or religious beliefs  |  |
| **8.5** understand the need to provide service users or people acting on their behalf with the information necessary to enable them to make informed decisions |  |
| **8.6** understand the need to assist the communication needs of service users such as through the use of an appropriate interpreter, wherever possible |  |
| **8.7** recognise the need to use interpersonal skills to encourage the active participation of service users |  |
| **8.8** be able to advise other healthcare professionals about the relevance and application of ultrasound examinations to the service user’s needs |  |
| **8.9** be able to formulate and provide information to service users about the ultrasound imaging process and procedures, with regular reappraisal of their information needs, as appropriate |  |
| 1. be able to work appropriately with others
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| **9.1** be able to work, where appropriate, in partnership with service users, other professionals, support staff and others |  |
| **9.2** understand the need to build and sustain professional relationships as both an independent professional and collaboratively as a member of a team |  |
| **9.3** understand the need to engage service users and carers in planning and evaluating their ultrasound imaging and interventional procedures, treatment and follow-up |  |
| **9.4** be aware of the need to empower service users to participate in the decision-making processes related to their ultrasound examination |  |
| **9.5** be able to contribute effectively to work undertaken as part of a multi-disciplinary team |  |
| **9.6** be able to understand, interpret and act upon information from other healthcare professionals, in order to maximise health gain whilst minimising risk to the service user |  |
| 1. be able to maintain records appropriately
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| **10.1** be able to keep accurate, comprehensive and comprehensible records in accordance with applicable legislation, protocols and guidelines |  |
| **10.2** recognise the need to manage records and all other information in accordance with applicable legislation, protocols and guidelines |  |
| 1. be able to reflect on and review practice
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| **11.1** understand the value of reflection on practice and the need to record the outcome of such reflection |  |
| **11.2** recognise the value of multidisciplinary team reviews and other methods of review |  |

| **Standard of proficiency** | **Mapping to programme and module aims and learning outcomes** |
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| 1. be able to assure the quality of their practice
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| **12.1** be able to engage in evidence-based practice, evaluate practice systematically, and participate in clinical and other audit procedures |  |
| **12.2** be able to gather feedback and information that helps to evaluate the response of service users to their care |  |
| **12.3** understand the principles of quality control and quality assurance as they apply to the practice of ultrasound |  |
| **12.4** be aware of the role of audit and review in quality management, including quality control, quality assurance and the use of appropriate outcome measures |  |
| **12.5** be able to maintain an effective audit trail and work towards continual improvement |  |
| **12.6** be aware of, and able to participate in quality assurance programmes, where appropriate |  |
| **12.7** 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 |  |
| 1. understand the key concepts of the knowledge base relevant to their profession
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| **13.1** understand the philosophy underpinning the development of the profession of ultrasound |  |
| **13.2** understand the concept of leadership and its application to practice |  |
| **13.3** understand the role of the sonographer in the promotion of health and health education in relation to healthy living and health screening for disease detection |  |
| **13.4** recognise the role of other professions and services in health and social care |  |
| **13.5** understand the structure and function of the human body, together with knowledge of health, disease, disorder and dysfunction relevant to their practice |  |
| **13.6** understand the ultrasound physical principles on which the practice of ultrasound is based |  |
| **13.7** understand the risk-benefit philosophy and principles involved in the use of ultrasound |  |
| **13.8** be aware of the principles and applications of scientific enquiry, including the evaluation of ultrasound efficacy and the research process |  |
| **13.9** understand and be able to apply the physical principles of ultrasound production, interaction with matter, image optimisation and safety to the production and interpretation of ultrasound images. |  |
| **13.10** know the physical and scientific principles on which ultrasound image formation is based |  |
| **13.11** understand ultrasound safety and its implications in clinical practice |  |
| **13.12** understand the theoretical basis underpinning patient assessment prior to, during and after ultrasound examinations |  |
| **13.13** understand the capability, applications and range of technological equipment used in ultrasound imaging |  |
| **13.14** be able to distinguish between normal and abnormal appearances evident during the ultrasound examination and on resultant ultrasound images |  |
| **13.15** know the concepts and principles involved in the practice of ultrasound and how these inform and direct clinical judgement and decision making |  |
| **13.16** know the pharmacology of ultrasound contrast media and drugs used during treatment |  |
| **13.17** understand the methods of administration of drugs |  |
| **13.18** be able to remove and re-apply dressings and supports appropriately and in a safe, effective and considerate manner |  |
| **13.19** understand the quality assurance processes in place within ultrasound imaging |  |
| **13.20** be aware of the current developments and trends in the science and practice of ultrasound |  |
| **13.21** understand the structure and function of the human body in health, disease and trauma, as well as common pathologies and mechanisms of disease and trauma, relating to area(s) within the individual scope of clinical practice e.g. obstetric, gynaecological, general medical, vascular, musculoskeletal ultrasound |  |
| **13.22** understand the signs and symptoms of disease and trauma that result in referral for ultrasound procedures |  |
| **13.23** understand the structure and function of the human body in health and disease, including areas relevant to the scope of practice e.g.– regional and cross-sectional anatomy of the head, neck, thorax, pelvis and abdomen, musculoskeletal system, vascular system, pregnancy and the developing fetus– common pathologies and mechanisms of disease with a concentration on cancer, histology, haematology and the lymphatic and immune systems |  |
| **13.24** understand:* oncology, the pathophysiology of solid and systemic malignancies
* epidemiology
* aetiology
* the management and effect of cancer
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| 1. be able to draw on appropriate knowledge and skills to inform practice
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| **14.1** be able to conduct appropriate diagnostic or monitoring ultrasound procedures or other actions safely and accurately |  |
| **14.2** be able to formulate specific and appropriate management plans including the setting of timescales |  |
| **14.3** be able to assess, monitor and care for the service user before, during and after ultrasound procedures  |  |
| **14.4** be able to use independent methods to establish and confirm service user identity prior to undertaking ultrasound procedures  |  |
| **14.5** be able to undertake or arrange investigations as appropriate |  |
| **14.6** be able to undertake and record a thorough, sensitive and detailed clinical assessment, selecting and using appropriate techniques and equipment |  |
| **14.7** be able to gather appropriate information |  |
| **14.8** be able use physical, graphical, verbal and electronic methods to collect and analyse information from a range of sources including service user’s clinical history, diagnostic images and reports, pathological tests and results. |  |
| **14.9** be able to interrogate and process data and information gathered accurately in order to conduct the ultrasound investigation most appropriate to the service user’s needs |  |
| **14.10** be able to appraise image information for clinical manifestations and technical accuracy, and take further action as required |  |
| **14.11** be able to manage complex and unpredictable situations including the ability to adapt planned ultrasound imaging examinations, interventions or treatments |  |
| **14.12** be able to demonstrate a logical and systematic approach to problem solving |  |
| **14.13** be able to change their practice as needed to take account of new developments, technologies and changing contexts |  |
| **14.14** be able to use research, reasoning and problem-solving skills to determine appropriate actions |  |
| **14.15** be aware of a range of research methodologies |  |
| **14.16** recognise the value of research to the critical evaluation of practice |  |
| **14.17** be able to evaluate research and other evidence to inform their own practice |  |
| **14.18** be able to operate ultrasound equipment safely and accurately |  |
| **14.19** be able to demonstrate spatial awareness, visual precision and manual dexterity in the precise and safe manipulation of ultrasound imaging equipment and related accessory equipment  |  |
| **14.20** 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 |  |
| **14.21** be able to use information and communication technologies appropriate to their practice |  |
| **14.22** be able to apply the risk-benefit philosophy to ultrasound safety considerations to protect both individual service users and the population  |  |
| **14.23** be able to select and explain the rationale for examination techniques and immobilisation procedures appropriate to the service user’s physical and disease management requirements |  |
| **14.24** be able to position and immobilise service users correctly for safe and accurate ultrasound examinations  |  |
| **14.25** be able to plan appropriate ultrasound examinations |  |
| **14.26** understand the significance of on-screen safety indices (TI & MI) and their relevance in risk benefit decisions.  |  |
| **14.27** be able to perform the full range of ultrasound examinations, relevant to their area(s) of specialist practice, including those undertaken on service users who are acutely unwell, and where the service user’s medical, physical or mental health needs require examinations to be carried out in non-standard imaging environments |  |
| **14.28** be able to manipulate ultrasound equipment controls to optimal effect |  |
| **14.29** be able to use to best effect the processing and related technology supporting imaging systems |  |
| **14.30** be able to distinguish disease and trauma processes as they manifest on ultrasound and document their findings in a written report |  |
| **14.31** be able to recognise changing signs, symptoms and progression of disease, and make appropriate decisions relating to ultrasound appearances and the immediate management of the patient |  |
| 1. understand the need to establish and maintain a safe practice environment
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| **15.1** understand the need to maintain the safety of both service users and those involved in their care |  |
| **15.2** 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 |  |
| **15.3** understand the need to ensure the physical and psychological safety and wellbeing of all individuals in the immediate work environment at all times |  |
| **15.4** be able to establish safe environments for practice, which minimise risks to service users, self, and others, including the use of hazard control and particularly infection control |  |
| **15.5** be able to work safely, including being able to select appropriate hazard control and risk management, reduction or elimination techniques in a safe manner and in accordance with health and safety legislation |  |
| **15.6** be able to select appropriate personal protective equipment and use it correctly |  |
| **15.7** be able to use basic life support techniques and be able to deal safely with clinical emergencies |  |
| **15.8** know and be able to apply appropriate moving and handling techniques |  |
| **15.9** know the correct principles and applications of disinfectants, methods for sterilisation and decontamination, and for dealing with waste and spillages correctly |  |
| **15.10** be aware of immunisation requirements and the role of occupational health |  |

[1] The Health & Care Professions Council, “Standards of Proficiency - Radiographers.” 2013. [Online]. Available: <http://www.hcpc-uk.org/publications/standards/index.asp?id=51>