

# Advanced Practice – concepts, definitions and education

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On reviewing the literature it becomes clear that there are a number of reasons why non-medical healthcare professionals started to undertake extra roles and responsibilities. These reasons include personal/ professional ambition, local service need, technological advances and a lack of medical personnel – specifically radiologists, in the context of medical imaging. Also, within the UK, public and patient perception of how health services should be organised and managed contributed to a significant change to the ‘standard’ roles of healthcare professionals<sup>1,2</sup>. The taking on additional roles initially started with the nursing professions around thirty years ago and this rapidly spread to other professional groups – to include radiographers and nuclear medicine technologists.

Today, within the UK, many of the early advanced roles adopted by radiographers, and others, are considered part of the routine responsibilities and thereby included within their formative professional education.<sup>2</sup> In line with role advancement generally, over time, more complex advanced clinical procedures have been and still are being undertaken by non medical professionals. This has led to non-medical professionals working at an ever higher clinical level and taking on significantly more responsibility in decisions concerning treatment, diagnosis and management of patients.

Before considering examples of the evolving roles of the nuclear medicine technologist / radiographer, it is worth considering the terminology that is used in describing the concepts. From the reviewed literature it is apparent that there are two main terms used; Advanced Practice and Extended Role. For a time the two terms were used interchangeably however recent publications have suggested that these terms are distinct and relate to different ‘levels’ of practice.<sup>2</sup> This paper will explore what the concepts and terms are and the differences between advanced practice and extended role; this will also be considered in relation to nuclear medicine technologists / radiographers. In addition to this, this paper considers the role that education plays in developing and promoting advanced practice.

What constitutes Extended Role? This term tends to be applied when a healthcare professional has acquired supplementary skills and responsibilities beyond those engendered within their formative professional training<sup>2</sup>. Unlike advanced practice, which shall be considered later, extended roles can be considered to be the act of assuming responsibility of ‘basic’ tasks that are normally carried out by other members of the multi-professional team; more specifically those who operate at a similar level (e.g. nurses). The term ‘basic’ has been used as these tasks do not require any higher order skills that would be associated with qualifications acquired after formative education and training has been completed. In nuclear medicine, for example, this could involve a nuclear medicine technologist / radiographer assuming some of the responsibilities of a nurse. Such tasks could include taking blood for cell labelling, measuring blood pressure during a cardiac stress session or measuring blood glucose level prior to a PET-CT examination.

What constitutes advanced practice and competence? – An advanced practice is a competence that is not included within basic professional training. The practice is usually one which requires a higher skill and intellectual level which demands a higher order of decision making; more often than not this is related to clinical activity<sup>2, 3</sup>. Typically this would involve taking on roles that were / are traditionally fulfilled by a nuclear medicine physician / radiologist. An example of such a role could include referring a patient for additional imaging (i.e. requesting x-ray imaging) following an abnormal bone scan. If the example from the preceding section is considered again, in advanced practice, the nuclear medicine technologist / radiographer would not only measure the patients blood pressure they would use that information to decide if an intervention is needed and what that intervention should be – for instance terminating the stress session. It therefore becomes apparent that the advance practice develops and then uses higher levels of decision making abilities; and such processes will be based upon an extended knowledge and experience base (depth). How these skills are developed and assessed is critical and later in this paper this matter will be considered.

According to Snaith and Hardy<sup>1,3</sup> advanced practice has a number of elements and they include: decision making skills, knowledge and expert practice. As such it could be argued that many healthcare professionals could claim to be undertaking advanced practice. However, to be classed as an Advanced Practitioner a healthcare professional should be involved in service and practice development, research, leadership, education and training and service management and planning.

Service and practice development can be argued to be the application of knowledge but this knowledge should be

at the forefront of practice and leadership will be paramount to an Advanced Practitioner. Advanced practice tends to go hand in hand with leadership seniority in a clinical department. It is worth noting that leadership does not necessarily mean in individual would be a manager. That said an effective manager should display good leadership characteristics. An advanced practitioner should be able to motivate and inspire others in their role, which are paramount traits for good leaders.

Education covers education of others and self (personal continued professional education – CPD). Advanced practitioners, like all other healthcare workers, have a duty to maintain their knowledge through CPD activities and the additional role of sharing their knowledge with others<sup>5</sup>. Education Programmes as a precursor to advanced practice must prepare the healthcare worker to meet the demands placed upon them. But what does “demand” mean? With advanced practice comes greater responsibility and greater accountability. Working at a higher clinical level means the advanced practitioner is working within a broader scope of practice beyond which their first post competency trained them for. It is the role of educational programmes to make the practitioner aware of where the new boundaries lie and also what to do when they reach those boundaries; this philosophy should be re-enforced by professional and regulatory bodies.

As with any educational programme, it should take a practitioner to the point of competence in their area of practice while at the same time allowing the practitioner to develop the skills to help continue their intellectual and practical development on completion of their training.

In the UK, and many other countries that have advanced practitioners, advanced practice competencies are developed within a postgraduate framework. Some programmes of study do not carry any credits at this level but the learning outcomes for them tend to be at masters level. Educational levels are frequently mapped against Bloom’s taxonomy, specifically the cognitive domain. This taxonomy of learning objectives is an attempt to classify forms and levels of learning. Relating practice and advanced practice to a more recent adaptation of these classifications by Anderson and Krathwohl<sup>6</sup> it is clear how advanced practice and the education should fit together. This is an example of how practice and advanced practice may map against Bloom’s taxonomy. The example considered previously was a scenario of a patient attending for a bone scan for suspected metastases. A student new to nuclear medicine would acquire theoretical knowledge on how to perform through observation and probably tutorials through a formal educational programme. From this basic knowledge of “how to do it” they would progress to understanding why the scan is performed this way (comprehension). From this comprehension they would be able to apply it to the scanning situation and would be able to perform the scan successfully understanding how and why a scan is performed. An advanced practice would involve operating at a the higher level within the taxonomy and an example here could involve the practitioner reviewing the bone scan, the patient’s clinical history and deciding if further imaging (e.g. x-ray) is required (analysis, synthesis and evaluation).

In conclusion it is clear that there is scope and potential for role development and advancement within nuclear medicine practice. This paper considers just a few examples and others could involve the reporting of images by non-medically qualified professionals, referral for CT as an addition to a SPECT examination, making decisions on patient’s medication that may adversely affect the quality of a scan (e.g. deciding which medication to stop for a myocardial perfusion stress study).

A multidisciplinary approach to healthcare involving professionals with a good skill mix has the potential to improve patient care. Educational institutes and professional bodies should be at the forefront of these developments and should provide and encourage the nuclear medicine healthcare professional to fulfill their ambition and potential.

## References

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