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Position paper

Advanced practice: An ESTRO RTTC position paper

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European Society for radiotherapy and oncology (ESTRO) committee

The ESTRO Radiation Therapist committee (RTTC) is made up of 14 representatives (including 2 elected members of the RTT alliance) working as radiation therapists (RTTs) in clinical departments and academic institutes. The role of the RTT in Europe has been described in previous ESTRO documents, with clear guidelines and definitions as to the educational standards required of an undergraduate practitioner (level 6) [1] and advanced/specialist practitioner (7&8) [2].

From here on, this paper will refer to our profession as RTT.

Introduction

In recent years, the benefit and value of radiotherapy (RT) in treating oncology patients has become more recognised. Technological advances in radiation oncology make it possible to: treat sites that were previously deemed untreatable; allow individualised treatments; and deliver ablative doses of RT to disease sites where surgery would have been the only curative option [3]. A higher incidence of people are being diagnosed with malignancies, and with an ageing population there is an increased demand on services which has led to work by the ESTRO-HERO group. This group studied the workload required to meet RT demands by 2025, and have projected an average increase in treatment courses of 16% across Europe [4]. When considering the multi-disciplinary nature of RT and the expanding workload, traditional workforce models are no longer fit for purpose [5,6]. ESTRO, an interdisciplinary society has continued to acknowledge the vital skills of the RTT and recognise their contribution to the expert oncology team, reflected by the ESTRO vision [7]. With emphasis on obtaining the appropriate knowledge and skills, there is often a need for RTTs to work across boundaries and be educated in new tasks, previously outside their scope of practice (SoP) [8]. The rapid evolution of RT technology has enabled the delivery of complex

RT delivery techniques e.g. Image guided adaptive radiotherapy (IGART), MR linac treatments, proton therapy and stereotactic ablative radiotherapy (SABR). This makes it vital RTTs: continuously advance their practice; stay informed of developments and supporting evidence; ensure new techniques are implemented safely and accurately to the benefit of patients. When such changes are made to traditional RT practice, it is of great importance that outcome measures are reported. Where changes are implemented, data should be evaluated and disseminated to include: benefit of change to service, improvements to treatment delivery, patient side effects and quality of life.

This paper aims to present an overview of the evidence for advanced practice (AP), and deliver the ESTRO RTTC position on the future of AP for the RTT profession.

Advanced practice (AP)

Definition

Variation exists in the terminology and definitions used to describe AP within the literature [9,10]. AP RTTs can be defined as individuals who have significantly developed their SoP, and who consequently have additional clinical expertise in a defined area of practice. This is accompanied by deep underpinning and evidence based knowledge related to their expertise [11]. They make appropriate clinical decisions related to their enhanced level of practice, applying evidence that directly impacts on the patient care pathway [12–14].

ESTRO RTTC definition

An advanced practitioner works outside their SoP and demonstrates expert practice in a specialised area. They work autonomously, taking on a leadership role in the development of RT services, and research associated with their specialty. Ideally their development should be aligned to level 7 & 8 practice [2], and underpinned by appropriate education.

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Evidence on implementation of RTT advanced practice in clinical departments

Where staffing resources are an issue, RTTs can deliver many services efficiently and successfully, whilst potentially reducing cost. Examples of improved service has been described by D'Alimonte et al (2017) [15] which mentioned outcome measures and success indicators used to evidence the benefit of roles. This included a reduced time from referral to consultant in the case of a skin Canadian specialist radiation therapist (CSRT) [16]. Although references do support examples of AP, individuals working in new AP roles should be encouraged to add research to the evidence base. By clearly quantifying benefit, these posts can gain further recognition [17].

There are a number of countries which provide policy and framework documents to support AP roles including, Australian Society of Medical Imaging and Radiation Therapy (ASMIRT), Canadian Association of Medical Radiation Technologists (CAMRT) and the Society of Radiographers (SOR)[11,18,19]. This has helped facilitate the successful implementation of AP into the multi-disciplinary team (MDT).

It is a challenge to give a unified global picture of AP in RT due to the vast range in education, workforce and resources. This is equally an issue across Europe where there is inequitable access to advanced RT equipment and utilisation [20].

Structured models exist in the United Kingdom, Canada, Australia and New Zealand specifically for AP RTTs. These models are outlined below and give an indication of the benefits, both from a patient and workforce perspective.

United Kingdom

AP in the UK was initially driven by the National Health Service (NHS) [21]. Elsewhere in the world, RTTs as a profession have driven this, striving for it to be documented and evidence based [22,23]. The benefits of role development were recognised as early as 2000 where it was identified that educational strategies were required to allow practitioners to develop and work autonomously [24]. AP roles, when implemented due to service needs, have the potential to accelerate workflow and ensure a seamless RT pathway with fewer time constraints [6]. They are recognised as contending with staff shortages, and a cost effective way of utilising the RTT workforce. Especially where clinician time is costly, making it more important to recognise the benefits e.g. reduced clinician workload, improved output and reduced waiting lists [25].

Following on from Department of Health (DOH) recommendations, the four-tier career structure was developed in the UK giving RTTs the opportunity to progress from novice to expert and achieve advanced or consultant level practice [22,23]. This has been driven and supported by the Society of Radiographers, who have developed clear guidance on advanced roles. In the UK, a robust accreditation process encourages standardisation of practice, ensuring the domains of practice have been successfully met and underpinned by appropriate education [26]. Development of the four tier structure to aid staff shortages has allowed AP RTTs to undertake responsibilities that were traditionally that of the Clinical Oncologist, where appropriate. Putting advanced practice roles into service, RTTs can play a fundamental part in the multi-disciplinary team (MDT).

Canada

Canada has endorsed advanced RTT practice by providing data on improved outcomes to secure continued funding [27]. Accepted improvement in patient care through equitable treatment access

and patient contentment has resulted in official acknowledgment of the value of AP [19]. Over an 8 year period, a Canadian project evaluated the utilisation of AP roles. Both qualitative and quantitative data were collected to examine the impact they had on the service as a whole and directly on patient care. This approach can facilitate the evolution of roles to meet local requirements [6]. More recently it has been recognised that utilising AP within a new clinical framework, carefully placed within the patient pathway can bring great improvements to patient care [28].

These roles not only adapt well to the needs of the MDT team, but also lead to developments and research in their field [6]. Canadian RTTs acknowledge the advantages AP roles provide in optimising care, helping to reduce the mounting demand on radiation oncologists. There is on-going support for initiatives in developing accreditation programmes for RTTs [29,30].

Australia and New Zealand

In 2014, the Australian Society of Medical Imaging and Radiation Therapy (ASMIRT) proposed a pathway to AP in Australia [18]. This document discusses three pathways to accreditation including Masters by coursework, Masters by research doctorate and the champion pathway. The latter pathway recognised that some AP practitioners already fulfilled the role; however this pathway ceased to be an option in 2015 taking a step forward in mandating the need for education in demonstrating AP [31].

The necessity of engaging the MDT has been described as an essential way of ensuring the success of roles. Evidence demonstrates that in combination, clinical education and distance learning assists role development that suits individual departments [32,33]. On the contrary, some argue this 'local need' means there is no framework to support the development of these roles. Where a lack of standardisation has had a negative impact, some believe clear guidance would be beneficial [34].

In New Zealand it has been recommended that a defined "AP scope of practice" should be used to aid development of an advanced career pathway, used alongside infrastructure to support the career pathway from the profession as a whole [10].

Scope of practice

A growing evidence base illustrates how AP roles have improved access to care, reduced waiting times and enhanced the patient pathway [15]. Robust evaluation provides evidence of their effectiveness and assists in establishing future RTT roles and workforce planning.

Examples of RTT AP are discussed below:

Target and organs at risk volume delineations

In prostate cancer there is early evidence describing the development of education for RTTs in delineating clinical target volumes. This example used external assessments to determine competence and led to the creation of Masters level modules [35].

In breast cancer, there was good agreement between RTT and radiation oncologist in CT simulation and planning of breast RT and, low inter-observer variability between RTT and clinician in breast CTV voluming [36,37]. This is further supported by the introduction of advanced RTTs in the delineation of non-complex cavity treatments and RTT led breast boost delineation [28,38].

IGRT and IGART

When defining the success of AP roles in IGRT, evidence demonstrates advanced RTT skills being in agreement with clinician

assessments. However, as AP practice becomes more common, the concordance is often reported between RTT practitioners, and RTT APs who have been competent in these roles for some time. Bladder plan of the day (POD) is described by McNair et al [39], who define the team of experts to be clinicians and RTTs. Clinical staff trained on POD selection demonstrate their ability to carry out AP tasks. Further to this, the expert RTTs training and evaluating those staff are a good example of meeting AP criteria. This includes: leadership, service development and improvement, education and contributing to the evidence. A good description of an effective training and competency programme is outlined, with the importance of continuous assessment being addressed.

RTT- led reviews/toxicity assessment

Many AP roles have focused towards follow-up and patient care during RT, not only reporting on new technology but evidencing the benefit or risks this new technology causes to the patient. RTT led reviews set the precedent, with evidence of success for nearly two decades. Excellent agreement in toxicity scoring and patient satisfaction has been described by several authors [24,28,40,41]. A national survey of UK management for prostate cancer patients described patients being reviewed on treatment by clinical oncologists and RTTs, with 22% of treatment review RTTs being independent prescribers [42]. This allows the AP an increased level of autonomy over side effect management.

Efficient access to radiotherapy

AP roles can significantly reduce waiting times for palliative patients [43]. Almost all palliative patients referred directly to the advanced practitioner started their RT within 5 days (93%), whereas this was only 61% for patients referred through the standard pathway. For patients who are suffering from symptoms of metastatic disease and are anxious about receiving treatment, reduced waiting times are important. Although there could be bias in the groups referred to the AP, results are promising and should prompt further investigation.

In general advanced roles should provide a clear benefit to the patient, taking evidence based practice into consideration [12,13,38].

Education requirements for AP roles

It is recommended that RTTs in AP roles underpin their knowledge academically by completing the appropriate level of postgraduate education. As detailed in the benchmarking level 7/8, there are clear definitions of expectations at each level [1,45]. Although Smith et al (2008) [44], recommend the AP should engage in lifelong learning following a programme of continuing professional development (CPD), concern has been raised for RTTs throughout Europe where there is a lack of adequate post graduate teaching. This needs careful consideration before mandating. [38,46].

The minimum level of postgraduate qualification for an AP role is a Master degree in RT. Gaining a Master qualification will enhance the career pathway of the RTT from undergraduate through to an advanced role, underpinning professional progression below. A number of authors describe the importance of AP roles being underpinned by appropriate education [8,9,24]. Similarly, a recently published framework on multi-disciplinary advanced clinical practice has reinforced the necessity for masters level work, or robust accreditation if this is not complete [47].

Challenges

The opportunities that arise from AP roles can add to job satisfaction, as well as recruitment and retention. By raising the profile of RTTs and their position in the MDT, the profession is more attractive to potential undergraduates. In order to deal with the rapid changes in radiation oncology, it is important to keep staff highly motivated. This is essential in implementing change efficiently and safely. RTTs and other professions should discuss which tasks require the skills of an AP RTT, or if they can be performed by a practitioner. [32].

This problem is further highlighted where quality standards differ dramatically between countries, especially where no professional organisation exists to enforce their SoP. The absence of a standard job description for AP makes it increasingly challenging to benchmark these roles [9,48]. This ultimately means maintaining quality can be difficult, with roles requiring peer review and evaluation. The publication of the ESTRO EQF 7 and 8 benchmarking document seeks to overcome this challenge. RTTs across Europe work to their SoP, defining their responsibilities and professional limitations. Furthermore, it is easy to identify the disparity in infrastructure, which aids the development, support and professional recognition for such roles. Whilst recognising the wide range of roles created and workforce models used, the ESTRO RTT committee acknowledges these developments as a positive change for the profession, helping to provide enhanced clinical services to patients and raising the profile of the RTT.

Due to the constant progression of RT, AP can quickly be regarded as 'standard' practice. With differences in opinion on what is deemed as 'advanced' or 'standard', it must be considered that some AP roles have been devolved to the practitioner [9,10]. It is important to appreciate that RT roles adapt over time due to technology and service needs changing. This should be factored into long term AP role development to ensure they continue to have an impact. Again, highlighting the necessity of AP roles to demonstrate innovation and continuous improvement to patient care [6,15].

ESTRO statement – Conclusion

European countries are adopting AP into their RTT career pathways, demonstrating the positivity of AP roles and enhancing the profile of the RTT profession. The ESTRO RTT Committee advocates for AP, as we believe that it allows the profession to grow, improves access to, and efficacy of RT across Europe, as well as improving quality of patient care. Due to role and educational diversity, a unified approach to AP RTT roles is a challenge, with a clear desire for further development.

RTTs recruited into AP roles should be able to demonstrate clear leadership and innovation skills within their expertise. It is essential they provide evidence of advanced and expert skills, verifying their ability to perform new tasks and contribute to the evidence base. Where there is a change to SoP, it is important to consider the relevant education and competencies. It is strongly recommended that the ESTRO EQF 7&8 document be used for guidance.

Individuals should take responsibility for demonstrating they have fulfilled these requirements and ensure indemnity is valid through their institute, or professional body. Where AP roles are still in their infancy, institutes may want to refer to the existing evidence base for guidance. Finally, great consideration should be given to the evolving need for AP roles, ensuring they stay relevant and continue to push the boundaries and improve patient care.

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