# Video transcript: AHPs behind the scenes - precision, technology, and patient care

**SPEAKER:** Joanne, Advanced Practitioner Therapeutic Radiographer

**>>JOANNE:** I'm Joanne. I work here as an advanced practitioner therapeutic radiographer in treatment and treatment planning. I chose this career path when I was at school. I was really enjoyed physics and biology, but I knew I wanted a career in healthcare and this sort of ticked all the right boxes for me. Using high energy radiation, you need to have a good understanding of radiation physics.

**>>JOANNE:** Again, we're taking CT scans and x-rays, so you need to have a really good understanding of anatomy and radiobiology, not only about the radiation but how it interacts on a cellular level with the patient. And then obviously you have the care and compassionate side when you're looking after the patients throughout their cancer journey.

**>>JOANNE:** To get into radiotherapy you can do an undergraduate degree in radiotherapy and that involves a lot of placements so it means that when you qualify, you've got lots of practical experience under your belt as well and you can kind of hit the ground running. I took a slightly different route. I started off as an undergraduate in physics and did the postgraduate in radiotherapy and oncology. And again, that involves a lot of practical placements throughout the course, but you can do the postgraduate route as long as you have a relevant undergraduate degree - biology, for example, you can get into the postgraduate route. And there's also routes through college, If you have an HNC or HND, you can fast track into second year and your undergraduate degree as well.

**>>JOANNE:** A typical day for me, is you can do some treatment planning in the planning suite so that's where the CT scans come through and you will have sort of a dose energy to essentially map the radiation using specialised software onto that CT scan. And you can have some challenges because you want to optimise the plan where you have as much radiation as possible at the site of the disease and minimise any radiation to surrounding healthy organs.

**>>JOANNE:** Sometimes you can come up with hurdles so that particular patient had a prosthetic hip that was titanium and that can be quite challenging to plan the radiation around that and still achieve this dose that you want for the area. So, I just wanted to seek a little bit of advice from Tommy to make sure that the plan I created was still appropriate and that we weren't overdosing the titanium hip and it was still safe for the patient.

**>>JOANNE:** Every plan is individually tailored for that patient and the dose in energy is calculated for that patient's shape, size, the stage and area of their disease so there's a lot of background work goes in that the patient might not necessarily see. The mask or what we call beam directional shell we create that for each individual patient if they're getting their head or neck area treated and that just makes sure that while they're receiving the radiotherapy that they can stay still, and they're not sort of looking around at the machinery around them. And because we work to sub-millimetre accuracy, we can be confident that we're delivering the radiation as accurately as possible.

**>>JOANNE:** So, we'll take them over to the bed, we'll refit the mask that we made previously onto them, and we can acquire some pre-treatment images. That can be a scan, so we acquire a lot of pre-treatment images and analyse scans and images just to make sure there's not been too many changes - like internal changes or changes to the patient's shape or size before we deliver the radiation and make sure that that radiation plan is still appropriate for that patient on that day.

**>>JOANNE:** You have to be able to problem solve effectively, especially when you're looking at these CT scans and you've got a patient on the bed and you need decide are we going to treat, are we gonna stop. It can be a very fast-paced environment, and it can be tough at times, but we all support each other together.

**>>JOANNE:** A career in radiotherapy is extremely fulfilling. it challenges you intellectually and emotionally. There's a lot of sort of physics and biology that goes on in the background, but also the patient facing aspects really challenges you emotionally too. I would recommend it to anyone.

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