

# Clinical Proton Beam Therapy: A Look into the Future

*Thursday 2 February 2023 16:15 (1 hour)*

Over the last few decades there have been significant technological advancements with the delivery of proton beam therapy (PBT). However, challenges remain with the provision of optimal and efficacious PBT to the population of cancer patients who may most benefit from this form of localized therapy. To increase accessibility of PBT to patients, delivery systems need to become smaller, cheaper, and more efficient. Furthermore, evolving techniques for treatment delivery such as proton arc therapy, ultra-high dose rate PBT, and spatially-fractionated PBT require greater versatility from delivery systems. With increasingly advanced methods of PBT clinical practice comes the need for improved accuracy for dose delivery.

This seminar will briefly cover the evolution of PBT delivery from early to contemporary practice. Evolving techniques will be presented with a discussion of their implications for the technical requirements of future PBT systems. Finally, the potential application of alternative ion species for radiotherapy will be introduced.

**Presenter:** AMOS, Richard (University College London)