

Treatment Subcommittee

Efficiency

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Co-Chairs:

[Heng Li](#), [Frank Emert](#), [Sung Yong Park](#)

Purpose:

Fighting cancer effectively and efficiently.

Vision:

As an integral part of PTCOG, our ultimate goal is to establish, develop, and improve particle therapy modalities and their workflow applications in such a way that the treatment of our patients can be delivered and assured in the utmost efficient way in terms of quality and safety.

Mission:

Concrete definitions of *efficiency* are highly domain-specific. In general, *efficient* can be interpreted as *achieving maximum productivity with minimum effort or cost*. In our context, we understand

- maximum productivity to mean *safe, effective, and innovative treatment* – not simply more treatments – and

- minimum effort or cost to be the *selection of the best modality for resource-optimized application of the intended irradiation*.

Based on these considerations, **we focus our activities on workflow efficiencies**, which should allow for

- *accurate and realistic* planning of the irradiation dose in a *reasonable* time frame,
- together with the *safe and effective* application of the calculated dose distribution,
- aiming at imaging, measurement and control of *predefined* application conditions,
- accompanied by *comprehensive* QA measures before, during, and after irradiation,
- to *mitigate* and/or *minimize* any risk to the patient.

Objective:

The main factors impacting *workflow efficiencies* ultimately result from the particular characteristic particle properties we use for tumor irradiation and the resulting, clinical expectations in the context of the latest technical developments. Therefore, **we see our role in sharing and transferring knowledge about the following influencing factors on workflow efficiencies** according to our *mission statement*.

- Complexity of workflow-driven QA (general & patient-specific)
- Delineation tools
- Patient immobilization and couches
- Treatment planning processes and systems
- Dose calculation algorithms
- Motion management strategies
- Image guidance
- Beam delivery
- Level of timely treatment adaptation capability (adaptive proton or particle therapy)

- Overall integration/Workflow management
- Data connectivity
- (Lack of) standardization (due to limited number of treatment sites)

Subcommittee Meetings:

- [TxEff SC Annual Meeting Agenda \(@PTCOG 62, Singapore\)](#)
- [GCPP@PTCOG 62 – 2024](#)