



BRACHYTHERAPY

2022 GEC-ESTRO Workshop

“Improving Brachytherapy Together”

1-2 December 2022 | Nice, France

Report on brachytherapy physics quality assurance system (BRAPHYQS)

The brachytherapy physics quality assurance system (BRAPHYQS) working group of the Groupe Européen de Curiothérapie-European Society for Radiotherapy and Oncology (GEC-ESTRO) has been working on several aspects of brachytherapy: the standardisation of digital imaging and communications in medicine (DICOM) files, medical device regulations, quality assurance (QA) of treatment planning systems (TPSs) and in-vivo dosimetry. Vendors, researchers and medical physicists are represented in the working group.

The group met during the GEC-ESTRO annual meeting that was held in Nice, France, in December. The agenda of the working group meeting, which was attended by several guests in addition to the core members, covered seven relevant and exciting topics:

- eye brachytherapy;
- in-vivo dosimetry, risk management and registries in brachytherapy, and the brachytherapy treatment verification survey;
- commissioning and QA of brachytherapy TPSs;
- calibration of high-energy/high-dose-rate sources;
- primary standards and traceable measurement methods for X-ray emitting electronic brachytherapy devices (PRISM-eBT);
- medical device regulation (MDR);
- DICOM standardisation.

The projects are in different phases; the survey about in-vivo dosimetry is under preparation whilst the survey on eye plaque is finished and under evaluation by medical physicists and physicians. This type of activity sheds some light on current practices in different hospitals, which will support the development of guidelines. Jose Perez Calatayud has finalised the report regarding recommendations for HDR source calibration that has been published (Radiother Oncol 2022 vol 176 p 108-117, see also a [report in the ESTRO newsletter](#)). Marisol de Brabandere is leading the project on commissioning and QA of TPSs (abstracts with an update will be submitted to ESTRO-2023 – check it out during the conference), which is also in its final phase.

Projects such as PRISM-eBT involve collaboration within the group. Several members are participating in this large study, which highlights the strong connection of the BRAPHYQS group with national labs and the industry.

During the meeting, there was a lively discussion about the new Medical Device Regulation and the requirements to develop and use in-house-developed solutions such as 3D-printed applicators. In-room imaging and improved treatment records are gaining attention as more facilities now have CT or cone-beam CT available for in-room imaging. Finally, the future of artificial intelligence in brachytherapy got some deserved attention due to several possible applications such as automated planning, which can have a major impact on the brachytherapy workflow. Those topics are likely to result in new, exciting work packages that are aimed to provide recommendations and support the brachytherapy community.

This was the last meeting with Frank-André Siebert as chair. Professor Siebert will continue to support the group as a core member and Åsa Carlsson Tedgren will take over as the chair.



Some of the participants of the BRAPHYQS meeting, standing in front of the Baie des Anges, Nice

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