



CONFERENCES

Workshop on Brachytherapy Treatment Techniques: Procedures and Planning (International Medical Physics Week) 28-29 April 2023 Ludhiana, India

Endorsed by ESTRO

This workshop was organised by the **Department of Radiation Oncology, Christian Medical College (CMC) & Hospital, Ludhiana, India**, in collaboration with the **Indian Brachytherapy Society**. It was financially supported by **NAMS** and the Atomic Energy Regulatory Board. The workshop was endorsed by many world institutions: ESTRO, the International Organization for Medical Physics, the Asia-Oceania Federation of Organizations of Medical Physics, the Association of Medical Physicists of India, NZAROI and the South Asia Centre for Medical Physics and Cancer Research. It was accredited with eight credit hours by the Punjab Medical Council. The workshop proceedings were held in the conference hall of the Department of Medical Education at CMC.

The faculty included renowned radiation oncologists and medical physicists from various well-regarded hospitals in India. Dr Bhavna Rai, from the Post-Graduate Institute of Medical Education and Research (PGIMER) in Chandigarh, was the course director; Dr DN Sharma from the All India Institute of Medical Sciences (AIIMS) New Delhi and Dr Rakesh Kapoor from the PGIMER were the radiation oncology teachers; while Dr Arun Chougule from Jaipur, Dr Arun Oinam from PGIMER, Dr Seema Sharma from AIIMS New Delhi and Dr Frank Hensley from Germany were the medical physics faculty. The workshop was attended by 54 delegates, who included consultant oncologists, resident doctors, medical physicists and intern medical physicists from various hospitals across North India.

The workshop was planned to highlight the role and importance of brachytherapy in the treatment of various cancers, especially gynaecological, head-and-neck, and breast cancer, and sarcomas; to introduce rare treatment sites for which brachytherapy could be beneficial; and to provide practical knowledge to young radiation oncologists and medical physicists regarding the various types of brachytherapy procedures that are practised. The sessions considered all the basic prerequisites that practitioners require to practise brachytherapy and were designed to give them the confidence to take initiatives in brachytherapy.

At the inaugural ceremony, Dr Pamela Jeyaraj, professor and head of the Department of Radiation Oncology and the organising chairperson, explained the workshop objectives. Dr Jeyaraj Pandian, principal of CMC, highlighted the importance of brachytherapy and shared insights regarding the cancer and non-communicable disease burden of the country. Dr Allen Joseph, medical superintendent of CMC Hospital, spoke on the need to keep everyone updated regarding advanced treatment options and the development of necessary skills.

Sessions over the two days comprised lectures, which included those on the physics of brachytherapy and the need for quality assurance/control (QA/QC), optimisation methods and radiobiology of brachytherapy; videos to show near-live experiences of operating procedures; and live treatment planning and contouring sessions. Each teaching session gave the delegates an opportunity to explore each aspect of brachytherapy and to ask questions during the discussion at the end. The discussions continued during the breaks, and the delegates had ample opportunities to interact with the expert faculty.

Dr DN Sharma led a session entitled "Indications of brachytherapy in the precision radiotherapy era" to highlight the role and importance of brachytherapy in the treatment of cancer. Dr Hensley led a session on "advanced techniques in brachytherapy – current status and future scopes" to project the versatility and benefits of brachytherapy as a radiation therapy modality. Dr Rai led a session on imaging and contouring in which various advancements in imaging techniques were discussed. To assist delegates in building a conceptual basis for the use of brachytherapy, Dr Chougule led a session on the radiobiology of brachytherapy, Dr Seema Sharma spoke on "physical principles and calculation algorithms for brachytherapy planning" and Dr Kapoor discussed principles of interstitial brachytherapy. In Dr DN Sharma's session, there were three video demonstrations from Drs DN Sharma, Kapoor and Rai, in which brachytherapy procedures at various sites were shown in order to create awareness of various types of applications and accessible primary sites that can be treated through this method. Similarly, in Dr Rai's session on imaging and contouring, video was used by these three faculty members to guide participants in the art of contouring, tumour delineation and planning.

Drs Oinam, Chougule and Seema Sharma led sessions on "image guidance - reconstruction and planning", which were directed particularly towards physicist participants. Dr Oinam spoke on applicator commissioning and quality assurance in brachytherapy to emphasise the importance of QA/QC for equipment as well as procedures. The whole faculty monitored a session on planning, plan evaluation and dose reporting in which the process of optimisation was explained and the roles of radiation oncologists and medical physicists were highlighted.

Abstracts on topics related to brachytherapy were invited. Participants were given an opportunity to present their research work and to discuss with the faculty the prospects for further research in the field.

Feedback from the delegates and tutors indicated that both groups were pleased with the workshop. The delegates requested more such training sessions and workshops, while the faculty looked forward to more chances to teach through such programmes. Feedback to assess the effectiveness of the workshop was also obtained through the completion by the delegates of a pre- and post-workshop questionnaire. The workshop rounded off a successful 2023 international medical physics week.



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Photos show participants and faculty at the workshop on brachytherapy treatment techniques that was held in April in Ludhiana, India.

