Educational Workshop

Real-time image guided HDR brachytherapy for prostate cancer

St James’s Institute of Oncology, Leeds, UK, 1-2 December 2015
Dear Colleagues,

It is an honour and pleasure to invite you to the clinical workshop “Real-time Image-Guided HDR Brachytherapy for Prostate.” This workshop will take place at the brachytherapy department of the St James’s Institute of Oncology in Leeds, where the faculty consists of highly-recognised experts with extensive experience in real-time image-guided brachytherapy of the prostate.

During the workshop, you will be introduced to all aspects of real-time image-guided HDR brachytherapy treatment of the prostate. Key topics that will be addressed are the clinical and implementation aspects, and hands-on impression of the real-time image guided planning and delivery method. The centerpiece of the program is a live case, in which the participants can directly observe a procedure in the operating room.

This educational workshop is intended for radiation oncologists, urologists, radiologists with an interest in brachytherapy, clinical physicists and brachytherapy radiographers who want to get an integrated overview of all aspects of real-time image guided HDR brachytherapy for prostate.

We warmly invite you to join this unique workshop and to gain invaluable take-home knowledge to bring the advantages of real-time image-guided brachytherapy to your center and your patients. Please note that space is limited to 10 participants, so be sure to register early. We are looking forward to meeting you in St James’s Institute of Oncology!

On behalf of the workshop faculty
Yours sincerely,

Dr. Ann Henry and Peter Bownes
Department of Brachytherapy
St James’s Institute of Oncology
Leeds, UK

Intended Participants
Radiation oncologists, urologists, radiologists, clinical physicists and brachytherapy radiographers wanting an integrated overview of all aspects of Realtime Image-Guided HDR brachytherapy for prostate.

Workshop Topics
- Live prostate case
- Clinical aspects (e.g. patient selection, clinical indicators, use of functional imaging, treatment planning, benefits of real-time ultrasound based procedure)
- Implementation aspects (e.g. workflow, quality assurance, milestones)
- Hands-on experience with real-time planning system and ultrasound

Faculty Members
Dr. Ann Henry, Clinical Oncologist
Dr. David Bottomley, Clinical Oncologist
Dr. Kevin Franks, Clinical Oncologist
Dr. Brendan Carey, Radiologist
Dr. Jonathan Smith, Radiologist
Peter Bownes, Physicist
Dr. Bashar Al-Qaisieh, Physicist
Carolyn Richardson, Physicist
Josh Mason, Physicist
Clare Wilkinson, Radiographer

Entry Level
Experience in prostate brachytherapy is desirable.

Number of Participants
The maximum number of participants is 10.

Length
1.5 days (Tuesday afternoon, Wednesday full day)

Language
The programme will be conducted in English.

Training Venue
St James’s Institute of Oncology
Bexley Wing
St James’s University Hospital
Beckett Street
LS9 7TF
Leeds, UK

For program details and registration please visit [www.brachyacademy.com](http://www.brachyacademy.com) or send an email to: [info@brachyacademy.com](mailto:info@brachyacademy.com)
Introduction
Real-time developments in image-guided HDR prostate brachytherapy have enabled better conformity and the ability to perform this real-time procedure significantly faster. Modern planning software provides real-time ultrasound image-guidance that allows physicians to intra-operatively determine the ideal needle positions. The system visually guides you during the actual needle placement, so that the implant matches the predetermined needle positions as much as possible. Target definition is based routinely on ultrasound imaging with the ability to utilise prior multiparametric MRI data to aid definition. The fast intra-operative planning procedure uses the actual needle positions to establish the optimum conformal plan using sophisticated optimisation techniques. The benefits over alternative CT-based approaches is that the patient remains in the same position in theatre minimising the uncertainty in the realization of the intended treatment delivery. Concurrent intra-operative planning makes it possible to save precious time. In case of prostate HDR for instance, the entire procedure probe in to probe out, including the first irradiation fraction can now be reduced to less than 2 hours.

Workshop objectives
The purpose of this clinical workshop is threefold:

1. Integrated overview of the concept and practice of Real-time image-guided implants and adaptive planning
   a. The programme addresses all aspects (clinical, technical, implementation and hands-on) necessary to deciding how this treatment method will benefit your clinical practice.
   b. After observing a live case, participants focus on the clinical procedure, workflow and equipment.

2. Learning the benefits in comparison to alternative CT-based procedures
   Participants will have the opportunity to obtain hands-on experience of this approach through practicing with available systems

3. Discuss with the faculty how this treatment modality can be successfully implemented into their clinical environment
   a. Clinical method and procedure (clinical indicators, live case, clinical results, procedure, workflow, infrastructure and equipment)
   b. Implementation aspects (training requirements, learning curve, milestones, workflow optimisation, quality assurance)
   c. Hands-on experience with method and tooling using a real-time planning system
Real-time Image-Guided Procedure in St James’ Leeds

**Team**
- Anaesthetist
- Oncologist
- Physics
- Radiographer
- Radiologist
- Patient
- Nurses

**Workflow**
- Imaging, Needle Placement, Planning, Treatment Delivery
- Workup
- Treatment Volume Definition
- Treatment Planning
- Treatment Delivery
- Equipment Requirements and QA
- Review of next day’s OR cases
- Hospital tour
- Course Dinner

**Tuesday afternoon, 1 December 2015**
- Participant presentations on current versus required situation
- HDR Protocols for Prostate Brachytherapy
- Treatment Volume Definition
- Treatment Planning
- Treatment Delivery
- Equipment Requirements and QA
- Review of next day’s OR cases
- Hospital tour
- Course Dinner

**Wednesday, 2 December 2015**
- Live case
- Hands-on session treatment planning
- Logistics
- Implementation feasibility
- Conclusion and evaluation