

Skin Workshop Overview

Organizers: GEC-ESTRO H&N and Skin WG

Title: State-of-the-art skin brachytherapy

Date and time: Saturday 04.04.2020 from 14.15 to 16.15

Moderators: **Agata Rembielak**, *Clinical and Radiation Oncologist, The Christie Hospital and The University of Manchester (UK)*, **Philip Devlin**, *Radiation Oncologist, Brigham and Women's Hospital (US)*

Faculty: – Workshop faculty team consists of GEC-ESTRO H&N and skin WG members (radiation oncologists and medical physicists). All are experts in the field of skin brachytherapy. We also have invited dermatologists and surgeons as guest faculty.

Target audience: The workshop is open to clinicians, medical physicists, RTTs, skin nurses, dosimetrists, brachytherapists, technicians and other allied health care professionals, including trainees in relevant specialities interested in skin brachytherapy.

Workshop overview / aim: During the workshop we will discuss state of art summary of recent developments in superficial and interstitial skin brachytherapy with planning and dosimetry considerations. This workshop will provide also a hands-on experience to participants regarding modality selection and implementation in brachytherapy for skin cancers. We will provide stations on treatment planning for HDR brachytherapy, on custom mould making and 3D printing applicators, fixed applicators and electronic brachytherapy in addition to phantoms for interstitial implantation and high frequency skin ultrasound equipment.

Key words: skin brachytherapy, superficial and interstitial brachytherapy, skin applicators, skin ultrasound, handmade and 3D printed mould

Learning objectives:

By the end of the workshop the participants will be able to:

- Describe the current state of art in skin brachytherapy
- Develop hands on experience in all skin brachytherapy techniques, including handmade and 3D printed moulds
- Understand the role of high frequency skin ultrasound in skin cancer management, particularly in skin brachytherapy planning and follow-up
- Share good practice tips in skin brachytherapy

Organisation and method of presentation:

- max 30 attendees plus faculty
- oral presentations and practical workstations in small groups

The workshop will start with 3 short overview lectures, followed by a split-up session, during which participants will be divided into 5 groups of 5-6 and get a hands-on overview of brachytherapy (BT) planning systems, superficial and interstitial applicators, handmade and 3D printed moulds and a high frequency ultrasound by rotating across 5 different workstations. Each workstation will be repeated 5 times, allowing participants to attend all 5 workstations.

Workstations breakdown:

- **Workstation 1 - Skin BT computer planning**

Content	• Current overview of computer planning in skin BT • Each participating company will show and discuss an example of pre-planned BT skin case using their TPS so participants can familiarise themselves with different TPSs and planning approaches
----------------	---

- **Workstation 2 - Flap and mould applicators including 3D printed moulds**

Content	• Overview of the use of flaps and moulds in skin BT (indications, limitations, practicalities) • Steps involved in preparation of handmade applicators and 3D printed
----------------	--

- **Workstation 3 - Skin ultrasound**

Content	• Overview of the use of high frequency ultrasound (HFUS) in skin cancer management • HFUS in skin BT planning and follow-up
----------------	--

- **Workstation 4 - Interstitial BT**

Content	• Practical applications of interstitial BT
----------------	---

- **Workstation 5 - Fixed applicators and electronic BT**

Content	• Practical aspect of the use of fixed applicators and electronic BT
----------------	--

Workshop timing:

Time	Duration	Session	Content of session
14.15-14.20	5 min	Welcome and Introduction	
14.20-14.30	10 min	Superficial BT	Techniques in superficial BT with case examples
14.30-14.40	10 min	Interstitial BT	• Techniques in interstitial BT with case examples • Alpha emitters
14.40-14.50	10 min	Physics and dosimetry in skin BT	• Physical and dosimetric aspects of skin BT (superficial and interstitial) • Tips in skin planning
14.50– 14.55	5 min	Splitting into groups	
14.55-16.10	75 min	Rotation across 5 workstations	
14.55-15.10	15 min	Rotation 1	
15.10-15.25	15 min	Rotation 2	
15.25-15.40	15 min	Rotation 3	
15.40-15.55	15 min	Rotation 4	
15.55-16.10	15 min	Rotation 5	
16.10-16.15	5 min	Closing remarks	