

**STEREOTACTIC BODY RADIOTHERAPY (SBRT)  
TRAINING COURSE**

**AT**

**SHAUKAT KHANUM  
MEMORIAL CANCER HOSPITAL AND RESEARCH  
CENTRE**

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## **SBRT COURSE: PURPOSE & OBJECTIVE**

The goal of this course is to increase clinical understanding, and preparedness in the use of SBRT and SRS. Upon successful completion of the course, it is intended that course participants will be able to:

- Understand the rationale, clinical advantages, and risks associated with SRS/SBRT
- Have a clear view of a typical SRS/SBRT clinical workflow, including: selection of patient, pre-planning considerations, simulation, patient immobilization, imaging and motion management, SRS/SBRT treatment planning with IMRS/VMAT, QA checks, treatment delivery and follow-up
- Understand the salient differences between frame-based and frameless treatments
- Know how to evaluate SRS/SBRT treatment plans
- Know the relevant physics commissioning and routine QA procedures necessary to safely implement SRS/SBRT treatment.

## **SBRT COURSE: INSTRUCTIONS**

The course content is taught by a multi-disciplinary team from Harvard and partner institutions, including subspecialty surgeons, radiation oncologists and medical physicists.

### **DURATION**

Time Period: 16<sup>th</sup> August 2019 – November 2019

### **ATTENDEES**

The curriculum is suitable for Physicians, Medical Physicists/dosimetrists, Technicians/radiation therapists.

### **REQUIREMENTS**

1. Participants should have a medical degree such as MD, a PhD or equivalent. Participants with Masters degrees and clinical experience in clinical/radiation oncology are very welcome to enroll.
2. Participants can be from anywhere, though this course was designed for participants from and working in Low and low-middle income countries and particularly from Pakistan.
3. The registration fee is FREE. Trainees will receive Certificates of Completion with opportunity to attend the yearly Global Health Catalyst summits at Harvard Medical School.

### **TEXTBOOKS/SOFTWARE**

Stereotactic Radiosurgery and Stereotactic Body Radiation Therapy (SBRT). Edited by: Dwight E. Heron MD, MBA, FACRO, FACR; M. Saiful Huq PhD, DABR, FAAPM, FInstP; Joseph M. Herman MD, MSc.

Book is enhanced with supplemental video tutorials inclusive to the resource.

1. Proknow
2. Eclipse

## **SBRT COURSE: OUTLINE**

The following outlines the learning activities which will include online course modules on ecancer4all platform with videos, assignments, online discussion and

journal club, ending with online assessments. Online asynchronous learning will be complemented by live webinars, self-directed learning.

### COURSE GUIDELINES

The course will run on an interactive based model. Each week on:

- Monday: Pre didactic Lecture materials/Videos will be available for the attendees to review and listen to before the class
- Friday: A more interactive session will hold including case studies or examples as appropriate

### COURSE SCHEDULE (SUBJECT TO CHANGE)

Date	Lecture / Topic	Topic Description	Instructors	Attendance
Monday, 12 <sup>th</sup> August 2019	Pre- course Baseline Anonymous Assessment	SBRT	All	Course participants
Friday, 16 <sup>th</sup> August 2019	Global Radiation Oncology	Global Radiation Oncology Education offerings at Harvard Medical School, collaborations, MOU, Start of 2019/2020 SBRT course	Wil Ngwa, Ahmed Elzawawy, Riccardo Audisio,	Physicians; Medical Physicist; Technicians
Friday, 16 <sup>th</sup> August 2019	Introduction to SBRT	Introduction and Overview of SBRT. The lecture will include a review of clinical findings/rationale and expected outcomes for SBRT. Information is provided for establishing an SBRT program, including protocols, equipment, resources, and QA procedures. Additionally, suggestions for developing consistent documentation for prescribing, reporting, and recording SBRT treatment delivery will be provided. Examples will be provided with reference to the SBRT program at Brigham and Women's Hospital, Harvard Medical School	Zhaohui Han Harvard Medical School (HMS)	Physicians; Medical Physicist; Technicians
Friday, 23 <sup>rd</sup> August 2019	SBRT For lung and Liver Cancer (Pre-lecture material/video provided)	Covers, SBRT-patient Selection criteria the detail clinical considerations and application of SBRT for patients with lung/liver cancer and discusses the expected patient outcomes	<a href="#">David Kozono</a> – HMS	Physicians; Medical Physicist; Technicians
Friday, 30 <sup>th</sup> August 2019	SBRT Commissioning and quality assurance  (Pre-lecture material/video provided)	This session will cover commissioning for SBRT/SRS and cover routine regular quality assurance (QA) protocols and practice for SBRT: daily, weekly, monthly, yearly QA	<a href="#">Stephen Avery, UPENN;</a> Volker Steil - University of Heidelberg Faculty Center Mannheim;	Medical Physicist; Technicians
Friday, 6 <sup>th</sup> September 2019	SBRT for Head and Neck Cancer (Pre-lecture material/video provided)	Covers, SBRT-PATIENT SELECTION CRITERIA the detail clinical considerations and application of SBRT for patients with head and neck cancer and discusses the expected patient outcomes	<a href="#">Jonathan Schoenfeld</a> – HMS	Physicians; Medical Physicist; Technicians

Friday, 13 <sup>th</sup> September 2019	SBRT for Pancreatic cancer  (Pre-lecture material/video provided)	Covers the detail clinical considerations and application of SBRT for patients with pancreatic cancer and discuss practice guidelines and the expected patient outcomes	Joseph Mancias – HMS	Physicians; Medical Physicist; Technicians
Friday, 20 <sup>th</sup> September 2019	SBRT for CNS tumors  (Pre-lecture material/video provided)	Cover the detail clinical considerations and application of SRS for patients with CNS tumors and discuss practice guidelines and the expected patient outcomes	Hammoudeh, Lubna– HMS	Physicians; Medical Physicist; Technicians
Friday, 27 <sup>th</sup> September 2019	SBRT for palliative treatment of bone and spine metastases  (Pre-lecture material/video provided)	This will cover patient selection criteria and the detail clinical considerations and application of SBRT for patients with bone and spine metastasis and discuss practice guidelines and the expected patient outcomes	Mai Anh Huynh - MD, PhD Harvard	Physicians; Medical Physicist; Technicians
Friday, 4 <sup>th</sup> October 2019	SBRT Simulation (including 4D), Imaging, Treatment Planning, Positioning, Immobilization, Target Localization, Delivery and QA  (Pre-lecture material/video provided)	This lecture will focus on imaging/simulation during SBRT needed to provide visualization of patient anatomy as it will appear during patient setup and throughout treatment. Treatment planning will cover the designation of targets and critical structures, as well as determining an optimal treatment delivery approach, patient positioning, target immobilization for quality SBRT treatment delivery, and QA	<a href="#">Mandar Bhagwat</a> – MGH, Harvard	Medical Physicist; Technicians
Friday, 11 <sup>th</sup> October 2019	SBRT for prostate cancer  (Pre-lecture material/video provided)	This session was focus on clinical considerations, patient selection and application treatment guidelines for using SBRT for prostate cancer	Paul Nguyen Harvard	Physicians; Medical Physicist; Technicians
Friday, 18 <sup>th</sup> October	SBRT for breast cancer  (Pre-lecture material/video provided)	This session will focus on clinical considerations, patient selection and application treatment guidelines for using SBRT for breast cancer	Shekinah Elmore, MGH. Harvard  Onyi Balogun, Weill Cornell Medicine	Physicians; Medical Physicist; Technicians
Friday, 25 <sup>th</sup> October, 2019	Palliative Care SBRT: Role of religion and spirituality in the experience of cancer  (Pre-lecture material/video provided)	Special considerations for using SBRT for palliative care and the psychosocial aspects of advanced cancer and radiotherapy for palliation. The psychosocial aspects of advanced cancer, will include evidence-base/research on the role of religion and spirituality in the experience of cancer. This includes the impact of religion/spirituality on coping and end-of-life medical care and the impact of spiritual care in the medical setting on patient end-of-life outcomes.	<a href="#">Tracy Balboni</a> – Tracy Balboni, BWH, DFCI, Harvard	Physicians
Friday, 1 <sup>st</sup> November 2019	<b>HOLIDAY</b>			

Friday, 8 <sup>th</sup> November 2019	SBRT Review/assessment of knowledge gained and next steps.	During this session, the authors of the text in SBRT will help review the key points and assessment to document knowledge gained from the course. The assessment will be anonymous for all participants and can be done asynchronously.	Saiful Huq/ Dwight E. Heron/Hugo Aerts/Ngwa/ Kerr	Physicians, Medical Physicists, Technicians
Friday, 15 <sup>th</sup> November 2019	All Assignments Submission			Physicians, Medical Physicists, Technicians
	End of Course and Award of Certificates			

### **COURSE GRADING POLICY**

Certificates of successful completion will be awarded for participation in course sessions, completion of assignments/quizzes, and pre and post course evaluation

### **HARVARD GHC PROGRAM COORDINATORS/ASSOCIATES**

Fiza Shaukat,  
Farooq Shaukat,  
William Swanson,  
Dr Wilfred Njah,  
Dr. Omoruyi Credit Irabor,