

Access to Care

From 2D to 3DCRT to IMRT/VMAT:

The role of education in transitioning to modern radiotherapy techniques

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Disclaimer

I am a medical physicist employed by **Varian Medical Affairs**

The Access to Care Cape Town radiotherapy training programme is a collaboration between the **University of Cape Town**, **Cape Peninsula University of Technology** and **Varian Medical Affairs**

The programme also include courses offered by **RadiQa/HUMANITAS** and **Planning for Africa** as training collaborators

Planning For Africa

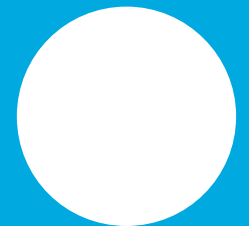
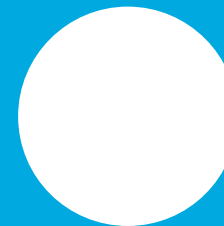


RADIQA
DEVELOPMENTS
HUMANITAS
CANCER CENTER

 Cape
Peninsula
University
of Technology

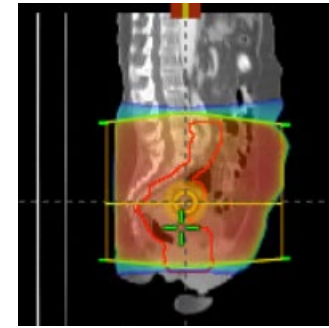
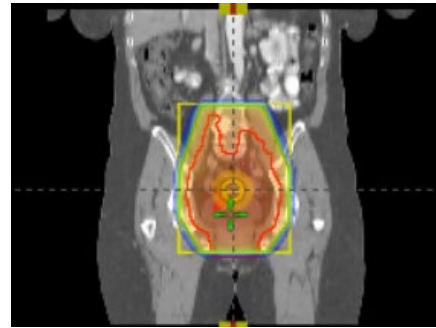
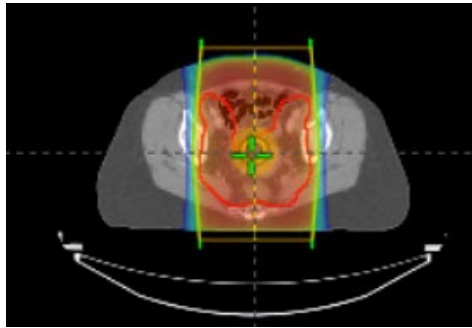
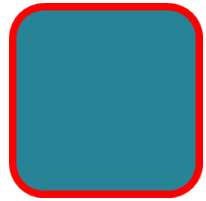


varian
A Siemens Healthineers Company

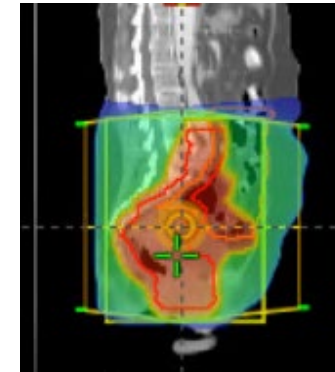
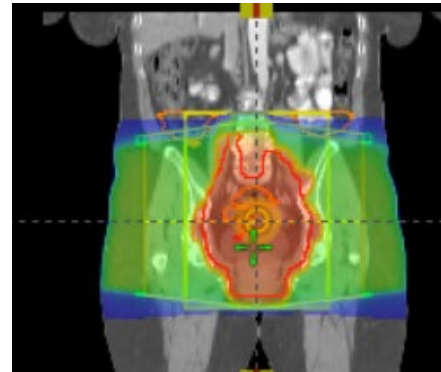
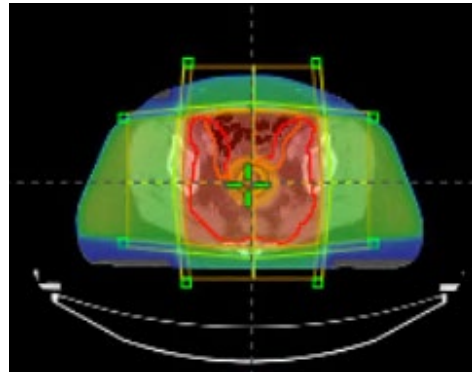


Evolution of RT: 2D vs 3DCRT vs VMAT

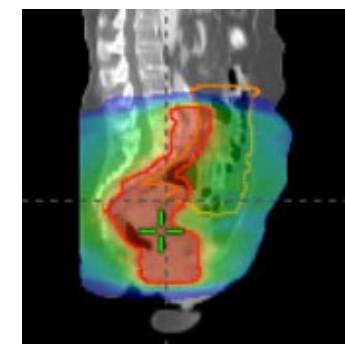
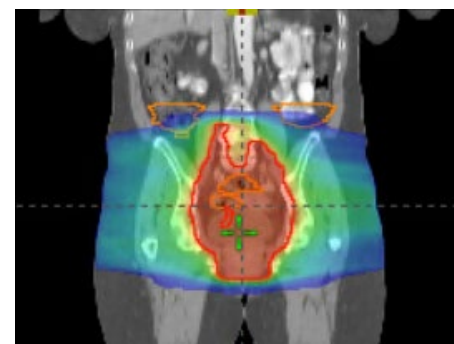
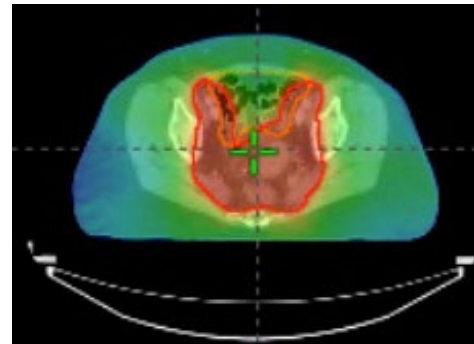
2D



3DCRT



VMAT/IMRT



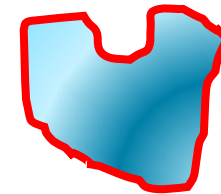
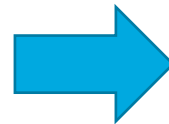
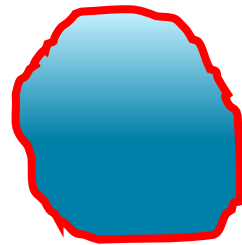
The risk: Ideal world vs. real world

More complex techniques

→ *Increased need for accurate dose and positioning*

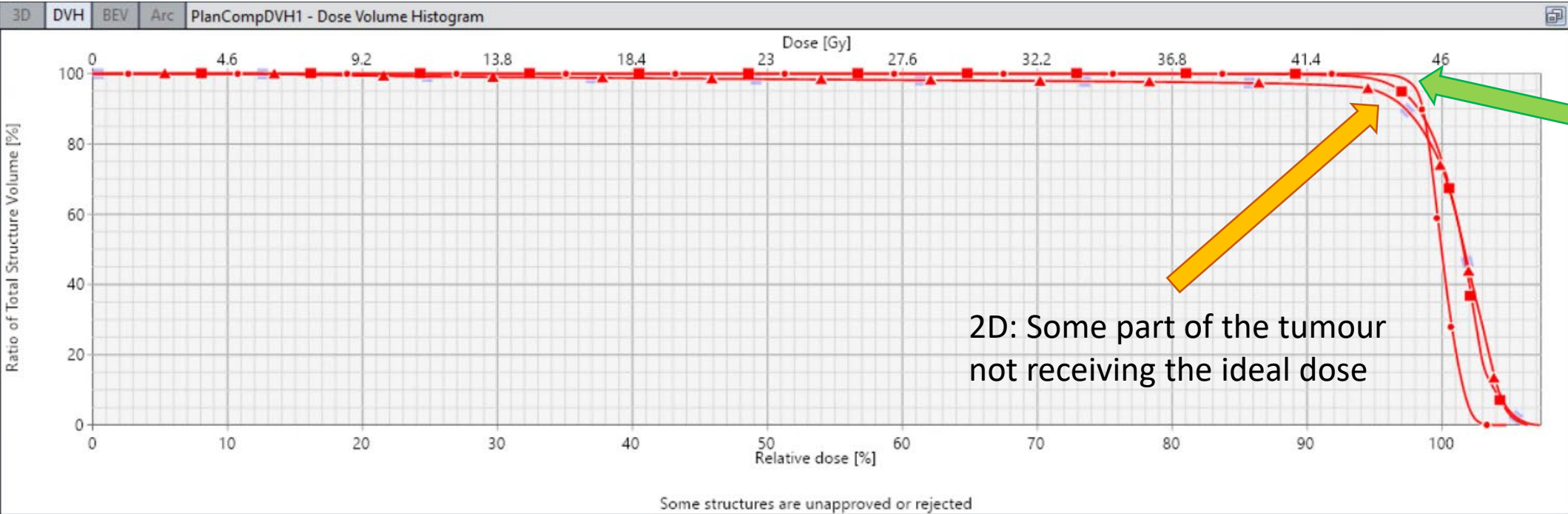
→ *Increased need for quality assurance*

→ *Increased need for training*



Need to deliver the right dose to the right place – every time

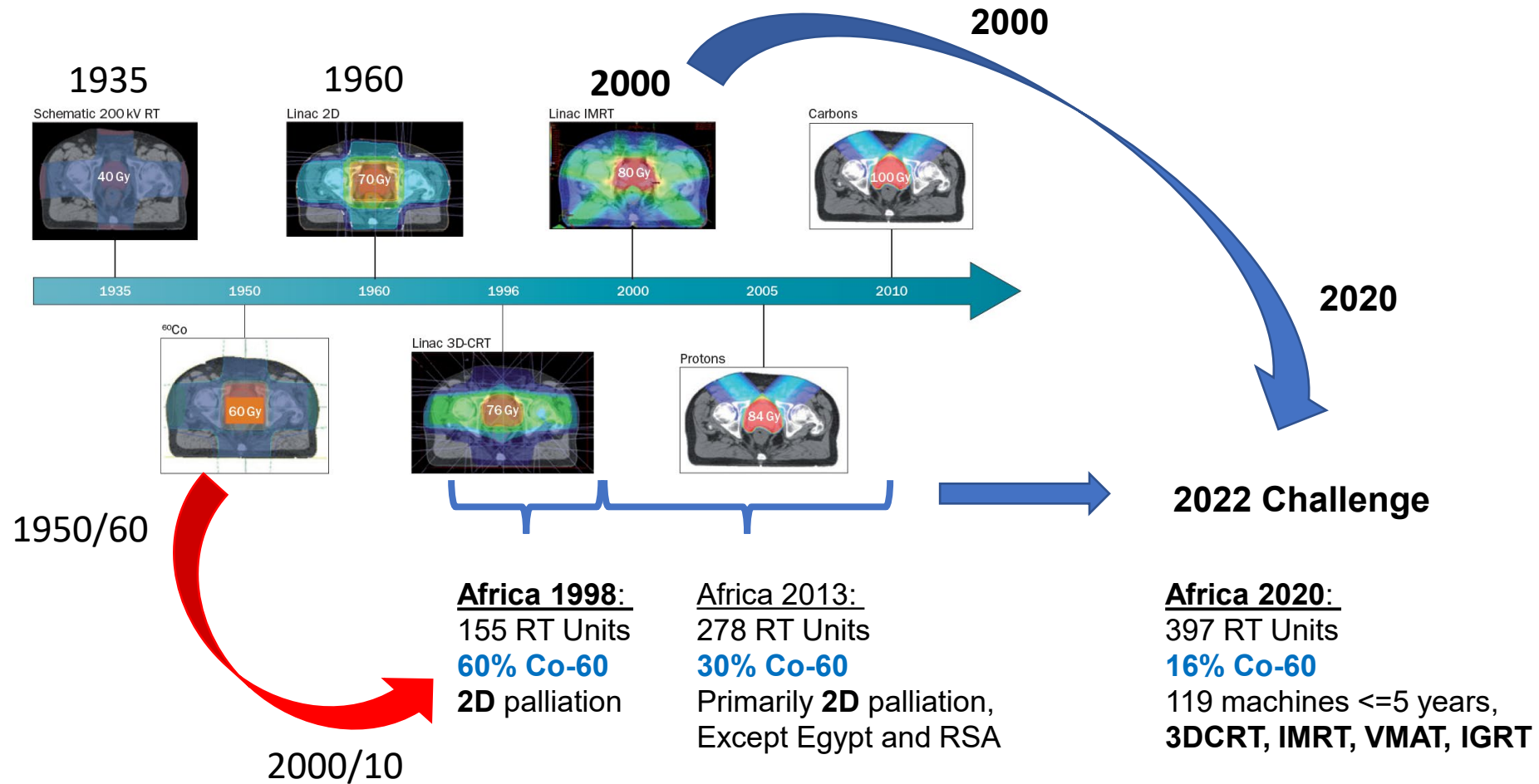
Aim of RT: Dose to the **target**,
protect the **normal tissue**



<input checked="" type="checkbox"/>	▲	PTV_46	Unapproved	APPA 2D
<input checked="" type="checkbox"/>	■	PTV_46	Unapproved	4FLD 3DCRT1
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Radiotherapy is a highly technological, fast changing medical field

Challenge: Training requirements in LMIC is different to HIC



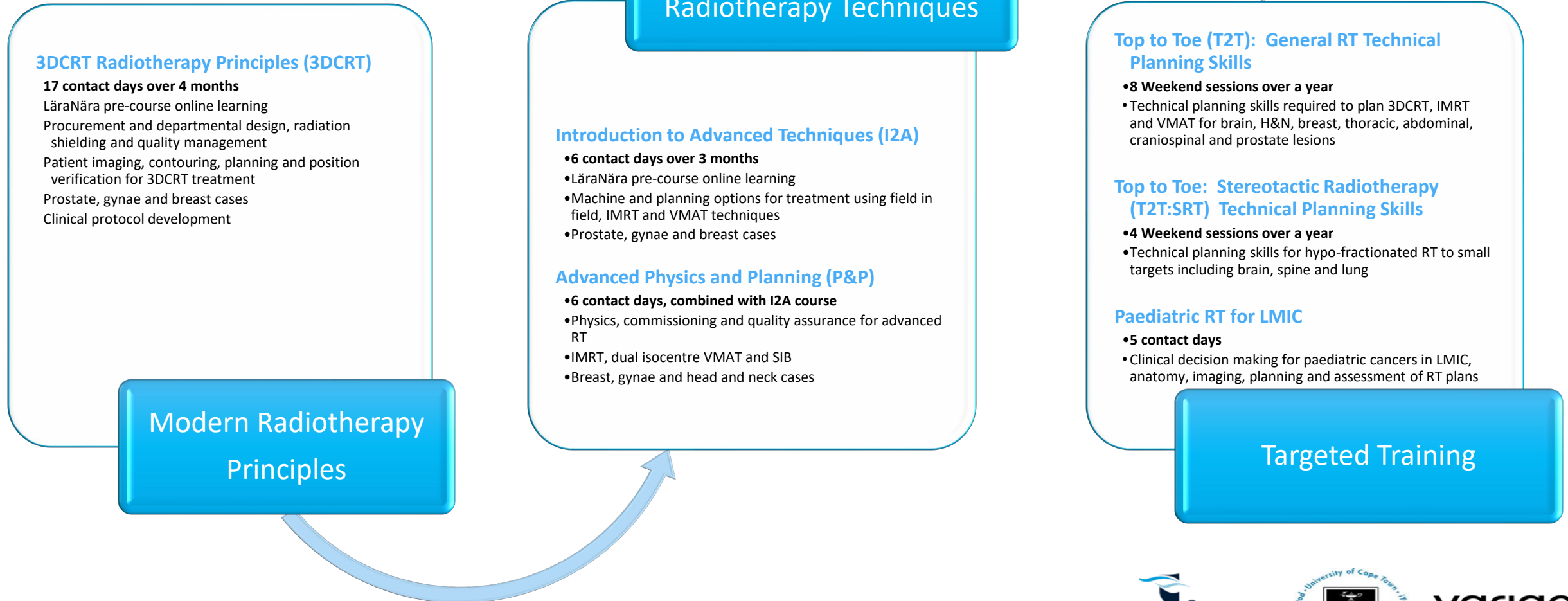
Thariat, 2012; Abdel-Wahab 2013; Zubizaretta, 2014, DIRAC 2020

Access to Care Cape Town Radiotherapy training programme



- Created in 2014
- Collaboration between **Varian Education** and two Cape Town based universities
 - **University of Cape Town** – Radiation Oncology and Medical Physics training institution
 - **Cape Peninsula University of Technology** – Radiation Therapy Technicians (RTT) training institution
- Training facilitated at **Groote Schuur Hospital**, State sector Academic Hospital in Cape Town, South Africa
- **AIM:** Create *short course training programs focusing on the practical skills required for already qualified radiotherapy professionals to safely move to more advanced techniques*

Stepwise approach to training



Remote teaching model: 2020 →



Online learning platforms

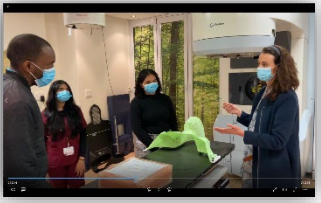
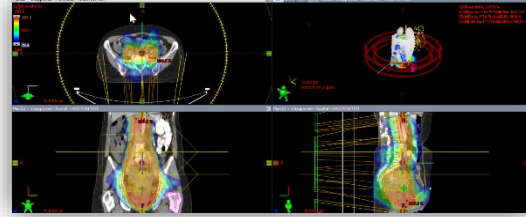
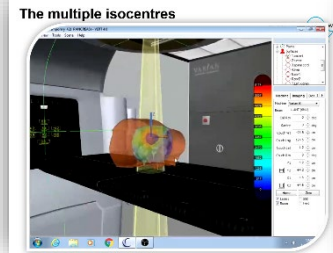
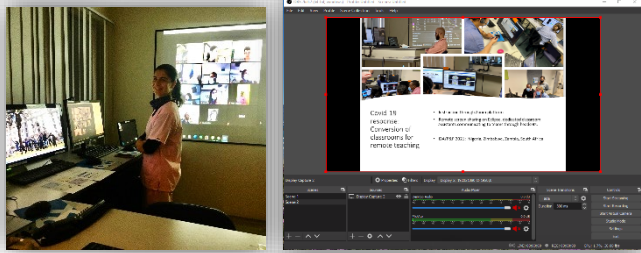
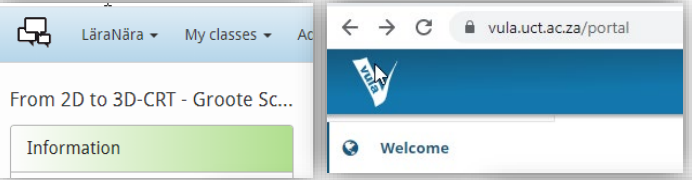
Didactic Lectures: Zoom/ Recordings

Alternative platform teaching: VERT™

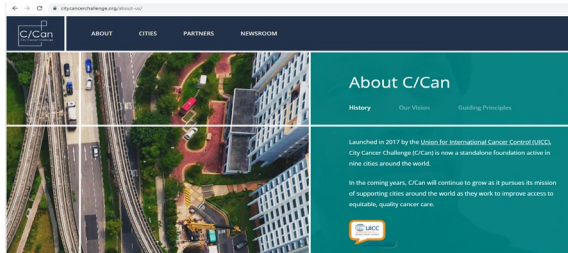
Treatment Planning: Remote vApps

Practical Demos: Streaming/ Recordings

Mentorship Online



This is a worldwide effort



15 Sessions delivered so far to help students continue radiotherapy education with VERT during the current situation

Student Webinar



Competency-based Training and Curriculum Development

- National and Cross-national Partnerships
- Distant Learning Approaches
 - IAEA- AFRONET
 - ESTRO-FALCON
 - Virtual University for Cancer Control (VUCCnet)- IAEA
- Travel grants sponsored by professional organisations...ESMO, ASTRO, Canadian Association of Radiation Oncology (CARO)



Overview
 Postgraduate Education in Radiation Oncology in Low- and Middle-income Countries
 J.G. Eriksen
 Department of Oncology, Odense University Hospital, Odense, Denmark
 Received 3 October 2016; received in revised form 28 October 2016; accepted 3 November 2016

Partnerships to Improve Training within Low- and Middle-income Countries

- American Society for Radiation Oncology (ASTRO) has run an eContouring Ambassador Initiative programme
- Varian's educational programme, 'Access to Care',
- The Global Radiation Oncology Collaboration in Education (GRaCE)
- Medical Physics for World Benefit (MPWB, formerly called Medical Physicists Without Borders)

