



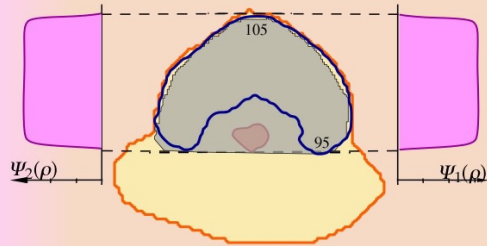
*TEACHING COURSES ON  
TARGET VOLUME  
DEFINITION IN  
RADIATION ONCOLOGY*

# **INTERNATIONAL TEACHING COURSES ON TARGET VOLUME DEFINITION**

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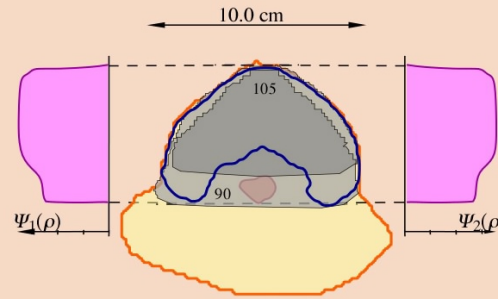
- 1999 Nentershausen**
- 2000 Vilnius**
- 2001 Kielce (Holycross Cancer Institute)**
- 2003 Stockholm (Karolinska Institute)**  
**Stockholm (Swedish Cancer Society)**  
**Kielce (Polish Cancer Society)**
- 2004 Limburg**  
**Taipei (Taiwan Cancer Society)**
- 2005 Murcia (Spanish Radiotherapy Society)**  
**Aarau (Kanton Hospital Aarau)**  
**Limburg**  
**Karachi**
- 2006 Roumania, Spain, Swizerland, Taiwan, Germany**

# SEVEN STEPS IN THE DEVELOPMENT OF RADIATION THERAPY



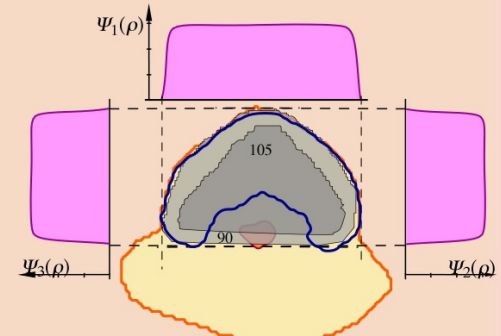
**SRT**

**STANDARD RADIATION THERAPY**  
1895-  $P_+ \approx 40-50\%$



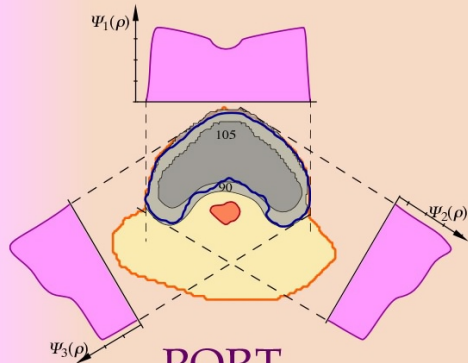
**IMRT**

**INTENSITY MODULATED  
RADIATION THERAPY**  
1960-  $\Delta P_+ \approx 10-15\%$



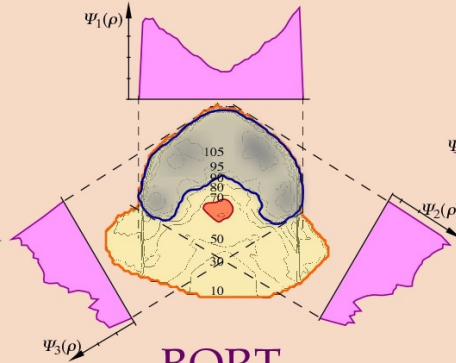
**CRT**

**CONFORMAL RADIATION THERAPY**  
1965-  $\Delta P_+ \approx 5-10\%$



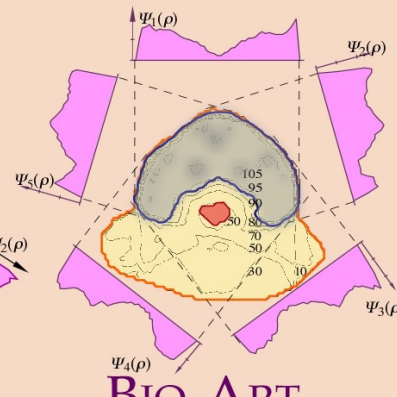
**PORT**

**PHYSICALLY OPTIMIZED  
RADIATION THERAPY**  
1985-  $\Delta P_+ \approx 15-25\%$



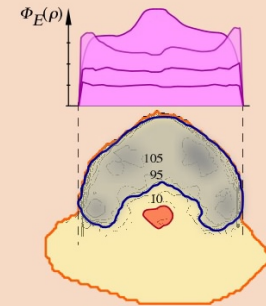
**BORT**

**BIOLOGICALLY OPTIMIZED  
RADIATION THERAPY**  
1990-  $\Delta P_+ \approx 20-35\%$



**BIO-ART**

**BIOLOGICALLY OPTIMIZED  
PREDICTIVE ASSAY BASED  
PHOTON RADIATION THERAPY**  
2000-  $\Delta P_+ \approx 25-40\%$



**BIO-ART**

**BIOLOGICALLY OPTIMIZED  
PREDICTIVE ASSAY BASED  
LIGHT ION RADIATION THERAPY**  
2008?  $\Delta P_+ \approx 30-50\%$

Quality assurance of the EORTC radiotherapy trial 22931 for head and neck carcinomas: the dummy run

Jean-François Valley<sup>a,\*</sup>, Jacques Bernier<sup>b</sup>, Pierre-Alain Tercier<sup>c</sup>, Antonella Fogliata-Cozzi<sup>d</sup>, Anna Rosset<sup>e</sup>, Guido Garavaglia<sup>f</sup>, René-Olivier Mirimanoff<sup>g</sup>

<sup>a</sup>Institute of Applied Radiophysics, University Center, CH-1015 Lausanne, Switzerland  
<sup>b</sup>Hopital de la Croix-Rouge, CH-4004 Bellinzona, Switzerland  
<sup>c</sup>Centre Hospitalier Universitaire Vaudois, CH-1011 Lausanne, Switzerland  
<sup>d</sup>Netherlands Cancer Institute, NL-1066 CX Amsterdam, The Netherlands

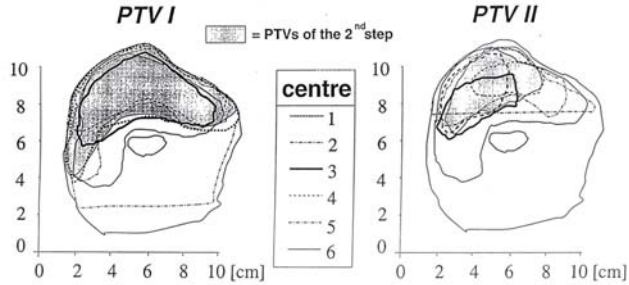
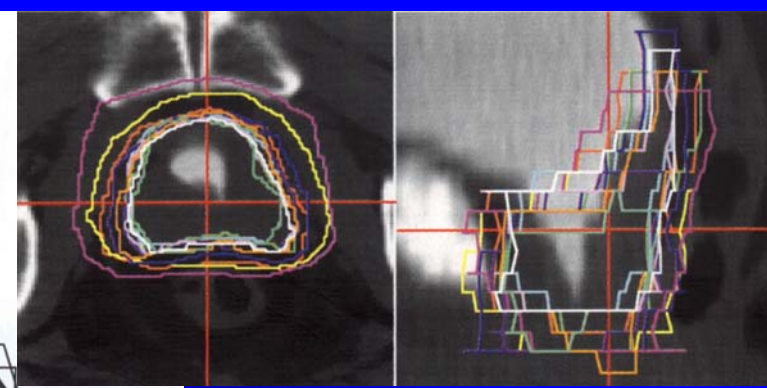
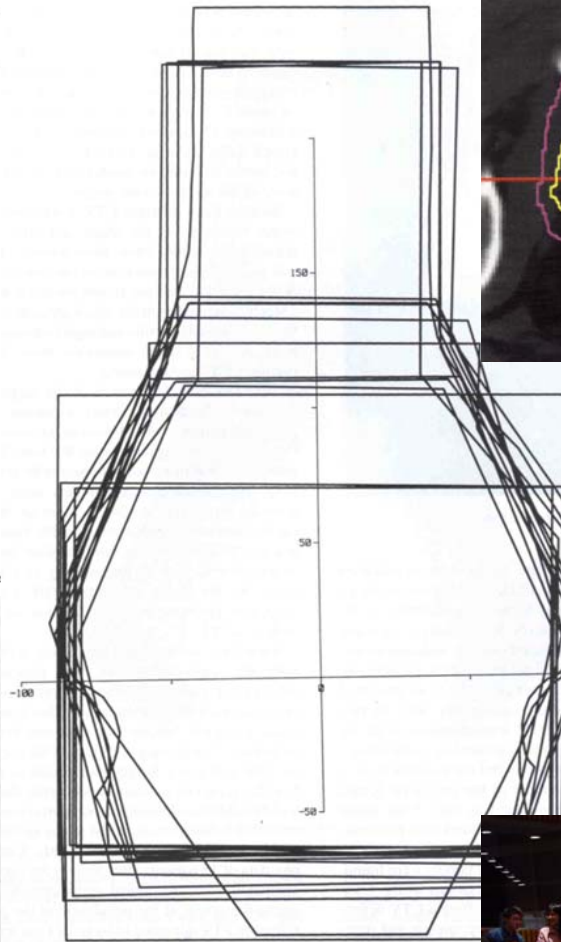


Fig. 2. Pattern of PTV outlines in six centres (cross-section within the tumour). The hashed area corresponds to the PTV delineated by the second step of the dummy run.

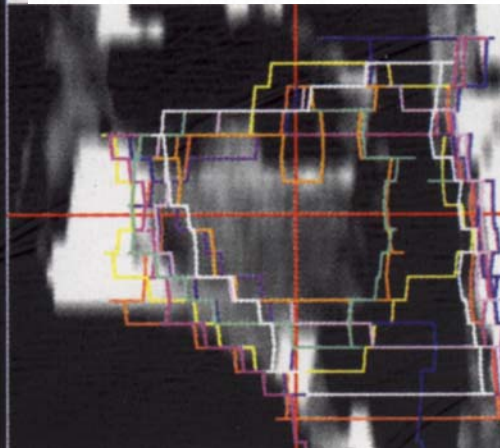
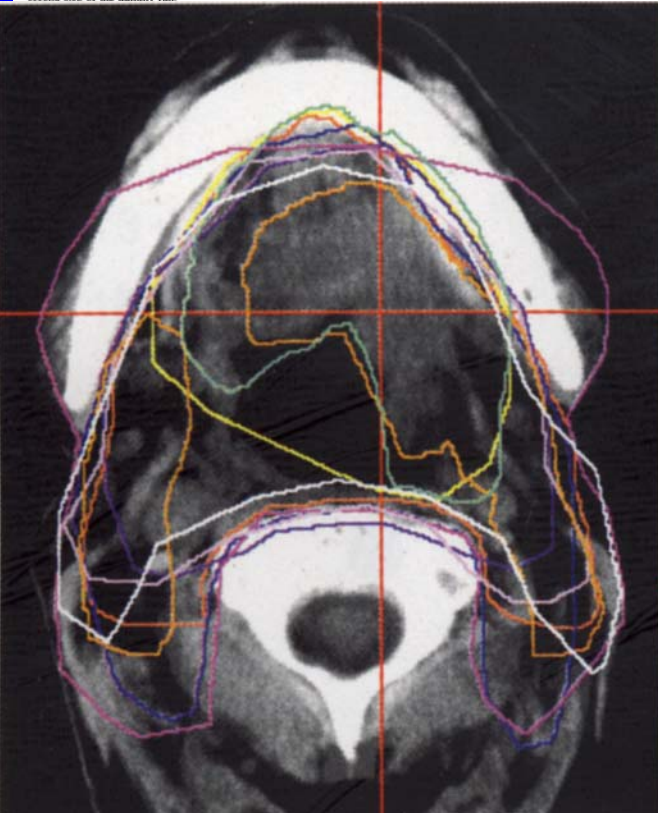


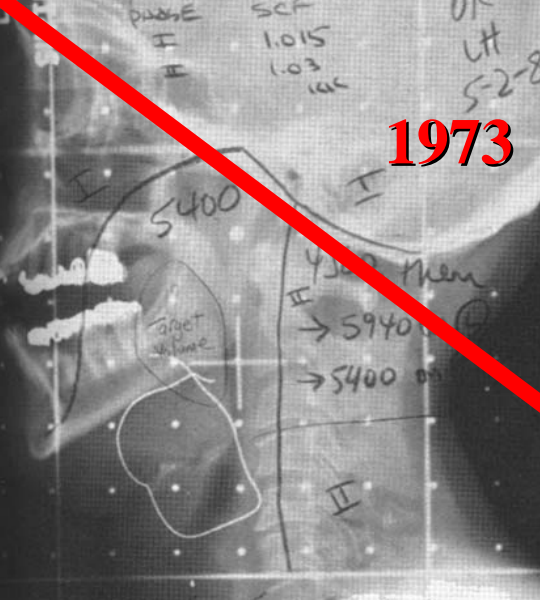
## Target Volume Delineation 2005: Better Common Language in Taiwan

April 2-3 2005

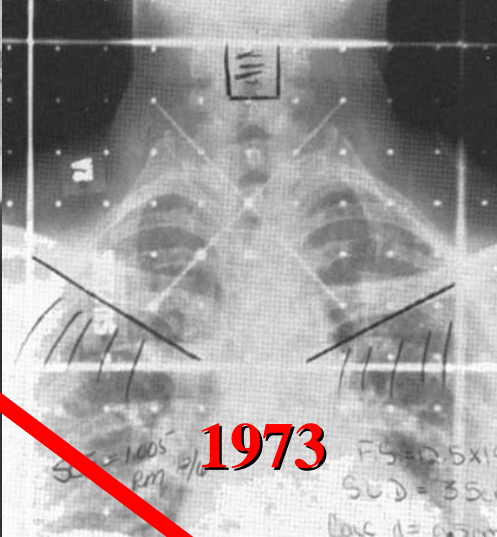
Taipei Veterans General Hospital, Taiwan

By Professor Dr. Ion Christian Kiricuta  
 Institute of Radiation Oncology  
 St. Vincenz-Hospital, Limburg, Germany





1973



1973

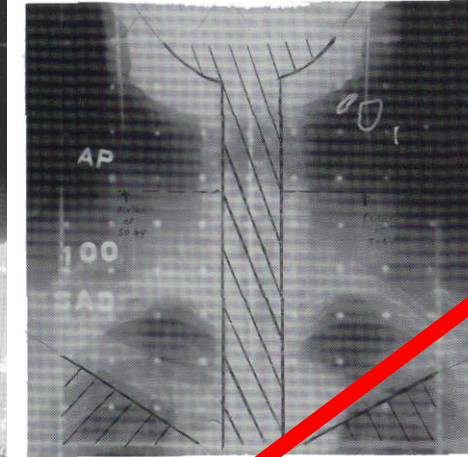
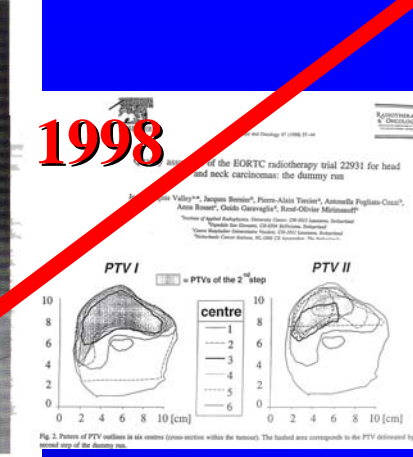
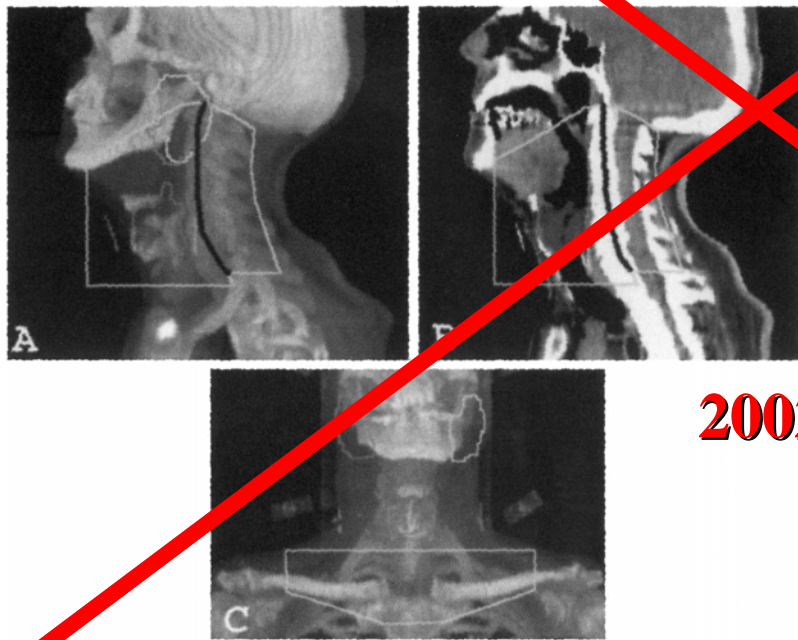


FIGURE 24-17. Simulation film of an anterior neck field with a full midline spinal cord bar, 2 cm wide, to encompass the nodes in the neck and the sternoclavicular nodes laterally. After a dose of 50.4 Gy at 3 cm depth the field is reduced off the lower neck and the nodes in the upper neck are given an additional boost using anterior-posterior opposed fields with a midline bar and compensators.



1998



2002

A: A digital composite radiography showing a left lateral portal encompassing a T3N0M0 squamous cell carcinoma of the false cord. B: A sagittal view showing structures included within the irradiated field. The portals are reduced after 40 to 45 Gy to exclude spinal cord (dark line). Tumor boost portal can be designed based on the outlined gross tumor volume. C: Anterior lower neck portal.

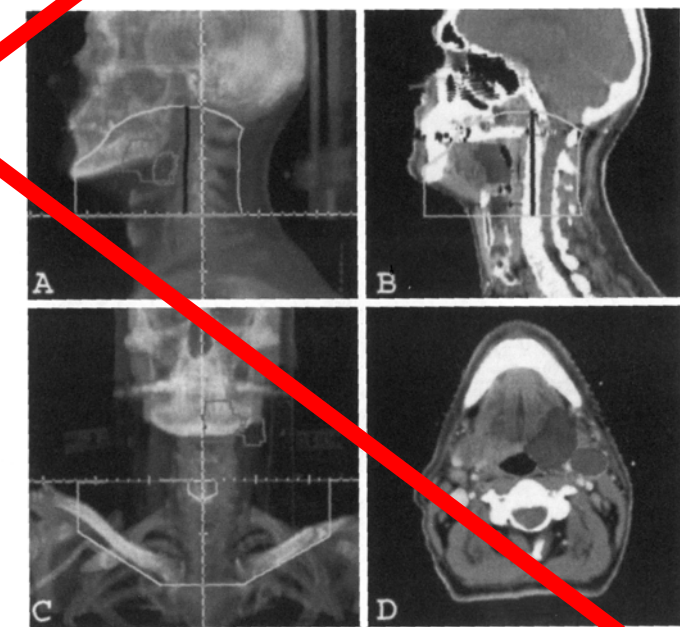


FIG. 25-3. A: A digital composite radiography showing a left lateral portal encompassing a T2N1M0 base of tongue carcinoma. B: A sagittal view showing structures included within the irradiated field. The portals are reduced after 40 to 45 Gy to exclude spinal cord (dark line). Tumor boost portal can be designed based on the outlined gross tumor volume. C: Anterior lower neck portal. D: An axial view through the central region of the tumor showing the extension of the primary tumor and the metastatic node.

# CERVIX UTERI CANCER

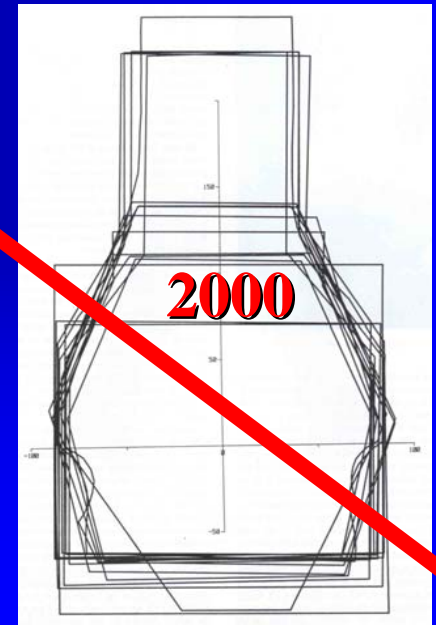
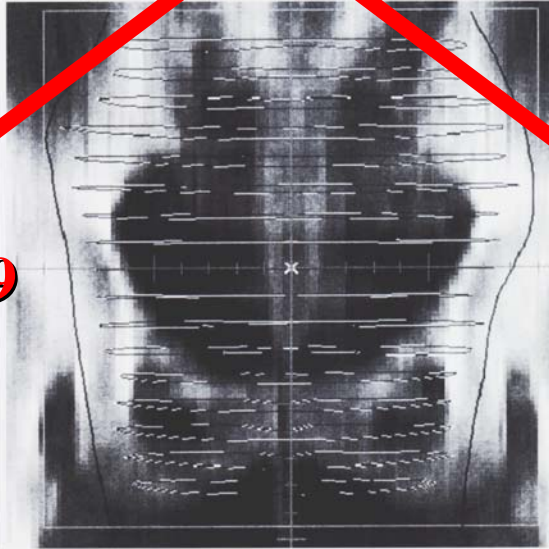
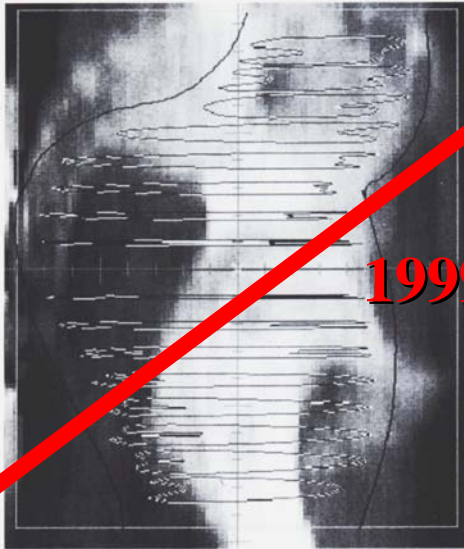
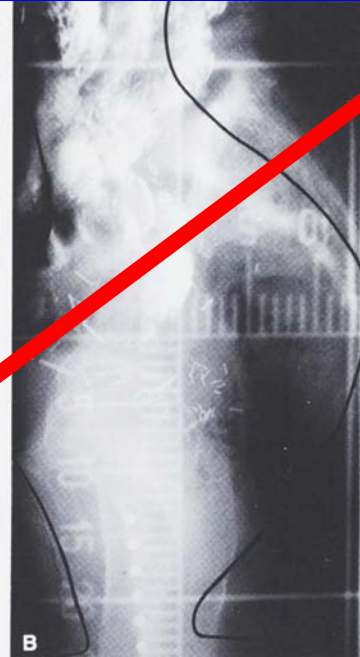
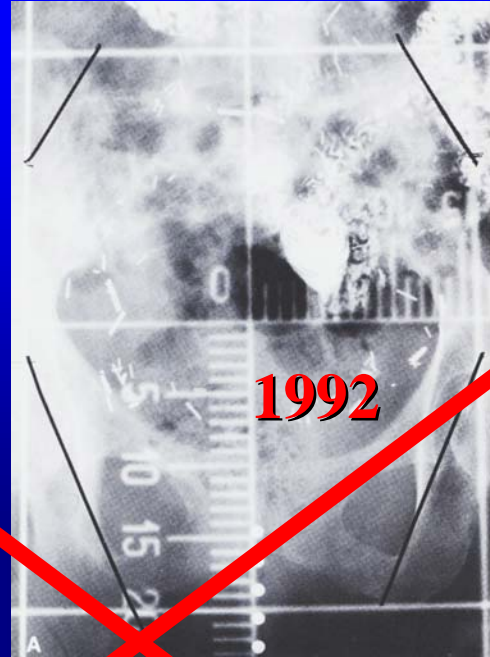
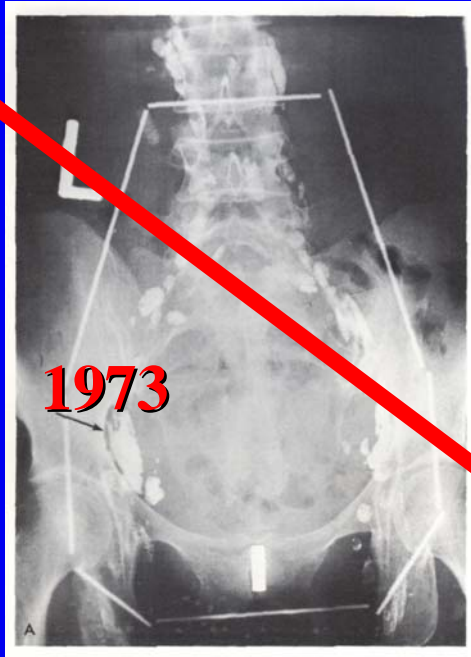
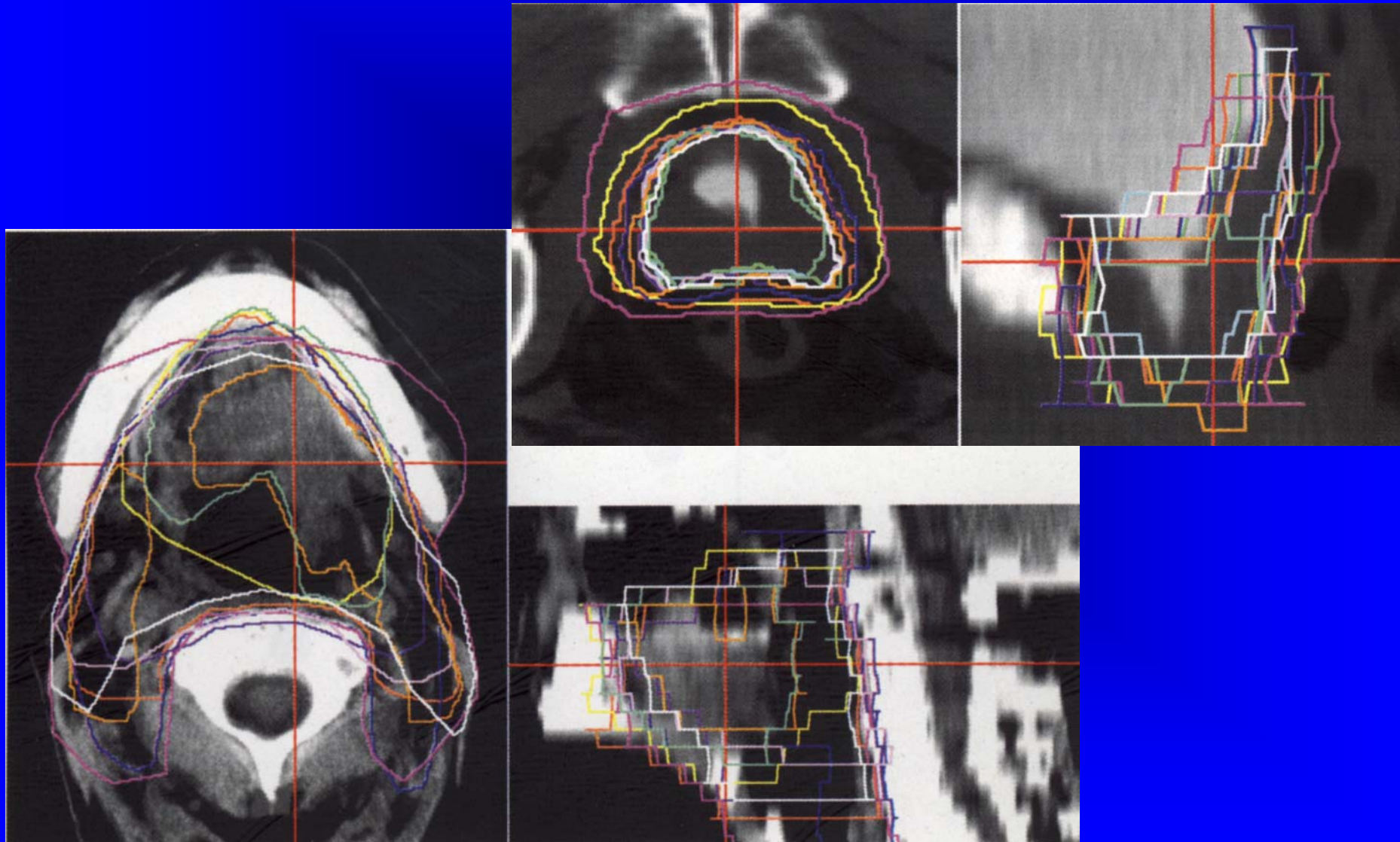


Fig. 1. Digital reconstructed radiographs derived from the Helax® planning system showing an example of individual field borders and individual beam shaping based on BEV-technique of the same patient as shown in Fig. 2. The contours of the PTV are shown.

# CLINICAL TARGET VOLUME CONCEPT PARADOX





**LITUANIAN CANCER CENTER  
VILNIUS  
MARCH 2000**



**Kielce September 2003**



**HOLYCROSS CANCER CENTER  
SUMMERSCHOOL OF RADIOTHERAPY**



**Stockholm 2003**  
**Huddinge Universitet**

Under the Patronage of His Excellency  
**Dr. Mohammed Ahmed Al-Jarallah**  
Minister of Health  
State of Kuwait

**First National Symposium  
On Target Volume Definition  
In Radiation Oncology**



*Organized by*  
**Kuwait Cancer Control Center**  
**26 - 27 October 2002**  
Venue  
Kuwait Cancer Control Center



# Kuwait Cancer Center 2002






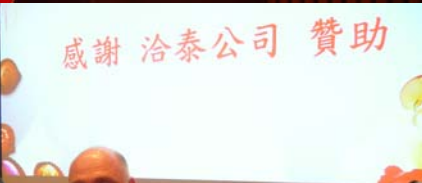
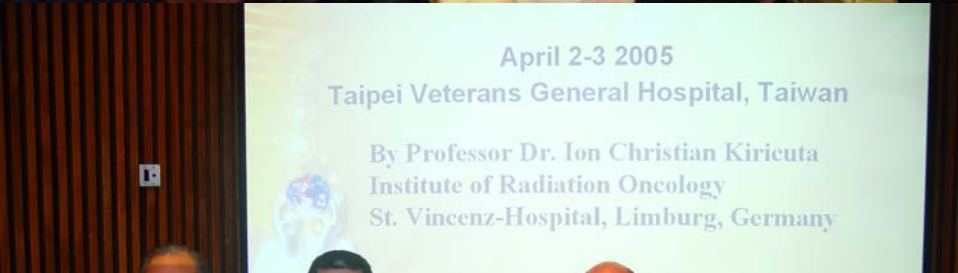
# Target Volume Delineation 2005: Better Common Language in Taiwan

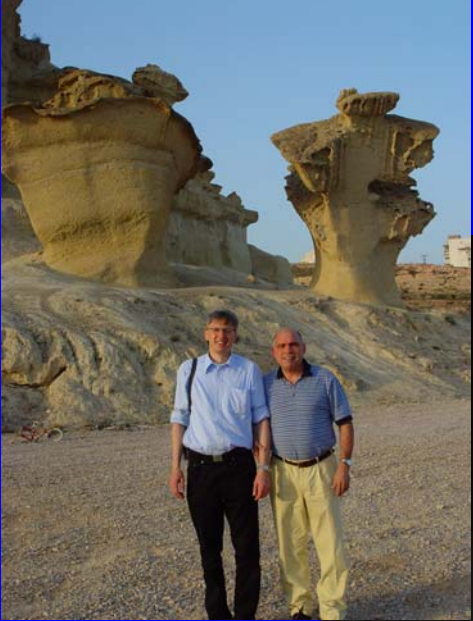
April 2-3 2005  
Taipei Veterans General Hospital, Taiwan

By Professor Dr. Ion Christian Kiricuta  
Institute of Radiation Oncology  
St. Vincenz-Hospital, Limburg, Germany









**MURCIA**  
**Spain**  
**2005**





**Aarau Kantonhospital**







**2-nd Teaching Course  
Limburg  
May, 2005**



**Teaching Course on  
Target Volume Definition  
In Radiation Oncology**

**Karachi 8-10 June, 2005**



# Teaching Course on Target Volume Definition In Radiation Oncology

Karachi 8-10 June, 2005



## **Teaching Courses on TVD in RO in 2006**

<b>29 – 31. March,</b>	<b>Cancer Center Cluj, Romania</b>
<b>12 – 14. April,</b>	<b>Veteran Hospital, Taipei, Taiwan</b>
<b>12 –14. May, Madrid</b>	<b>Cancer Society of Spain</b>
<b>1 – 2. June, Aarau</b>	<b>Swiss Cancer Society</b>
<b>29 – 31 Sept. , Limburg</b>	<b>The 3-rd Teaching Course</b>
<b>End of 2006, Luxembourg</b>	<b>Cancer Center, Luxembourg</b>