




Cancer Treatment Centers of America
Winning the fight against cancer every day.

IORT


Intra Operative Radiation Therapy



Cancer Treatment Centers of America
Winning the fight against cancer every day.

IORT


- o What is it?
 - It is radiotherapy applied to the tumor bed, performed during surgery
 - It enables us to deliver a high dose to the target while sparing the normal surrounding tissues



Cancer Treatment Centers of America
Winning the fight against cancer every day.

IORT

- o How was it done?
 - Historically, the patient, surgeons, radiation oncologist, anesthesiologist, nurses, technicians, etc. were transported during surgery, to the bunker of the linear accelerator.
 - This put the patient at excessive risk besides creating enormous logistic difficulties


Winning the fight against cancer every day.


IORT

- o How is it done today?
 - Over the last decade, the reverse is being done.
 - A portable linear accelerator is wheeled into the OR.
 - Once the tumor has been removed, the applicator cone is placed on the target (tumor bed).
 - The treatment is delivered and the surgery is concluded as usually.


Winning the fight against cancer every day.

IORT on the Novac7





Winning the fight against cancer every day.


IORT

- o Which tumor sites are amenable to IORT?
 - Breast
 - Head and Neck
 - Lung
 - Esophagus
 - Stomach
 - Pancreas
 - Rectum
 - Gynecological
 - Prostate
 - Soft tissue sarcomas (especially retroperitoneal)

 **IORT and Breast Cancer**
Winning the fight against cancer every day.


About 50 years ago...

- Prof. Veronesi at the National Tumor Institute in Milan, Italy ideated what would revolutionize the treatment of early breast cancer:
 - Tumorectomy followed by whole breast radiotherapy, eliminating the need of a mutilating mastectomy.


 **IORT and Breast Cancer**
Winning the fight against cancer every day.

About 10 years ago...


- Prof. Veronesi, having noticed that the vast majority of the recurrences were in the immediate vicinity of the primary tumor site, again revolutionized the treatment of early breast cancer:
 - Intraoperative Radiotherapy of the involved quadrant, followed by immediate breast reconstruction by cosmetic plastic surgery

 **IORT and Breast Cancer**
Winning the fight against cancer every day.


- IORT replaces the usual 6 weeks of whole breast irradiation or the 10 brachytherapy treatments in one week (MammoSite and similar)
- Offers better cosmetic results since there is immediate breast reconstruction




IORT and Breast Cancer



In June 2008 Veronesi et al. reported excellent results of the first randomized study with over 1300 patients with early Breast cancer.




IORT and Breast Cancer




Additionally, Veronesi et al. reported in April 2009 the first 1000 patients with **LOCALLY ADVANCED** breast cancer treated with:

- Subcutaneous nipple-sparing mastectomy,
- IORT of the nipple-areola complex,
- Placement of breast prosthesis

Also with excellent results.



IORT and Breast cancer



MOST patients with breast cancer, whether early or locally advanced, are candidates for IORT.
