



Women Cancer

Cancer cervix, uterus and breast

Detection, Treatment, Management

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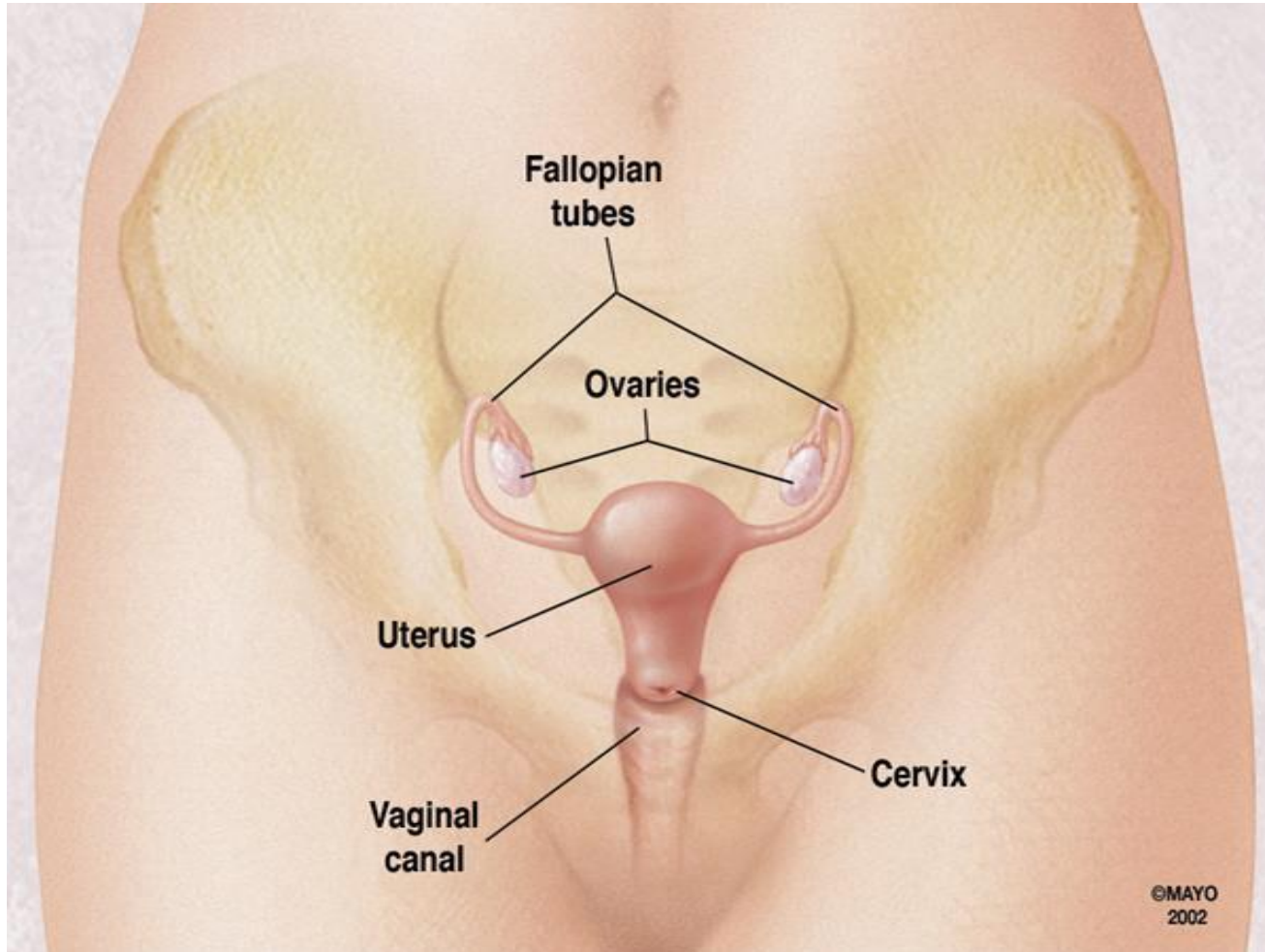


CARCINOMA CERVIX

- 1,25,000 new patients in India every year
- Incidence varies from 15 – 48 / 100,000 women
- Carcinoma cervix is preventable
 - Health education
 - Screening programmes
- Risk factors for Carcinoma cervix
 - Early age at intercourse
 - Repeated / Frequent births
 - Multiple sexual partners
 - HPV infections (Type 16 & 18 highly oncogenic)
 - Low socio-economic status
 - Smoking



CARCINOMA CERVIX



CARCINOMA CERVIX

- Staging is clinical
- Investigations permitted
 - Cystoscopy / Proctoscopy
 - Intra-venous Urography
 - X-ray chest
 - Imaging studies (USG / CT / MRI)



Diagnosis of carcinoma cervix

- Clinical (Stage Ib₁ onwards)
 - Early symptoms
 - Abnormal bleeding
 - Post coital
 - Inter-menstrual
 - Post-menopausal
 - Abnormal discharge
 - Blood stained
 - Dirty
 - Foul smelling
 - Late symptoms
 - Pelvic pain
 - Urinary symptoms
 - Rectal symptoms



Diagnosis of carcinoma cervix

- Signs
 - Abnormal area / growth on cervix
 - Indurations
 - Friability
 - Bleeding on touch
 - Fixity
- Confirmation of diagnosis
 - Diagnosis is confirmed by **Histopathological** examination of the biopsy sample



Prevention of Carcinoma cervix

- Health education
 - Avoid early marriage
 - Avoid early intercourse
 - Avoid promiscuity
 - Proper hygiene
 - Use of barrier contraception
- Screening programs
 - Screening for pre-malignant lesions
 - Screening for early diagnosis



INVESTIGATIONS

- For confirmation of diagnosis
 - Biopsy
 - From obvious growth or abnormal area
 - Directed biopsy in very early lesions
 - Cone biopsy
- For staging of disease
 - Intravenous Urography
 - Abdominal Ultrasonography
 - Cystoscopy
 - Proctosigmoidoscopy
 - Examination under anaesthesia (EUA)
 - CT / MRI
- Base line investigations of general condition



RADIATION THERAPY



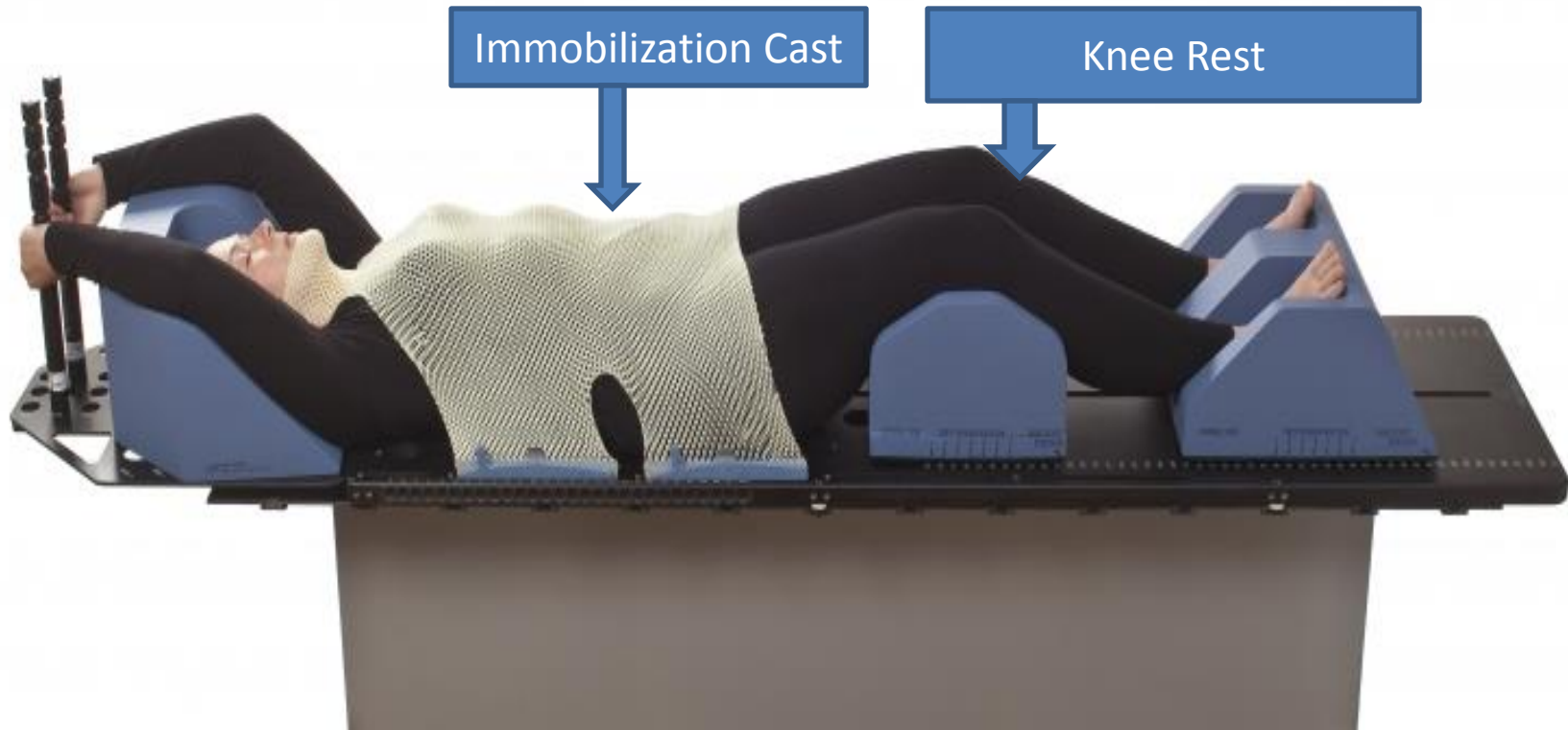
Planning Radiotherapy EBRT & Brachytherapy

- **Multi-Disciplinary Management**
- 1) Gynaec Oncology Team
- 2) Surgical Oncologist
- 3) Medical Oncologist
- 4) Radiation Oncologist
- 5) Radiologist
- 6) Pathologists
- 7) Gynae-Oncology Clinical Nurse Specialists
- 8) Palliative Care Physicians

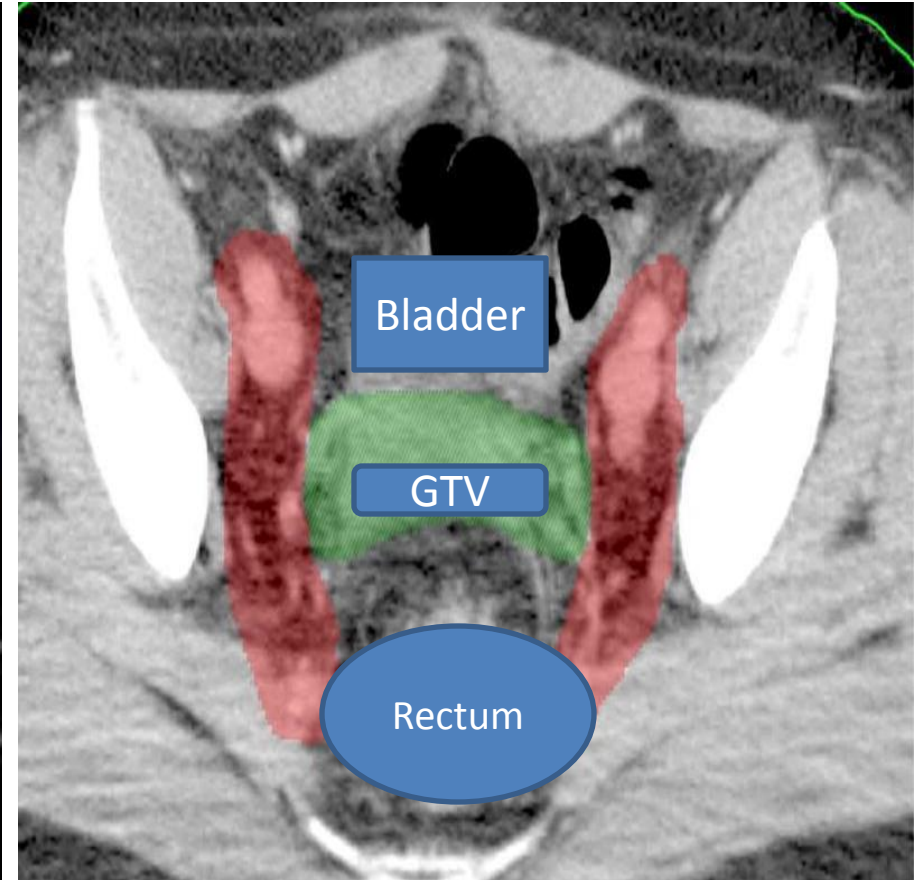
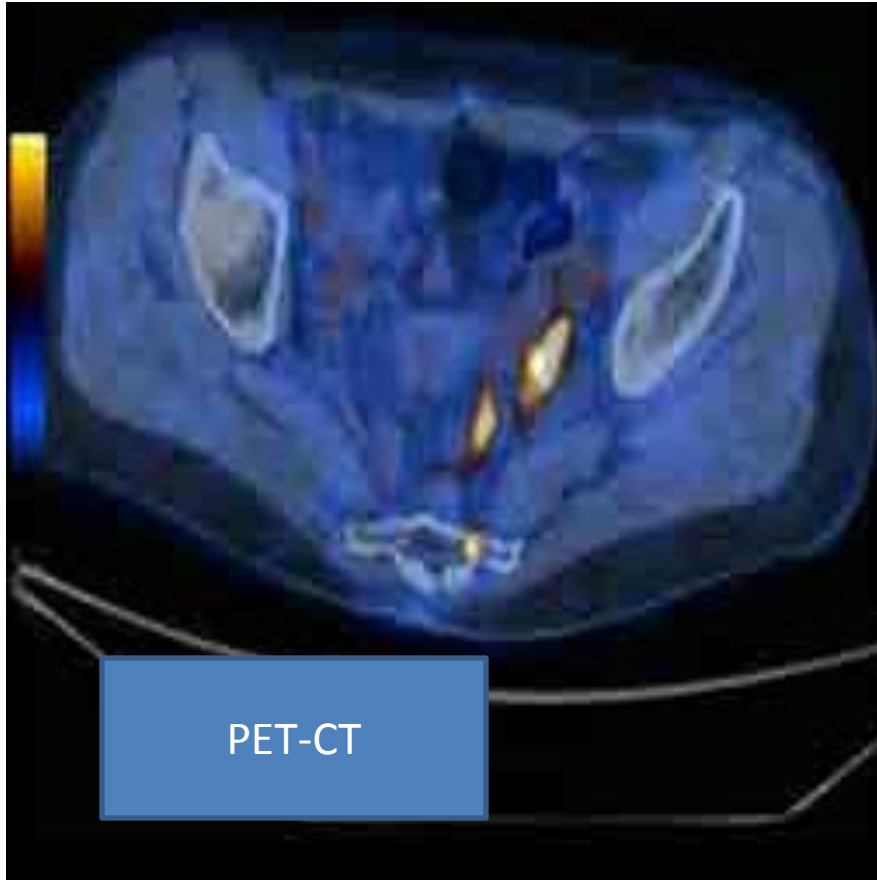
- **Centralized management plan Tumor Board Conference**



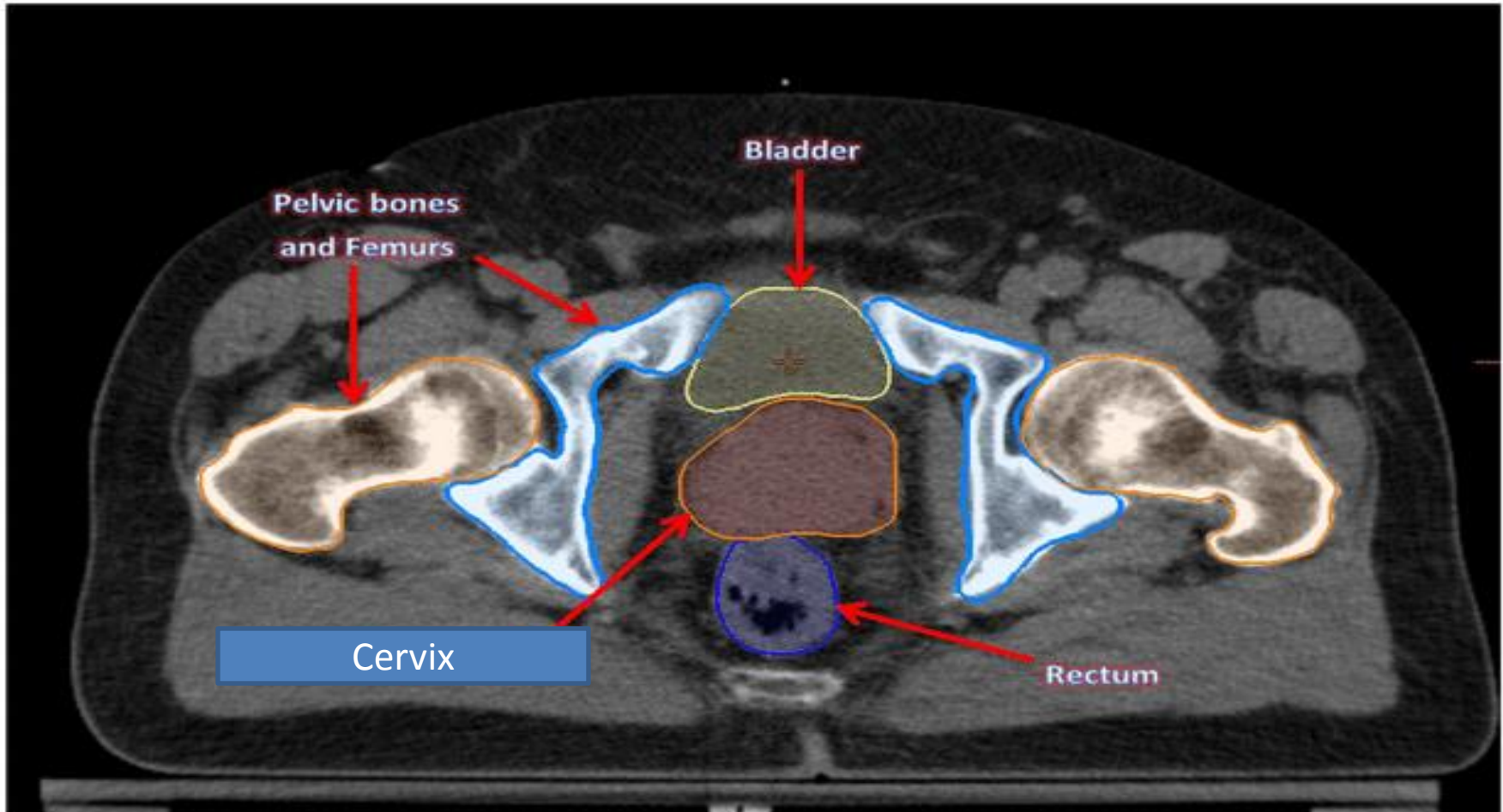
RADIATION PLANNING



RADIATION PLANNING



RADIATION PLANNING

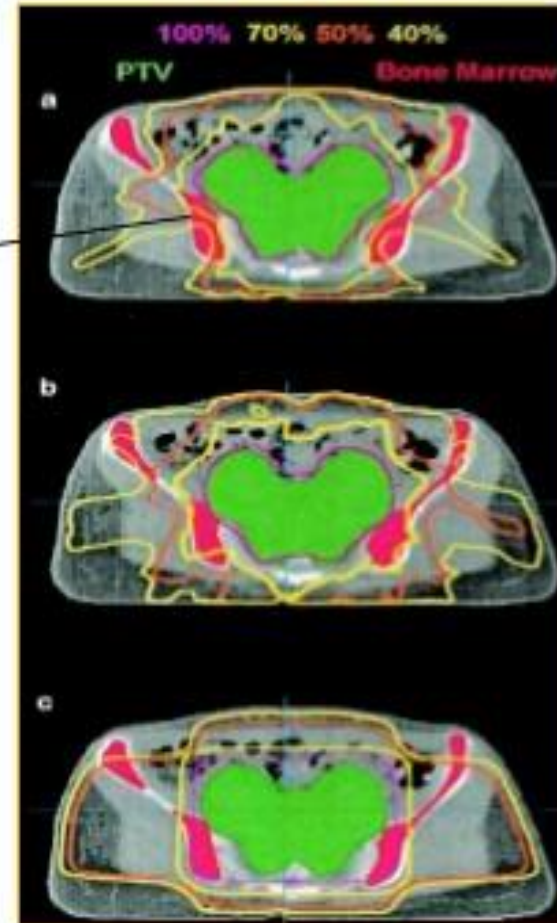


RADIATION PLANNING

Reduction in acute hematological toxicity with bone marrow sparing

- Reduction of dose to normal structures - 'conformal avoidance'

- (Lujan AE, Mundt AJ, Yamada SD, et al. Intensity-modulated radiotherapy as a means of reducing dose to bone marrow in gynecologic patients receiving whole pelvic radiotherapy. *IJROBP* 2003;57:516-521.)



BRACHYTHERAPY



Vaginal Brachytherapy

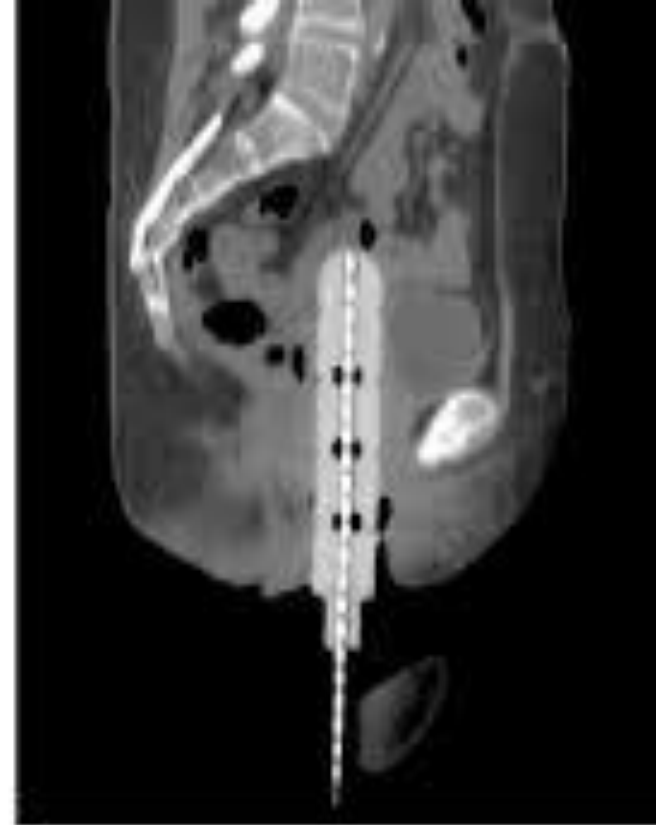
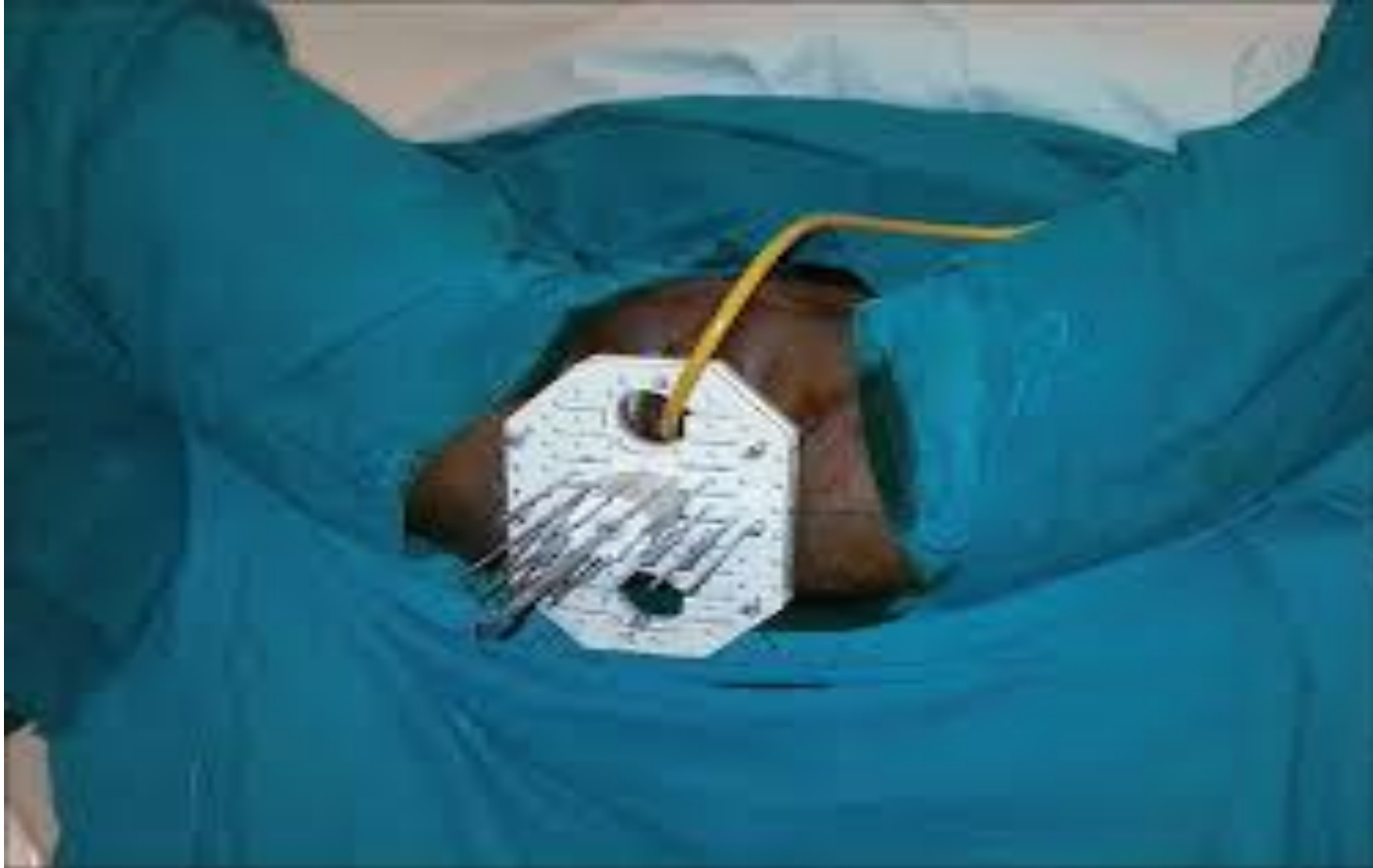


Fig. 4. Vaginal applicator located intra-vaginally in the uterus.

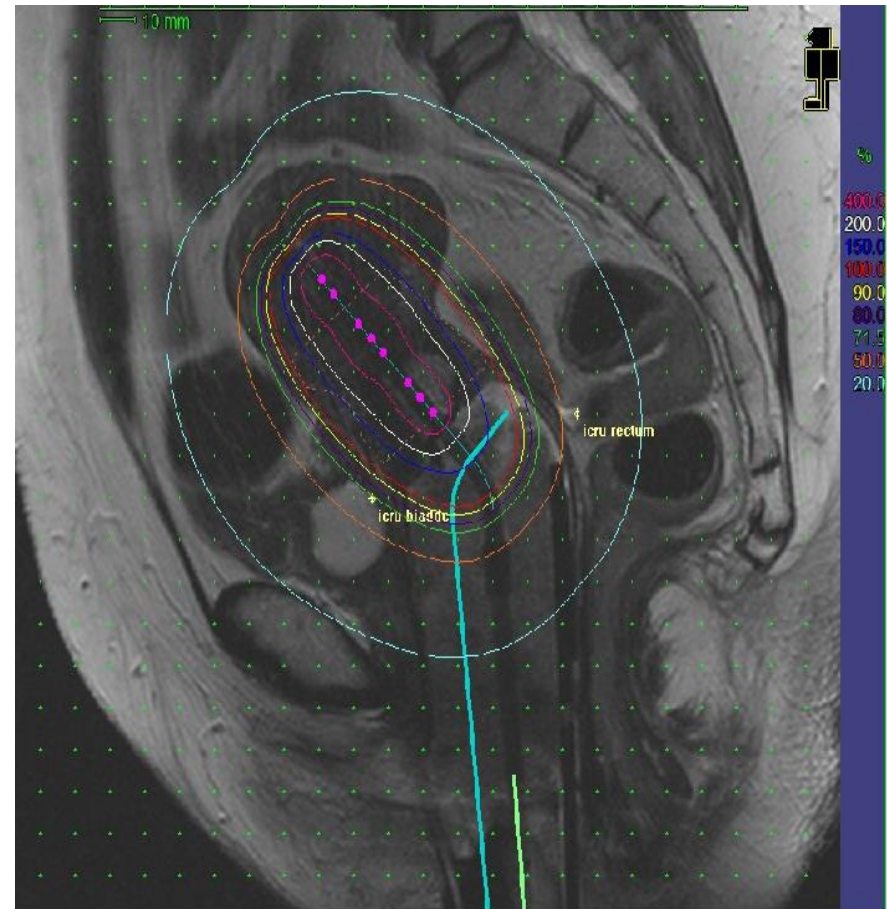
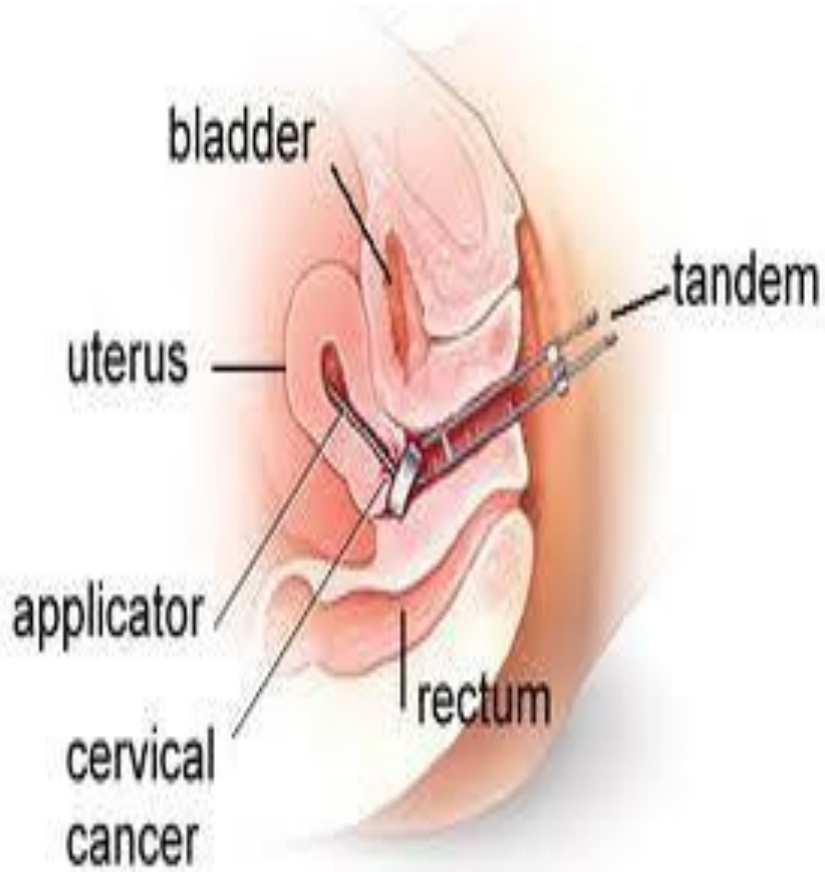
Vaginal Cuff Brachy(SORBO)



Interstitial Brachytherapy



BRACHYTHERAPY



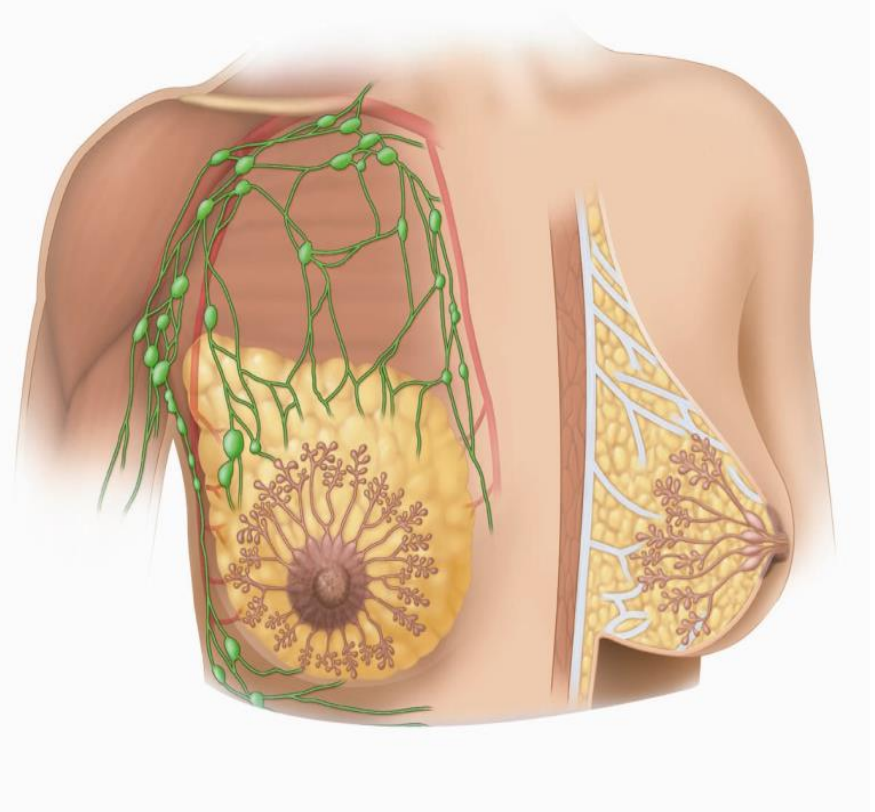
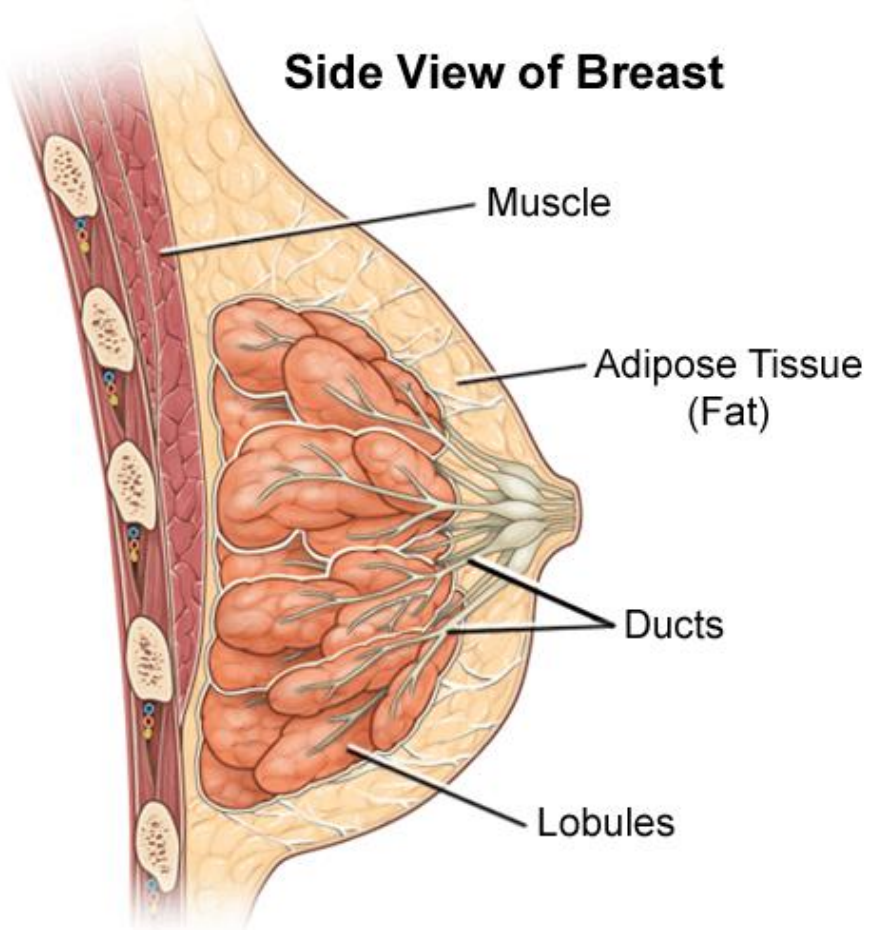
BREAST CANCER

- **Over 11 million people worldwide are diagnosed with cancer each year¹**
- **Over 1 million new breast cancer cases are reported each year²**
- **Breast cancer is the most frequently diagnosed cancer in women worldwide (23% of all cancers)³**
- **Breast cancer is one of the leading causes of cancer mortality leading to over 400,000 deaths annually worldwide³**
- **Affluent societies: Life time risk is 1 in 8 or 9**

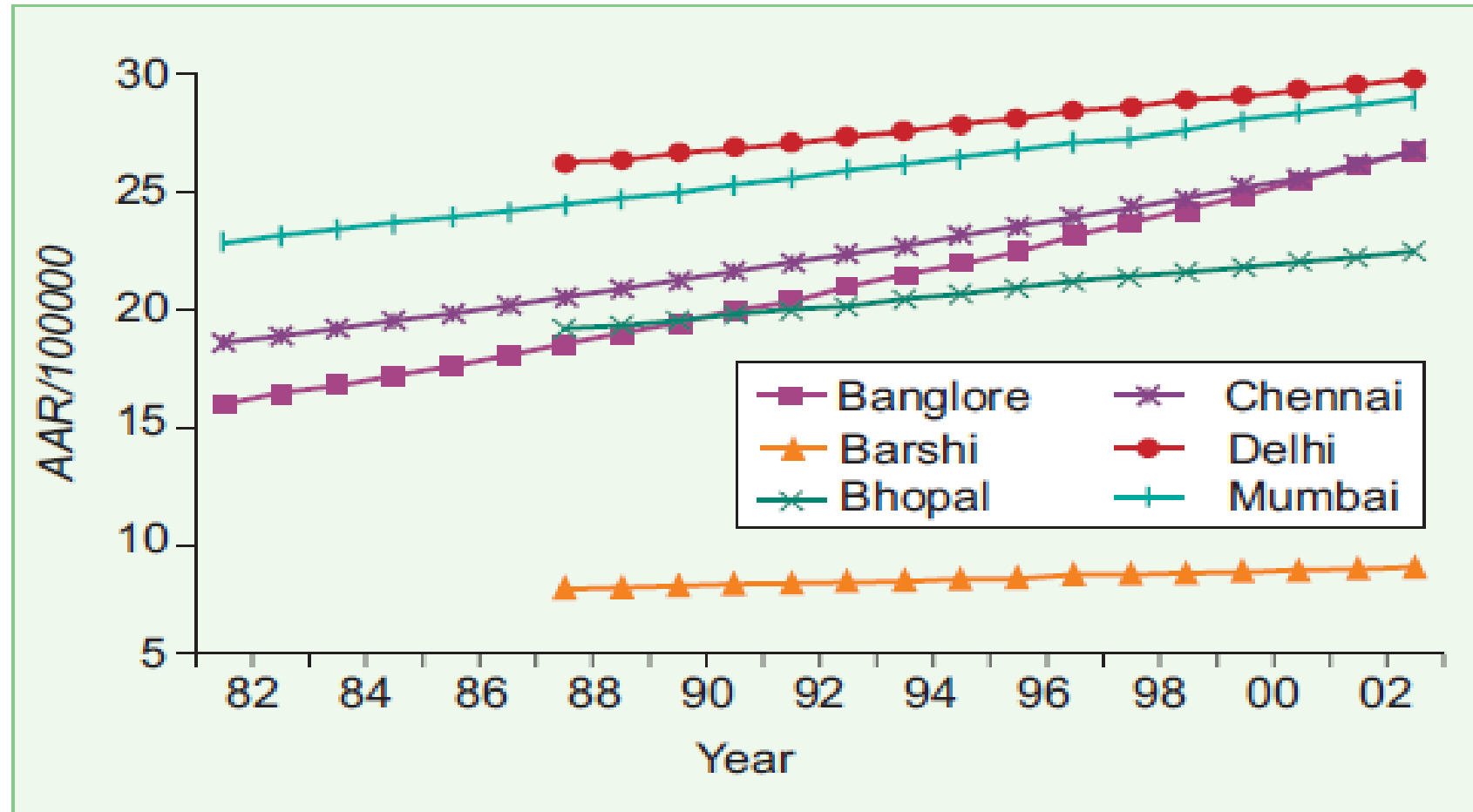


BREAST CANCER

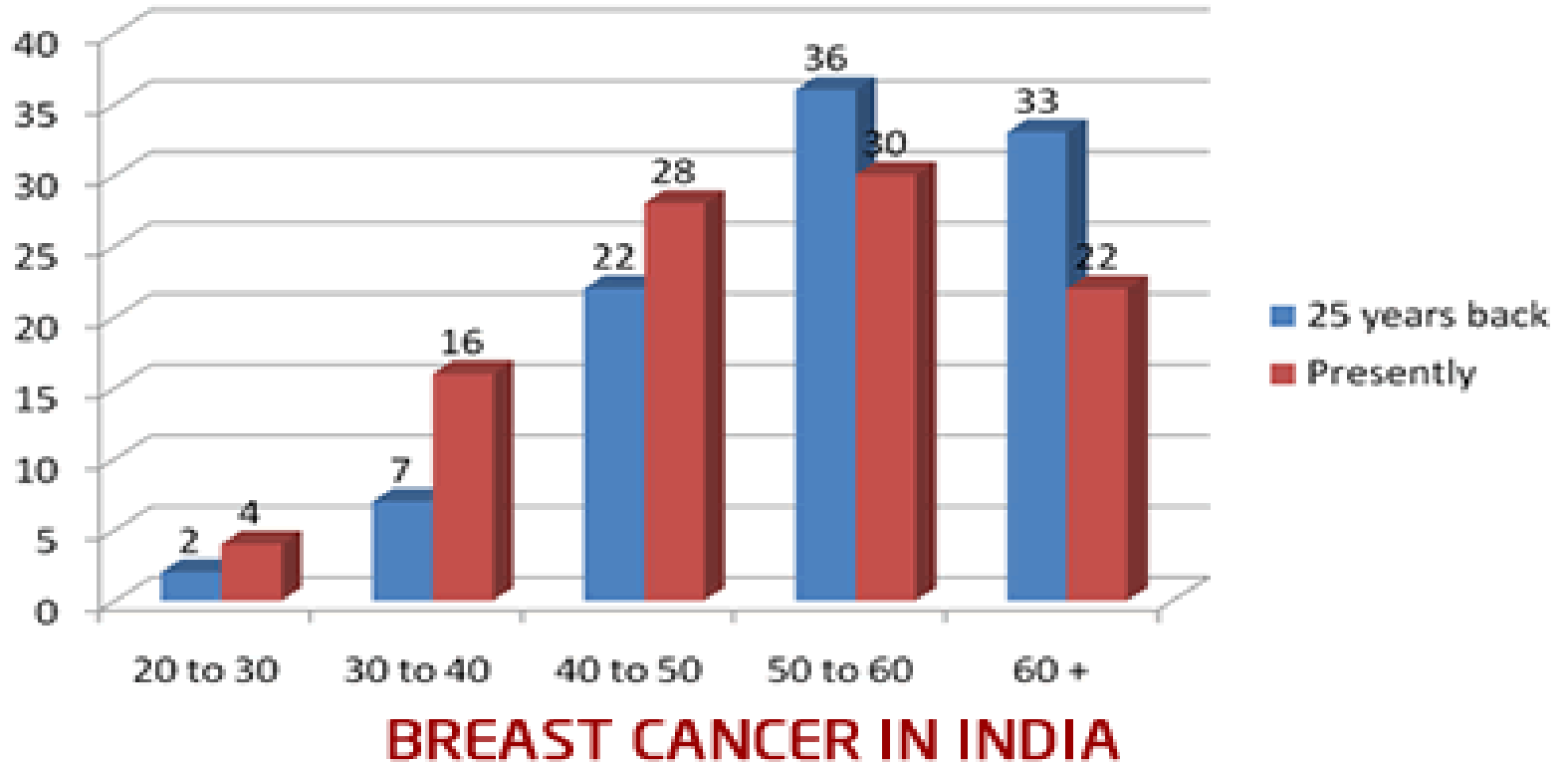
Side View of Breast



Trends of breast cancer in India



Age shift (More young women affected)



Breast Cancer-Risk Factors

Non Modifiable

- Age
- Gender (1% males)
- Family History
- Menstrual history
 - Early onset
 - Late menopause
- Genetic
 - BRCA-1
 - BRCA-2
 - P53, Rb-1
 - Her-2/neu, c-erbB2, c-myc

Modifiable

Lifestyle

Diet, Obesity, Alcohol

Hormone replacement therapy
(HRT)

Increases risk by 30%

Birth control pills

Age at first childbirth

After 30 yrs of age

Breastfeeding

Radiation exposure to chest



- Diet: Increase intake of a variety of vegetables, especially the cruciferous type, like broccoli, cauliflower, cabbage and Brussels sprouts
- Brightly colored fruits are often rich in cancer preventing nutrients
- Limit fats, meats, and dairy
- Choose organic sources as much as possible



PREVENTION

- Reduce alcohol
- Avoid overuse of antibiotics
- Probiotics 10-20 mil org bid w/o food
- Supplement with flaxseed oil, omega 3 fatty acids, antioxidants (C, E, and selenium), vitamin D3, Co Q10 and iodine, I3C or DIM
- Increase fiber intake
- Avoid use of birth control pills, synthetic hormone replacement therapy
- Avoid exposure to radiation, pesticide



Signs and symptoms

Most common:
lump or thickening in
breast. Often
painless



Lump in breast or
underarm area



Change in size or
shape of breast



Discharge or bleed
from the nipple

**Discharge
or
bleeding**

Nipple changes



Crusting

**Redness or pitting of
skin over the breast,
like the skin of an
orange**

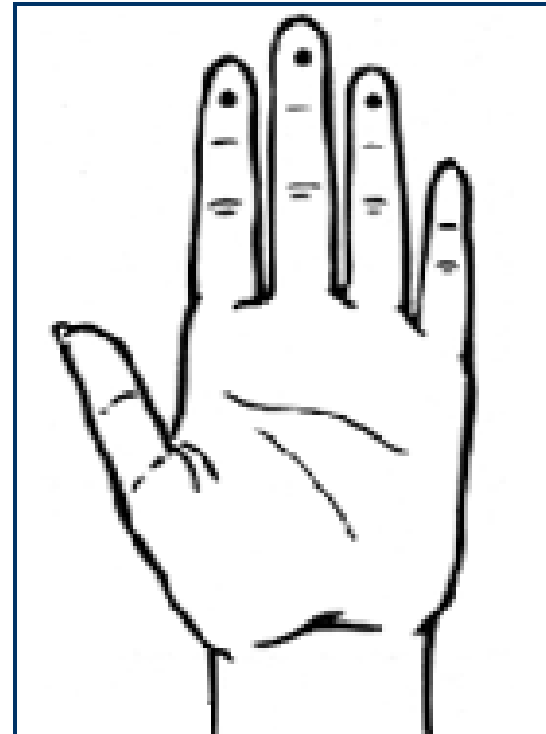
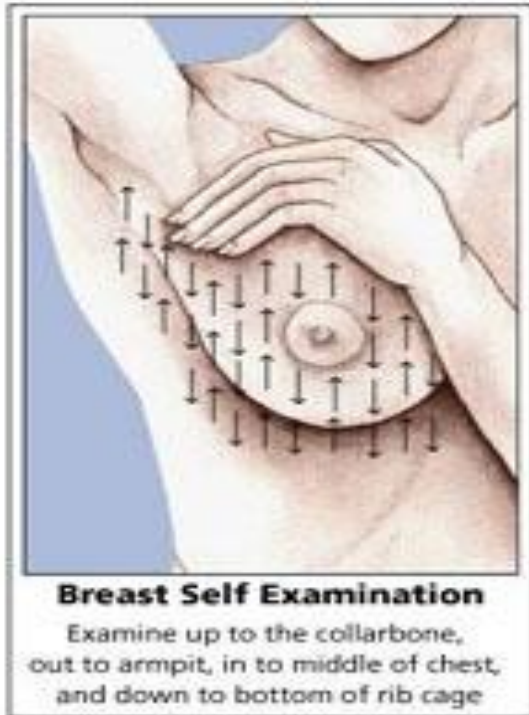
**Change in color
or appearance
of areola**

**Change in size
or contours of
breast**

Inversion

Breast Self-Examination

- Self Breast Exam every month after menstrual cycle
- If you find a suspicious lump, or any unusual change, do not ignore or deny it! See your health practitioner
- Clinical Breast Exam every year by a trained practitioner



Breast Self-Examination

How to Examine Your Breasts

The best time for a woman to examine her breasts is when the breasts are not tender or swollen. Women who are pregnant, breast-feeding, or have breast implants can also choose to examine their breasts regularly.

1. Lie down and place your right arm behind your head. The exam is done while lying down, not standing up, because when lying down the breast tissue spreads evenly over the chest wall and it is as thin as possible, making it much easier to feel all the breast tissue.



2. Use the finger pads of the three middle fingers on your left hand to feel for lumps in the right breast. Use overlapping dime-sized circular motions of the finger pads to feel the breast tissue.

3. Use three different levels of pressure to feel all the breast tissue. Light pressure is needed to feel the tissue closest to the skin; medium pressure to feel a little deeper; and firm pressure to feel the tissue closest to the chest and ribs. A firm ridge in the lower curve of each breast is normal. If you're not sure how hard to press, talk with your doctor or nurse. Use each pressure level to feel the breast tissue before moving on to the next spot.
4. Move around the breast in an up and down pattern starting at an imaginary line drawn straight down your side from the underarm and moving across the breast to the middle of the chest bone. Be sure to check the entire breast area going down until you feel only ribs and up to the neck or collar bone (clavicle).

There is some evidence to suggest that the up and down pattern (sometimes called the vertical pattern) is the most effective pattern for covering the entire breast without missing any breast tissue.

5. Repeat the exam on your left breast, using the finger pads of the right hand.
6. While standing in front of a mirror with your hands pressing firmly down on your hips, look at your breasts for any changes of size, shape, contour, or dimpling. (The pressing down on the hips position contracts the chest wall muscles and enhances any breast changes.)
7. Examine each underarm while sitting up or standing and with your arm only slightly raised so you can easily feel in this area. (Raising your arm straight up tightens the tissue in this area and makes it difficult to examine.)

MAMMOGRAPHY

- Mammography is currently the most reliable way to detect breast cancer.
- It can detect lumps even before they are felt by the hand.
- Such early detection can greatly increase chances of recovery as well as provide more treatment options.



MANAGEMENT

- Tru-cut Biopsy to establish diagnosis
- Depending on stage of disease
- Surgery
- Chemotherapy
- Radiotherapy
- Hormonal Therapy for 5 years





MRM Vs BCT

Randomized trials

Meta-analysis

Comparable local control, Overall survival

Better cosmetic outcome

Chemotherapy

Nothing

CMF regimen

Anthracycline
containing
regimen

Anthracycline
AND Taxane
Containing
regimen

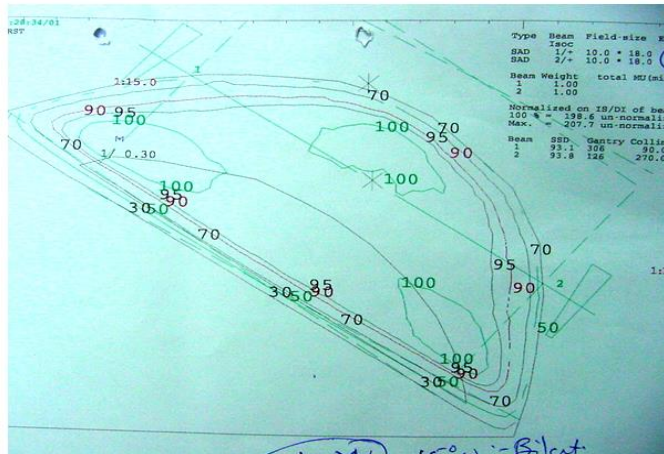
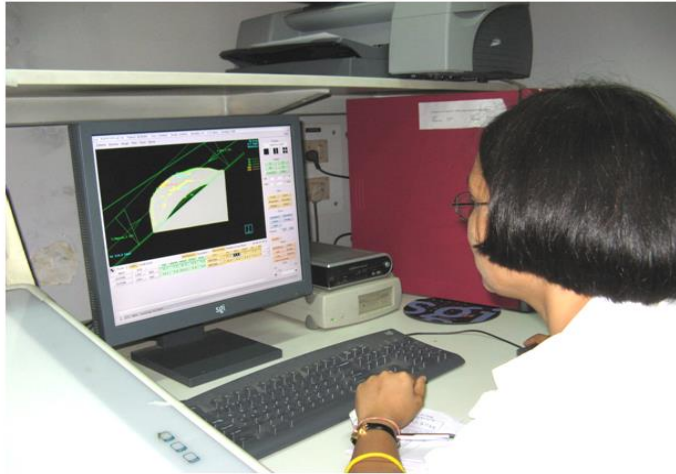


Indications of Radiation therapy

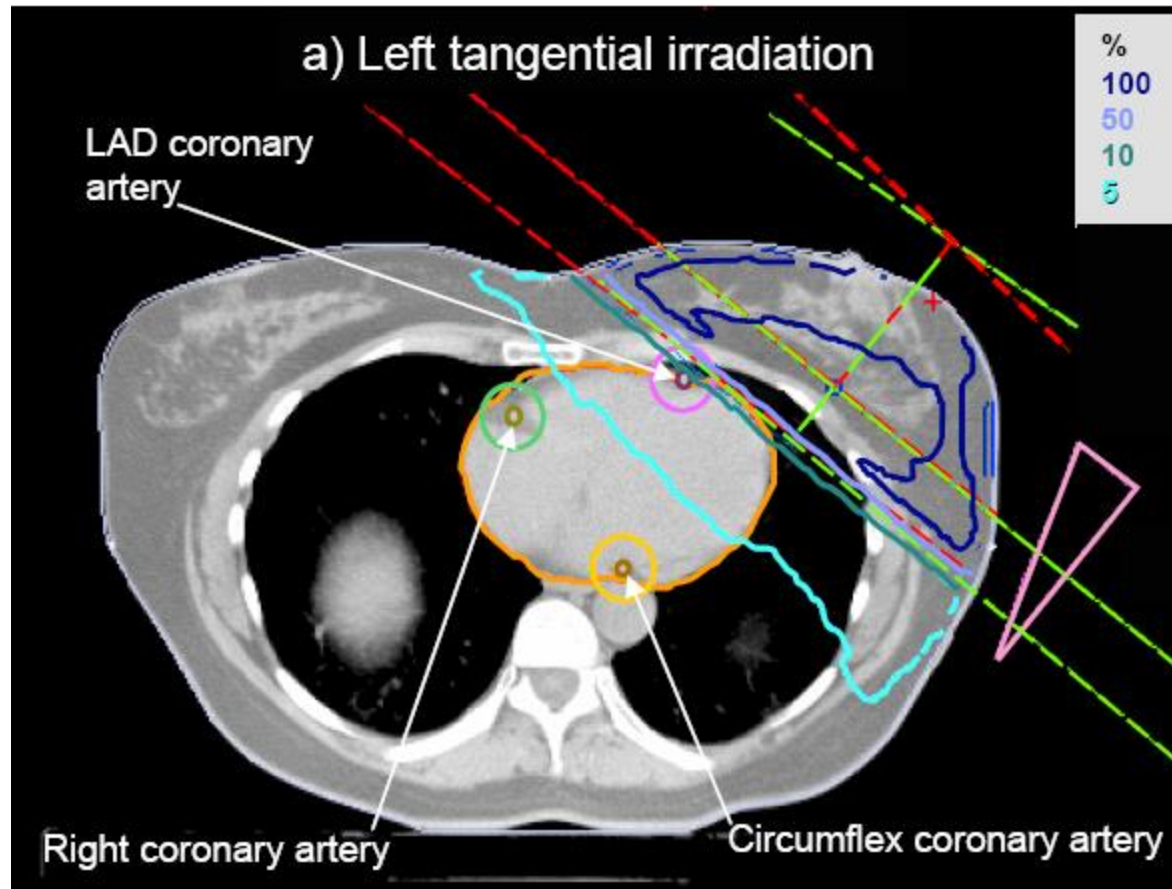
- ❖ **Patients with 4 or more positive lymph nodes**
- ❖ **Presence of extracapsular extension, positive or close margins**
- ❖ **T3 tumors with positive lymph nodes, medial quadrant tumors**
- ❖ **Any T4 tumors and pectoral fascia involvement**



Radiotherapy Planning in Breast Cancer

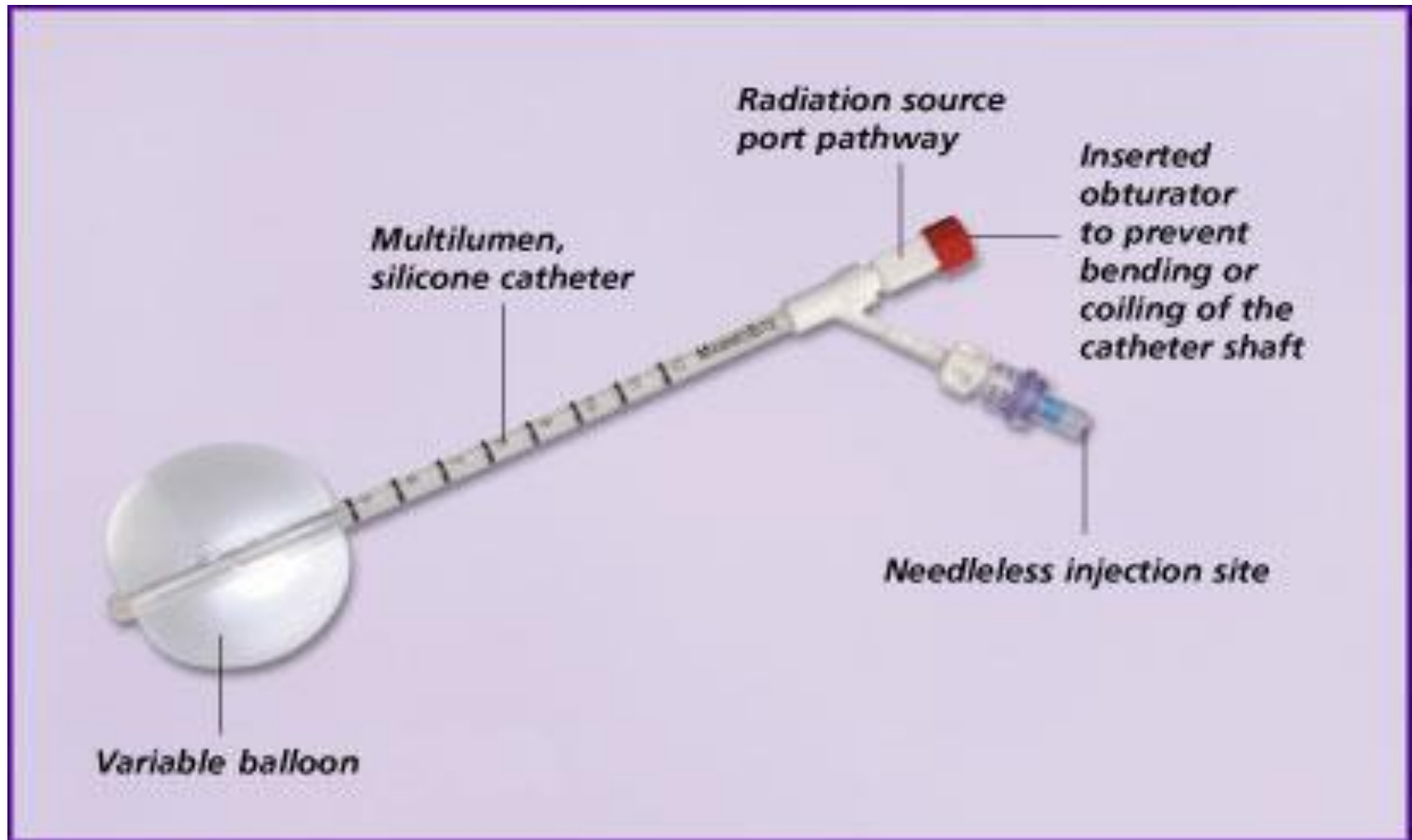


Radiotherapy



Balloon Catheter

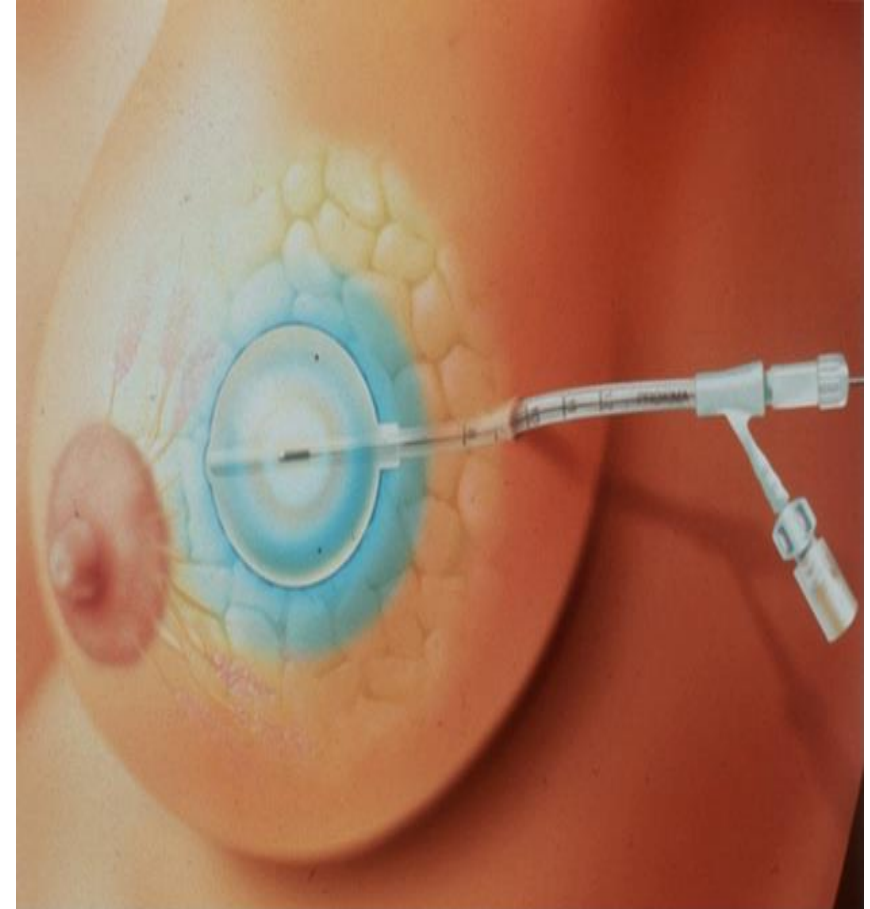
'Marmoset'



Balloon Catheter

'Marmoset'

- MammoSite device
(Cytoreductive Surgical Products)
- Inflatable Balloon Placed In
Lumpectomy Cavity At
Surgery
- HDR brachytherapy
- 34 Gy in 10 fractions
- *FDA clearance May 2002*
- *Since 2002, > 40,000 cases
treated*



Catheter Based Brachytherapy

***Traditional Free-Hand
Multi-catheter
Technique***



THANK YOU!

