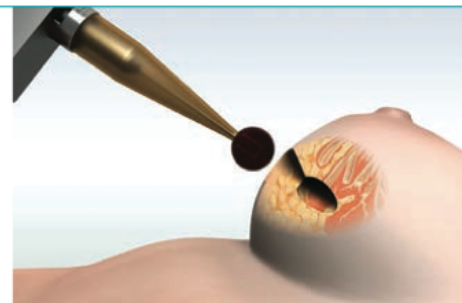
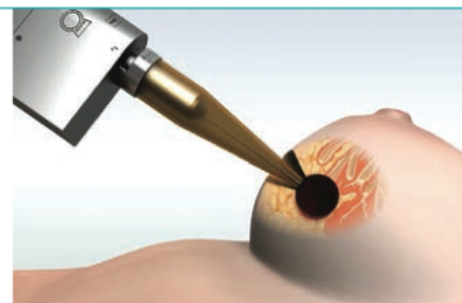


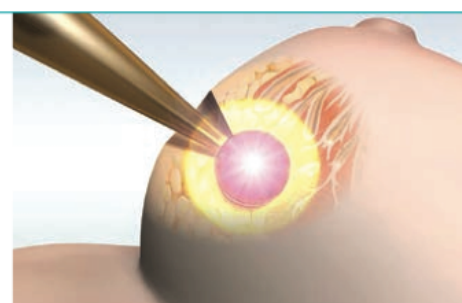
**Step 1.**  
INTRABEAM therapy is delivered during breast cancer surgery.



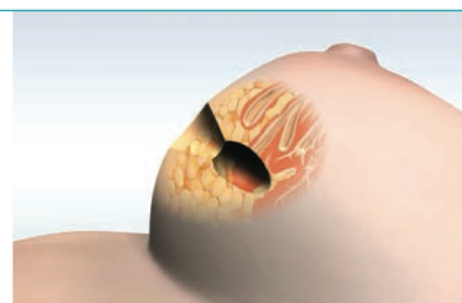
**Step 2.**  
After the surgeon removes the tumour, the INTRABEAM applicator is placed precisely into the excision site.



**Step 3.**  
Low-energy radiation is delivered locally, minimising exposure to healthy tissue.



**Step 4.**  
Following a 20 to 30 minute treatment, the applicator is removed. The surgeon closes the incision, and the patient is brought to the recovery room.



**SUNWAY**  
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Operation Hours  
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## Understanding INTRABEAM Intraoperative Radiation Therapy for Breast Cancer



### What is IORT?

IORT stands for Intraoperative Radiotherapy. IORT is a technique of delivering radiotherapy directly to the tissues surrounding the cancer (also known as tumour bed) during surgery. This new technique will greatly reduce radiation exposure and the length of treatment time.

### How is INTRABEAM IORT delivered?

INTRABEAM IORT is delivered during breast conservation surgery (also known as lumpectomy) in the operating room while the patient is still asleep. After the tumour is removed, a miniaturised radiation device is inserted into the lumpectomy cavity. Therapeutic radiation is then directed immediately and precisely where it is needed most – the location where the cancer was removed. Localising the radiation inside the breast is effective because this is where the cancer is most likely to recur. INTRABEAM IORT is delivered as a 30-45 minute treatment during surgery.

### Is INTRABEAM IORT right for me?

INTRABEAM IORT can be given to all patients undergoing lumpectomy. Traditionally, external beam radiotherapy (EBRT) for lumpectomy are given as 15 fractions as a whole breast radiation and 8 fractions as a “boost” to tumour bed.

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## What are the benefits of IORT?

1. It allows direct radiation to the affected area while reducing some of the treatment side effects.
2. It avoids the time gap between surgery and external beam breast radiotherapy.
3. IORT is given as a single dose, while EBRT is given on a daily basis for 5 weeks - 6.5 weeks. Therefore, the IORT treatment time is shorter and avoids prolonged daily visits to hospital.
4. There is a study that showed that IORT alone may provide better cosmetic outcomes.

## IORT can be given in two different ways:

1. As a single dose treatment where IORT will be given as a single therapy during surgery without the need for conventional external whole breast radiation cutting the treatment by 5 weeks - 6.5 weeks.
2. As “boost” where IORT will be given during surgery followed by conventional 15 - 25 fractions, providing a more precise boost to the tumour bed and reduce radiotherapy by 8 days.

## What are the possible side effects of IORT?

Patients might get very mild side effects. Usually they are similar to EBRT.

Possible side effects:

1. Redness and soreness of the skin
2. Tiredness
3. Possible effect on wound healing (firmness of the scar)
4. Seroma. Fluid collection where the tumour was removed. This is treated by either leaving it alone or draining the fluid using a needle
5. Serious wound complications are rare

## Can the tumour grow back?

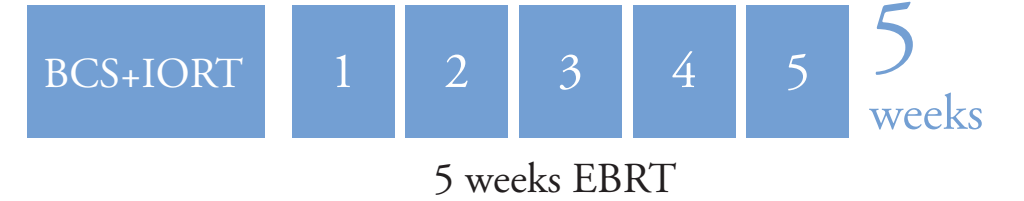
Yes, there is always a risk of tumour growing back in the breast even if a mastectomy is performed. The results have shown that there is a similar chance, about 2% after 5 years after IORT or standard radiation, for a relapse of cancer.



External radiotherapy (EBRT)



TARGIT boost with ZEISS INTRABEAM System



TARGIT single radiation dose with ZEISS INTRABEAM System



## Point to Note

IORT treatment is usually given at the time of surgery, which means the pathology results will not be available. The pathology results may indicate for additional surgery. This could include the need for standard radiation.