"The most important benefit of TARGIT for a woman with breast cancer is that it allows her to complete her entire local treatment [surgical removal of the cancer and radiotherapy] at the time of her operation, with lower toxicity." (Lancet 2014; 383:603-613)

Key benefits

- Takes less time: TARGIT is given during surgery rather than a three to six-week course of daily treatments.
- Protects healthy tissues: There is reduced toxicity and no damage to the skin, heart, lungs and other organs.
- Avoids delay: Radiation does not need to be delayed until after chemotherapy.
- Flexible as per individual needs: TARGIT can be supplemented with whole breast radiation if it is thought necessary later on.
- Quality of life and Cosmetic results: are as good or better than traditional radiotherapy.

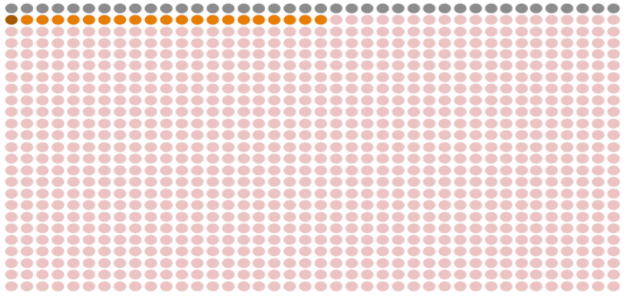
Key concerns

- Possible need for further radiotherapy: 15 to 20 per cent of patients may need to take the traditional radiotherapy in addition to TARGIT if it is felt necessary on examination of the tumour after surgery.
- Longer term results. The safety of TARGIT is well established with 5-year median follow up available for 1222 patients. With longer follow up, local recurrence with TARGIT may be 1% -2% higher than traditional radiotherapy. This does not reduce survival; in fact, there are fewer deaths with targeted radiation compared with whole breast radiation. See http://goo.gl/ptc6L9

This pictogram is made by applying the 5-year results of the TARGIT-A trial to 2000 women, to help patients and doctors to make a shared well-informed decision

What happened to women with early breast cancer, treated with TARGIT during lumpectomy compared with those treated with EBRT, over the first 5 years?

1000 women allocated to receive TARGIT



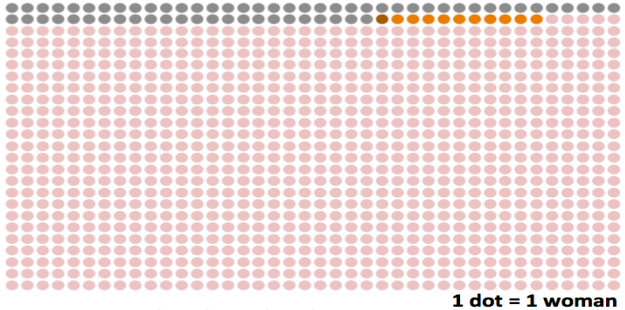
939 women alive without local recurrence

20 women alive after treatment of local recurrence

1 woman died after local recurrence

40 women died

1000 women allocated to receive traditional EBRT



925 women alive without local recurrence

10 women alive after treatment of local recurrence

1 woman died after local recurrence

64 women died

1 dot = 1 woman

There was no statistically significant difference in survival without local recurrence

TARGeted Intraoperative radioTherapy (TARGIT)

Information to help shared decision making

Version 1.0
Published 9 March 2017,
Review date 9 March 2018
More information and contact: www.targit.org.uk
Email: info@targit.org.uk

Local contact: _____

Traditional external beam radiotherapy- EBRT

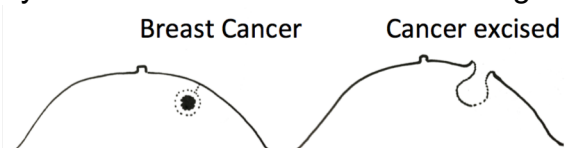
To reduce the risk of cancer coming back in the breast, traditional radiotherapy is given to the whole breast a few weeks after surgical removal of the cancer. As it is not focused, it needs to be given in daily small doses over three to six weeks.

What is TARGIT IORT?

TARGIT IORT stands for **TARG**eted **I**ntraoperative radio**T**herapy. Given during a lumpectomy for breast cancer, under the same anaesthetic, it can replace traditional radiotherapy in suitable patients.

The TARGIT technique and the Intrabeam device was developed by clinical academics at University College London in 1998 in collaboration with the manufacturers.

A small ball-shaped radiation applicator is precisely placed in the tumour bed – the cavity left behind when the tumour is removed. TARGIT is given over about 25 minutes, the applicator then is removed and skin closed. TARGIT effectively treats the tissues where cancer might have come back while avoiding radiation to the skin and other healthy tissues such as the heart and lungs.



Has TARGIT been clinically proven?

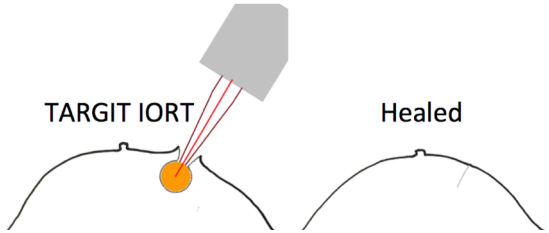
TARGIT has been extensively tested in clinical trials over the past 15 years. The TARGIT-A trial included 3451 patients treated in 33 hospitals in the UK, Europe, USA and Australia. Compared with traditional radiotherapy, TARGIT has fewer side effects and, similar or better cosmetic result.

The five-year results showed that when TARGIT is given at the same time as lumpectomy, the local-recurrence-free-survival is similar to traditional radiotherapy: 93.9% with TARGIT vs. 92.5% with traditional EBRT - *see figure overleaf*.

As with all breast cancer treatments there is some uncertainty about the exact difference in local recurrence after TARGIT IORT compared with traditional radiotherapy. However, the UK National Institute of Care and Excellence have determined that such difference is very small (1 to 2%) and have recommended it for suitable patients in the NHS.

Over 300 centres in 35 countries now offer TARGIT IORT for their patients, and for more than 20,000 breast cancer patients have been treated worldwide

Scientific papers giving the results of the TARGIT-A trial:
Vaidya JS, Bulsara M, Wenz F, Tobias JS, Joseph DJ,…Baum M *Lancet* 2014; 383:603-613 and *Health Technol Assess* 2016; **20**(73): i-xxxiv & 1-188.



"TARGIT meant I avoided the trauma of weeks of radiotherapy, and I suffered none of the common side effects of standard radiotherapy".*

*citation available on request

What will it involve?

You will have your surgery the usual way and TARGIT IORT will be given using the Intrabeam device during the operation, under the same anaesthetic. Afterwards you will be able to go home on the same day or after an overnight stay. The wound care is similar to a standard operation, but the sutures or 'Steristrips' need to be left for 14 days. Compared with traditional treatment, there is a lower risk of skin injury, but a slightly (1%) higher chance of fluid collecting in the wound. This does not delay the healing process. Sometimes, in 15-20% of women, additional information from analysis of the cancer after surgery may mean that a smaller course of traditional EBRT required after TARGIT.

Who can and cannot have TARGIT?

Women who are 45 or older with hormone receptor positive ductal type cancer suitable for breast conservation (tumour size up to 3.5cm) are eligible to receive TARGIT IORT instead of EBRT. Other women who have a higher risk cancer can receive TARGIT as a tumour-bed boost in addition to EBRT within the TARGIT-B trial. Women who need a mastectomy are not suitable.