

Questions and answers on radiotherapy after mastectomy

A guide for women and their physicians

What is mastectomy?

Mastectomy is an operation that removes the whole breast. This is the type of surgery that you have undergone.

What is radiotherapy?

Radiotherapy or *radiation therapy* is the use of high-energy x-rays to kill cancer cells. Depending on several factors, including where cancer cells have been found in the region of your breast, your medical specialists may recommend this treatment.

What is post-mastectomy radiotherapy?

Post-mastectomy radiotherapy or *PMRT* is the term used for radiation applied, after mastectomy, to the locoregional areas (i.e., chest wall, armpit region and lymph nodes above your collarbone). The aim of this treatment is to stop the cancer from returning to these regions. Doctors refer to the reappearance of cancer in these regions as *locoregional recurrence*.

Will I be offered PMRT?

Before deciding whether to offer you PMRT, your medical specialists will need to consider the risk of locoregional recurrence and whether PMRT is likely to prevent it. Studies have found that PMRT helps women who have cancer in 4 or more lymph nodes in the armpit. It is unclear, though, whether PMRT helps women who have cancer in only 1 to 3 lymph nodes in the armpit. Researchers are also looking at other factors, including the number of nodes removed from the armpit during surgery and the presence of cancer cells in the tissue near the surgical incision, to see if these factors will help to predict when PMRT should be offered; however, they have not reached a conclusion. PMRT is also often used when the tumour is large (for example, greater than 5 cm in diameter) or when the tumour invades the skin or chest wall.

Will I be offered other treatment in addition to PMRT?

You may also be offered treatment with anticancer drugs (chemotherapy or hormonal therapy, or both). For more information about chemotherapy and hormonal therapy see guideline 8 (available at www.cmaj.ca/cgi/content/full/158/3/DC1).

Is there a “best” treatment schedule for PMRT and chemotherapy?

There are 3 options for scheduling:

- *Sequential treatment*: chemotherapy first followed by radiotherapy, or radiotherapy first followed by chemotherapy.
- *Concurrent treatment*: chemotherapy and radiotherapy given at the same time.
- *“Sandwich” treatment*: chemotherapy given before and again after radiotherapy.

We do not have enough information yet to say whether one of these options is better than another. In many centres, PMRT is administered after chemotherapy. However, we do know that concurrent scheduling with chemotherapy based on anthracyclines (anticancer agents such as doxorubicin and epirubicin) or taxanes (anticancer agents such as paclitaxel and docetaxel) can lead to more side effects. For this reason, concurrent radiotherapy and chemotherapy using these anticancer drugs is not recommended.

What are the possible side effects of PMRT?

PMRT commonly causes some mild, short-term side effects, such as tiredness and reddening of the skin. In rare cases, PMRT can also cause more serious, long-term side effects. These include lymphedema (swelling of the arm), pneumonitis (inflammation of lung tissue), cardiac injury (heart problems), brachial plexopathy (nerve problems in the arm, chest and shoulder), broken ribs and new cancers elsewhere in the body.