Questions and answers on breast cancer
Guideline 5. The management of ductal carcinoma in situ (DCIS)
(revised Oct. 2, 2001)

What is DCIS?

DCIS stands for "ductal carcinoma in situ" — a kind of cancer that is found only inside the milk ducts of the breast. Because the cancer has not invaded tissues outside the milk ducts, it is also called "noninvasive" breast cancer. For women who have only DCIS, the outlook is much better than for those who have invasive cancer. However, untreated DCIS may become invasive in time. It may grow through the duct wall to surrounding tissue and possibly invade other parts of the body. If this happens, the cancer is no longer DCIS and must be treated as invasive cancer. The treatment described in this guide is for women who have *only* DCIS, not invasive breast cancer.

How common is DCIS?

Since more women in Canada are now having screening mammograms, DCIS is being diagnosed more frequently. DCIS now accounts for between 20% and 25% of all breast cancers detected in women who have regular mammograms.

What if DCIS and invasive breast cancer are found together?

Because almost all breast cancers start inside the milk ducts, almost every laboratory report for breast cancer will describe some DCIS. When DCIS and invasive cancer are found at the same time, treatment for invasive cancer will be needed.

How will I know if I have DCIS?

There are usually no warning signs, such as a lump in the breast, when a woman has DCIS. Most often, evidence of DCIS shows up on a mammogram taken at a screening clinic. Your doctor may suspect that you have DCIS if "calcifications" (deposits of calcium) can be seen on your mammogram. However, you will only know for sure that you have DCIS if a piece of breast tissue is removed and examined in a procedure called a "biopsy." A common kind of biopsy is a "needle" biopsy, where a small tissue sample is removed using a needle. The sample is then examined under a microscope by a

pathologist (a doctor specializing in the examination of tissue). If the pathologist sees typical cancer cells inside the milk ducts, then a diagnosis of DCIS is made.

Why has my doctor recommended a surgical biopsy?

If your first biopsy was a needle biopsy that contained cancer cells, you will need a "surgical" biopsy to find out if the cancer has invaded any of the surrounding tissue. For this kind of biopsy, a larger amount of breast tissue is removed. (If DCIS seems very likely, a doctor will often recommend that a surgical biopsy rather than a needle biopsy be done first.) A surgical biopsy is crucial, since any cancer that spreads outside the milk ducts is invasive cancer rather than simply DCIS and will need a different kind of treatment.

When a surgical biopsy is done, the abnormal tissue is removed in one piece and x-rayed. Samples of the tissue are then examined under a microscope. If an x-ray of the removed tissue suggests that all of the cancer was *not* removed completely, you will need a second mammogram after your breast tissue has had a chance to heal. You may also then need another operation to remove cancer cells left behind.

My surgical biopsy shows that I have DCIS. What should I do next?

When you have been fully informed of the findings from your surgical biopsy, you can begin to consider your treatment choices. DCIS is not a fast-growing cancer, so it is quite safe to take the time you need to consult with your doctors, family members, friends and other women who have had breast cancer.

What is the best treatment for me?

The first thing to consider is the possibility that the surgical biopsy did not remove all of the cancer. If there is a chance that some cancer cells were left behind, more treatment is required. This usually means more surgery. Your chief task will be to decide which type of surgery is best for you.

In the past, a diagnosis of DCIS always meant "mastectomy" (removal of the whole breast), and this may still be the best option for some women. The other option is "lumpectomy" (also known as "breast-conserving surgery") followed by radiation

treatment ("radiotherapy"). Lumpectomy followed by radiotherapy is now the generally recommended treatment for early invasive breast cancer, and is also used for DCIS.

Whether you choose mastectomy, or lumpectomy followed by radiotherapy, survival rates are very high: between 95% and 100% for women 10 years after surgery.

If the surgical biopsy removes all of the cancer and no other suspicious areas for cancer are found in the breast, then the surgical biopsy can be considered as a lumpectomy and no further surgery is required.

What factors should I consider when choosing between mastectomy and lumpectomy?

You will need to talk to your doctor about the type of DCIS that was found in your breast, and how much of the breast is involved. You will also want to consider the factors listed below, many of which are discussed in more detail in guideline 3.

- *Your concerns about appearance*. The first thing you must consider is whether you want to save the breast. This is a very personal and individual matter. Some women want to maintain the original appearance of their breasts if at all possible. For these women, a lumpectomy that removes the cancer and leaves enough tissue to make the breast look and feel natural is most desirable. Other women want to do whatever they can to lower the chance of recurrence. These women can choose a mastectomy. Women who choose mastectomy can consider breast reconstruction to make it easier to live with the body changes and still feel confident that the cancer will not return. Because the chances of controlling the cancer are excellent either with mastectomy or with lumpectomy and radiotherapy, many women today choose to save the breast. You will need to pick the surgical option that makes you feel best.
- *The presence of cancer cells at the cut edges of tissue removed during the surgical biopsy*. When examination of the tissue removed during the surgical biopsy shows that there are cancer cells at the cut edges, a women choosing lumpectomy may need a second or even third operation to remove more tissue. If you want to avoid the possibility of several operations, you may want to consider mastectomy.
- *The likelihood that the cancer will come back in the same breast*. If your tumour is large or has other features that suggest that recurrence of the cancer is likely (e.g.,

cancer cells are found close to the cut edges of the removed tissue or it is an aggressive type of cancer), you may want to consider mastectomy.

- *The amount of tissue to be removed*. When there is more than 1 tumour or when the tumour is large, a lumpectomy will require the removal of a great deal of tissue. If the lumpectomy will leave the breast disfigured, you may want to consider mastectomy, or mastectomy followed by reconstruction of the breast.
- *Your ability to undergo radiotherapy*. Radiotherapy is usually recommended after lumpectomy because it reduces the risk of the cancer coming back in the same breast. If you cannot have radiotherapy for any reason, or if it will be very difficult or inconvenient for you to do so because of your job or your distance from a treatment centre, you may want to consider mastectomy. (In a small number of cases, if the tumour is quite small *and* has no features indicating that it is especially likely to return, *and* if it is certain that all the diseased tissue was removed, lumpectomy *without* radiotherapy may be considered. You should, however, consider this option only after fully exploring the issues with your doctor.)
- *The possible complications related to each procedure.* All treatments carry the possibility of unwanted side effects. Persistent pain, swelling and delayed healing of the wound can occur with either lumpectomy or mastectomy, but they are more common with mastectomy. The radiotherapy that follows lumpectomy can also cause unwanted side effects, including fatigue, pain, tenderness and scarring of the breast. For more details about radiotherapy, see guideline 6.

Should the lymph nodes in the armpit also be removed?

Lymph nodes (sometimes called "glands") are frequently removed for invasive breast cancer, but not for DCIS. This is because it is very rare for cancer to spread to the lymph nodes in DCIS, and any benefit of removal of the lymph nodes is outweighed by the possible complications of the operation.

If I have a mastectomy for DCIS, can the skin and nipple be kept intact for plastic surgery later?

This procedure (called "subcutaneous mastectomy") has been done for patients with DCIS in the past because it gives a good cosmetic result. However, because it leaves 10% to 15% of the breast tissue behind, it only partly removes the risk of the cancer returning and is not as safe as mastectomy. If you are choosing mastectomy to minimize the risk that the cancer will recur, subcutaneous mastectomy is not recommended.

What about other treatments, such as tamoxifen?

There is some scientific evidence that treatment with tamoxifen, a drug that can prevent growth of cancer cells, may benefit women with DCIS who have had lumpectomy. You and your doctor will need to discuss whether the benefit of using tamoxifen outweighs any side effects (see guideline 12).