Nipple-Sparing Mastectomy
Female Patient

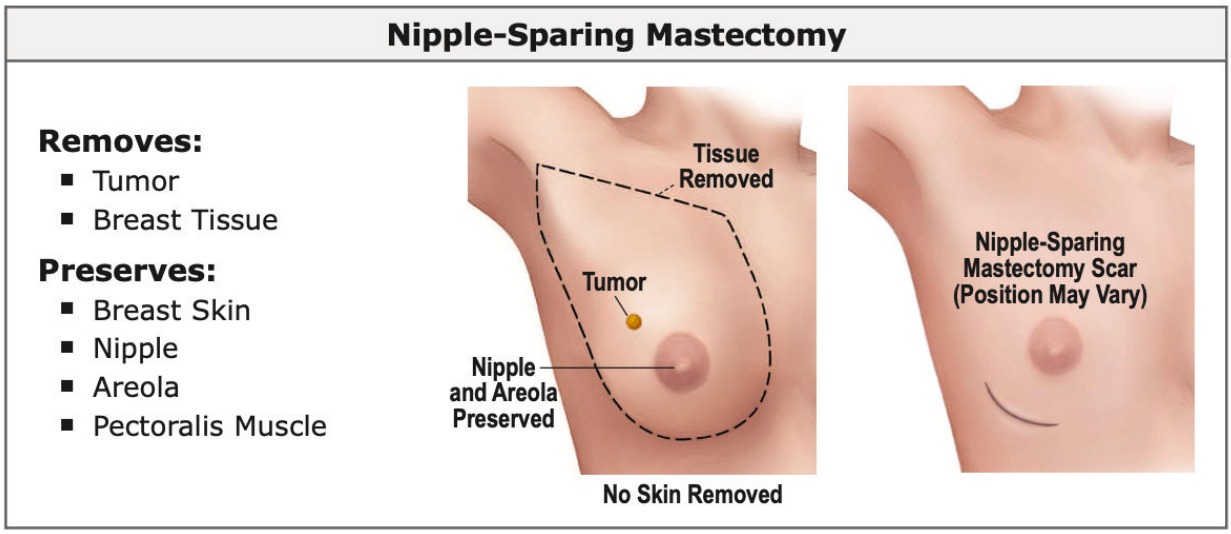
Nipple-sparing mastectomy removes the breast tissues under the skin and spares the breast skin, nipple, areola and chest wall muscles. A sentinel lymph node biopsy may also be performed to ensure that the lymph nodes do not contain any cancer cells. Breast reconstruction is usually performed immediately after nipple-sparing mastectomy cancer surgery to restore the cosmetic appearance of the breast.

Nipple-sparing mastectomy is performed with a focus on removing all of the breast tissues along with the cancerous tumor while saving the skin, nipple and areola. The ducts under the nipple are removed with the breast tissues. When the skin and nipple are preserved, the appearance of the breast looks nearly normal after reconstruction is completed. Women find the cosmetic appearance of their breast very acceptable when their own nipple and areola are left intact.

Nipple-Sparing Scars

The location of the tumor in the breast determines scar placement. The surgeon's goal is to completely remove the tumor and to position the scar so that it has the best cosmetic appearance. Nipple-sparing scars may be located:

- Directly over the tumor
- Partially around the areola
- Under the arm (axillary)
- In the crease under the breast (inframammary)



A 2008 study published in the Annals of Surgical Oncology examined future potential for cancer when leaving the nipple. The study found that the small ducts and lobules in which breast cancer occurs are rare in the nipple. From this study, they concluded that since the anatomical structures needed to form a breast cancer were rare in the nipple, cancer

originating in the nipple should also be rare. However, nipple-sparing is not recommended for all patients.

Nipple-Sparing Mastectomy Criteria:

- **Nipple and Cancer Distance:** If the cancer is close to the nipple areola complex, the procedure may not be recommended. At this time, most surgeons recommend that at least 20 mm (a little less than one inch) should separate the cancer and the nipple complex. Some surgeons recommend a larger distance. Ask your surgeon for their preference.
- **Tumor Size:** The larger a tumor or area of ductal carcinoma in situ (DCIS) the more likely the nipple may be involved. Tumors under 40 mm (1.5 inches) are usually candidates for nipple-sparing mastectomy. Your physician will inform you if your tumor size allows nipple- sparing mastectomy as a surgical option.

Nipple-Sparing Mastectomy for Risk-Reduction Criteria:

- Women who test positive for a BRCA gene mutation are candidates
- Women who have a strong family history without a positive genetic test are candidates
- Women undergoing mastectomy for cancer who desire bilateral reconstruction to reduce risk in opposite breast are candidates

Post-Surgical Complications From Nipple-Sparing Mastectomy:

- **Nipple Necrosis:** Surgical complications related to nipple-sparing surgery are not unusual. The ability to get oxygen to the remaining breast skin and nipple areola complex is related to blood supply. The blood supply to the nipple and areola is reduced following nipple- sparing surgery. Therefore, tissue death (necrosis) of the nipple and areola is a potential. This tissues death results in the loss of the nipple and/or areola that was previously spared. Statistics of nipple necrosis vary from as high as 20% to as low as 2%. Many factors may contribute to the necrosis including an increase in a larger size breast. In some circumstances, necrosis can occur to only the top layers of the skin which is followed by complete healing within a few weeks.
- **Loss of Sensation:** Patients electing to undergo nipple-sparing mastectomy should understand that in almost all instances, the nipple will have little to no sensation after surgery. Some patients report a return of sensation to the breast skin, but a only a few report a return of any type of sensation in the nipple itself.

Advantages:

- Preserves natural look of breast by preserving nipple and areola Prevents need for additional nipple reconstruction surgery

Disadvantages:

- Need for future surgery if cancer recurs in the nipple
- Loss of normal sensation of nipple because of tissue removal which contains sensory nerves connected to the nipple

- Loss of ability for nipple erection due to sensory nerve removal
- Potential for nipple to not be in proper position after reconstruction, requiring repositioning
- Possible nipple necrosis (death of tissues from lack of blood supply)

Surgical Consult:

The final decision to determine if nipple-sparing surgery is appropriate for you will be made after a consultation with your surgeon. The surgeon will carefully study your mammography or MRI records to determine the estimated distance of the cancer to your nipple before recommending nipple-sparing surgery as an option.