# BREAST RECONSTRUCTION

***Quick Summary* of Section**

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| **Breast Reconstruction** | • Women who choose to have their breasts rebuilt have several options for how it can be done. Breasts can be rebuilt using implants (saline or silicone). They can also be rebuilt using autologous tissue (that is, tissue from elsewhere in the body). |
| **Factors - Timing** | • What factors can affect the timing of breast reconstruction?. |
| **Factors - Choice** | • What factors can affect the choice of breast reconstruction method?. |
| **Reconstruction with Implants** | • Surgery and recovery; Possible complications. |
| **Reconstruction with Autologous Tissue** | • Surgery and recovery; Possible complications |

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| **Breast Reconstruction** | Many women who have a mastectomy—surgery to remove an entire breast to treat or prevent breast cancer—have the option of having the shape of the removed breast rebuilt. Women who choose to have their breasts rebuilt have several options for how it can be done. Breasts can be rebuilt using implants (saline or silicone). They can also be rebuilt using autologous tissue (that is, tissue from elsewhere in the body). Sometimes both implants and autologous tissue are used to rebuild the breast.<br>• Surgery to reconstruct the breasts can be done (or started) at the time of the mastectomy (which is called immediate reconstruction) or it can be done after the mastectomy incisions have healed and breast cancer therapy has been completed (which is called delayed reconstruction). Delayed reconstruction can happen months or even years after the mastectomy.<br>• In a final stage of breast reconstruction, a nipple and areola may be re-created on the reconstructed breast, if these were not preserved during the mastectomy. Sometimes breast reconstruction surgery includes surgery on the other, or contralateral, breast so that the two breasts will match in size and shape.<br>*NIH NCI (9)* |

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| **What factors can affect the timing of breast reconstruction?** | • One factor that can affect the timing of breast reconstruction is whether a woman will need radiation therapy. Radiation therapy can sometimes cause wound healing problems or infections in reconstructed breasts, so some women may prefer to delay reconstruction until after radiation therapy is completed. However, because of improvements in surgical and radiation techniques, immediate reconstruction with an implant is usually still an option for women who will need radiation therapy. Autologous tissue breast reconstruction is usually reserved for after radiation therapy, so that the breast and chest wall tissue damaged by radiation can be replaced with healthy tissue from elsewhere in the body.<br>• Another factor is the type of breast cancer. Women with inflammatory breast cancer usually require more extensive skin removal. This can make immediate reconstruction more challenging, so it may be recommended that reconstruction be delayed until after completion of adjuvant therapy.<br>• Even if a woman is a candidate for immediate reconstruction, she may choose delayed reconstruction. For instance, some women prefer not to consider what type of reconstruction to have until after they have recovered from their mastectomy and subsequent adjuvant treatment.<br>• Women who delay reconstruction (or choose not to undergo the procedure at all) can use external breast prostheses, or breast forms, to give the appearance of breasts.<br>*NIH NCI (9)* |
| **What factors can affect the choice of breast reconstruction method?** | Several factors can influence the type of reconstructive surgery a woman chooses. These include the size and shape of the breast that is being rebuilt, the woman's age and health, her history of past surgeries, surgical risk factors (for example, smoking history and obesity), the availability of autologous tissue, and the location of the tumor in the breast.<br>• Women who have had past abdominal surgery may not be candidates for an abdominally based flap reconstruction. Each type of reconstruction has factors that a woman should think about before making a decision.<br>• All women who undergo mastectomy for breast cancer experience varying degrees of breast numbness and loss of sensation (feeling) because nerves that provide sensation to the breast are cut when breast tissue is removed during surgery. However, a woman may regain some sensation as the severed nerves grow and regenerate, and breast surgeons continue to make technical advances that can spare or repair damage to nerves.<br>• Any type of breast reconstruction can fail if healing does not occur properly. In these cases, the implant or flap will have to be removed. If an implant reconstruction fails, a woman can usually have a second reconstruction using an alternative approach.<br>*NIH NCI (9)*<br>*Some of the more common considerations are listed below* |

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| **Reconstruction with Implants** | **Surgery and recovery**<br>• Enough skin and muscle must remain after mastectomy to cover the implants<br>• Shorter surgical procedure than for reconstruction with autologous tissue; little blood loss<br>• Recovery period may be shorter than with autologous reconstruction<br>• Many follow-up visits may be needed to inflate the expander and insert the implant<br>**Possible complications**<br>• Infection<br>• Accumulation of clear fluid causing a mass or lump (seroma) within the reconstructed breast<br>• Pooling of blood (hematoma) within the reconstructed breast<br>• Blood clots<br>• Extrusion of the implant (the implant breaks through the skin)<br>• Implant rupture (the implant breaks open and saline or silicone leaks into the surrounding tissue)<br>• Formation of hard scar tissue around the implant (known as a contracture)<br>• Obesity, diabetes, and smoking may increase the rate of complications<br>• Possible increased risk of developing a very rare form of immune system cancer called anaplastic large cell lymphoma<br>**Other considerations**<br>• May not be an option for patients who have previously undergone radiation therapy to the chest<br>• May not be adequate for women with very large breasts<br>• Will not last a lifetime; the longer a woman has implants, the more likely she is to have complications and to need to have her implants removed or replaced<br>• Silicone implants may feel more natural than saline implants to the touch<br>• The Food and Drug Administration (FDA) recommends that women with silicone implants undergo periodic MRI screenings to detect possible "silent" rupture of the implants.<br>*NIH NCI (9)*<br>More information about implants can be found on *FDA's Breast Implants page*.<br>*https://www.fda.gov/MedicalDevices/ProductsandMedicalProcedures/ImplantsandProsthetics/BreastImplants/default.html* |
| **Reconstruction with Autologous Tissue** | • **Surgery and recovery**<br>○ Longer surgical procedure than for implants<br>○ The initial recovery period may be longer than for implants<br>○ Pedicled flap reconstruction is usually a shorter operation than free flap reconstruction and usually requires a shorter hospitalization<br>○ Free flap reconstruction is a longer, highly technical operation compared with pedicled flap reconstruction that requires a surgeon who has experience with microsurgery to re-attach blood vessels<br>• **Possible complications**<br>○ Necrosis (death) of the transferred tissue<br>○ Blood clots may be more frequent with some flap sources<br>○ Pain and weakness at the site from which the donor tissue was taken<br>○ Obesity, diabetes, and smoking may increase the rate of complications<br>• **Other considerations**<br>○ May provide a more natural breast shape than implants<br>○ May feel softer and more natural to the touch than implants<br>○ Leaves a scar at the site from which the donor tissue was taken<br>○ Can be used to replace tissue that has been damaged by radiation therapy<br>*NIH NCI (9)* |