

# Nipple-Areola Reconstruction

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## ASSESSMENT OF THE DEFECT

In striving to achieve the best aesthetic and functional results in any reconstructive procedure, a number of factors must be recognized and carefully evaluated. The two most important are: (1) the study of the *normal anatomy*, including the meticulously accurate, *three-dimensional evaluation of the defect*; and (2) reconstruction of the defect with like tissue, keeping the types of tissue and three-dimensional framework in mind. The best or ideal autogenous reconstruction with the least accompanying morbidity is accomplished by replacing exactly the tissue that is taken, to the millimeter, with the same tissue that is resected and accomplishing this with the greatest amount of preservation of normal anatomy at the donor site. Today, reconstruction to this degree is not yet technically possible; with the advent and use of cultured tissues in conjunction with matrix frameworks, the prefabrication of all types of tissues will bring us closer to optimizing results and minimizing morbidity. The reconstructive surgeon can, however, maximize results by being an avid student of the "normal," or the patient's contralateral, anatomy and choosing a reconstructive method that best matches and replaces all of the tissues that are absent. This is true in all reconstructions, be they mandibular, nasal, or nipple-areolar, all of which should focus on replacing lining, bone, or soft tissues and skin surface when appropriate. Thus, the most successful nipple-areola reconstructions (NARs) include consideration of all structures present: the nipple substance and projection, areola, outer surface, and color.

## ANATOMY

To reconstruct any body structure, the surgeon must study the normal anatomic shape and form along with its most common variants. If a unilateral reconstruction is being performed, that "normal anatomy" becomes the patient's contralateral side, unless that structure is to be altered. Many common variations of nipple and areolar tissue have been described. The patient's wishes and concerns also play a major role in the decision making. Important anatomic factors include the position of the nipple-areola complex on the breast in the upright and supine positions and the size, color, and texture and any irregularity of the areola. Also, the size, color, projection height, and angle of the nipple must be assessed along with the goals of the patient. The "ideal" breast and nipple dimensions have been studied and evaluated. The nipple, in fact, is vital and, being the "focal point" of the breast, provides the final finishing touches and helps define the final shape and form of the breast.

Normal nipple position is 19 to 21 cm from the sternal notch or midclavicular line and generally 9 to 11 cm from the midpoint of the sternum. The distance from the inframammary fold to the mid-nipple position is approximately 8 cm and from the inferior areolar border to the inframammary fold, 6 cm. Average areolar diameter is 42 to 45 mm and nipple diameter is 8 mm (range, 5 to 10 mm) with a projection of 4 to 6 mm, unstimulated. The areola itself projects from the breast mound a few millimeters and contains a variable number of Montgomery glands. Color varies widely and depends on race and parity and is usually darker and more roughly textured than the surrounding skin.