An Algorithm for Creation of the Male Nipple Areolar Complex in the Female to Male Transgender Population

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INTRODUCTION: Female to male (FTM) chest wall reconstruction is becoming widespread in the North American population, but there is limited literature on creation of the male nipple-areolar complex (NAC) from the female NAC. Studies have been performed to assess the dimensions and positioning of the ideal male nipple [1,2], but there are limited techniques to developing that ideal from a female NAC, which tend to have a larger areola, a more prominent nipple, and a different anatomic location.[3,4] We have developed specific techniques and an algorithm to help create the ideal male NAC in the transgender population

MATERIALS AND METHODS: 125 FTM patients underwent either periareolar or subcutaneous mastectomies with extended subpectoral incisions at the University of Utah. From the patient population, an algorithm was developed assessing the type of female NAC (large or small) and subsequently, creating an aesthetically appropriate male NAC from the nipple and areolar tissue. We also determined a simple method to determine the ideal position of the NAC using the borders of the pectoralis major muscle.

RESULTS: We found that in the 112 subcutaneous mastectomies with an extended subpectoral incision, free nipple graft was ideal for creation of the male NAC. Of patient's that benefited from free nipple grafting, 32 patients had a large female NAC requiring creation of a composite male nipple by separately harvesting areolar and nipple tissue and creating a neo-nipple areolar complex. 80 of the free nipple graft patients had a small female NAC requiring harvest of the nipple with a measured cuff of areolar tissue to create the male NAC. In the 13 periareolar mastectomies, reduction of nipple projection was ideal for creation of the male NAC. This consisted of excision of exess nipple volume via a Mercedes incision. Ideal nipple positioning on the chest wall was found to be 1 cm above the inferior border and 1cm medial to the lateral border of the pectoralis major muscle in all FTM patients.

CONCLUSION: At the Unversity of Utah, we have established an algorithm for creation of a male NAC from a female NAC in FTM population, correcting for differences associated with the NAC size and the type of procedure performed. We also have identified a simple manner to aesthetically position the nipple on the chest wall using anatomic landmarks associated with borders of the pectoralis muscle.

REFERENCES:

1. Shulman O, Badani E, Wolf Y, Hauben DJ. Appropriate location of the nipple-areola complex in males. Plast Reconstr Surg. 2001 Aug;108(2):348-51.
2. Beckenstein MS, Windle BH, Stroup RT Jr. Anatomical parameters for nipple position and areolar diameter in males. Ann Plast Surg. 1996 Jan;36(1):33-6.
3. Wolter A, Diedrichson J, Scholz T, Arens-Landwehr A, Liebau J. Sexual reassignment surgery in female-to-male transsexuals: an algorithm for subcutaneous mastectomy. J Plast Reconstr Aesthet Surg. 2015 Feb;68(2):184-91. doi: 10.1016/j.bjps.2014.10.016. Epub 2014 Oct 18.
4. Monstrey S, Selvaggi G, Ceulemans P, Van Landuyt K, Bowman C, Blondeel P, Hamdi M, De Cuypere G. Chest-wall contouring surgery in female-to-male transsexuals: a new algorithm. Plast Reconstr Surg. 2008 Mar;121(3):849-59. doi: 10.1097/01.prs.0000299921.15447.b2.
5. Murphy TP, Ehrlichman RJ, Seckel BR. Nipple placement in simple mastectomy with free nipple grafting for severe gynecomastia. Plast Reconstr Surg. 1994 Nov;94(6):818-23.