

Donor Site Morbidity in Phalloplasty Reconstructions: Outcomes of the Radial Forearm Free Flap

❖ Phalloplasty
Surgical procedure where a penis is created

❖ Who needs phalloplasty?
Female-to-male (FTM) gender confirmation, ambiguous genitalia, aphallicia, epispadias, hypospadias, micropenis, trauma to the penis

❖ Procedure:
Creation of the penis, lengthening the urethra, creating glans, creation of the scrotum, (removal of the vagina), placing erectile and testicular implants

❖ Donor sites:
 - Radial forearm free flaps: excellent cosmetic results and better sensation
 - Anterolateral thigh free flaps: more penis length options. Scars on the thigh easier to hide
 - Latissimus dorsi flaps: less scarring. Best potential for an erection without a device.
 - Factors that indicate which donor site is used include patient's health, fat distribution, nerve functionality, blood flow, patient goals, desired surgical outcomes

❖ Radial forearm free flaps : large donor site may increase the potential for donor site morbidity, such as nerve injury, delayed wound healing, and decreased hand strength.

❖ Systemic review to assess the donor site morbidity associated with RFFF phalloplasty (RFFP)

❖ Methods

- Search terms: phalloplasty, radial, forearm, donor site, complication, and flap
- Two authors performed independent reviews of the literature within the PubMed and Ovid/Medline databases

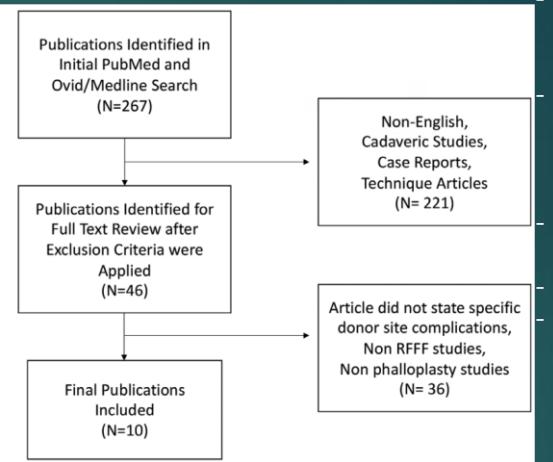
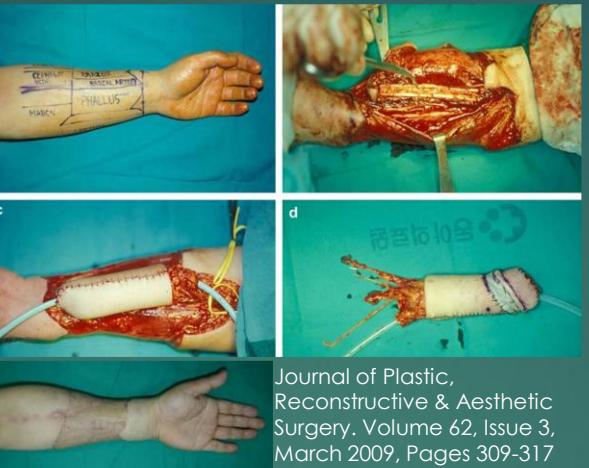


Table 1. Included Study Cohort Average Age, Follow-Up, Indication for Surgery

Author	Year	Patients	Age	Follow-Up	Gender Confirmation	Trauma/Oncologic/Medical	Bladder/Cloacal/Exstrophy	Agenesis/Aplasia
Selvaggi et al ⁹	2006	125	—	43 (6–108)	125	—	—	—
Monstrey et al ¹⁰	2009	287	—	—	280	3	—	4
Garaffa et al ¹¹	2009	15	43.6 (39–54)	85.2 (24–216)	—	15	—	—
Garaffa et al ¹²	2010	115	34.9 (20–55)	—	—	—	—	—
Garaffa et al ¹²	2010	27	40.4 (30–55)	9.2 (1–32)	—	—	—	—
Doornaert et al ¹³	2011	316	—	—	306	4	—	4
Song et al ¹⁴	2011	19	—	(12–120)	19	—	—	—
Massanyi et al ¹⁵	2013	10	19	14 (2–52)	—	—	10	—
Garaffa et al ¹⁶	2014	16	23.619–29	20.52–38	—	—	16	—
Falcone et al ¹⁷	2016	10	36 (27–52)	—	—	10	—	—

Table 2. Donor Site Complications by Article

Author	Year	Patients	Infection	Hematoma	Dehiscence	Neuroma	Nerve Compression/Compartment Syndrome	Skin Graft Failure	Decreased Strength/Sensation	Lymphedema/Swelling	Contracture
Selvaggi et al ⁹	2006	125	—	1 (0.8%)	—	—	—	11 (8.8%)	1 (0.8%)	7 (5.6%)	—
Monstrey et al ¹⁰	2009	287	—	—	—	—	—	2 (0.7%)	—	—	—
Garaffa et al ¹¹	2009	15	—	—	—	—	—	2 (13.3%)	2 (13.3%)	1 (6.7%)	2 (13.3%)
Garaffa et al ¹²	2010	115	—	—	—	—	1 (0.9%)	7 (6.1%)	12 (10.4%)	2 (1.7%)	—
Garaffa et al ¹²	2010	27	—	—	—	—	—	3 (11.1%)	0 (0%)	—	—
Doornaert et al ¹³	2011	316	—	—	—	—	—	13 (4.1%)	—	—	—
Song et al ¹⁴	2011	19	3 (15.8%)	—	—	—	—	—	—	—	—
Massanyi et al ¹⁵	2013	10	—	—	—	—	1 (1%)	—	—	—	—
Garaffa et al ¹⁶	2014	16	—	—	—	—	—	—	3 (18.8%)	0 (0%)	0 (0%)
Falcone et al ¹⁷	2016	10	—	—	0 (0%)	—	0 (0%)	0 (0%)	0 (0%)	—	—

Donor Site Morbidity in Phalloplasty Reconstructions: Outcomes of the Radial Forearm Free Flap. Plast Reconstr Surg Glob Open. 2019 Sep 23;7(9):e2442. Alexandra Kovar , Susie Choi , Matthew L Iorio