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음문질 재건을 위한 새로운 서혜부 천공지 피판: 표재외음부동맥 천공지(SEPP) 피판

A Novel Inguinal Perforator Flap for Vaginal Reconstruction: The Superficial External Pudendal Artery Perforator (SEPP) Flap



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**Purpose:** Vulvovaginal reconstruction following oncologic resection remains challenging because of the region's complex three-dimensional anatomy and the need for thin, pliable, and sensate tissue coverage. Conventional reconstructive options, including local advancement flaps and distal-based perforator flaps, are often limited by bulkiness, contracture, or donor-site morbidity. Here, we present our institutional experience with a novel inguinal fasciocutaneous flap based on the superficial external pudendal artery perforator (SEPP flap) for vulvovaginal reconstruction, and evaluate its surgical reliability, tissue qualities, and versatility according to defect size and location.

**Methods:** We retrospectively reviewed 29 patients who underwent vulvovaginal reconstruction with pedicled SEPP flaps at our institution from March 2010 to May 2025. Patients requiring concurrent inguinal lymph node dissection or complex reconstruction involving urethral or anal sphincter preservation were excluded to minimize confounding factors. We analyzed patient demographics, tumor pathology, operative details, and postoperative outcomes. A total of 45 flaps were elevated.

**Results:** Mean patient age was 64.1 years (range 42-82). Primary pathologies included extramammary Paget's disease (51.7%, n=15), squamous cell carcinoma (31.0%, n=9), and vulvar melanoma (17.2%, n=5). Bilateral reconstruction was performed in 16 patients (55.2%). All 45 flaps survived completely without total necrosis or vascular compromise. Minor complications occurred in 4 patients (13.8%): one surgical site infection and three partial marginal necrosis cases, all successfully managed conservatively or with bedside debridement. All donor sites achieved primary closure with well-concealed inguinal crease scars.

**Conclusion:** The SEPP inguinal flap offers dependable vascularity, thin and pliable tissue, and low donor-site morbidity, making it well suited for superficial vulvovaginal resurfacing with favorable aesthetic and functional outcomes.

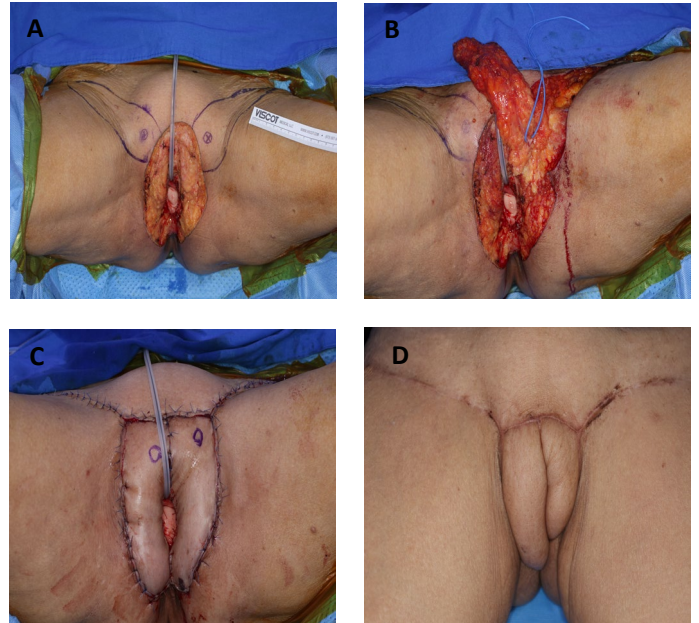


Figure 1. Primary donor-site closure following adequate subcutaneous undermining; (A) Preoperative view, (B) flap elevation, (C) immediate postoperative view, and (D) follow-up view.

Table 1. Patient Characteristics, Flap Dimensions, and Surgical Outcomes

Case no.	Age	BMI	Preop RTx.	Pathology	Vaginal involve	Flap	Width 1st flap (cm)	Length 1st flap (cm)	Width 2nd flap (cm)	Length 2nd flap (cm)	Complication
1	69	22.3	no	EMPD	Vulva	Left	4.5	11			No
2	19	19.2	no	Hemangioma	Vulva	Left	5	12			No
3	47	19.9	no	BCC	Vulva	Left	4.5	12			No
4	68	21.9	no	SCC	vulvovaginal	Bilateral	5	11	6	10	No
5	69	31.5	no	EMPD	Vulva	Left	6.5	13			No
6	64	23.3	no	Melanoma	Vulva	Left	6	10.5			No
7	54	25.4	no	VIN	vulvovaginal	Bilateral	7	12	5	11	No
8	72	22.2	no	EMPD	Vulva	Right	5.5	12.5			No
9	49	16.8	no	SCC	Vulva	Right	6	11.5			No
10	76	22.7	no	EMPD	vulvovaginal	Bilateral	5	12	6	11	No
11	34	26.4	no	SCC	vulvovaginal	Bilateral	4.5	12	5	12	Wound dehiscence
12	67	18.9	yes	SCC	Vulva	Left	6	9.5			No
13	72	19.1	no	BCC	Vulva	Right	4.5	9			No
14	76	25.1	yes	SCC	Vulva	Left	5.5	10			No
15	63	27	no	SCC	vulvovaginal	Bilateral	6	11	5.5	12	Debulking
16	80	24.8	no	EMPD	vulvovaginal	Bilateral	6	10	6	11	No
17	74	25	no	EMPD	vulvovaginal	Bilateral	4.5	10	5.5	11	No
18	78	25.6	no	EMPD	Vulva	Bilateral	7	13	6	10	Infection
19	86	26.3	no	EMPD	vulvovaginal	Bilateral	4	11	6	12	Flap necrosis
20	52	24	no	EMPD	vulvovaginal	Bilateral	5	12	5.5	12	No
21	78	21.3	no	SCC	Vulva	Bilateral	5	12	6	11	Debulking, Flap necrosis
22	46	22.6	no	EMPD	Vulva	Left	5	11			No
23	62	26.8	no	EMPD	vulvovaginal	Right	4.5	13			No
24	83	19	no	EMPD	vulvovaginal	Bilateral	7	12	5	11	No
25	67	24.6	no	SCC	vulvovaginal	Bilateral	5	10.5	4	10	No
26	60	22.9	no	EMPD	Vulva	Bilateral	5	4	5	3	No
27	65	27.6	no	EMPD	Vulva	Bilateral	4	15	4	15	No
28	64	22.8	no	SCC	Vulva	Left	8	14			No
29	76	21.1	no	EMPD	Vulva	Bilateral	5	12	6	12	No

BMI, Body Mass Index; Preop RTx, Preoperative Radiotherapy; EMPD, Extramammary Paget's Disease; SCC, Squamous Cell Carcinoma; BCC, Basal Cell Carcinoma; VIN, Vulvar Intraepithelial Neoplasia