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Complex Defect Reconstruction In Necrotising Fascitis Of The Hand: The Versatile Role Of Abdominal And Groin Flaps- An Institutional Obsdervational Study

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ABSTRACT

Background: Necrotizing fasciitis of the upper limb often leaves complex defects requiring timely, reliable soft-tissue coverage; pedicled abdominal and groin flaps remain pragmatic options when microsurgery is unsuitable, warranting comparative evaluation. **Objective:** To compare the abdominal and groin flaps in hand reconstruction for necrotizing fasciitis, with emphasis on indications, functional outcomes, comorbidities, and aesthetics. **Methods:** Single-centre, retrospective comparative study at Department of General Surgery, Chettinad Hospital and Research Institute, Kelambakkam (Chennai) including consecutive patients ≥ 12 years with upper-limb necrotizing fasciitis who underwent pedicled abdominal or groin flap reconstruction (Jan 2024–Jun 2025; IHEC-II/0945/25). **Results:** Among 15 patients (abdominal $n=7$; groin $n=8$), baseline features were similar: age 50.2 ± 16.3 vs 40.1 ± 18.8 years ($p=0.324$), BMI 23.2 ± 1.7 vs 25.4 ± 3.4 kg/m² ($p=0.134$), male 85.7% vs 75.0%, and comparable comorbidities (diabetes 42.9% vs 50.0%). Illness duration (7.6 ± 1.9 vs 6.4 ± 1.4 days; $p=0.177$), tissue loss (70.5 ± 19.8 vs 69.5 ± 17.6 cm²; $p=0.927$), and debridements were alike. Dorsal defects were more frequent with abdominal flaps (71.4%), while groin flaps often covered palm (25.0%) and digits (37.5%). Peri-operative parameters were comparable: operative time 129.6 ± 24.2 vs 117.4 ± 15.1 min, blood loss 228 ± 87.8 vs 197.8 ± 27.6 mL, and primary donor closure 60%. Early complications were similar (SSI 71.4% vs 25.0%; $p=0.132$); no re-explorations. At 9-month follow-up, function and aesthetics were alike (QuickDASH 26.3 vs 26.5; return-to-work 10 weeks). **Conclusion:** Pedicled abdominal and groin flaps provided comparable perioperative safety, complication profiles, and short-term functional/aesthetic outcomes for hand reconstruction after necrotizing fasciitis, supporting defect- and patient-tailored flap selection when microsurgery is unsuitable.

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INTRODUCTION:

Necrotizing fasciitis (NF) is a rapidly progressive, life-threatening soft-tissue infection characterized by widespread fascial necrosis, systemic toxicity, and high risks of limb loss and death despite modern critical care.(1) Mortality across cohorts remains substantial—systematic reviews of upper-extremity NF report mean death and amputation rates of 16% and 15%, respectively.(2) Diabetes, advanced age, and vascular comorbidity are

frequent in NF and contribute both to susceptibility and worse outcomes.(3) Recent population-level assessments also highlight geographic and health-system disparities in NF mortality, underscoring the need for timely recognition and coordinated care pathways.(4)

Definitive management hinges on prompt, radical debridement combined with broad-spectrum empiric antibiotics and hemodynamic support, followed by staged reassessment for source control.(5) Infectious Diseases Society of America (IDSA) guidance recommends urgent surgical exploration and empiric regimens such as vancomycin plus piperacillin-tazobactam or a carbapenem, tailored to cultures when available.(1) While early surgery lowers mortality, the resulting upper-extremity defects are often extensive, with exposed tendons, joints, or neurovascular structures that mandate durable soft-tissue coverage to enable rehabilitation and limb salvage.(6)

In this reconstructive phase, flap selection must balance defect size and topography against patient physiology, vessel quality, and resource constraints, with options spanning local, regional pedicled, and microsurgical free flaps.(7) The pedicled groin flap—based on the superficial circumflex iliac artery (SCIA)—has a long record of reliability, generous skin paddles, and favourable texture for hand resurfacing; historically seminal, it remains relevant even as SCIA-based perforator techniques evolve.(8, 9) Contemporary series confirm its utility for medium-to-large dorsal or palmar defects when microsurgery is unsuitable or deferred.(10)

Pedicled abdominal flaps offer a broad, pliable surface for extensive or multi-topography hand defects and remain a pragmatic choice where prolonged immobilization is acceptable, and vessel conditions are hostile to free tissue transfer.(11) Modern adaptations—including designs based on deep inferior epigastric perforators—illustrate their versatility for forearm and hand reconstruction in contaminated fields.(12) In comparative synthesis, free flaps may reduce revision rates, whereas pedicled flaps can show fewer complications and are less resource-intensive—considerations that are particularly salient after NF.(13)

Functional recovery is central to reconstructive success. Patient-reported outcome measures such as the QuickDASH are validated for upper-limb conditions, with meta-analytic estimates suggesting minimal clinically important differences around 12–16 points, aiding interpretation of postoperative change.(14) Against this background, the objective of the present study was to compare the abdominal and groin flaps in hand reconstruction for

necrotizing fasciitis, with emphasis on indications, functional outcomes, comorbidities, and aesthetics. This study is critical because chronic wounds impose a significant burden on healthcare systems due to their prolonged treatment requirements and associated complications. An effective treatment that promotes faster healing can reduce hospital stays, decrease the need for advanced wound care products, and improve the quality of life for patients. (26)

MATERIALS AND METHODS:

This was a single centre, hospital-based, retrospective, observational, comparative study conducted in the Department of General Surgery, Chettinad Hospital and Research Institute Kelambakkam, Chennai, Tamil Nadu, India with data obtained over a period of 18 months between January 2024 and June 2025. The study was approved by the Institutional Human Ethics Committee (IHEC) with reference number IHEC-II/0945/25 dated 05/09/2025. Patients ≥ 12 years of age with necrotising fasciitis in need of reconstruction surgery; with adequate medical records/data available (operative notes and at least two postoperative follow-up); and data on recurrence after hand reconstruction surgeries were included. However, patients with defects managed exclusively with skin grafts or local small flaps without abdominal/groin flap coverage; primary reconstruction with free tissue transfer (unless later revised using abdominal/groin flap and meeting other criteria); incomplete or missing essential records that preclude outcome assessment (e.g., no operative note and no postoperative documentation) were excluded.

Over the study duration, only 15 patients were eligible, finite population correction (Daniel & Cross, 2013) was applied, and all were included, yielding exploratory yet underpowered results. Data were extracted from operative notes, inpatient records, discharge summaries, and follow-up documentation. Demographic variables captured included age, sex, occupation, body mass index, and comorbid conditions (diabetes mellitus, hypertension, smoking, alcoholism, peripheral vascular disease, nutritional status, and immunosuppressive states). Clinical data at presentation included duration of illness, severity of necrotising fasciitis, number of prior debridement's, and extent of tissue loss. Operative details recorded comprised flap selection (abdominal or groin), defect size and location, donor-site planning, anaesthesia, operative time, and intraoperative blood loss. Preoperative optimisation (glycaemic control, antibiotics, haemodynamic stabilisation, and nutritional supplementation) was reviewed. All patients

underwent routine haematological and biochemical investigations (complete blood count, renal and liver function tests, coagulation profile, random blood sugar), chest X-ray, and ECG; echocardiography and other tests were obtained when indicated. Flap design was planned using anatomical landmarks and handheld Doppler assessment of perforators, with wound templates used to size defects and guide flap dimensions. Intraoperative records noted aseptic precautions, monitoring, flap marking, pedicle orientation, arc of rotation, and neurovascular inclusion. Postoperative monitoring included hourly flap checks for the first 24 hours and every 4 hours until day 5, assessing colour, capillary refill, temperature, and signs of venous congestion or arterial insufficiency; splintage and limb elevation were applied to minimise oedema.

Postoperative care included analgesics, antibiotics, daily dressings, nutritional support, and periodic review. Complications (infection, seroma, haematoma, wound dehiscence, venous congestion, flap necrosis, and donor-site morbidity) were documented. Patients underwent early mobilisation and physiotherapy once the flap stabilised. Follow-up records (up to 18 months) were analysed for postoperative complications, functional outcomes, and aesthetic results. Functional recovery was assessed by range of motion, ability to perform daily activities, return to work, and validated hand-function scores where available; aesthetic outcomes were evaluated by surgeon and patient for contour, bulk, colour match, scarring, and donor-site acceptability; patient satisfaction was abstracted from clinic notes and subjective feedback. Additional data included length of hospital stay, need for secondary procedures (debridement, re-surgery, or contracture release), and long-term flap durability.

Statistical analysis: Data were analysed using Stata v17 (StataCorp, College Station, TX). Continuous variables were inspected for normality (Shapiro–Wilk) and summarised as mean (SD) or median (IQR) as appropriate; between-group comparisons (abdominal vs groin flaps) used Welch’s t-test or Mann–Whitney U test. Categorical variables were presented as n (%) and compared using Fisher’s exact test (given small cell counts). Two-sided p values <0.050 were considered statistically significant.

Figures:

Groin flap reconstruction:



Figure 1. Volar aspect raw wound after surgical debridement highlighting extent of soft tissue loss (Source: Department of General Surgery, CHRI)



Figure 2. Preoperative marking of an abdominal flap based on anatomical landmarks, outlining the planned skin paddle dimensions for hand defect coverage. (Source: Department of General Surgery, CHRI)



Figure 3. Intraoperative photograph showing flap elevation from the groin donor site with preservation of vascular pedicle. (Source: Department of General Surgery, CHRI)



Figure 4. Intraoperative inset of the abdominal flap over the hand defect, showing initial flap positioning and vascular orientation before final suturing. (Source: Department of General Surgery, CHRI)



Figure 5. Immediate postoperative result after abdominal flap transfer and inset into the hand defect, with donor site closure and drain placement in situ. (Source: Department of General Surgery, CHRI)



Figure 6: Postoperative image of right hand showing the groin flap inset with hand attached for flap uptake (Source: Department of General Surgery, CHRI)



Figure 3: Immediate postoperative image following debridement and coverage of the dorsal hand defect with a pedicled abdominal flap; the flap is well perfused and sutured in place. (Source: Department of General Surgery, CHRI)



Figure 4: Postoperative image of right-hand dorsum showing the abdominal flap in situ with the hand attached for flap vascularization during the period of flap delay and inosculation. (Source: Department of General Surgery, CHRI)

Abdominal Flap Reconstruction:



Figure 1. Clinical Photograph showing extensive necrotising fasciitis of the dorsum of hand with exposed tendons, necrotic tissue and soft tissue loss (Source: Department of General Surgery, CHRI)



Figure 2. Elevated abdominal flap demonstrating adequate thickness and vascularity, prepared for transfer to cover the complex dorsal hand defect. (Source: Department of General Surgery, CHRI)

RESULTS:

In 15 patients (abdominal n=7; groin n=8), baseline profiles were broadly comparable with no significant differences between-group differences. Mean age was 50.2 ± 16.3 years for abdominal vs 40.1 ± 18.8 for groin (overall 44.8 ± 19.1 ; $p=0.324$), and BMI 23.2 ± 1.7 vs 25.4 ± 3.4 kg/m^2 ($p=0.134$). Males predominated (85.7% vs 75.0%; overall 80.0%; $p=1.000$), and manual occupations were common (57.1% vs 62.5%; $p=1.000$). Comorbidities/lifestyle factors were frequent and similar: diabetes 42.9% vs 50.0% (overall 46.7%; $p=1.000$), hypertension 14.3% vs 25.0% (20.0%; $p=1.000$), smoking 14.3% vs 37.5% (26.7%; $p=0.569$), alcoholism 42.9% vs 50.0% (46.7%; $p=1.000$), peripheral vascular disease 14.3% vs 12.5% (13.3%; $p=1.000$), undernutrition 28.6% vs 12.5% (20.0%; $p=0.569$), and immunosuppressive state 14.3% vs 0% (6.7%; $p=0.467$).

Illness duration and defect burden were similar between groups: 7.6 ± 1.9 days (abdominal) vs 6.4 ± 1.4 (groin; $p=0.177$) and tissue loss 70.5 ± 19.8 vs 69.5 ± 17.6 cm^2 (overall 70.0 ± 18.0 ; $p=0.927$). Debridements were comparable ($p=1.000$). Defect location differed qualitatively—dorsum of hand was more common with abdominal flaps (71.4% vs 37.5%), while groin flaps covered palm (25.0%) and digits (37.5%); multiple areas appeared only in

the abdominal group (28.6%) (overall $p=0.315$). Preoperative optimization was broadly alike: glycaemic control 42.9% vs 50.0% (overall 46.7%), antibiotics 85.7% vs 87.5% (86.7%), hemodynamic stabilization 57.1% vs 37.5% (46.7%), and nutritional supplementation 14.3% vs 25.0% (20.0%). Echocardiography was obtained more often before groin flaps (37.5% vs 0%; overall 20.0%; $p=0.200$).

Perforators were mapped in 85.7% (abdominal) vs 87.5% (groin), and wound templates were used universally (100%). Most procedures used general anaesthesia (85.7% vs 75.0%), with comparable operative time (129.6 ± 24.2 vs 117.4 ± 15.1 min; $p=0.276$) and blood loss (228.0 ± 87.8 vs 197.8 ± 27.6 mL; $p=0.411$). Neurovascular inclusion occurred in 42.9% vs 50.0%. Pedicle orientation tended to be lateral for abdominal (71.4%) and medial for groin flaps (62.5%) ($p=0.315$). The arc of rotation was similar ($112.4\pm15.3^\circ$ vs $107.1\pm12.3^\circ$; $p=0.477$). Donor sites were closed primarily in 57.1% vs 62.5%, with grafting required in 42.9% vs 37.5%; all differences were non-significant.

Early postoperative care was uniform (100% protocol adherence). Complication rates were generally comparable: surgical-site infection was more frequent after abdominal flaps (71.4%) than groin (25.0%; $p=0.132$), hematoma occurred in 42.9% vs 25.0%, venous congestion in 14.3% vs 37.5%, and partial flap necrosis appeared only in the abdominal group (28.6% vs 0%; $p=0.200$); donor-site morbidity was 42.9% vs 12.5% ($p=0.282$). No case required re-exploration; one secondary procedure followed an abdominal flap. Mean hospital stay was similar (13.6 ± 3.1 vs 12.9 ± 2.5 days; $p=0.643$). At follow-up (9.1 ± 2.1 vs 8.5 ± 3.0 months; $p=0.668$), functional/aesthetic outcomes were alike: good range of motion 71.4% vs 62.5%, independence in ADLs 100% vs 87.5%, patient satisfaction 85.7% vs 75.0%, and universally acceptable colour match (100%). QuickDASH scores were nearly identical (26.3 ± 7.2 vs 26.5 ± 12.0 ; $p=0.979$) with similar return-to-work times (10.4 ± 2.2 vs 10.0 ± 3.0 weeks; $p=0.796$).

DISCUSSION:

Our findings suggest that both pedicled abdominal and groin flaps remain dependable options for soft-tissue coverage of the hand after necrotizing fasciitis, with broadly similar perioperative profiles and functional outcomes in contemporary practice. Historically, both flaps were mainstays of hand reconstruction prior to the routine adoption of microsurgical free flaps, and they continue to be valuable in resource-constrained or infection-laden settings where vessel quality or patient factors may preclude microsurgery.(15) The groin flap's

reliability derives from its axial blood supply via the superficial circumflex iliac artery, which affords predictable perfusion, generous skin paddle dimensions, and contour suitable for dorsal or palmar hand coverage.(16) In contrast, pedicled abdominal flaps offer a broad, pliable surface for large or multidirectional defects and can be tailored or extended to reach distal upper-extremity wounds when other regional options are limited.(17) In our series, qualitative patterns of use echoed these principles: abdominal flaps more often resurfaced dorsal or multi-area defects, whereas groin flaps were frequently chosen for palm and digital coverage, aligning with classic indications.(15)

The patient cohort reflects the epidemiology of upper-limb NF, which commonly affects working-age adults with high rates of diabetes, tobacco/alcohol exposure, and vascular comorbidity—factors known to increase susceptibility to severe soft-tissue infection and to complicate wound healing, as noted by Ditsios et al. (2022) and La Padula et al. (2022).(2, 6) Early, decisive debridement remains the cornerstone of NF care and strongly influences survival and limb salvage; our comparable preoperative timelines (1 week from symptom onset) and similar counts of prior debridements are consistent with recommended iterative source control before reconstruction.(7) Operative planning in our study emphasized practical, widely available techniques: handheld Doppler for perforator mapping was used in most cases and wound templates were universal. While colour Doppler ultrasonography or CTA can improve perforator localization accuracy, a simple hand-held Doppler remains useful and pragmatic in many centres—though it can yield false positives, especially for small vessels, and should be interpreted in context.(18–20) Anaesthesia choice (predominantly general) and operative parameters were similar between groups; the modest trend toward shorter operative time and less blood loss with groin flaps parallels technical simplicity reported for this flap in experienced hands.(16) Pedicle orientation and arcs of rotation were also comparable, reflecting the generous reach of both flaps for distal upper-extremity resurfacing.(17)

Early postoperative monitoring was standardized and, critically, no case required urgent re-exploration—an observation compatible with the well-documented perfusion reliability of both pedicled options when flap design respects vascular anatomy.(15, 16) Complications were shared across groups and typical for contaminated fields after NF: surgical-site infection, hematoma, venous congestion, partial necrosis, and donor-site issues. Reported series of upper-extremity NF consistently note high local complication burdens due to

bacterial load, repeated debridements, and host factors, even when mortality is mitigated by early, aggressive care.(2, 6) Our numerically higher infection rate after abdominal flaps and greater venous congestion after groin flaps mirror patterns described in small series, but differences seldom reach statistical significance in cohorts of this size.(21)

Functionally, both cohorts achieved similar recovery. Two-thirds attained a good range of motion, >90% were independent in activities of daily living, QuickDASH scores were nearly identical, and median return-to-work times were 10 weeks. The QuickDASH is validated for upper-extremity disability assessment, and meta-analytic evidence suggests a minimal clinically important difference (MCID) of roughly 8–18 points (pooled 12 points), indicating that the observed between-group difference (<1 point) is clinically trivial; as noted by Galardini et al. (2024), Kazmers et al. (2020) and Sorensen et al. (2013).(14, 22, 23) Abdominal flaps are often criticized for prolonged immobilization and delayed therapy, potentially risking stiffness; however, with early mobilization protocols after flap stabilization, acceptable motion and function are achievable, as reflected here and in Al-Qattan et al. (2021).(11) The groin flap likewise yields dependable functional recovery, particularly for dorsal defects where its thickness and contour are advantageous without marked bulk.(16, 21)

Aesthetically, surgeon and patient appraisals were favourable in both groups. Colour match was universally ‘acceptable,’ and most cases had acceptable contour and donor-site appearance. Contemporary descriptions of groin flaps emphasize their thinness and favourable texture for hand skin, while abdominal flaps may require secondary debulking or staged contouring in some scenarios—techniques that can refine outcomes without compromising coverage.(11, 16) The similar rates of primary donor-site closure versus grafting in our data align with Acharya et al. (2019) and reflect balanced flap sizes chosen for specific defects.(15) From a reconstructive strategy standpoint, our results reinforce a pragmatic algorithm for post-NF hand coverage. When microsurgical free flaps (e.g., anterolateral thigh or SCIP free flaps) are contraindicated by vessel quality, patient instability, or resource limitations, pedicled regional options such as the groin flap and abdominal flap provide reliable, timely coverage to protect tendons, joints, and neurovascular structures.(24) In particular, the groin flap remains a workhorse for medium-to-large hand defects, with straightforward harvest, dependable perfusion, and acceptable donor morbidity; it has been repeatedly reported as useful even in salvage

contexts after NF.(25) Abdominal flaps retain distinct value for extensive or multi-topography defects where broader skin paddles and customizable designs are needed, especially in settings where staged pedicle division and subsequent therapy can be coordinated.(11, 17)

Equally important, our perioperative pathway—glycaemic optimization, broad-spectrum antibiotics, hemodynamic stabilization, and nutritional support—reflects consensus recommendations for NF and complex wound reconstruction, which underscore multidisciplinary care to optimize host factors before definitive coverage.(6) Standardized flap monitoring protocols (colour, capillary refill, temperature, and venous turgor checks) are consistent with best practices and likely contributed to the absence of emergent take-back in this cohort.(16)

Taken together, these data and the contemporary literature indicate that, when appropriately selected and executed, both pedicled abdominal and groin flaps can deliver comparable short-term safety and meaningful, clinically equivalent functional recovery after hand NF, while preserving the reconstructive ladder in environments where microsurgery is not feasible or advisable. However, this study has several limitations. First, it is a single-centre, retrospective series with a very small sample (N=15), making it underpowered to detect modest between-group differences and vulnerable to selection bias. Case heterogeneity (defect location/size, contamination, timing and number of debridements) and surgeon preference for flap choice introduce confounding that cannot be fully adjusted in this design. Reliance on chart abstraction risks information bias and missing data, and outcome assessment was not blinded. Follow-up was relatively short and variable, limiting appraisal of late complications (e.g., cold intolerance, sensory recovery, debulking/revision needs) and durability.

CONCLUSION:

In this retrospective comparative study of hand reconstruction after necrotizing fasciitis, pedicled abdominal and groin flaps demonstrated broadly similar perioperative profiles, complication burdens, and short-term functional and aesthetic outcomes. No clinically significant differences were observed in operative time, blood loss, QuickDASH scores, independence in activities of daily living, or return-to-work timelines. These findings support both flaps as reliable, context-appropriate options—particularly when microsurgery is contraindicated or resources are limited—with flap selection best guided by defect topology (e.g., dorsum vs palm/digits), tissue

requirements, and patient comorbidities.

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Table 1: Baseline Demographics and Comorbidities

Variable		Abdominal (n=7)	Groin (n=8)	Total (N=15)	P value
Age (years), Mean (SD)		50.2 (16.3)	40.1 (18.8)	44.8 (19.1)	0.324
Gender, n (%)	Male	6 (85.7)	6 (75.0)	12 (80.0)	1.000
	Female	1 (14.3)	2 (25.0)	3 (20.0)	
BMI (kg/m ²), Mean (SD)		23.2 (1.7)	25.4 (3.4)	24.3 (2.9)	0.134
Occupation, n (%)	Manual	4 (57.1)	5 (62.5)	9 (60.0)	1.000
	Non-manual	3 (42.9)	3 (37.5)	6 (40.0)	
Comorbidities/ Lifestyle factors, n (%)	Diabetes mellitus	3 (42.9)	4 (50.0)	7 (46.7)	1.000
	Hypertension	1 (14.3)	2 (25.0)	3 (20.0)	1.000
	Smoking	1 (14.3)	3 (37.5)	4 (26.7)	0.569
	Alcoholism	3 (42.9)	4 (50.0)	7 (46.7)	1.000
	Peripheral vascular disease	1 (14.3)	1 (12.5)	2 (13.3)	1.000

	Undernutrition	2 (28.6)	1 (12.5)	3 (20.0)	0.569
	Immunosuppressive state	1 (14.3)	0 (0.0)	1 (6.7)	0.467

Table 2: Clinical Presentation and Preoperative Optimisation

Variable		Abdominal (n=7)	Groin (n=8)	Total (N=15)	P value
Duration of illness (days), Mean (SD)		7.6 (1.9)	6.4 (1.4)	7.0 (1.7)	0.177
Prior debridement, n (%)	One	2 (28.6)	3 (37.5)	5 (33.3)	1.000
	Two	3 (42.9)	3 (37.5)	6 (40.0)	
	Three	2 (28.6)	2 (25.0)	4 (26.7)	
Tissue loss (cm ²), Mean (SD)		70.5 (19.8)	69.5 (17.6)	70.0 (18.0)	0.927
Defect location, n (%)	Dorsum hand	5 (71.4)	3 (37.5)	8 (53.3)	0.315
	Palm	0 (0.0)	2 (25.0)	2 (13.3)	
	Digits	0 (0.0)	3 (37.5)	3 (20.0)	
	Multiple areas	2 (28.6)	0 (0.0)	2 (13.3)	
Preoperative glycemic control, n (%)		3 (42.9)	4 (50.0)	7 (46.7)	1.000
Preoperative antibiotics, n (%)		6 (85.7)	7 (87.5)	13 (86.7)	1.000
Hemodynamic stabilization, n (%)		4 (57.1)	3 (37.5)	7 (46.7)	0.619
Nutritional supplementation, n (%)		1 (14.3)	2 (25.0)	3 (20.0)	1.000
Echocardiography done, n (%)		0 (0.0)	3 (37.5)	3 (20.0)	0.200

Table 3: Operative Planning and Intraoperative Details

Variable		Abdominal (n=7)	Groin (n=8)	Total (N=15)	P value
Perforators mapped by handheld Doppler, n (%)		6 (85.7)	7 (87.5)	13 (86.7)	1.000
Wound template used, n (%)		7 (100.0)	8 (100.0)	15 (100.0)	1.000
Anesthesia, n (%)	General	6 (85.7)	6 (75.0)	12 (80.0)	1.000
	Regional	1 (14.3)	2 (25.0)	3 (20.0)	
Operative time (min), Mean (SD)		129.6 (24.2)	117.4 (15.1)	123.1 (20.1)	0.276
Intraoperative blood loss (mL), Mean (SD)		228.0 (87.8)	197.8 (27.6)	211.9 (62.7)	0.411
Neurovascular inclusion in flap, n (%)		3 (42.9)	4 (50.0)	7 (46.7)	1.000
Pedicle orientation, n (%)	Medial	2 (28.6)	5 (62.5)	7 (46.7)	0.315
	Lateral	5 (71.4)	3 (37.5)	8 (53.3)	
Arc of rotation (degrees), Mean (SD)		112.4 (15.3)	107.1 (12.3)	109.6 (13.5)	0.477
Donor-site closure, n (%)	Primary	4 (57.1)	5 (62.5)	9 (60.0)	1.000
	Graft	3 (42.9)	3 (37.5)	6 (40.0)	

Table 4: Early Postoperative Course and Complications

Variable	Abdominal (n=7)	Groin (n=8)	Total (N=15)	P value
Monitoring protocol adhered, n (%)	7 (100.0)	8 (100.0)	15 (100.0)	1.000
Surgical-site infection, n (%)	5 (71.4)	2 (25.0)	7 (46.7)	0.132
Seroma, n (%)	0 (0.0)	2 (25.0)	2 (13.3)	0.467
Hematoma, n (%)	3 (42.9)	2 (25.0)	5 (33.3)	0.608
Wound dehiscence, n (%)	2 (28.6)	2 (25.0)	4 (26.7)	1.000
Venous congestion, n (%)	1 (14.3)	3 (37.5)	4 (26.7)	0.569
Partial flap necrosis, n (%)	2 (28.6)	0 (0.0)	2 (13.3)	0.200
Donor-site morbidity, n (%)	3 (42.9)	1 (12.5)	4 (26.7)	0.282
Re-exploration required, n (%)	0 (0.0)	0 (0.0)	0 (0.0)	1.000
Secondary procedure required, n (%)	1 (14.3)	0 (0.0)	1 (6.7)	0.467
Length of hospital stay (days), Mean (SD)	13.6 (3.1)	12.9 (2.5)	13.2 (2.7)	0.643

Table 5: Follow-up, Functional and Aesthetic Outcomes

Variable		Abdominal (n=7)	Groin (n=8)	Total (N=15)	P value
Follow-up duration (months), Mean (SD)		9.1 (2.1)	8.5 (3.0)	8.7 (2.5)	0.668
Good range of motion at final follow-up, n (%)		5 (71.4)	5 (62.5)	10 (66.7)	1.000
Independent in activities of daily living, n (%)		7 (100.0)	7 (87.5)	14 (93.3)	1.000
Patient satisfied (clinic notes), n (%)		6 (85.7)	6 (75.0)	12 (80.0)	1.000
Aesthetic, n (%)	Acceptable colour match	7 (100.0)	8 (100.0)	15 (100.0)	1.000
	Acceptable contour	6 (85.7)	6 (75.0)	12 (80.0)	1.000
Donor site acceptable, n (%)		6 (85.7)	8 (100.0)	14 (93.3)	0.467
QuickDASH score, Mean (SD)		26.3 (7.2)	26.5 (12.0)	26.4 (8.6)	0.979
Return to work (weeks), Mean (SD)		10.4 (2.2)	10.0 (3.0)	10.2 (2.6)	0.796