ORIGINAL ARTICLE

Fourteen consecutive free flaps in 14 days for reconstruction of crush injuries in the 2023 Kahramanmaraş earthquake: A retrospective university hospital experience from the disaster zone

Ömer Kokaçya,[1] Eyüphan Gencel,[2] İbrahim Tabakan,[1] Erol Kesiktaş,[1] Gazi Kutalmış Yaprak,[1] Ensari Yavuz[3]

[1]Department of Plastic Reconstructive and Aesthetic Surgery, Çukurova University Faculty of Medicine, Adana-*Türkiye*
[2]Department of Plastic Reconstructive and Aesthetic Surgery, Private EPC Hospital, Adana-*Türkiye*
[3]Private Practice, İstanbul-*Türkiye*

ABSTRACT

BACKGROUND: Earthquakes frequently result in high-energy extremity injuries requiring complex soft-tissue reconstruction. Performing microsurgical free-flap procedures in the acute post-disaster setting poses significant challenges due to resource limitations and logistic constraints.

METHODS: This retrospective study reviewed patients who underwent free-flap soft-tissue reconstruction in our tertiary university hospital, located within the disaster zone, during the acute phase of the 2023 Kahramanmaraş earthquake (February 06–21, 2023). Of 145 patients hospitalized in our plastic and reconstructive surgery service during this period, 14 underwent free-flap reconstruction and were included. Demographics, flap types, recipient vessels, perioperative details, and outcomes were analyzed.

RESULTS: Fourteen consecutive free flaps were performed over 14 days. The mean patient age was 32.8 years (range: 6–60 years); 50% were female. Twelve reconstructions (86%) involved the lower extremity, and two (14%) involved the upper extremity. The anterolateral thigh flap was the most frequently used flap (71.4%), followed by the latissimus dorsi flap (28.6%). In 75% of lower-extremity cases, the anterior tibial vessels of the injured limb were used; cross-leg anastomoses were required in three patients. Flap survival was achieved in 13/14 patients (92.8%). One total flap loss resulted in amputation.

CONCLUSION: Early free-flap reconstruction can be successfully integrated into acute trauma care even under disaster conditions when resources are organized efficiently, and surgical teams are coordinated. Our results support incorporating microsurgical capability into disaster-preparedness planning.

Keywords: Earthquake; extremity; free flap; limb salvage; microsurgery; reconstruction.

INTRODUCTION

Earthquakes are among the most devastating natural disasters, causing a wide spectrum of injuries and considerable morbidity. Soft-tissue and extremity injuries account for a major proportion of earthquake-related trauma and represent the second most common type of injury after life-threatening conditions have been addressed.[1] Early recognition and prompt surgical intervention are crucial to prevent infection, preserve limb function, and minimize the risk of amputation.[2] In the acute

Cite this article as: Kokaçya Ö, Gencel E, Tabakan İ, Kesiktaş E, Yaprak GK, Yavuz E. Fourteen consecutive free flaps in 14 days for reconstruction of crush injuries in the 2023 Kahramanmaraş earthquake: A retrospective university hospital experience from the disaster zone. Ulus Travma Acil Cerrahi Derg 2025;32:1076-1082.

Address for correspondence: Ömer Kokaçya
Department of Plastic Reconstructive and Aesthetic Surgery, Çukurova University Faculty of Medicine, Adana, Türkiye
E-mail: kokacya@yahoo.com

Ulus Travma Acil Cerrahi Derg 2026;32(9):1076-1082 DOI: 10.14744/tjtes.2026.27053
Submitted: 27.10.2025 Revised: 12.06.2026 Accepted: 05.08.2026 Published: 04.09.2026
OPEN ACCESS This is an open access article under the CC BY-NC license (http://creativecommons.org/licenses/by-nc/4.0/).

post-disaster period, emergency fasciotomy plays a vital role in preventing irreversible ischemic muscle necrosis in crush and compartment syndromes. Thorough surgical debridement is essential for removing devitalized tissue, reducing bacterial load, and lowering the risk of sepsis and late amputations.[3] When limb salvage is impossible, timely amputation may be life-saving by preventing systemic complications.[4] After these life- and limb-saving measures, the next priority is early soft-tissue coverage to protect exposed structures, prevent chronic infection, and restore function. In selected earthquake-related injuries, soft-tissue defects can be reconstructed using skin grafts or local flap techniques;[5] however, extensive or complex defects often require microsurgical free-flap reconstruction. Free-flap reconstruction has become a cornerstone in managing complex extremity injuries, and performing it in the acute post-disaster setting can reduce the number of additional procedures, shorten hospital stay, and improve both functional and esthetic outcomes for earthquake survivors. This study aims to present our experience with free-flap reconstructions performed during the acute phase of the 2023 Kahramanmaraş earthquake.

MATERIALS AND METHODS

On February 06, 2023, two major earthquakes of 7.7 and 7.5 magnitude struck Kahramanmaraş province in Türkiye, and these were followed by two additional earthquakes of 6.4 and 5.8 magnitude on February 20, severely affecting eleven cities with a combined population of more than 16 million.[6] Adana, the city where our hospital is located, was among the provinces affected by the Kahramanmaraş-centered earthquakes. Following the disaster, all elective surgeries were immediately canceled, inpatients were discharged, and our hospital was rapidly converted into a trauma center. Surgical interventions commenced on the 1st day. Two weeks after the initiation of medical treatment for earthquake victims, two significant aftershocks occurred on February 20, 2023, at 20:04 and 20:07 local time, with epicenters in the Defne and Samandağ districts and magnitudes of 6.4 and 5.8, respectively.[7] During inspections conducted the day after the aftershocks, on February 21, two main blocks of the hospital housing inpatient services were classified as "moderately damaged," leading to the suspension of surgical operations and the transfer of existing patients to nearby hospitals. By February 23, all patients had been safely transferred to nearby hospitals, and the evacuation process was fully completed.[8]

In this retrospective study, patients who underwent free-flap soft-tissue reconstruction during the acute post-earthquake period, between February 06 and 21, 2023, when our hospital was still functioning as a trauma center, were reviewed. Fourteen consecutive patients operated on within this period were included in the study. Demographic data, flap types used, recipient vessels, post-operative complications, and flap survival rates were analyzed, and perioperative management was described in detail.

To place these reconstructions in context, the overall surgical workload of our service during the same period was also recorded. During this acute operational window, 145 patients were admitted to our plastic and reconstructive surgery service, the majority referred from the severely affected provinces of Hatay and Kahramanmaraş. These patients required a wide range of interventions – including debridement, split- and full-thickness skin grafting, fasciotomy, locoregional flap reconstruction, and maxillofacial fracture repair—of whom 14 underwent microsurgical free-flap reconstruction and form the subject of the present report.

Free-flap reconstruction was not undertaken during the initial emergency phase, with the exception of one patient who underwent reconstruction on the 1st day following the earthquake. Patients first received resuscitation and, where indicated, fasciotomy and serial debridement; definitive microsurgical coverage was performed only once the patient's general condition had stabilized and the wound bed was judged suitable for free-tissue transfer, generally after several days of repeated debridement. On average, reconstruction was undertaken approximately 5 days after admission to our hospital. Over the 14-day operational period, 14 free flaps were performed, corresponding to 1 flap per operative day.

This study was approved by the local ethics review board (Approval No: 136/28, Date: September 01, 2023) and conducted in accordance with the principles of the Declaration of Helsinki. Written informed consent was obtained from all individual participants included in the study.

RESULTS

Demographic characteristics, flap types, recipient vessels, and complications of the patients are shown in Table 1.

The mean age of the 14 patients included in the study was 32.8 years, with a median age of 32 years. The youngest patient was 6 years old (Fig. 1), and the oldest was 60 years old (Fig. 2). There were seven female patients (50%) and seven male patients (50%). All reconstructions were performed for extremity injuries caused by crush trauma. Twelve of these reconstructions involved the lower extremity (86%), while two involved the upper extremity (14%).

The most frequently used flap type was the anterolateral

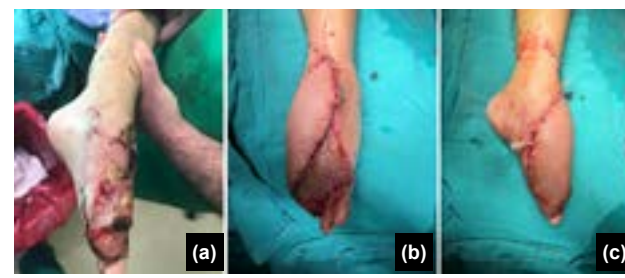


Figure 1. A 6-year-old patient who underwent anterolateral thigh free-flap reconstruction for coverage of a foot amputation stump. **(a)** Preoperative view; **(b and c)** intraoperative views.

Table 1. Demographic Characteristics, Flap Types, Recipient Vessels, and Complications of the Patients

#	Age	Gender	Recipient Area	Flap	Recipient Artery	Recipient Vein	Complication
1	42	Female	LE	ALT	ATA	GSV	-
2	23	Female	LE	LD + SA	Cross-leg PTA	VC (x2)	serratus muscle necrosis
3	16	Female	LE	ALT	ATA	VC	-
4	39	Male	LE	ALT	Cross-leg PTA	VC (x2)	-
5	38	Male	LE	ALT	ATA	VC	-
6	60	Male	LE	LD	ATA	VC	donor site suture dehiscence
7	26	Female	UE	ALT + VL	RA	VC	Venous thrombosis/revision at 2nd postoperative hour/flap salvaged
8	58	Male	LE	ALT	ATA	VC	-
9	20	Male	LE	ALT + VL	ATA	VC	Superficial skin necrosis
10	58	Female	UE	LD	RA	VC	Flap loss/amputation
11	42	Male	LE	ALT	ATA	VC	-
12	22	Female	LE	ALT	ATA	VC	-
13	6	Male	LE	ALT	ATA	VC	-
14	9	Female	LE	LD	Cros-leg PTA	VC	-

LE: Lower extremity; UE: Upper extremity; LD: Latissimus dorsi; SA: Serratus anterior; VL: Vastus lateralis; ATA: Anterior tibial artery; PTA: Posterior tibial artery; RA: Radial artery; VC – Vena comitans; GSV: Great saphenous vein.

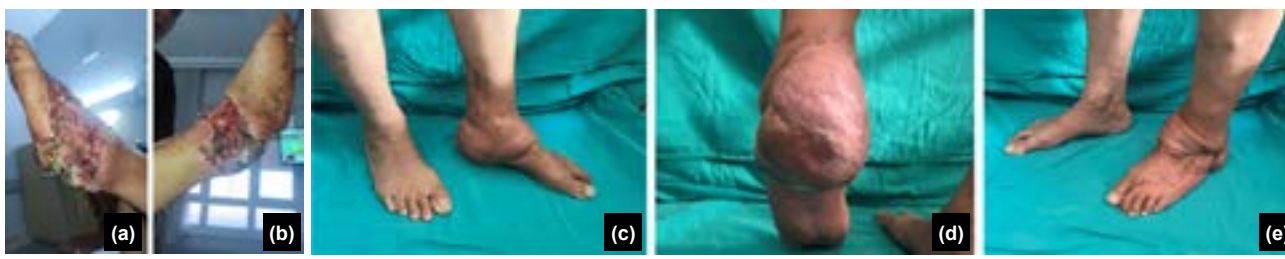


Figure 2. A 60-year-old patient who underwent latissimus dorsi free-flap reconstruction for coverage of calcaneal and dorsal foot defects. **(a and b)** Preoperative views, **(c)** medial, **(d)** posterior, and **(e)** lateral views at 1-year follow-up.

thigh (ALT) flap, which was performed as a fasciocutaneous flap in eight patients (57%) and as a myocutaneous flap including the vastus lateralis muscle in two patients (14%). A latissimus dorsi flap was used in four patients (29%), one of which was designed as a chimeric flap including the serratus anterior muscle (Fig. 3).

In nine of the 12 patients who underwent lower-extremity reconstruction (75%), the anterior tibial artery and, in all but one case, the anterior tibial vein of the same limb were used as recipient vessels. In the patient in whom the anterior tibial vein was unsuitable for anastomosis, the great saphenous vein was used as the recipient vein.

In three patients in whom suitable recipient vessels were not available in the same limb, the anastomoses were performed to the posterior tibial vessels of the contralateral leg. For these cross-leg reconstructions, each branch of the flap artery's Y-configuration was anastomosed to the proximal and distal segments of the recipient artery, ensuring both adequate flap perfusion and preservation of the recipient artery's

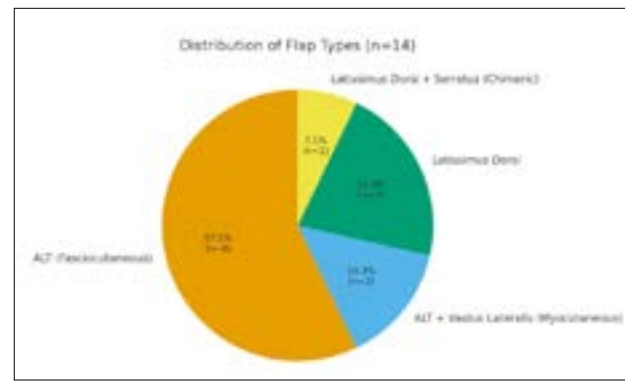


Figure 3. Distribution of flap types among 14 patients.

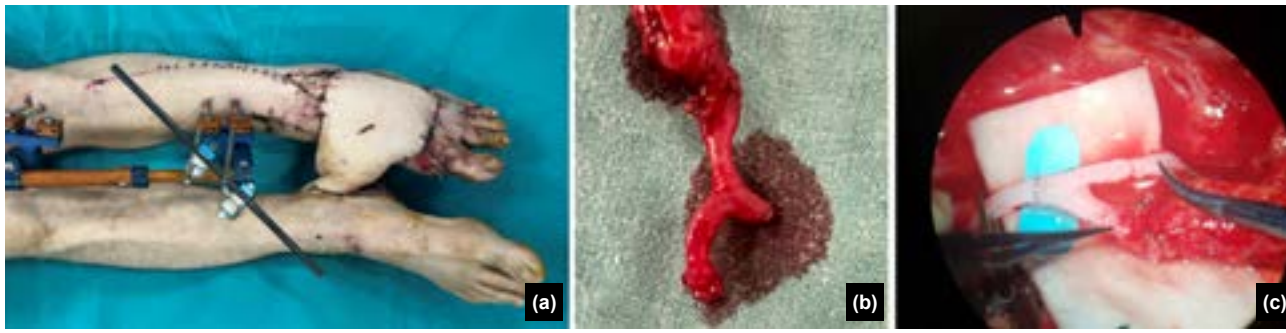


Figure 4. Cross-leg anterolateral thigh (ALT) flap reconstruction. **(a)** Incision made for exploration of the anterior tibial artery. **(b)** Y-configuration of the flap pedicle. **(c)** Anastomosis of the ALT pedicle to the proximal and distal segments of the contralateral posterior tibial artery, ensuring both adequate flap perfusion and preservation of the recipient artery's continuity.

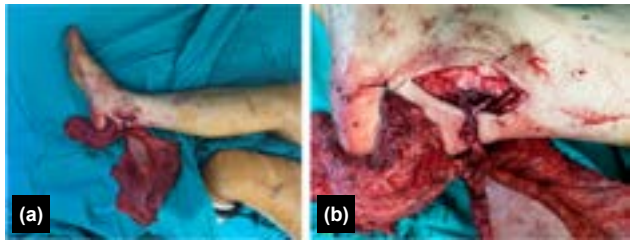


Figure 5. Chimeric latissimus dorsi + serratus anterior muscle flap reconstruction. **(a)** Flap anastomosed to the contralateral posterior tibial vessels. **(b)** Y-configuration of the thoracodorsal artery to the proximal and distal segments of the contralateral posterior tibial artery.

continuity. This technique was successfully applied to both ALT (Fig. 4) and latissimus dorsi flaps (Figs. 5 and 6) without the need for end-to-side anastomosis.

Among the two patients who underwent upper-extremity reconstruction, the pedicle of the ALT flap was anastomosed to the radial artery and vein in one case.

The other upper-extremity injury resulted in flap loss and ultimately amputation. The radial artery was defective. The surgical plan aimed to restore hand vascularization and cover the defect using a flow-through latissimus dorsi myocutaneous flap combined with a saphenous vein graft. The thoracodorsal artery and vein were anastomosed to the proximal stumps of the radial artery and vein. Distally, the radial artery stump was identified at the wrist level, and a 20-cm vein graft was interposed between the serratus branch of the flap and the distal radial artery stump (Fig. 7). Despite revascularization efforts, flap and hand perfusion failed in the early post-operative period, resulting in amputation.

Major complications occurred in two patients (14.2%). One patient developed venous thrombosis, which was successfully managed with early post-operative revision surgery, resulting in flap salvage. The other patient experienced total flap loss, and the treatment course ultimately ended with amputation.

Overall flap survival was achieved in 13 of 14 patients (92.8%).



Figure 6. Chimeric latissimus dorsi + serratus anterior muscle flap reconstruction. **(a)** Flap after completion of arterial and venous anastomoses, before inset. **(b)** Latissimus dorsi muscle used to reconstruct the anterior crural defect. **(c)** Serratus anterior muscle used to reconstruct the Achilles region defect.

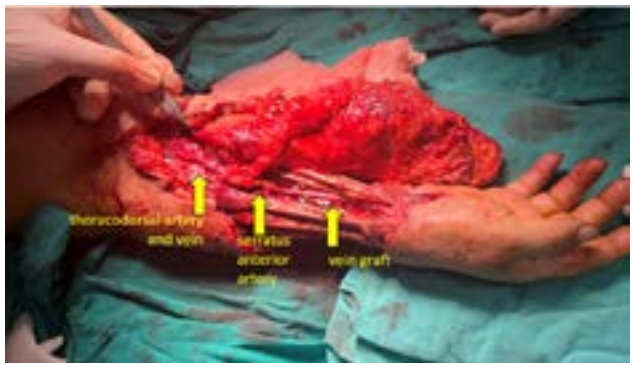


Figure 7. Flow-through latissimus dorsi myocutaneous flap with interposed saphenous vein graft, designed for both soft-tissue coverage and restoration of arterial flow to the hand. Flap and hand perfusion failed in the early post-operative period, necessitating amputation.

DISCUSSION

One may reasonably question whether there was a crucial need for lengthy microsurgical procedures during a period when an overwhelming number of patients were waiting for emergency operations such as fasciotomies, amputations, and maxillofacial trauma. Importantly, none of the emergency surgical interventions for these patients were postponed or delayed to perform free-flap reconstructions. Despite the high patient load, none of the patients were referred to another medical facility, as all necessary surgical interventions were performed within our hospital.

The capacity to sustain both microsurgical and non-microsurgical procedures during the disaster period was made possible by a deliberate reorganization of departmental resources. Inpatient capacity was expanded from approximately 20 to more than 100 beds through the reassignment of wards from other specialties, and the operating-room availability allocated to our department increased from 2 to 5 rooms/day. Our team comprised 16 residents and 3 faculty members, reinforced by the voluntary support of plastic surgeons – both from private practice in Adana and from other provinces, coordinated through the national society – who joined our team. Within the hospital as a whole, all 23 operating theaters remained operational day and night for the management of earthquake-related injuries, supported by a continuously available anesthesia team. As one of the first points of evaluation for arriving patients, our team also participated in emergency-department triage, consistently assigning one and often two physicians to the emergency department and increasing this number as patient volume required, so that timely operative decisions could be made in coordination with anesthesia and the other surgical branches. Within this organizational framework, free-flap reconstruction was integrated into a staged workflow in which emergency stabilization, fasciotomy, and serial debridement preceded definitive microsurgical coverage. This demonstrates that timely microsurgical reconstruction can be integrated into acute trauma care without compromising life-saving procedures, provided that hospital resources are efficiently organized and surgical teams are well-coordinated.

The patients in this series were managed under physiologically demanding conditions. All had sustained high-energy crush trauma, and many had been extricated from collapsed structures after prolonged entrapment, with the attendant risks of crush syndrome, rhabdomyolysis, and acute kidney injury. A number had undergone fasciotomy – frequently performed at referring centers – before transfer, and several required revision fasciotomy or extensive debridement of non-viable tissue before reconstruction. Free-flap reconstruction was therefore undertaken only after the patient's systemic condition had stabilized and the wound bed had been adequately prepared, an approach that influenced both the timing of surgery and the choice of flap.

Several disaster-specific challenges complicated the post-operative course. Microsurgical flaps require close, frequent monitoring for the early detection of vascular compromise, yet nursing and physician resources were stretched across an exceptional patient volume, and standard monitoring ratios could not always be maintained. The single episode of venous thrombosis in our series – salvaged by prompt re-exploration within the early post-operative hours – illustrates both the value of vigilant flap monitoring and the narrow margin available when resources are constrained. The risk of infection was heightened by contaminated crush wounds, delayed presentation, prolonged entrapment, and the austere environment; rigorous serial debridement, early soft-tissue coverage, and culture-directed antimicrobial therapy were central to mitigating this risk. Equally important, and often overlooked, was the toll on the surgical team itself: staff had also lived through the earthquake, some having lost relatives or homes, and worked extended shifts – including through major aftershocks – under considerable physical and psychological strain. We believe that explicit provision for post-operative monitoring capacity, infection control, and staff welfare and rotation should be incorporated into disaster-preparedness planning for reconstructive services.

The ALT flap was the most frequently used flap in our series, accounting for 71.4% of reconstructions. This preference is consistent with the existing literature, as the ALT flap offers several advantages for post-traumatic reconstruction. It provides a long and reliable vascular pedicle and a large skin paddle with relatively low donor-site morbidity, with the option of including the vastus lateralis muscle for myocutaneous coverage when additional bulk or obliteration of dead space is required. A practical advantage of the ALT flap in this setting is that, with the patient supine, two teams can readily work in parallel – harvesting the flap while the recipient site is prepared – without repositioning, thereby reducing operative time and minimizing anesthesia-related risks. We recognize that, with appropriate positioning (for example, a lateral decubitus or modified position that exposes both the donor

and recipient sites), the latissimus dorsi flap can likewise be harvested without a separate repositioning step, as is the routine practice at some centers; the relative convenience of simultaneous two-team access is therefore partly center- and preference-dependent. Nonetheless, in the specific context of high-volume, time-critical disaster surgery, we found the supine ALT approach particularly efficient.

In selected cases, the latissimus dorsi flap was preferred, primarily for larger defects requiring a greater surface area or volume of vascularized tissue, or where its muscle component was advantageous for contouring complex three-dimensional wounds. Historically, muscle flaps were considered superior for the coverage of contaminated or infected wounds; however, a growing body of comparative evidence has shown no significant difference between muscle/musculocutaneous and fasciocutaneous flaps with respect to flap survival, complication rates, or the control of infection in lower-extremity reconstruction, while fasciocutaneous flaps may offer advantages in donor-site morbidity and ease of secondary revision.[9,10] Accordingly, our flap selection was driven primarily by defect dimensions, the need to obliterate dead space, and the available recipient anatomy, rather than by an assumed antimicrobial advantage of muscle. Our decision to use the latissimus dorsi flap in 4 of 14 patients thus reflects an individualized, defect-specific approach.

In the study by Clover et al.,[11] which reported the surgical treatments performed in a field hospital established on a tennis court following the Haiti earthquake, 18 of 158 patients (11%) with complex defects were referred to other centers due to the lack of equipment and suitable facilities for post-operative care. Twelve (66.7%) of these 18 cases subsequently underwent successful free-flap reconstructions. The authors also noted that, of the four lower-limb amputations, two might have been salvageable with free-tissue transfer.

In our series, we achieved a flap survival rate of 92.8%, which is comparable to previously reported rates[2,12] for 2023 Kahramanmaraş earthquake victims. Almost all of the reports on free-flap reconstructions in victims of the 2023 Kahramanmaraş earthquake originate from hospitals outside the disaster zone, where patients were transferred after initial stabilization. This indicates that surgical interventions were generally performed in centers with more controlled conditions and greater resource availability. Our series is distinct in that all procedures were performed during the acute post-disaster period in a university hospital located within the disaster zone. Achieving a comparable flap survival rate under these challenging conditions – characterized by limited resources, logistical difficulties, and a high patient load – highlights the critical importance of multidisciplinary coordination and the experience of the surgical team.

Despite these promising results, our study has several limitations. Flap survival rate alone is not a sufficient indicator of surgical success; functional outcomes, complication rates, and long-term patient quality of life should also be evaluated to comprehensively assess the effectiveness of early free-flap reconstruction. Due to the evacuation of our hospital, the patients were lost to follow-up; when the hospital resumed its operations, most of them had already continued their treatment at other centers. This situation resulted in insufficient long-term follow-up data, which represents an important limitation of our study. Future multicenter prospective studies with extended follow-up are needed, with a particular focus on functional outcomes, rehabilitation progress, complication rates, and long-term quality of life in earthquake survivors undergoing free-flap reconstruction.

Another limitation of this study is the suboptimal quality of some of the photographs. Although it was a chaotic period, careful documentation remains essential.

CONCLUSION

Our experience demonstrates that early free-flap reconstruction is feasible and can be successfully integrated into acute trauma care even under disaster conditions, provided that resources are organized efficiently and surgical teams are well-coordinated. Therefore, disaster-preparedness plans should include dedicated microsurgical teams, adequate equipment, and clear protocols to enable timely and effective limb-salvage procedures in future mass-casualty events.

Ethics Committee Approval: This study was approved by the Cukurova University Faculty of Medicine Non-Interventional Clinical Research Ethics Committee (Date: 01.09.2023, Decision No: 136/28).

Informed Consent: Written informed consent was obtained from all individual participants included in the study.

Peer-review: Externally peer-reviewed.

Authorship Contributions: Concept: Ö.K., E.G., İ.T., E.K., G.K.Y., E.Y.; Design: Ö.K., E.G., İ.T., E.K., G.K.Y., E.Y.; Supervision: Ö.K., E.G., İ.T., E.K., G.K.Y., E.Y.; Resource: Ö.K., E.G., İ.T.; Materials: Ö.K., E.G., İ.T., E.K., G.K.Y., E.Y.; Data collection and/or processing: Ö.K., E.G., İ.T.; Analysis and/or interpretation: Ö.K., E.G., İ.T., E.K., G.K.Y., E.Y.; Literature review: Ö.K., E.G., İ.T., E.K., G.K.Y., E.Y.; Writing: Ö.K., E.G., İ.T., E.K., G.K.Y., E.Y.; Critical review: Ö.K., E.G., İ.T., E.K., G.K.Y., E.Y.

Conflict of Interest: The authors have no competing interests to declare that are relevant to the content of this article.

Financial Disclosure: The authors dd not receive support from any organization for the submitted work.

REFERENCES

1. Clover AJ, Jemec B, Redmond AD. The extent of soft tissue and musculoskeletal injuries after earthquakes; describing a role for reconstructive surgeons in an emergency response. World J Surg 2014;38:2543–50. [CrossRef]
2. Ergani HM, Özmut Ö, Yıldırım F, Çit R, Yaşar B, Ünlü RE. Evaluation of the 2023 Kahramanmaras earthquake from the perspective of Plas-

tic Surgery Department: A single-center experience. Jt Dis Relat Surg 2023;34:523–9. [CrossRef]
3. Gök H, Çatıkkaş B, Kuzi S, Daylak A, Akgün E, Armagan MY, et al. Microbial profiles and risk of amputation in fasciotomy and open wounds following the 2023 Türkiye earthquakes. Ulus Travma Acil Cerrahi Derg 2025;31:951–8. [CrossRef]
4. Kundakci B, Mirioglu A, Tekin M, Bagir M, Bicer OS, Arslan YK, et al. 6 February 2023, orthopedic experience in Kahramanmaraş earthquake and surgical decision in patients with crush syndrome. J Orthop Surg Res 2023;18:537. [CrossRef]
5. Zhang ZY, Chen JJ, Wang HS, Cen Y, Liu XX. Characteristics and treatment of skin and soft-tissue defects caused by 5·12 Wenchuan earthquake. Zhonghua Yi Xue Za Zhi 2012;92:243–5.
6. World Health Organization. Türkiye Earthquake: External Situation Report No. 6 (March 20-April 2, 2023). Available at: https://www.who.int/europe/publications/i/item/WHO-EURO-2023-7145-46911-68974 Accessed October 10, 2025. [in Turkish]
7. T.C. İçişleri Bakanlığı Afet ve Acil Durum Başkanlığı. 20 Şubat 2023 Yayladağı (Hatay) MW 6.4 Depremine İlişkin Öndeğerlendirme Raporu. Available at: https://deprem.afad.gov.tr/assets/pdf/Yaylada%C4%9F%C4%B1%20(Hatay)%20Depremi%20MW%206.4%20%C3%96n%20Degerlendirme%20Raporu.pdf Accessed October 10, 2025. [in Turkish]
8. Anadolu Ajansı. Çukurova Üniversitesi Tıp Fakültesi Balcalı Hastanesindeki hasta tahliyesi tamamlandı. Available at: https://www.aa.com.tr/tr/gundem/cukurova-universitesi-tip-fakultesi-balcali-hastanesindeki-hasta-tahliyesi-tamamlandi/2828839 Accessed October 10, 2025. [in Turkish]
9. Cho EH, Shammas RL, Carney MJ, Weissler JM, Bauder AR, Glener AD, et al. Muscle versus Fasciocutaneous Free Flaps in Lower Extremity Traumatic Reconstruction: A Multicenter Outcomes Analysis. Plast Reconstr Surg 2018;141:191-9. [CrossRef]
10. Paro J, Chiou G, Sen SK. Comparing Muscle and Fasciocutaneous Free Flaps in Lower Extremity Reconstruction-:Does It Matter? Ann Plast Surg 2016;76 Suppl 3:S213–5. [CrossRef]
11. Clover AJP, Rannan-Eliya S, Saeed W, Buxton R, Majumder S, Hettiaratchy SP, et al. Experience of an orthoplastic limb salvage team after the Haiti earthquake: analysis of caseload and early outcomes. Plast Reconstr Surg 2011;127:2373–80. [CrossRef]
12. Aksöyler D, Akpınar ÖF, Kozanoğlu E, Akalın BE, Bingül ES, Mirasoğlu B, et al. The role of reconstructive plastic surgery in the treatment of victims of the 2023 Kahramanmaraş earthquake. Acta Medica 2024;55:137–44. [CrossRef]

ORİJİNAL ÇALIŞMA - *ÖZ*

2023 Kahramanmaraş depreminde ezilme yaralanmalarının rekonstrüksiyonunda 14 gün içinde gerçekleştirilen 14 ardışık serbest flep: Afet bölgesindeki bir üniversite hastanesi deneyiminin retrospektif analizi

AMAÇ: Depremler, sıklıkla kompleks yumuşak doku rekonstrüksiyonu gerektiren yüksek enerjili ekstremite yaralanmalarına yol açar. Afet sonrası akut dönemde mikrocerrahi serbest flep uygulamaları, kaynak kısıtlılıkları ve lojistik engeller nedeniyle önemli zorluklar taşır.
GEREÇ VE YÖNTEM: Bu retrospektif çalışmada, 2023 Kahramanmaraş depremi sonrası akut dönemde (6–21 Şubat 2023) afet bölgesinde yer alan üçüncü basamak üniversite hastanemizde serbest flep ile yumuşak doku rekonstrüksiyonu yapılan hastalar değerlendirildi. Bu dönemde plastik ve rekonstrüktıf cerrahi servisimize yatırılan 145 hastadan 14'üne serbest flep rekonstrüksiyonu uygulandı ve bu hastalar çalışmaya dahil edildi. Demografik veriler, flep tipleri, alıcı damarlar, perioperatif ayrıntılar ve sonuçlar analiz edildi.
BULGULAR: On dört gün içinde toplam 14 ardışık serbest flep operasyonu gerçekleştirildi. Hastaların ortalama yaşı 32.8 (dağılım: 6–60 yıl) olup, %50'si kadındı. On iki rekonstrüksiyon (%86) alt ekstremitede, iki rekonstrüksiyon (%14) ise üst ekstremitede gerçekleştirildi. En sık kullanılan flep anterolateral uyluk (ALT) flebi (%71.4) olup, bunu latissimus dorsi flebi (%28.6) izledi. Alt ekstremite olgularının %75'inde yaralı ekstremitenin anterior tibial damarları alıcı damar olarak kullanıldı; üç hastada çapraz bacak anastomozlar gerekti. Flep yaşama oranı 13/14 (%92.8) idi; bir total flep kaybı ampütasyonla sonuçlandı.
SONUÇ: Afet koşullarında bile, kaynakların etkin biçimde organize edilmesi ve cerrahi ekiplerin koordinasyonu sağlandığında, erken dönemde serbest flep rekonstrüksiyonu akut travma bakımına başarıyla entegre edilebilir. Bulgularımız, mikrocerrahi yeteneğinin afet hazırlık planlamalarına dahil edilmesi gerektiğini desteklemektedir.

Anahtar sözcükler: Deprem; ekstremite; mikrocerrahi; rekonstrüksiyon; serbest flep; uzuv korunması.

Ulus Travma Acil Cerrahi Derg 2026;32(9):1076-1082 DOI: 10.14744/tjtes.2026.27053