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Staged orthoplastic reconstruction of an 8-cm open Achilles tendon defect after crush trauma in a 7-year-old child: a case report

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Case Report

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Abstract

Background: Open segmental Achilles tendon defects with simultaneous soft-tissue loss are exceptionally uncommon in young children. Gross contamination may preclude immediate reconstruction, whereas extensive tendon loss may make primary repair impossible. Management requires coordinated restoration of tendon continuity and vascularized posterior ankle coverage.

Case presentation: A 7-year-old Colombian boy of Mestizo ethnicity sustained a contaminated crush-avulsion injury to the posterior right ankle after entrapment in a sugarcane mill. Surgical exploration revealed extensive posterior ankle soft-tissue loss, complete Achilles tendon disruption, plant-material contamination, and segmental tendon loss. Two surgical irrigation and debridement procedures and interim negative-pressure wound therapy were performed. The initial deep-tissue culture yielded methicillin-susceptible *Staphylococcus aureus*, and the repeat culture showed no growth after 48 hours. Definitive debridement left an approximately 8-cm gap between viable tendon remnants, precluding tension-free primary repair. Achilles tendon continuity was restored using a free semitendinosus interposition autograft with local triceps surae aponeurotic augmentation, and coverage was achieved with a reverse sural fasciocutaneous flap. Partial distal flap loss involving full-thickness skin and subcutaneous tissue developed postoperatively without tendon or neurovascular exposure and healed over 4 months with conservative wound care. At 6 months, the flap provided stable coverage; ankle motion measured 20° of dorsiflexion and 45° of plantar flexion; plantar-flexion strength was Medical Research Council grade 4/5; calf compression elicited plantar flexion; and the child walked independently without an observable limp. Return to age-appropriate play was reported without limitation by the patient or caregiver.

Conclusions: This case illustrates the staged orthoplastic management of a contaminated pediatric Achilles tendon defect with major soft-tissue loss. Early follow-up demonstrated clinical continuity of the reconstructed Achilles mechanism and functional ambulation despite partial distal flap loss. Surveillance through growth remains necessary to assess graft length, strength recovery, donor-site morbidity, sensory consequences, and flap integrity.

1. Background

Traumatic Achilles tendon injuries requiring surgical treatment are uncommon in children [1, 2]. Unlike the degenerative and sports-related ruptures commonly encountered in adults, pediatric injuries more often result from direct laceration, crush trauma, or other high-energy mechanisms [1, 3–5]. Most reported pediatric cases retain sufficient viable tendons for primary approximation or limited augmentation [1, 2]. An open segmental defect associated with gross contamination and loss of the posterior ankle soft-tissue envelope presents substantially different reconstructive challenges, particularly in a child with considerable remaining growth [4–6].

Successful management requires the restoration of both tendon continuity and stable vascularized coverage. The reconstructed Achilles mechanism must re-establish force transmission from the

gastrocnemius–soleus complex to the calcaneus, while the overlying soft tissues must protect the repair and permit healing and rehabilitation [7–10]. Primary repair is unsuitable when viable tendon remnants cannot be approximated without excessive tension [11]. In such circumstances, reconstruction may require local aponeurotic tissue, tendon transfer, an autologous interposition graft, or a combined technique selected according to defect length, tissue viability, donor site implications, and skeletal maturity [5, 8, 12, 13].

Gross contamination further influences the timing of definitive treatment. Devitalized tissue, retained foreign material, and an incompletely defined zone of injury may make immediate grafting and flap coverage inappropriate. Serial excisional debridement, microbiological assessment, and temporary negative-pressure wound therapy may therefore be needed to establish a viable wound bed and define the final tendon and soft-tissue defects [14–16]. When local posterior ankle tissue is insufficient for closure, a reverse sural fasciocutaneous flap can provide regional coverage without microsurgical anastomosis, although partial flap loss, venous congestion, sensory disturbance, and donor-site morbidity remain relevant considerations [17–23].

Published pediatric reports have predominantly described Achilles tendon lacerations or ruptures amenable to direct repair or limited augmentation [1, 2]. Experience with large, contaminated segmental defects requiring both tendon graft reconstruction and flap coverage remains exceptionally limited [4–6]. This report describes the staged orthoplastic management of an approximately 8-cm open Achilles tendon defect following crush trauma in a 7-year-old child and highlights decision-making when neither tension-free primary repair nor direct soft-tissue closure is feasible.

2. Case presentation

A 7-year-old Colombian boy of Mestizo ethnicity, a primary school student residing in El Zulia, Norte de Santander, was referred to Clínica San José in Cúcuta, Colombia, approximately 4 hours after sustaining a crush-avulsion injury to the posterior aspect of the right ankle. The injury occurred when the lower limb became entrapped in a sugarcane mill. The patient had no relevant medical or surgical history and had been independently ambulatory without preexisting functional limitations.

Initial examination revealed extensive loss of posterior ankle skin and subcutaneous tissue, disruption of the underlying musculotendinous structures, and complete loss of Achilles tendon continuity. The open wound measured approximately 15 × 5 cm and was grossly contaminated with plant material and other foreign debris. The proximal and distal Achilles tendon remnants were exposed, and the remaining soft-tissue envelope was insufficient for direct closure. A contaminated open segmental Achilles tendon defect with extensive posterior ankle soft-tissue loss was diagnosed (Fig. 1A).

Initial treatment included analgesia, tetanus prophylaxis, sterile wound coverage, intravenous clindamycin at 220 mg every 6 hours, and intravenous amikacin at 330 mg every 24 hours. Urgent surgical exploration, irrigation, and excisional debridement were performed on the day of admission. The plant material and foreign debris were removed, and nonviable skin, subcutaneous tissue, muscle, and

tendon were excised until macroscopically viable tissue remained. Deep-tissue specimens yielded methicillin-susceptible *Staphylococcus aureus*. Negative-pressure wound therapy with polyurethane foam was applied at − 125 mmHg after debridement (Fig. 1B).

A second operation involving irrigation and debridement was performed 4 days later. Repeat exploration revealed a clinically viable wound bed without macroscopic purulence or progressive tissue necrosis. A second deep-tissue culture showed no microbial growth after 48 hours. Following the definitive excision of the nonviable tendon, an approximately 8-cm defect remained between the viable proximal and distal Achilles tendon remnants (Fig. 1C, D). Tension-free end-to-end approximation was not possible, and primary repair was therefore considered unsuitable.

Amikacin was discontinued after 4 days. Clindamycin was continued as monotherapy to complete a 14-day course. Definitive orthoplastic reconstruction was performed on 8 July 2025 after two operative debridements, microbiological reassessment, and confirmation of a clinically viable wound bed.

2.1. Tendon reconstruction

A longitudinal strip comprising approximately one-third of the available triceps surae aponeurotic tissue was mobilized and turned distally toward the Achilles tendon defect. The local aponeurotic component did not provide sufficient length to bridge the complete 8-cm gap without excessive tension. A free semitendinosus tendon autograft was therefore harvested and used as an interposition graft between the viable Achilles tendon remnants.

The semitendinosus graft was combined with the local triceps surae aponeurotic strip to form the definitive reconstruction. Proximally, the graft was secured to the viable Achilles tendon remnant using a locking Krackow suture configuration. Distal fixation to the viable Achilles tendon remnant was performed using the same technique (Fig. 2B, C). The construct was tensioned with the knee in full extension, and the ankle was maintained at 20° of plantar flexion. Tendon continuity, resting tension, and excursion were assessed intraoperatively before definitive soft-tissue coverage.

2.2. Soft-tissue reconstruction

An 11 × 5-cm reverse sural fasciocutaneous flap was designed to cover the posterior ankle defect. The flap incorporated a 3-cm-wide adipofascial pedicle, with the pivot point located 4 cm proximal to the tip of the lateral malleolus. The sural neurovascular axis was mobilized during flap elevation, and the small saphenous vein was retained within the pedicle. The flap was transposed and inserted over the reconstructed Achilles tendon without excessive tension or visible pedicle compression (Fig. 2A, D). The secondary donor-site defect was covered with a split-thickness skin graft.

Incisional negative-pressure therapy was applied. The lower limb was immobilized in an anterior splint with the ankle maintained at 20° of plantar flexion for 2 weeks.

2.3. Postoperative course and rehabilitation

Ankle mobilization commenced 2 weeks after reconstruction. Partial weight-bearing was introduced at 4 weeks and progressed to full weight-bearing at 6 weeks. Strengthening and gait retraining commenced at 8 weeks. The patient returned to primary school 8 weeks after surgery. Formal physiotherapy records were unavailable; rehabilitation milestones were obtained from the clinical follow-up documentation.

Approximately 15 days after reconstruction, substantial partial distal flap loss measuring approximately 7 × 5 cm was identified. The affected area contained full-thickness cutaneous necrosis extending into the subcutaneous tissue, without exposure of the reconstructed tendon or deep neurovascular structures (Fig. 3A). No clinical evidence of deep infection was present.

The necrotic area was managed nonoperatively through serial wound-clinic assessment and hydrocolloid dressings to facilitate autolytic debridement and progressive clearance of nonviable tissue. Surgical debridement, flap revision, and additional reconstructive coverage were not needed. Complete healing was achieved over approximately 4 months.

The semitendinosus donor-site incision healed without infection, dehiscence, seroma, or clinically apparent functional impairment. The flap donor site demonstrated progressive healing, although a small distal area developed superficial epidermal loss with granulation tissue. This area was managed conservatively with serial dressings and healed without infection or additional reconstruction.

2.4. Functional outcome

Clinical assessments were performed at 1, 3, and 6 months. The American Orthopaedic Foot & Ankle Society Ankle-Hindfoot score was used as a descriptive supplementary measure because it has not been specifically validated for this clinical setting in young children [24, 25]. The score increased from 29 after injury and before definitive reconstruction to 50 at 1 month, 56 at 3 months, and 75 at 6 months.

At 6 months, the reverse sural flap was fully healed and provided stable posterior ankle coverage (Fig. 3B). Active ankle motion was defined as 20° of dorsiflexion and 45° of plantar flexion. The plantar-flexion strength was graded 4/5 according to the Medical Research Council scale. Calf compression elicited plantar flexion, which is consistent with the clinical continuity of the reconstructed Achilles mechanism.

The patient was able to perform a single-leg heel rise, although the plantar-flexion strength remained reduced. Independent ambulation was achieved without an assistive device or observable limp (Fig. 3C, D). Return to age-appropriate play and physical activity was reported by 6 months, without limitations reported by the patient or caregiver. No deep infection, recurrent tendon exposure, clinical rerupture, or additional surgical procedures occurred during the available follow-up.

3. Discussion

Available pediatric reports have largely described lacerations or ruptures in which the tendon ends remained suitable for direct repair or limited augmentation. Vasileff and Moutzouros reported repair

after approximation of the tendon ends in a 10-year-old patient, Tudisco and Bisicchia described delayed reconstruction using equinus positioning and plantaris augmentation in a 7-year-old child, and Supanich et al. reported direct Krackow repair of a distal traumatic laceration [2, 26, 27]. The present injury was fundamentally different because serial debridement produced an approximately 8-cm segmental defect together with loss of the posterior ankle soft-tissue envelope. Neither direct tendon repair nor isolated wound coverage could adequately address this combined defect.

The initial treatment strategy for the agricultural crush-avulsion mechanism was determined. Plant contamination, devitalized tissue, and an incompletely defined zone of injury made immediate definitive reconstruction inappropriate. Serial excisional debridement permitted the removal of foreign material, repeated assessment of tissue viability, and accurate definition of the final tendon and soft-tissue defects. Temporary negative-pressure wound therapy maintained wound control between procedures. The initial deep-tissue culture yielded methicillin-susceptible *Staphylococcus aureus*, whereas the second culture showed no growth after 48 hours. The negative repeat culture supported progression to reconstruction but was not considered sufficient in isolation; the absence of purulence or progressive necrosis and the presence of a clinically viable wound bed were the principal surgical criteria.

Tension-free primary repair was not feasible after definitive debridement. Preservation of the functional length of the gastrocnemius–soleus unit is particularly important in a growing child because excessive shortening may restrict dorsiflexion and impair gait, whereas elongated reconstruction may reduce plantar-flexion power. A distally turned local triceps surae aponeurotic strip did not provide sufficient length to bridge the defect. A free semitendinosus interposition autograft was therefore added and secured to the viable proximal and distal Achilles remnants using locking Krackow sutures. Tensioning with the knee in full extension and the ankle at 20° of plantar flexion was intended to restore continuity without excessive shortening. The most accurate description of the definitive construct is a semitendinosus interposition autograft with local triceps surae aponeurotic augmentation [13, 28–30].

Alternative reconstructions require consideration but are less suitable for the anatomy encountered. V-Y advancement or isolated aponeurotic turndown would have depended on adequate proximal excursion, which was not available without excessive tension [13]. Tendon transfer could have restored plantar flexion but would have redirected an intact motor unit. Because viable proximal and distal Achilles remnants remained, interposition grafting preserved reconstruction along the native line of pull [31–33]. Allograft or free composite tissue transfer represented additional possibilities, but neither was required because autologous graft tissue and regional soft tissue suitable for coverage were available. These considerations reflect patient-specific operative judgment rather than evidence of superiority over other reconstructive methods.

The semitendinosus autograft supplied a sufficient length without transcalcaneal fixation or sacrifice of another functioning tendon [34–36]. Early clinical follow-up identified no infection, wound dehiscence, seroma, or apparent functional impairment at the harvest site. However, the absence of early complications does not exclude donor-site morbidity. Knee-flexion strength, hamstring endurance, and

activity-related symptoms were not evaluated using quantitative methods, and longer follow-up is required before the consequences of semitendinosus harvest can be fully characterized.

Soft-tissue reconstruction was equally important because an exposed or poorly covered tendon graft is vulnerable to infection, desiccation, adhesion, and recurrent breakdown. Reverse sural fasciocutaneous flaps provide regional coverage of distal-leg, ankle, and hindfoot defects without microsurgical anastomosis and have been used successfully in children. In this case, the flap permitted coverage of the tendon reconstruction and the posterior ankle defect using locally available tissue. Nevertheless, substantial partial distal flap loss developed. The affected region measured approximately 7 × 5 cm and involved full-thickness skin and subcutaneous tissue, although the reconstructed tendon and deep neurovascular structures remained covered.

Partial flap loss should be recognized as a clinically important complication rather than minor superficial necrosis. Conservative management was selected because tendon exposure, progressive infection, and deep structural involvement were absent. Serial wound assessment, hydrocolloid dressings, and autolytic debridement achieved complete healing without flap revision or additional coverage. However, healing required approximately 4 months and imposed a prolonged wound-care burden. The course illustrates that nonoperative management may be appropriate for carefully selected partial flap losses when viable deeper coverage remains intact, but it should not be interpreted as evidence that substantial necrosis is inconsequential.

Rehabilitation balanced the protection of the tendon construct and flap against the risks of ankle stiffness, calf weakness, and delayed gait recovery. Mobilization commenced after 2 weeks, followed by partial weight-bearing at 4 weeks, full weight-bearing at 6 weeks, and strengthening and gait retraining at 8 weeks. Return to primary school occurred at 8 weeks despite ongoing wound care. Formal physiotherapy records were unavailable, limiting the assessment of exercise progression, adherence, and the effect of flap complications on rehabilitation.

The six-month findings support early clinical continuity and functional recovery but do not indicate complete restoration of Achilles function. Active motion measured 20° of dorsiflexion and 45° of plantar flexion. The plantar-flexion strength remained reduced at Medical Research Council grade 4/5. Calf compression elicited plantar flexion, and a single-leg heel rise was possible, supporting the clinical continuity of the reconstructed mechanism. Independent ambulation was achieved without an assistive device or observable limp, and a return to age-appropriate play was reported without limitation by the patient or caregiver. Deficits in residual strength remain important and support continued rehabilitation and surveillance.

The American Orthopaedic Foot & Ankle Society Ankle-Hindfoot score increased from 29 after injury and before reconstruction to 75 at 6 months. These results should be interpreted cautiously because the score was not developed or specifically validated for a 7-year-old child who underwent traumatic Achilles reconstruction, and the postinjury baseline does not represent preinjury function [24, 25]. Objective findings—including ankle motion, plantar-flexion response, strength grading, heel-rise ability, ambulation,

and return to activity—provide more clinically meaningful evidence of early recovery than the composite score alone does.

Several limitations restrict interpretation. A follow-up of 6 months is insufficient to establish graft durability, definitive strength recovery, or adaptation during growth. Longer surveillance is necessary to detect graft elongation, recurrent equinus, progressive dorsiflexion restriction, calf atrophy, scar contracture, recurrent skin breakdown, and possible mismatches between reconstruction and longitudinal limb growth. Quantitative dynamometry, calf-circumference comparison, formal gait analysis, postoperative ultrasonography or magnetic resonance imaging, and a validated pediatric patient-reported outcome measure were unavailable. Sensory function within the sural nerve distribution and objective hamstring strength after graft harvest have not been formally documented. Findings from a single patient cannot establish comparative effectiveness or justify routine adoption of the technique.

The principal educational value of this case lies in the combined presence of young age, agricultural crush contamination, an approximately 8-cm segmental Achilles tendon defect, inadequate posterior ankle coverage, autologous interposition grafting, and regional flap reconstruction. The case supports a structured orthoplastic sequence: complete excision of devitalized tissue, temporary wound management, definition of the definitive defect, restoration of tendon continuity without excessive tension, and vascularized coverage. Early functional recovery may coexist with substantial wound-healing morbidity and incomplete restoration of plantar-flexion strength.

4. Conclusions

A staged orthoplastic approach permitted the reconstruction of a large, contaminated Achilles tendon defect with associated posterior ankle soft-tissue loss in a young child. Semitendinosus interposition grafting with local triceps surae aponeurotic augmentation restored the clinical continuity of the Achilles mechanism, whereas reverse sural flap coverage maintained tendon protection despite substantial partial distal flap loss. At 6 months, stable coverage, preserved ankle motion, clinical function but incomplete recovery of plantar-flexion strength, independent ambulation, and return to age-appropriate activity were documented. These findings represent early outcomes. Continued surveillance through growth remains necessary to assess graft length, strength recovery, donor-site morbidity, sensory consequences, scar behavior, and long-term flap integrity.

Reporting guidelines

This case report was prepared in accordance with the CARE reporting guidelines. The completed CARE checklist is provided as an additional file.

Use of artificial intelligence–assisted and digital editorial tools

Generative artificial intelligence tools were used solely for language editing, clarity enhancement, and similarity screening. Specifically, ChatGPT (OpenAI, San Francisco, CA, United States of America), Rubriq

(Research Square, Durham, NC, United States of America), Grammarly (Grammarly, San Francisco, CA, United States of America), and Turnitin (iParadigms, Oakland, CA, United States of America) were used under institutional oversight. These tools were not used for data collection, statistical analysis, or interpretation of results, and they did not influence the study's scientific conclusions.

Declarations

Ethics approval and consent to participate

The Ethics Committee of Clínica San José, Cúcuta, Colombia, and the microscopIA Institutional Review Board, Bogotá, Colombia, waived the requirement for formal ethics approval because this manuscript describes a single retrospective clinical case using deidentified patient information. Consent to participate was not applicable to this retrospective case report.

Consent for publication

Written informed consent for publication of the patient's deidentified clinical information and accompanying clinical and operative images was obtained from the patient's parent or legal guardian. A copy of the written consent is available for review by the Editor-in-Chief of the Journal of Medical Case Reports on request. No facial features, names, medical record numbers, dates of birth, or other direct identifiers are displayed in the submitted images.

Availability of data and materials

All relevant deidentified clinical information supporting this case report is included in the article. Additional patient-level data are not publicly available because their disclosure could compromise patient confidentiality.

Competing interests

The authors declare that they have no competing interests.

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Authors' contributions

ESS participated in the clinical and surgical management of the patient, acquired and verified the clinical data, obtained institutional ethics determinations and written consent from the patient's legal guardian, and critically revised the manuscript.

SOP, CASV, ABC, and ACV contributed to the data organization, literature review, and preparation of the initial draft of the manuscript.

CPL contributed to clinical interpretation, methodological supervision, and critical revision of the manuscript for important intellectual content.

JR contributed to manuscript conceptualization, reporting-guideline compliance, scientific writing, editorial supervision, project administration, coordination of institutional publication support, and final critical revision.

All the authors read and approved the final manuscript and agreed to be accountable for all the aspects of the work.

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Table

Table 1. Timeline of injury, staged orthoplastic reconstruction, postoperative management, and clinical follow-up.

Time point	Key clinical event, intervention, and outcome
Day 0: injury and referral	Sugarcane-mill crush-avulsion injury to the posterior right ankle in El Zulia, Norte de Santander. Referral to Clínica San José occurred approximately 4 hours after injury. Examination demonstrated a grossly contaminated 15 × 5-cm posterior ankle wound with extensive soft-tissue loss and segmental disruption of the Achilles tendon.
Day 0: initial management	Analgesia, tetanus prophylaxis, sterile wound coverage, intravenous clindamycin, and intravenous amikacin were initiated.
Day 0: first operation	Irrigation and excisional debridement were performed, with removal of plant material, foreign debris, and nonviable tissue. Deep-tissue specimens were obtained, and NPWT was applied at −125 mmHg.
After first debridement	Deep-tissue culture yielded methicillin-susceptible *Staphylococcus aureus*.
Day 4: second operation	Repeat irrigation and excisional debridement demonstrated a viable wound bed without macroscopic purulence or progressive necrosis. An approximately 8-cm defect remained between the viable Achilles tendon remnants, precluding tension-free primary repair.
48 hours after second culture	Repeat deep-tissue culture showed no microbial growth. Amikacin was discontinued after 4 days; clindamycin was continued to complete a 14-day course.
8 July 2025: definitive reconstruction	Achilles tendon continuity was restored using a free semitendinosus interposition autograft with local triceps surae aponeurotic augmentation. Proximal and distal fixation was performed using locking Krackow sutures with the knee fully extended and the ankle at 20° of plantar flexion.
8 July 2025: soft-tissue coverage	An 11 × 5-cm reverse sural fasciocutaneous flap was transposed over the reconstruction. The flap donor site was covered with a split-thickness skin graft.
Postoperative weeks 0–2	The lower limb was immobilized in an anterior splint with the ankle maintained at 20° of plantar flexion.
Approximately postoperative day 15	Partial distal flap loss measuring approximately 7 × 5 cm developed, involving full-thickness skin and subcutaneous tissue without exposure of the reconstructed tendon or deep neurovascular structures. Conservative wound management with hydrocolloid dressings and autolytic debridement was initiated.
Postoperative week 2	Ankle mobilization commenced.
Postoperative week 4	Partial weight-bearing commenced.
Postoperative week 6	Full weight-bearing commenced.

Postoperative week 8	Strengthening and gait retraining commenced. The patient returned to primary school.
Postoperative month 1	AOFAS Ankle-Hindfoot score: 50.
Postoperative month 3	AOFAS Ankle-Hindfoot score: 56.
Postoperative month 4	Complete healing of the partial distal flap-loss area was achieved without operative debridement, flap revision, or additional coverage.
Postoperative month 6	Stable posterior ankle coverage was present. Active motion measured 20° of dorsiflexion and 45° of plantar flexion; plantar-flexion strength was MRC grade 4/5; calf compression elicited plantar flexion; and a single-leg heel rise was possible. Independent ambulation without an observable limp and return to age-appropriate play were documented. The AOFAS Ankle-Hindfoot score was 75. No deep infection, recurrent tendon exposure, clinical rerupture, or additional surgery occurred.

Footnote: Day 0 denotes the day of injury and hospital admission. Microbiological findings were obtained from deep-tissue cultures collected during surgical debridement. The American Orthopaedic Foot & Ankle Society Ankle–Hindfoot score was used descriptively because it has not been specifically validated for this clinical setting in young children. Formal physiotherapy records were unavailable; rehabilitation milestones were derived from the clinical follow-up documentation.

Abbreviations: AOFAS, American Orthopaedic Foot & Ankle Society; MRC, Medical Research Council; NPWT, negative-pressure wound therapy.

Figures

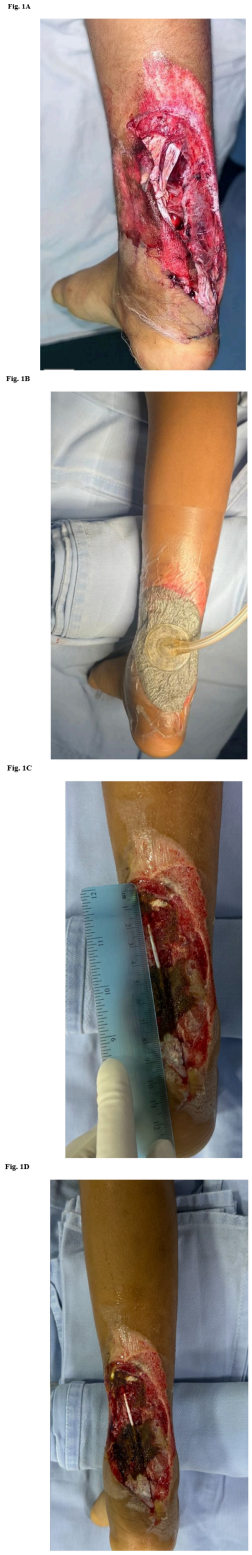


Figure 1

Initial injury and staged wound management

A, Grossly contaminated posterior right ankle wound following sugarcane-mill crush-avulsion trauma, demonstrating extensive soft-tissue loss and a segmental Achilles tendon defect. B, Negative-pressure wound therapy applied after initial irrigation and excisional debridement. C, Intraoperative assessment

and measurement of the posterior ankle soft-tissue defect and Achilles tendon gap. D, Wound bed after 4 days of negative-pressure wound therapy and repeated surgical debridement, demonstrating viable tissue and an approximately 8-cm defect between the proximal and distal Achilles tendon remnants.

Fig. 2A

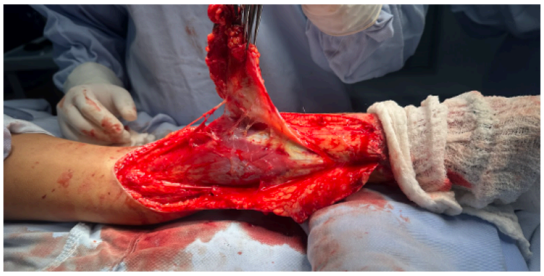


Fig. 2B

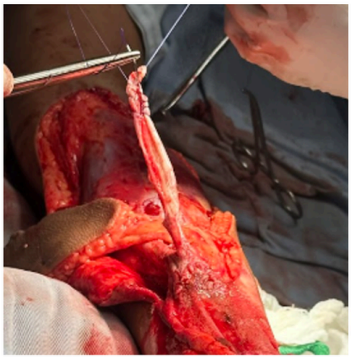


Fig. 2C

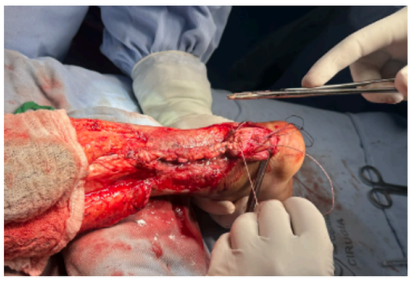


Fig. 2D



Figure 2

Definitive orthoplastic reconstruction

A, Elevation of the reverse sural fasciocutaneous flap with preservation of a broad adipofascial pedicle. B, Reconstruction of the segmental Achilles tendon defect using a free semitendinosus interposition autograft with local triceps surae aponeurotic augmentation. C, Distal fixation of the autograft to the viable distal Achilles tendon remnant using a locking Krackow suture configuration. D, Transposition and inset of the reverse sural flap over the reconstructed Achilles tendon and posterior ankle defect.

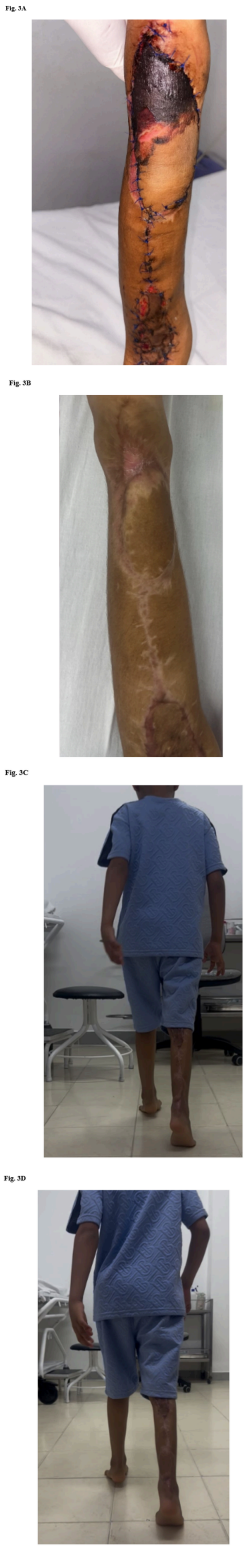


Figure 3

Partial distal flap loss and six-month clinical outcomes

A, Partial distal flap loss during early postoperative follow-up, comprising an approximately 7 × 5 cm area of full-thickness cutaneous and subcutaneous necrosis without exposure of the reconstructed tendon or deep neurovascular structures. B, Complete wound healing and stable posterior ankle coverage at 6 months. C–D, Posterior clinical views at 6 months demonstrating independent weight-bearing and heel-rise function.

Supplementary Files

This is a list of supplementary files associated with this preprint. Click to download.

- CAREchecklist.pdf