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SURGICAL CASE REVIEW

FOOT & ANKLE

CLINICAL USE OF CLARIX® CORD 1K AS AN ADJUNCT THERAPY IN OPEN REDUCTION AND INTERNAL FIXATION (ORIF) OF A CALCANEAL FRACTURE

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WHY THIS CASE STUDY IS RELEVANT:

The mechanism of injury in calcaneus fractures typically involves a high-energy axial load applied to the heel, which drives the talus downward onto the calcaneus. Common mechanisms of injury include falling from a height or automobile accidents (a foot depressed against an accelerator, brake, or floorboard). Most patients with calcaneus fractures are young, most common in the 20-39 age group. Comorbidities such as diabetes and osteoporosis may increase the risk of all types of fractures. As with all lower extremity fractures, wound healing can be a concern post surgery. Surgical goals include restoration of anatomy, restoring range of motion and return to work.

KEY POINTS:

- Help manage adhesions
- Support expedited wound healing
- Facilitate rehabilitation and recovery


FIG. 1

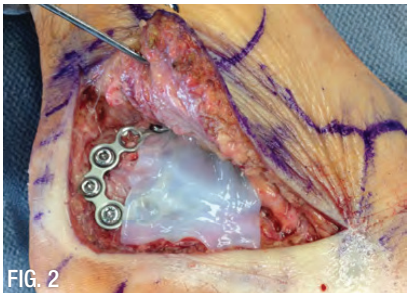
FIG. 2


FIG. 3

CASE EXAMPLE:

42-year-old male sustained a calcaneal fracture (FIG. 1) after a fall down stairs while recuperating from left knee surgery. This was a workers' compensation case. Initial evaluation in the office revealed moderate soft tissue swelling, which was managed with a Robert Jones splint. Radiographs demonstrated a joint depression fracture with loss of Bohler's angle. A CT-scan was ordered, and confirmed a 2-part joint depression injury (Sanders Type II fracture). Surgical management was recommended and the patient was consented and scheduled for surgery approximately 10 days after the injury, once the soft tissue envelope was stable.

TREATMENT PROCEDURE:

Prone positioning with a standard extensile lateral incision was utilized. The incision was mapped between the posterior bula and Achilles tendon for the vertical limb and curved at the apex of the calcaneal tuberosity. The incision continued horizontally along the junction of the plantar glaborous skin and hindfoot skin toward the calcaneocuboid joint. A full thickness flap was created to protect the sural nerve proximally and distally as well as the peroneal tendons distally. In this case, a traction bow was placed with a stout k-wire in the tuberosity to control varus/valgus alignment and to visualize the posterior facet. A Cobb elevator was placed in the primary fracture line through the lateral wall to disimpact and elevate the lateral half of the posterior facet. A provisional k-wire was placed holding the lateral fragment reduced to the medial constant fragment. A 3.5mm lag screw was placed. A standard fixed angle lateral perimeter locking plate was then templated and provisionally pinned. Locking 3.5mm screws were placed in several locations securing the construct.

In this case, a CLARIX CORD 1K 6.0 x 3.0cm umbilical cord allograft was used as a soft tissue adhesion barrier and placed over the hardware and underneath the flap (FIG. 2). No securement was used. A layered closure followed with nylon sutures in the skin. This can be performed in either a mattress conguration or Algower-Donati fashion to minimize tension. A compressive three-sided Robert Jones splint was applied over a sterile dressing. Post-operative care consisted of non-weightbearing for 6-8 weeks. Range of Motion (ROM) was encouraged as soon as the wound was stable. A CAM Walking Boot was applied at two weeks and patient-directed ROM activities were encouraged daily.

OUTCOME:

Patient's wound was healed at 2 weeks (FIG. 3). Pain scores were decreased at each successive office visit. By 3 months, initial sural nerve dysaesthesia was absent and skin pigmentation had returned with no swelling noted. Patient retained approximately 75% hindfoot motion and was radiographically healed by 4 months. Patient returned to work at 4 months post-op without any shoe accommodations and free of all pain medications.

CLARIX® CORD 1K

Facilitates healing across a wide range of surgical specialties.

Market-first Cryopreserved Umbilical Cord Allograft which can be used as an adjunct for surgical applications.

Promotes decreased wound dehiscence and scar tissue formation to support expedited wound healing and functional recovery.[1-9]

SUPPORTED 11.5 DAY REDUCTION IN OVERALL TIME TO WOUND HEALING[1]

Time to Healing after Total Ankle Arthroplasty[1]	
CLARIX CORD 1K	No Allograft
28.5 Days	40.0 Days

- **This benefit was most pronounced for patients with risk factors such as diabetes, tobacco use and obesity.[1]**
- **Helps expedite healing, aids in reducing adhesion formation, and facilitates restoration of range of motion after tendon repair surgery and other soft tissue procedures.[2,8]**

UP TO 10X THICKER than amniotic membrane,[10,11] which may increase longevity in the surgical site.

Cool storage in a standard freezer or refrigerator provides versatility, easier handling and less prep time.

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