

## Case Report

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# Proximal Row Carpectomy in Hand Replantation: A Case Report



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### Abstract

Proximal or first row carpectomy is a motion-preserving treatment for the degenerated wrist. Proximal row carpectomy provides painless wrist range of motion with few complications [1]. The loss of a hand is a devastating but not so common injury with a huge array of effects. Beyond the obvious potential for the loss of support are profound social, psychological, and aesthetic consequences [2].

### Case Report

We present a case of 34 years old right/hand/dominant male patient was injured in December 2007 with the cutting metal machine in an aluminum manufacturing factory about 200 miles away from Belgrade. He arrived at our Trauma center 4 hours after being injured, conscious, communicative and well oriented. The amputated hand was brought in a nylon bag placed in a small mobile refrigerator filled with ice cubes. After clinical and radiological examination of the amputated hand, the patient was accepted for hand replantation [3] (Figure 1). In preparation for the surgery radiographs were taken and they revealed amputation at the midcarpal level, intravenous fluids and tetanus immunoglobulin were administered as well as antibiotics, combination of ceftriaxone sodium, gentamicin and metronidazole by intravenous infusion, starting at the time of admission to the hospital. Anti-tromboembolic prophylaxis was also administered using low molecular weight heparin, Fraxiparine (Figure 2). Careful lavage of both amputated hand and proximal wrist with more than three litres of natrium-sodium solution was obtained followed by careful examination of both anatomical regions. Tourniquet was applied, necessary bone shortening, in this case we found to be possible only with first row carpectomy, performed and followed with stabilization with two 3.2mm Steinman pins. Because of better functional postoperative status and uninjured distal radius articular surface we have decided not to shorten distal radius or distal carpal bones. Soft tissue debridement was conducted together with identifying of arteries, veins, nerves and tendons (Figure 3). Superficial flexor tendons were also debrided. Radial artery

was first anatomical structure to be sutured, followed by reconstruction of flexor tendons, both radial and ulnar nerve, extensor tendons and only one vein [4-6] (Figure 4).



**Figure 1:** X-Ray showing broken hand.



**Figure 2:** Damaged hand.

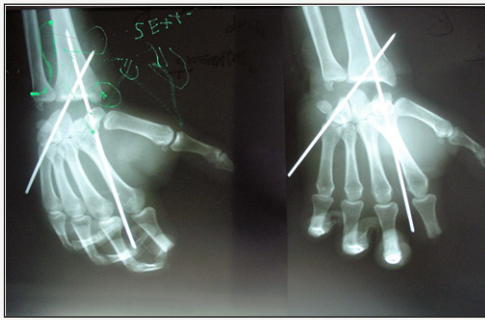


Figure 3: X-rays.



Figure 4: Hand replantation.

## Discussion

In our patient, the follow-up period was 3 months, so complete assessment of the sensory and motor function

recovery was not viable at this time period. However, the patient has started to exhibit minimal flexion and extension movements at the wrist, metacarpophalangeal and interphalangeal joints and signs of initial sensory recovery, such as rough touch.

## Ethics

The Ethical Committee approval was searched for this article.

## Declaration of conflicting interests

The author has no conflict of interest to disclose and no relationships to industry related to this research.

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