

Case Report

## Scaphoid Fracture Fixation Using WALANT

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### ABSTRACT

Regional or general anaesthesia has been the traditional preferred anaesthetic options for the fixation of scaphoid fractures. When using the general or regional anaesthesia (or both), most surgeons use a tourniquet to control bleeding. The Wide Awake Local with Adrenaline No Tourniquet (WALANT) technique is yet to be described for scaphoid fracture internal fixation. We present a case of a 33 year male driving instructor, who presented with a fracture across the waist of the scaphoid. Percutaneous fixation of the scaphoid was done using WALANT. The patient made good progress, and at six months review, his fracture was almost completely healed. This case report shows that WALANT can be safely and successfully used for fixation of scaphoid fractures.

**Keywords:** Scaphoid Fracture, Fixation, Wide Awake Local with Adrenaline No Tourniquet (WALANT)

### INTRODUCTION

Scaphoid fractures account for up to 15% of wrist injuries, waist of scaphoid being the most commonly affected. Treatment of scaphoid fractures can either be conservative or operative. Conservative management involves early immobilisation in a plaster cast. The operative option can either be an open reduction and internal fixation or percutaneous screw fixation if no open reduction is required. Traditionally the anaesthesia for an operative method is general anaesthesia or regional block or both. We report a case of a 33-year-old male patient who had a scaphoid fracture where an operative treatment was indicated. The surgeon used Wide Awake Local with Adrenaline No Tourniquet (WALANT) technique to perform the operation avoiding the need for an anaesthetist to perform

general anaesthesia or regional block for the tourniquet pain.

### CASE REPORT

A 33-year-old male patient who was rollerblading with his children fell and landed on his hyperextended wrist. He initially thought that it was a sprain and therefore did not seek attention, only applied a neoprene splint and took ibuprofen. Three months later he presented with some discomfort in the wrist to the fracture clinic. Clinical examination of the wrist raised the suspicion of a scaphoid fracture. Radiographs taken showed an undisplaced fracture at the waist of the scaphoid. Computed Tomography scan showed that there was no evidence of union of the scaphoid fracture and it was in a flexed position.

A decision to operate on him was reached based on delayed presentation and no clinical or radiological signs of union. As this was minimally displaced, the plan was to fix the scaphoid fracture with a single percutaneous screw.

WALANT technique was used .A 20 millilitres of 1% Lidocaine with Adrenaline (1:200,000) buffered with 2 millilitres of 8.4% Sodium Bicarbonate(1:10 dilution) was used in total.5 mls each was infiltrated for the median nerve in the carpal tunnel, superficial radial nerve, field block around the scaphoid and intra-articular into the dorsal radiocarpal joint. The wrist was hyperextended over a large roll to correct the mild humpback deformity. A 5mm incision was made distal to the STT joint and a headless bone screw was inserted into the scaphoid over a guide wire after a double –drilling under image intensifier control in a usual technique. Skin was closed with dissolvable sutures, dressings

applied and removable wrist splint (excluding the thumb) was given to the patient with clear post-operative instructions to avoid heavy lifting, impact, smoking and non-steroidal inflammatory drugs until union had been confirmed. The procedure took 35 minutes, including anaesthetic time.

During the entire procedure the patient remained pain free and very comfortable. He enjoyed the overall experience and was pleased to watch the entire operation.

The patient returned to work as a driving instructor after 16 weeks and had no pain after week12.Radiographs and clinical examination at 6 weeks,3 months and 6 months eventually demonstrated fracture union.

Since this case, three further percutaneous scaphoid fixations have all been performed using WALANT. All patients remained pain free and scaphoids united.



Figure 1: Infiltrating local anaesthetic in a) superficial radial nerve block b) field block and c) carpal tunnel block.



Figure 2: Inserting a guide wire.

## DISCUSSION

WALANT technique is gaining rapid popularity amongst hand surgeons and others and the indications for it keep expanding. We have demonstrated that WALANT can be used successfully for fixation of scaphoid fractures. The advantage of WALANT over GA or RA is that there is no need for pre-operative blood tests, ECG or CXR. No anaesthetic team is required pre-operatively or intra-operatively. WALANT can be useful in day surgery cases, and patients are not expected to fast or change their medications. There is no prolonged recovery time and patients can

be discharged, virtually from the operating table. It is much safer and quicker than RA or GA so is particularly useful in patients with multiple medical co-morbidities who are otherwise an anaesthetic risk. The surgeon can make adjustments on repaired tendons and test fixation of fractures during active movements on the awake patient. This improves the outcome of the procedure and can help determine the need for further cast immobilisation or early mobilisation as in this case. The surgeon can give the patient post-operative instructions during the operation, which improves rapport with the patient and improves patient compliance with instructions. Post-op pain management is aided by the local anaesthetic for the first 8 hours. This may reduce the need for stronger pain medications like opioids. By

avoiding using a tourniquet, the inherent discomfort and associated complications are avoided.

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