

# Wide-awake local anaesthesia no tourniquet (WALANT) procedures during COVID: a single centre experience

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**Abstract.** *Background and aim:* WALANT procedures are becoming more popular, and are particularly useful in the COVID-19 pandemic. Procedures can be performed without needing access to general theatres and anaesthetic support, minimising the number of patient-healthcare interactions and avoiding aerosolisation. Our unit has taken this approach and aim to present a case series that demonstrates the efficacy and safety of WALANT. *Methods:* A prospective analysis of WALANT cases in a single plastic surgery centre during March–August 2020 was performed. All procedures using a WALANT approach were included, that would have otherwise required general anaesthetic or regional block. Data was collected on a number of variables, including patient satisfaction. *Results:* 37 procedures were included in analysis. The majority of the injuries consisted of hand trauma. There were no cases of post-operative complications, although one required completion in main theatres due to technicality. No patients required additional anaesthetic during the procedure and all reported pain score as 0/10. Overall patient satisfaction was 10/10 for 26 patients, 9/10 for 10 patients and 7/10 for one patient. *Conclusions* Results show the use of WALANT can facilitate an effective plastic surgery trauma service during COVID-19. Most of the procedures were performed in the outpatient department setting, without the need for main operating theatres or anaesthetic support. All procedures were performed within 24 hours of initial presentation and were able to be discharged on the same day. In addition, patient satisfaction remained high and post-operative complications were minimal. We propose that the use of WALANT should continue and increase beyond the current pandemic. ([www.actabiomedica.it](http://www.actabiomedica.it))

**Key words:** WALANT, hand trauma, COVID-19

## Introduction

The COVID-19 pandemic has introduced challenges to plastic surgery and has encouraged us to make significant changes to service provision, while ensuring that quality and patient safety is maintained.

Wide awake, local anaesthetic, no-tourniquet (WALANT) procedures are becoming more popular. Many studies have shown that these procedures can be done safely and with similar outcomes to those performed under general anaesthetic or regional block.

This approach has been recognised as particularly useful in the COVID-19 pandemic. Procedures can be performed without need to access to general theatres and anaesthetic support, minimising the number of patient-healthcare interactions and avoids risk associated with aerosolising procedures.

Recent guidance produced by British Society for Hand Surgery encourages the use of WALANT during COVID-19 pandemic.

As such, our unit has taken this approach and aim to present a contemporary case series that demonstrates the efficacy and safety of WALANT in the UK.

## Methods

We carried out a prospective analysis of WALANT cases performed in a single plastic surgery centre during March to August 2020. During this period, 37 WALANT procedures of the upper limb were performed. Inclusion criteria were all procedures using a WALANT approach that would have otherwise required a general anaesthetic or regional block. We collated data on patient demographics, procedure undertaken, mechanism of injury, time to definitive procedure, post-operative complications, final outcome and patient satisfaction.

## Results

Of the 37 patients who underwent WALANT procedures, 23 were male and 14 were female. Age ranged from 9 months to 76 years. The majority of the injuries seen consisted of hand trauma, as well as one nasal fracture. The hand trauma cases included lacerations sustained from angle grinders, circular saws, Stanley/bread knives, metal sheets, blenders or glass. Paronychia's, crush injuries and open/closed fractures of the hand were also present.

No patients experienced post-operative complications of infection or bleeding. During the procedures, no patients required additional local anaesthetic to manage pain and reported their pain score as 0/10. One patient required further surgery for revascularisation of the right index finger, due to intra-operative finding of damage to both radial and ulnar neurovascular bundles.

Of the 37 patients in the study, only 5 expected to have their surgery on the same day, while all patients were expecting a general anaesthetic. One patient had the procedure in accident and emergency department (A&E), 29 had it in the outpatient department (OPD). Only six required surgery in the main theatre department.

13 of 37 patients' were anxious to have their procedure done under a local anaesthetic. However, 31 patients reported a pain score of less than 4 out of 10 during the local anaesthetic injection. 20 patients stated the duration of their local anaesthesia as 4

hours, with the remaining 11 lasting 2 hours. Only 10 patients required subsequent analgesia following their procedure.

The overall patient satisfaction was 10/10 for 26 patients, 9/10 for 10 patients and 7/10 for the remaining one patient.

## Discussion

Our results highlight that the use of WALANT facilitates the provision of an effective plastic surgery trauma service during the current crisis, despite the challenges mentioned above. Most of the procedures were able to be performed in the outpatient department setting with appropriate sterile surroundings, without the need for main operating theatres. Patients were monitored intra-operatively by the clinic nursing staff only without the requirement of anaesthetic support or monitoring. All procedures were performed within 48 hours of initial presentation and all were able to be discharged on the same day. This minimised the number of healthcare staff encounters, the number of visits to hospital and limited bed occupancy. We utilised WALANT for a broad range of trauma presentations and resulting procedures.

In addition, as we have demonstrated, patient satisfaction remained high and post-operative complications were minimal.

WALANT procedures have emerged very quickly in the past 10 years. Since concerns of digital necrosis with the use of lidocaine/adrenaline have been unfounded (1), the use of WALANT has increased in favour dramatically worldwide.

Simultaneously, the COVID-19 pandemic has created many challenges to plastic surgery that the use of WALANT may help to alleviate. Namely at our unit we experienced reduced access to theatre space for both elective and trauma cases, reduced anaesthetic support, pressures to limit patient-healthcare contact and length of patient stay. Use of WALANT has been recommended by British Society Surgery of Hand during the pandemic.

There are many studies to date that outline the cost-effectiveness, safety and efficacy of WALANT. Lidocaine with adrenaline has been widely proven to

be safe for use in hands and digits. The Dalhousie project reported no cases of digital necrosis or need for phenolamine reversal in a prospective review of over 3,000 consecutive cases of lidocaine with adrenaline in fingers and hands (1). Studies have also demonstrated the safety of performing such procedures in the outpatient or minor operation setting (2). A multi-centre prospective study of 1504 patients evidenced a low incidence of infection (0.4%) following carpal tunnel release in the minor procedure room setting with field sterility only (2). Furthermore, the more limited use of sterile instruments and equipment has proven to reduce cost by four times or more (2).

As such, WALANT is associated with significant cost savings and many studies to date demonstrate this (5,6,14). A study in the UK demonstrated a cost saving of approximately £750,000 for the 1000 WALANT cases presented (3). This was accounted by increased case efficiency when compared to that of main operating theatre (increased case turnover) (4), reduced expert staffing (pre-operative assessment team, anaesthetic team, post-operative care team) and reduced equipment use (decreased sterile equipment needs or equipment for alternative general/regional anaesthesia etc).

The safety and cost effectiveness of WALANT is achieved while maintaining excellent patient outcomes. (5,7). Hudstedt et al demonstrated that procedures performed under local or regional anaesthesia had fewer post-operative complications than with general anaesthesia (15). WALANT also allows for intraoperative testing of k-wire stability and tendon repair with active mobilisation, allowing for earlier protected movement and reduced resulting stiffness (9,16). Wide-awake flexor tendon repair has been shown to have decreased tenolysis and rupture rates (16,17,18) as a result.

Patient satisfaction is reported as very high with WALANT (5,11,12, 13), studies have found pain scores to be lower with WALANT versus local anaesthesia with tourniquet (11).

The benefits of WALANT are widely and meticulously described in literature. Our results corroborate this and demonstrate that WALANT approach is a sustainable, safe and effective method in a wider range of plastic surgery patients. Following on from recently published guidance by BHSS, we propose that the use

of WALANT should continue and increase beyond the current pandemic.

**Conflict of Interest:** Each author declares that he or she has no commercial associations (e.g. consultancies, stock ownership, equity interest, patent/licensing arrangement etc.) that might pose a conflict of interest in connection with the submitted article

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