APOA Foot & Ankle Council Presents..

Case of the Month

May 2024

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Presented by:

Prof. Chinkin Coruña

Chief of Foot and Ankle Service, Orthopaedics and Traumatology
Corazon Locsin Montelibano Memorial Regional Hospital
Bacolod, Philippines

Title:

WALANT Technique on Achilles Lengthening in Charcot-Marie-Tooth Disease

Learning Points:

- It is important to plan for any surgery.
- WALANT may be considered for outpatient day surgery involving the foot and ankle.
- Charcot-Marie-Tooth Disease has a myriad of signs and symptomatology that variably manifest in patients. A careful physical examination together with goal setting with the patient will allow for desired outcomes to come into fruition.

Upcoming Case of the Month
*June **2024***

Presented by:

Dr. Shui-wah, Man
Director of Foot & Ankle Service, Department of Orthopaedics & Traumatology, Queen Elizabeth Hospital, Hong Kong SAR, China

Title:

A Case of 3D Printing in the Management of Calcaneal Fracture Malunion

Want to present a case? Write to...

Prof. Chayanin Anthong
chatthara@yahoo.com

Dr Kwai Ming Siu
siukmhk@hotmail.com

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WALANT Technique on Achilles Lengthening in Charcot-Marie-Tooth Disease

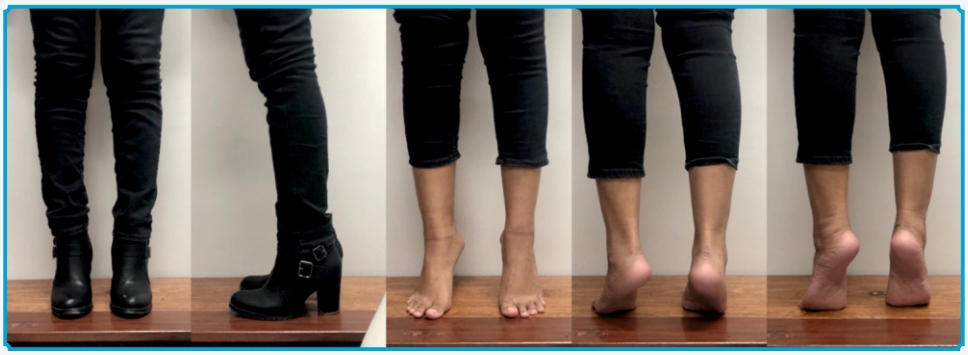
Prof. Chinkin Coruña
Chief of Foot and Ankle Service, Orthopaedics and Traumatology
Corazon Locsin Montelibano Memorial Regional Hospital
Bacolod, Philippines
Email: bacolodfoot@gmail.com

INTRODUCTION

Wide awake local anesthesia with no tourniquet (WALANT) is effective in soft-tissue and osseous procedures involving the foot and ankle. There are advocates who document its effectivity in tendon, ligament, nerve, and bone surgeries in the lower extremity. I present a 20-year-old female student who can't stop walking on her toes. She underwent soft-tissue correction under WALANT.

CASE

The patient developed gradual weakness in dorsflexing the ankle joint five years prior. Two months ago, she noted her feet to be fixed in en pointe position. She has a younger brother and a first degree cousin with the same pathology. Conservative treatment through physiatry referral and orthosis prescription failed after two years. With her desire to participate in ballroom dancing and futsal activities in school, she was brought to my care. On baseline examination, inspection ***(Figure 1)*** reveals the preferred footwear of the patient with four-inch heels. Removing the shoes, resting standing state is on tiptoe, and she can actively plantarflex the foot further.



(Fig. 1)

ROM measurements (Figure 2) Passive dorsiflexion-plantarflexion range is 110-160 degrees on the right and 120-180 degrees on the left. Each side has active motion in a 20 degree arc. There is partial sensory loss on the right lower extremity of 20% and 30% on the left.

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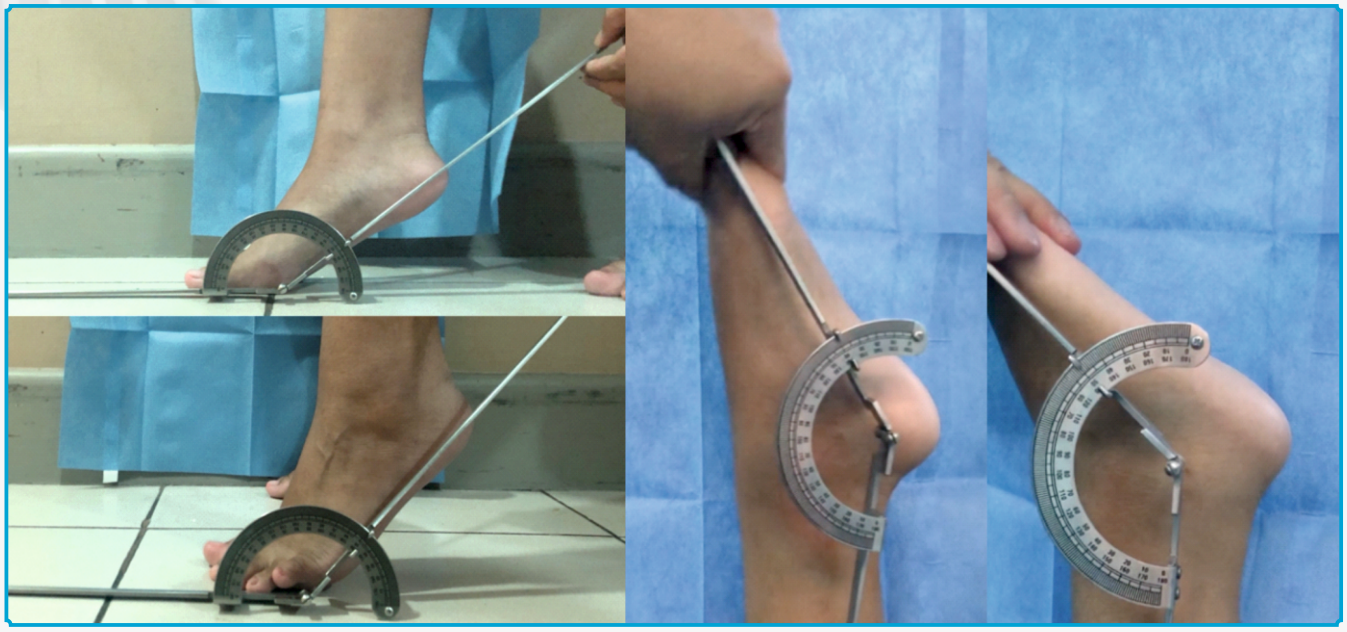
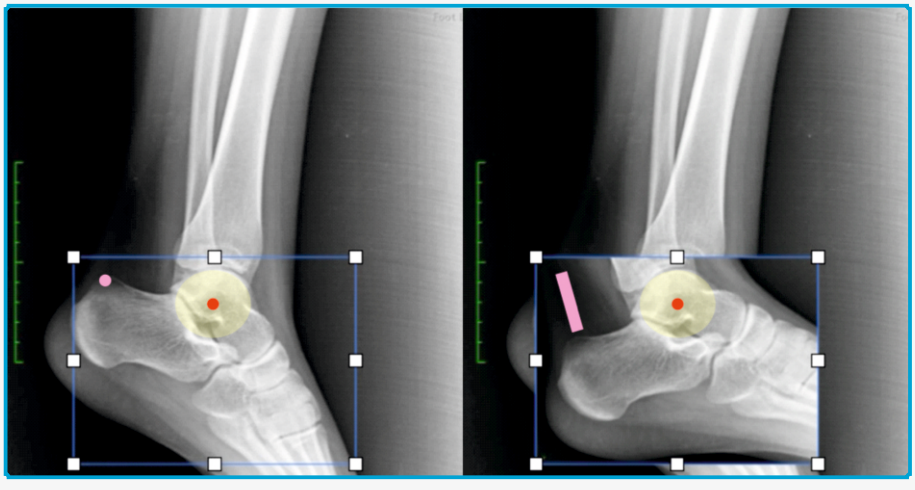


(Fig. 2)

Ozyalvac et al (2020) published a formula in predicting the magnitude of tendon lenghtening to correct equinus deformity (Figure 3). Their equation was utilized for the case in the preoperative template. The critical step involves identifying the rotational center of the ankle in sagittal plane (Yellow Sphere). This is best appreciated in the lateral ankle radiograph and is locked to the center of the talus (Red Dot). Correcting the equinus deformity to a neutral position, the achilles tendon insertion (Pink Dot) will change length, and this value is the amount of correction needed intraoperatively (Pink Line).



(Fig. 3)

Popularized by Lalonde (2015), his described ratio of lidocaine, epinephrine, saline, and bicarbonate for WALANT is utilized (Figure 4). For this patient, a portable ultrasound device was used to document infiltration into the desired area.

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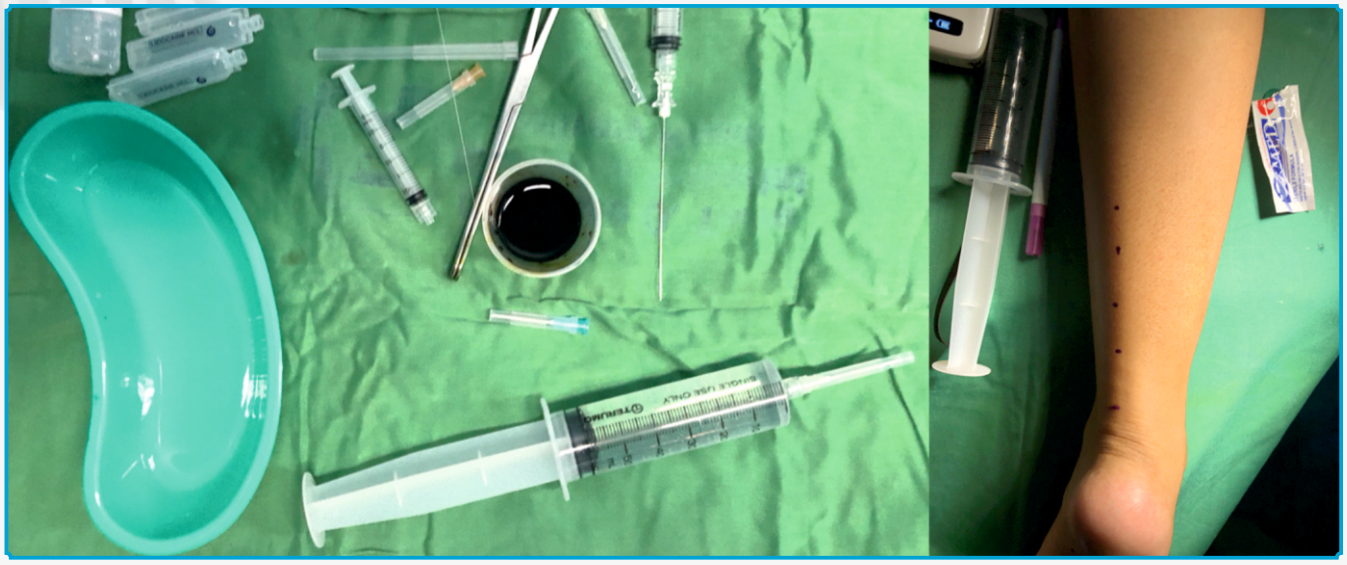
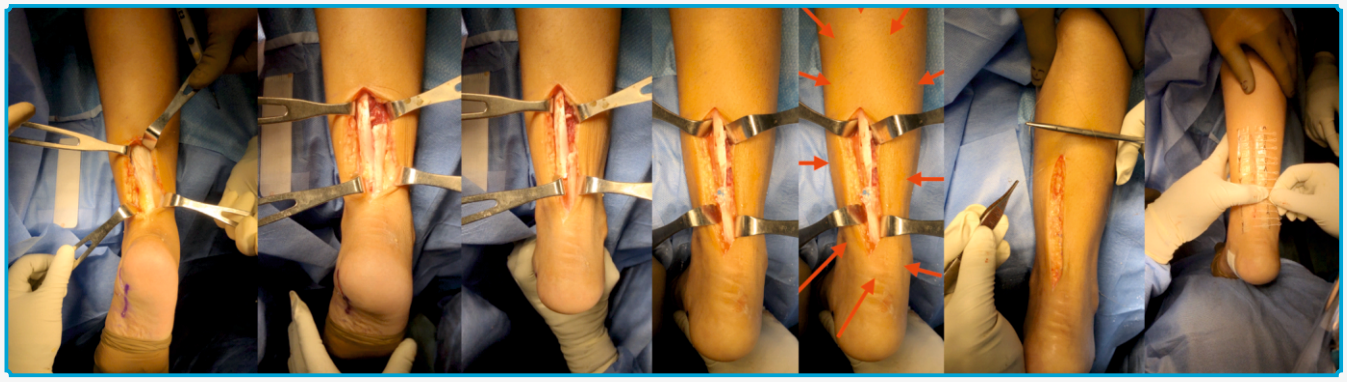


(Fig. 4)

Surgical technique (Figure 5). The patient is positioned prone after 30 minutes of infiltration. A posterior midline incision is made to subcutaneous tissue, the achilles paratenon is incised and the tendon is split vertically. A Z-lengthening is performed and with maximal dorsiflexion of the ankle, the tendon shortening to corrected to neutral. A medial, plantar hindfoot incision may be included to release the plantar fascia at its origin, as well as a posterior ankle capsulotomy. Braided non-absorbable suture complete the repair at desired length. Notice the red arrows showing the area of tumescence from the WALANT induction. The paratenon is repaired and the wound is closed in layers. The superficial integument is secure with zip tie closure, and a thin, univalved, resin short leg cast is applied.



(Fig. 5)

The cast is shift to a short leg splint at two weeks postoperative with a wedge insert on the plantar forefoot to accentuate dorsiflexion (Figure 6). The wound closure device is peeled off as the wound is dry and closed.

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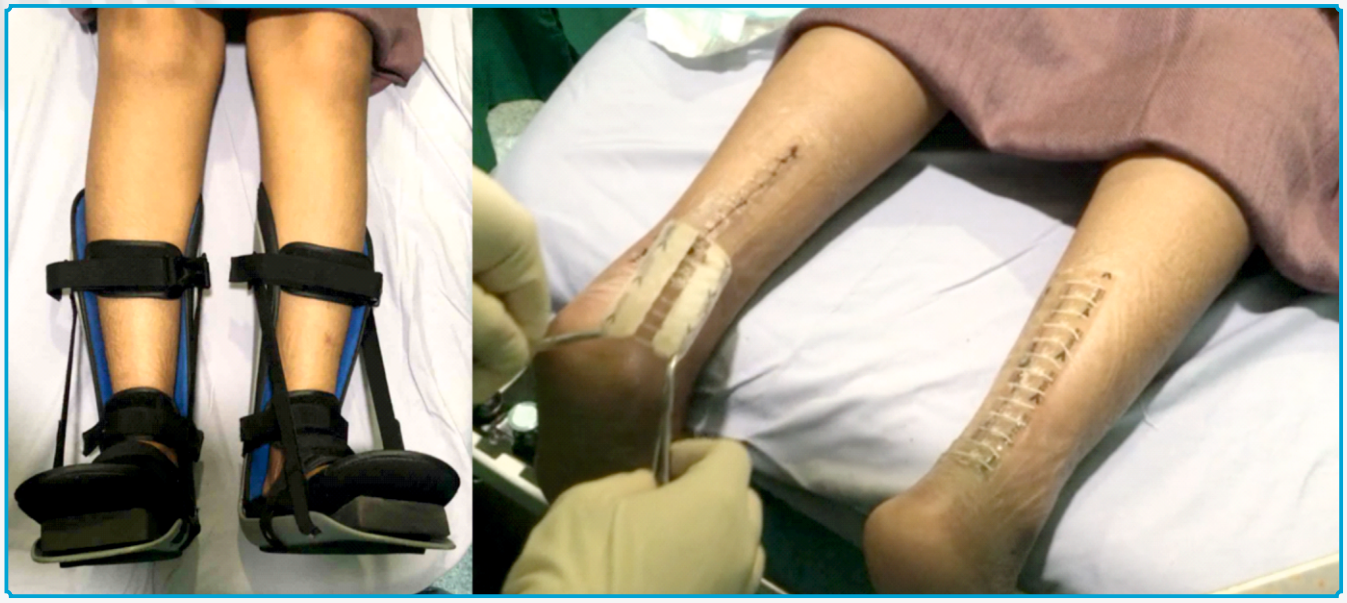
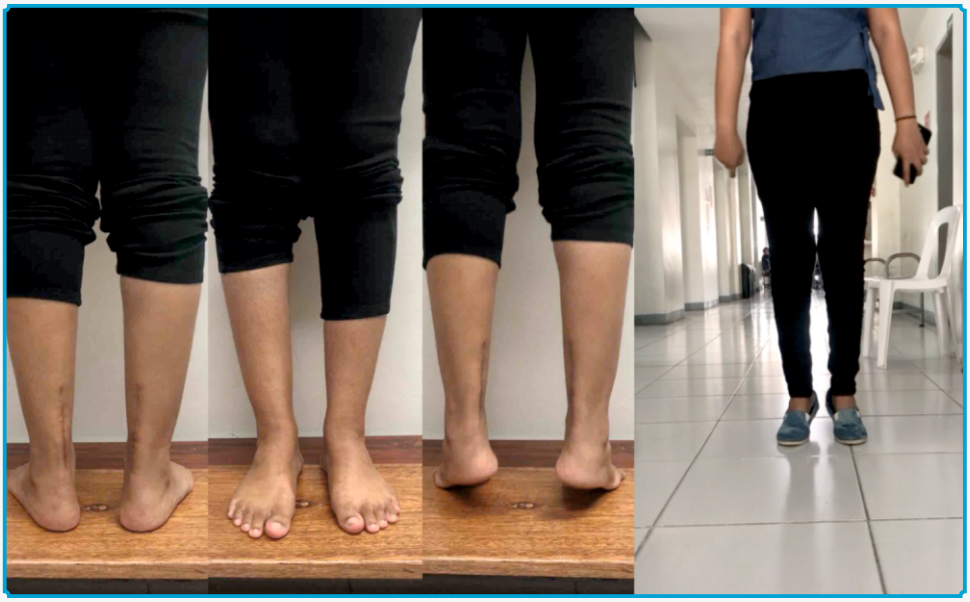


(Fig. 6)

Followup at five years postoperative (Figure 7) shows surgical scar and ability of the patient to stand on a neutral position, with active tiptoeing. She is able to engage in dance and sports activities with shoes of her choice.



(Fig. 7)

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