INTEGRANT

Innovative leader in biotechnology and surgical equipment

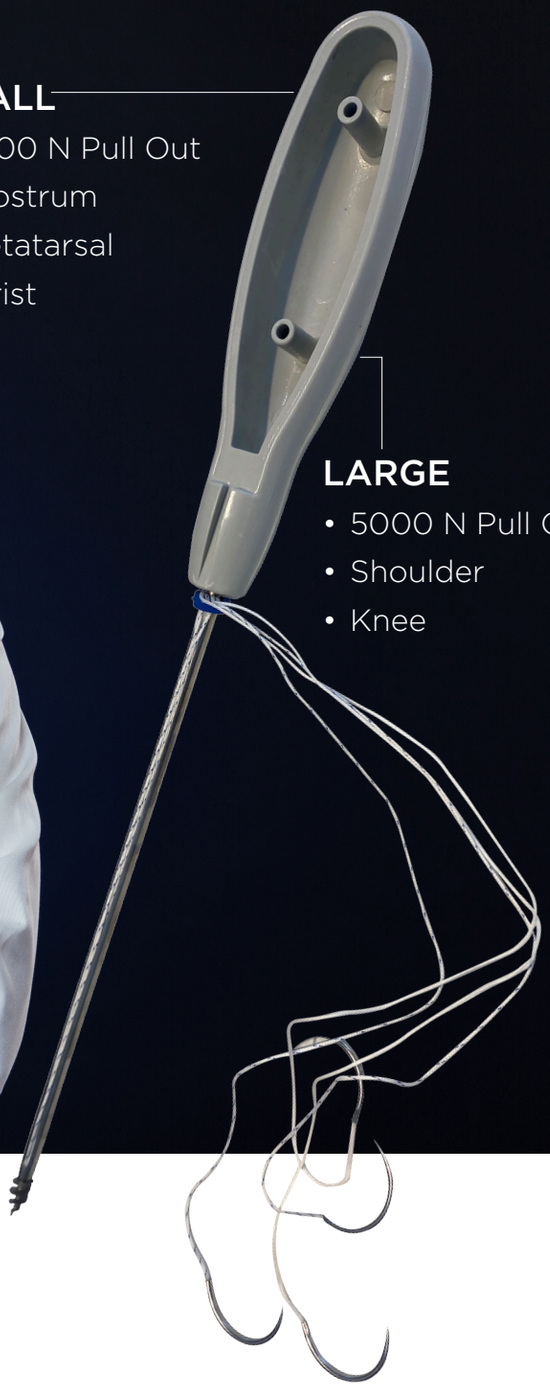
Contact us: Phone (02) 8542 7954 email:admin@Integrant.com.au mail:GPO Box 1906, Sydney,NSW ,2001

Contents

ANCHORIT
Tendon and Ligament Repair

- Super strong pull out strength
- Self tapping screw
- Fibrewire suture
- Hard needles
- Easy to use

SMALL
- 3500 N Pull Out
- Brostrum
- Metatarsal
- Wrist



LARGE
- 5000 N Pull Out
- Shoulder
- Knee

Indications

This product is designed for use in tendon and ligament repair surgeries. Ultra point needles can penetrate through strong capsule and ligaments.

Ankle

- Brostrom lateral ankle ligament stabilisation
- Achilles tendon repairs,
- Metatarsal ligament and tendon repair

Hand/Wrist

- Scapholunate ligament reconstruction
- Ulna or radial collateral ligament reconstruction

Knee

- Tendon Repair
- Repair of medial lateral ligaments

Shoulder

- Rotator cuff repair
- Bicep tendon
- Repair of deltoid

Specifications

Anchor: Corkscrew

Drill Dimension: 3.5mm x 12.5mm

Suture Size: 2

Number of Sutures: 4 Ultrapoint needles with Klotho fiber #2 UHMWPE

Drill Type: Self Tapping

Material: Titanium

Order Code: SSA-3500N

Anchor Drill: 2.0mm x 100mm, 3.0mm x 100mm

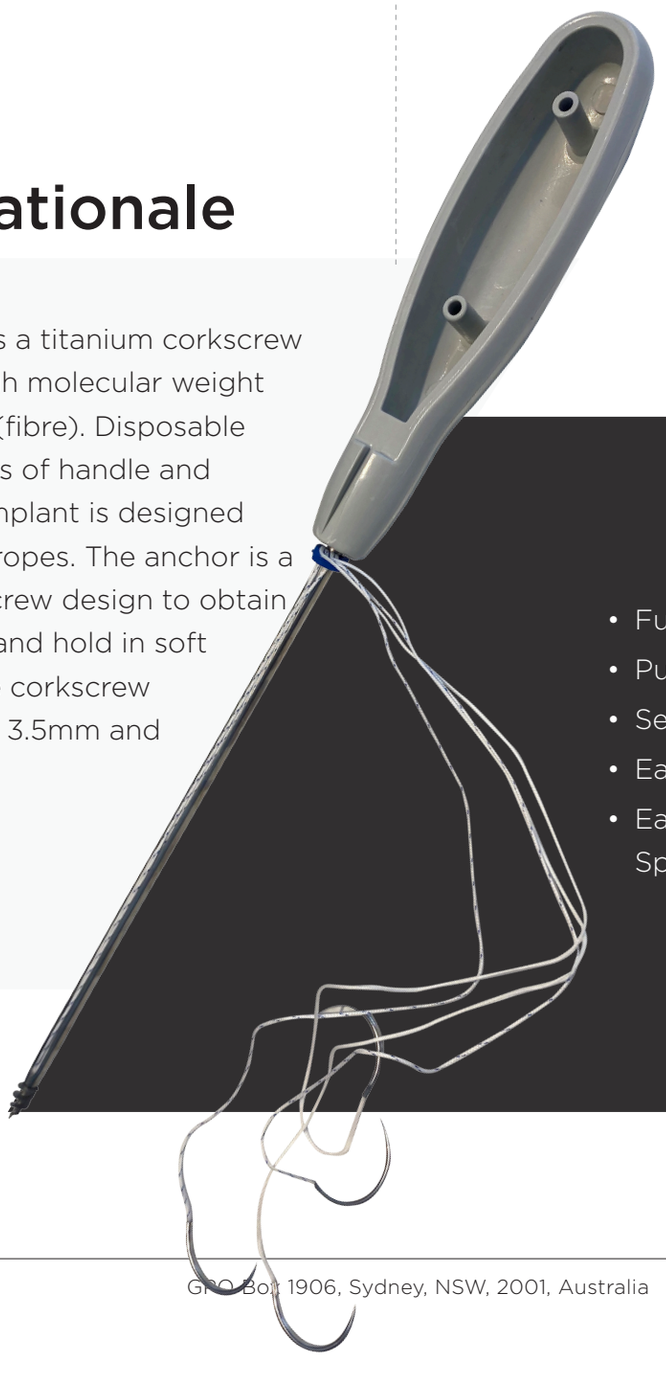
Order Code: AD-350

Pearls & Pitfalls

1. Ultrapoint needle strength allows for larger purchase “bites” of capsule.
2. The more generous thread gives superior pull out strength.
3. BE CAREFUL with drill preparation. Strong bone requires a larger preparation hole. The 3mm reamer may need to be toggled at the entrance to allow this when bone is hard.
4. If anchor is not fully inserted the handle can be placed back over the anchor and insertion completed. If interference greater than handle strength either remove anchor with small lambotti or drilling around it with pilot reamer or impact with punch.

Design Rationale

This product features a titanium corkscrew anchor with ultra-high molecular weight polyethylene suture (fibre). Disposable insertion tool consists of handle and stainless steel. The implant is designed to pass through the ropes. The anchor is a fully threaded corkscrew design to obtain maximum purchase and hold in soft cancellous bone. The corkscrew anchor is available in 3.5mm and 5.0mm dimensions.



- Fully Threaded Design
- Pulling Strength
- Self tapping Screw Design
- Easy Implantation
- Easy Floating Needles with Special Design Suture

ANCHOR IT
Corkscrew Suture Anchor

Surgical Technique

The following surgical technique is explained using the example of a Brostrom lateral ankle ligament stabilisation.

Patient Positioning

Supine on table with tourniquet placed in pneumatic position on calf with adequate padding. Intravenous antibiotics given with induction.

Incision

Lateral incision over the fibula

Method

Blunt dissection was made through the fat layer. The fat was dissected in line with the skin incision. The superficial peroneal nerve was identified. The superior aspect of the wound was retracted. The skin and subcutaneous tissues reflected anteriorly to ex- pose the anterior tala fibula ligament and the anterior joint capsule and the calcanea fibula ligament. The extensor retinaculum was mobilised and retracted. Careful dissection was made at the calcanea fibula level in order to prevent injury to the peroneal tendons.

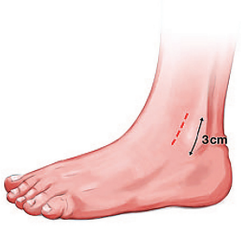
The anterior joint capsule was then incised longitudinally using a stump of capsule attached to the fibula. The ankle joint was explored at it's lateral aspect.

Pilot hole drilled using integrants diamond coated drill tips
Fluroscan insertion of 2x Integrant 3.5mm anchors

Closure

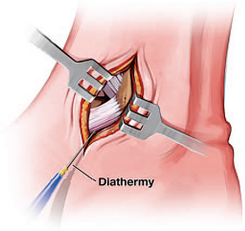
The wounds were closed in layers using Vicryl and Nylon sutures. A Jelonet and compression dressing was applied.

MODIFIED BROSTRUM
Reconstruction



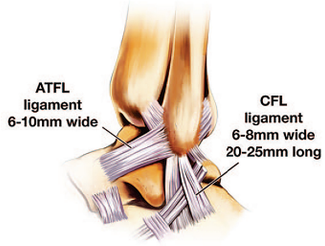
1. Ankle Arthroscopy

Incision placement is anterior border of the fibula, 3cm incision. Blunt dissection down to the lateral capsule.



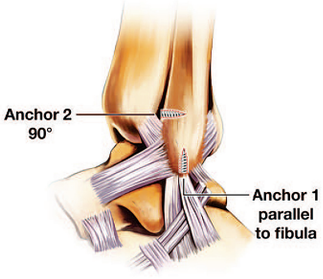
2. Diathermy of bleeding points

The lateral capsule is divided with sharp dissection. The fibula wall exposed and the anchor insertion points identified. A flap of tissue is mobilised over the fibula.



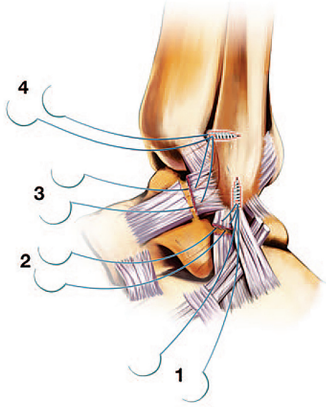
3. The lateral ligaments

are not dissected as distinct anatomical structures . Rather the lateral wall is mobilised as a cuff.



4. The anchors

are inserted into the fibula. Integrant 3.5 mm anchors are used. A blue bone sparing reamer is used and drilled the depth of the anchor. The anchors havea coarse thread and are self drilling in most bone. However if they are inadequately reamed they may become stuck.



5. A needle is cut from each of the sutures.

This facilitates removal of the sutures and is safer for tying which is done by hand. The anchors are tested for purchase by pulling on the threads.

Suture 2 is placed first. This allows delivery of the distal cuff into the incision. Its aim is to purchase part of the ATFL and CF ligament.

Suture 1 purchases the CF ligament.

Suture 3 is for the majority of the ATFL ligament.

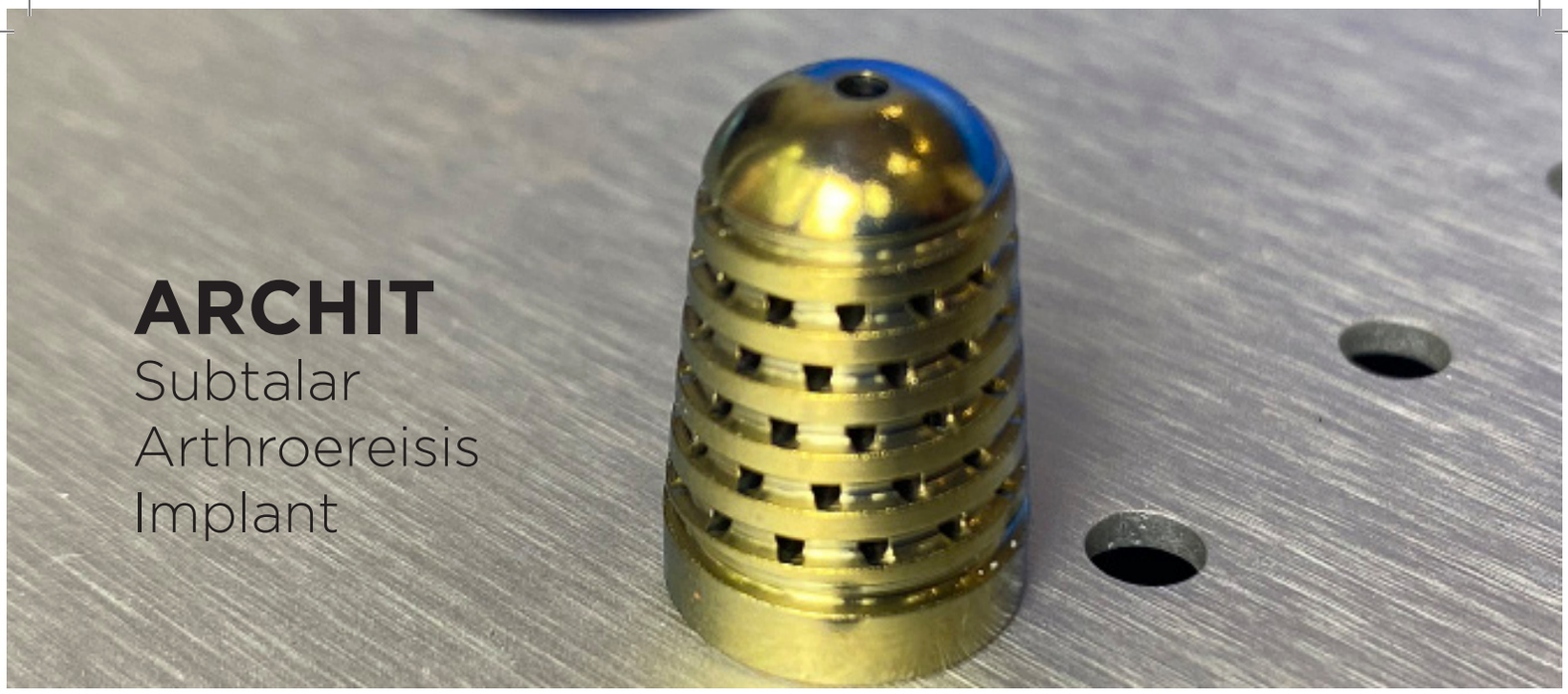
Suture 4 purchases the anterior portion of the ATFL and capsule and part of the extensor retinaculum.

The sutures are then tied with the ankle in eversion from 1-4.

Gordon L Slater., et al. "A Rapid Brostrum Rehabilitation Protocol Using Improved Fiberwire Technique". EC Orthopaedics 10.1 (2019): 33-40.

ANCHORIT
Suture Screw Anchor

Small screw anchors currently available on the market tend to be made with finer needles and suture material. We have designed an anchor specifically for the foot and ankle in which the thread and suture strength has not been compromised. Our Ultrapoint needle is sharper and stronger than competitors allowing penetration through the strong joint capsules encountered in the foot. The stronger fibre wire potentially allows earlier rehabilitation, weight bearing and return to sporting activities.



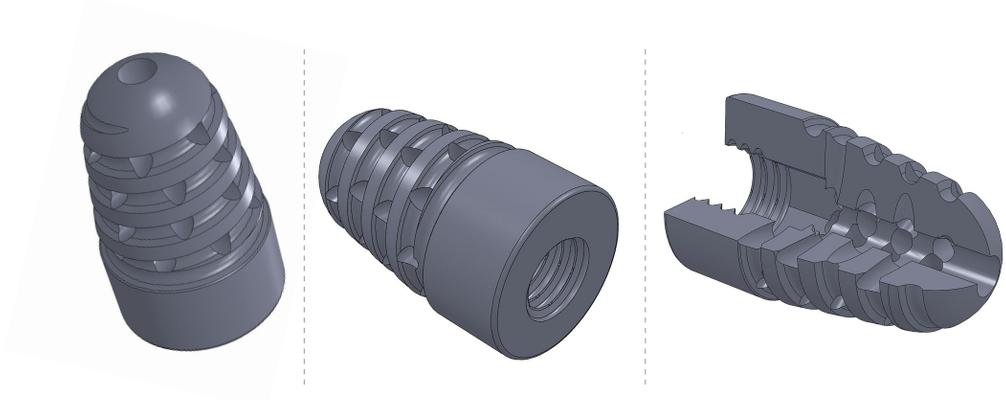
ARCHIT
Subtalar Arthroereisis Implant

Design Features

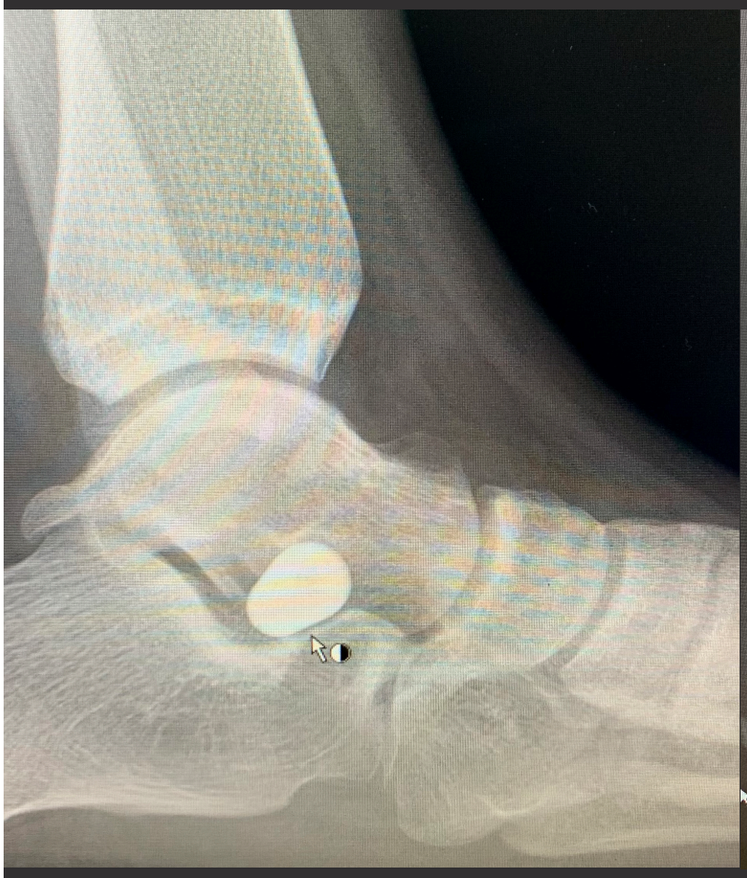
- Conical tapered shape
- Designed to support the anatomy of the tarsal canal
- Improves the fit and provides resistance to implant migration.
- Soft threaded design supports better implant to bone contact.
- Fenestrated holes allow soft tissue ingrowth

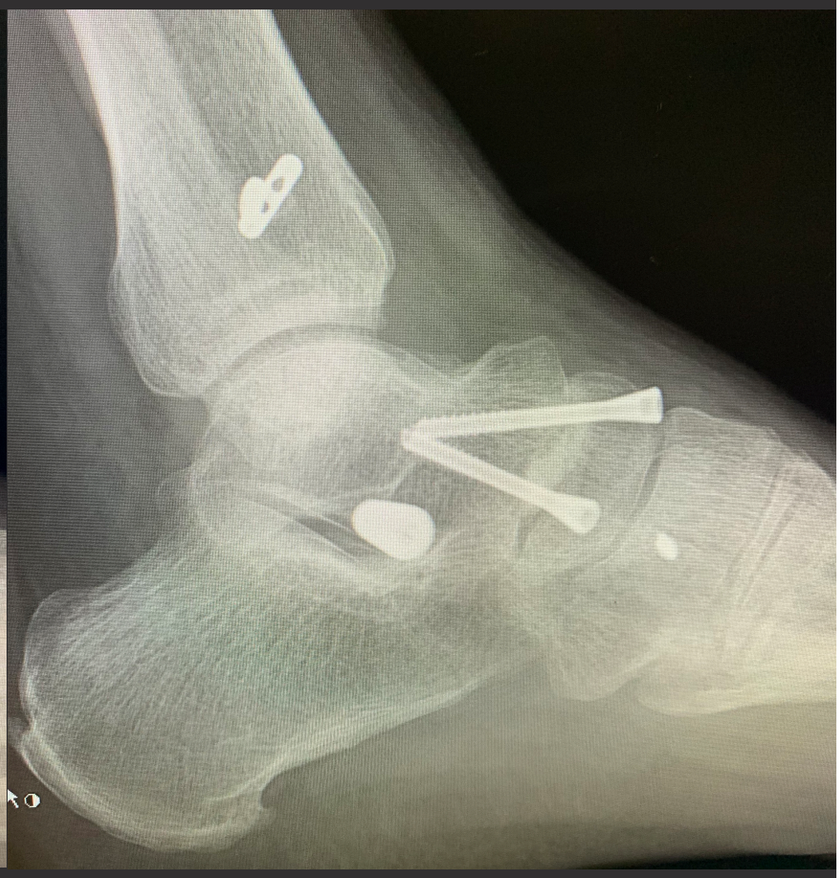
Indications

- Excessive Pronation
- Posterior Tibialis Tendon Dysfunction
- Paediatric Pes Valgus



	Catalogue Numbers	Size
AI08	ARCHIT Subtalar Arthroereisis Implant	8mm
AI09	ARCHIT Subtalar Arthroereisis Implant	9mm
AI10	ARCHIT Subtalar Arthroereisis Implant	10mm
AI11	ARCHIT Subtalar Arthroereisis Implant	11mm
AI12	ARCHIT Subtalar Arthroereisis Implant	12mm





Surgical Technique

The following surgical technique is explained using the example of a Tibialis Posterior Reconstruction.

Patient Positioning

The patient may be positioned in either the supine or prone positions with tourniquet placed in pneumatic position on calf with adequate padding. Intravenous antibiotics given with induction.

Incision

The ArchIt implant is designed to be inserted into the lateral aspect of the sinus tarsi.

Under fluoroscan control an incision was made and the wire delivered

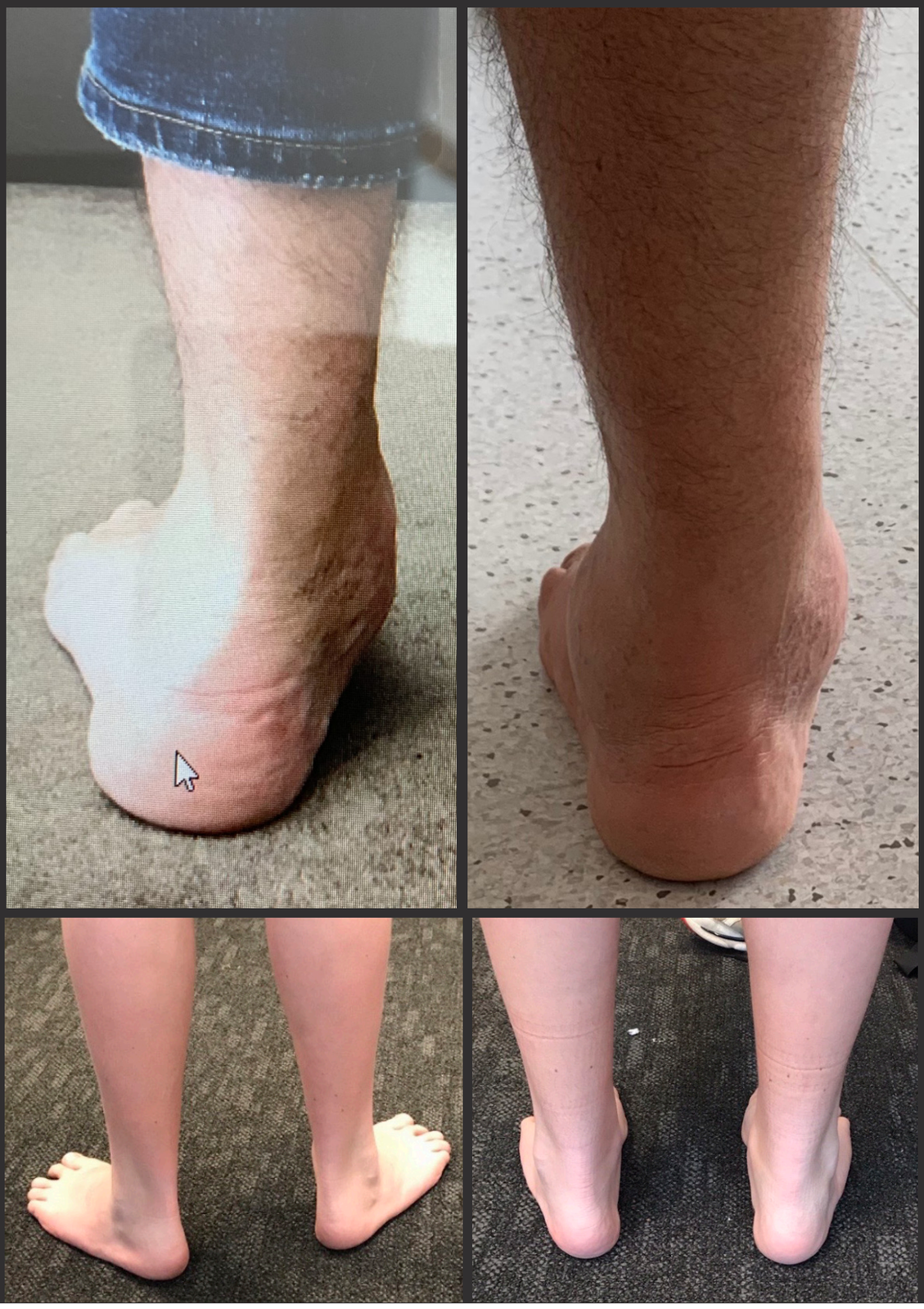
Method

Blunt dissection was made down to the sinus tarsi. The blunt wire was gently pushed through to the medial aspect of the sinus tarsal with an artery clip placed over the protruding end. An obturatar was introduced over this into the sinus tarsi. Sequential obturators aveiserated and gradually increased in size. The appropriate sized ArchIt plug selected and impacted into position insert was over the wire, securing it into the sinus tarsi. The obturador is the trial and can be left in place to check the degree of correction. Intra-operative radiographs were again taken to evaluate the degree of correction and placement of the implant.

Closure

The wounds were closed in layers using Vicryl and Nylon sutures. A Jelonet and compression dressing was applied.

ARCHIT Subtalar Arthroereisis Implant



Bibliography

1. Stewart M. "Obesity in elective foot and ankle surgery". *Orthopedic Clinics of North America 49.3 (2018): 371-379.*
2. Frey C and Zamora J. "The effects of obesity on orthopaedic *foot and ankle pathology". Foot and Ankle International 28.9 (2007): 996-999.*
3. Reb CW., et al. "High prevalence of obesity and female gender among patients with concomitant tibialis posterior tendonitis and plantar fasciitis". *Foot and Ankle Specialist 8.5 (2015): 364-368.*
4. Castro M. "Calcaneal Osteotomy [Internet]". *footEducation (2018).*
5. Emnéus H. "Wedge osteotomy of spine in ankylosing spondylitis". *Acta Orthopaedica Scandinavica 39.3 (1968): 321-326.*
6. Ullrich F. "Interbody cages for spine fusion [Internet]". *Spine-health (2018).*
7. Baumhauer J., et al. "Site selection and pain outcome after autologous bone graft harvest". *Foot and Ankle International 35.2 (2014): 104-107.*
8. Sagherian BH and Claridge RJ. "Porous tantalum as a structural graft in foot and ankle surgery". *Foot and Ankle International 33.3 (2012): 179-189.*
9. Slater G., et al. "Management of chondrosarcoma including modular ceramic and alumina prosthetic replacement". *ANZ Journal of Surgery 63.8 (1993): 590-595.*
10. Niño Gomez D., et al. "Use of poly(ether ether ketone) cages in foot and ankle surgery". *Foot and Ankle Clinics 17.3 (2012): 449-457.*
11. Matthews M., et al. "Long-term outcomes of corrective osteotomies using porous titanium wedges for flexible flatfoot deformity correction". *Journal of Foot and Ankle Surgery (2018).*
12. Palmanovich E., et al. "Use of a spinal cage for creating stable constructs in ankle and subtalar fusion". *Journal of Foot and Ankle Surgery 54.2 (2015): 254-257.*
13. Mulhern JL., et al. "Salvage of failed total ankle replacement using a custom titanium truss". *Journal of Foot and Ankle Surgery 55.4 (2016): 868-873.*
14. Evans D. "Calcaneo-valgus deformity". *Journal of Bone and Joint Surgery. British Volume 57.3 (1975): 270-278.*
15. Abbasian A., et al. "Comparison of three different fixation methods of calcaneal osteotomies". *Foot and Ankle International 34.3 (2013): 420-425.*
16. McDonald E., et al. "Correction of severe flexible pes planovalgus deformity using trabecular metallic wedges". *Foot and Ankle Orthopaedics 12.3 (2017).*
17. Botezatu I., et al. "Minimally invasive-percutaneous surgery - recent developments of the *foot surgery techniques". Journal of Medicine and Life 8 (2015): 87-93.*
18. Iannò B., et al. "Midterm results and complications after minimally invasive distal metatarsal osteotomy for treatment of hallux valgus, midterm results and complications after minimally invasive distal metatarsal osteotomy for treatment of hallux valgus". *Foot and Ankle International 34.7 (2013): 969-977.*

Citation: Gordon Slater and Thomas Clifton. "Minimally Invasive Opening Wedge Calcaneal Osteotomy Using a Titanium Structural Fusion Device". EC Orthopaedics 9.9 (2018): 626-631.

ArchIT

Arthroereisis - lit. “to limit mobility of a joint”.

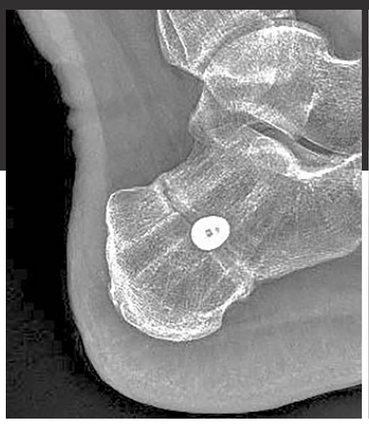
ArchIT Set Features

1. Conical tapered shape optimised for subtalar canal
2. Tools are much less damaging to patient tissues
3. Shape allows support of subtalar canal
4. Finish enables better bone contact
5. Shape and finish limit migration
6. Large size range
7. Titanium alloy

FUSEIT
Surgical Fusion Aid

Complex fusion procedures used to treat large deformities such as a charcot or failed total ankle replacement - often require the use of an allograft in order to obtain successful union. The use of an allograft comes with several complications such as donor site morbidity, increased pain, increased infection and graft collapse.

The FuseIt device removes the need for a structural allograft and provides a base for a strong fusion. Its threaded, fenestrated design allows for powerful macro-interlock between the fusion surfaces and the device as well as promoting osseointegration. As it is cannulated it can also be used to performs opening wedge osteotomies such as the Evans procedure. Biocompatible with GraftIt.



Pearls & Pitfalls

1. Replaces need for structural allograft reducing potential procedure complication
2. Comparable or better results in union
3. Reduced rates of complications associated with structural allografts
4. Can be used in conjunction with synthetic bone graft to further promote union in complex procedures
5. Size range does not yet allow for larger defects such as charcot, large limb deficiencies or ankle replacement revisions

Specifications

Material: Titanium Alloy Ti6Al4V
Shape: Conical Fenestrated Plug
Product Range:

Length	Diameter	Catalogue Numbers
1 cm	6mm	LA010-6
1 cm	8mm	LA010-8
1 cm	10mm	LA010-10
1 cm	12mm	LA010-12
2 cm	6mm	LA010-6
2 cm	8mm	LA010-8
2 cm	10mm	LA010-10
2 cm	12mm	LA010-12

FUSEIT
Structural Fusion Aid

Design Rationale

FuseIt is made from Titanium Alloy Gr5 and features a lordodically tapered cylindrical design to facilitate ease of insertion and provide stability. It is a fenestrated conical device which can be filled with bone graft.

It is used to aid in joint fusion surgery, particularly when there is a gap between joint surfaces that requires bridging. As it is made of durable metal it is stronger than an auto graft.

Providing a machined interface between the joints it maximises surface area therefore decreasing fusion time.

Fuse It is available in numerous different lengths and diameters to accommodate various patient anatomies.

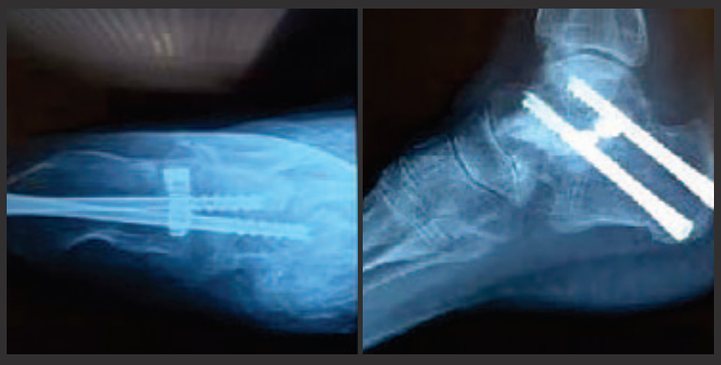
Indications and Contraindications

Indications

- Fusion surfaces
- Intertartarsal
- Ankle
- Revision procedures
- Situations where there is bone loss

Sample Cases - Distraction Arthrodesis

- A 68-year-old female that presented with a mal-united calcaneal fracture.
- Originally sustained a fall from a ladder ➔ treated non operatively with NWB in CAM walker.
- Patient developed ongoing pain and disability and was unable to return base level of function ➔ investigations revealed mal-united calcaneal fracture.
- She underwent distraction arthrodesis procedure using the below-mentioned surgical technique.

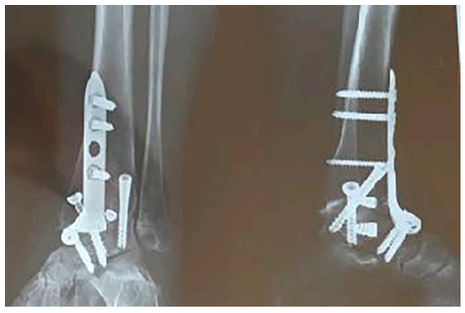


Post Operative

- Patient was placed in a CAM walker, NWB for 6 weeks
- Radiological evidence of union occurred at 3 months
- Was back to baseline function by 5 months

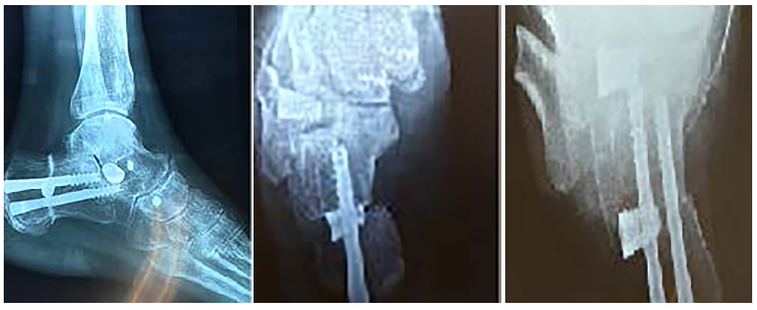
Smoker Ankle

Fusion



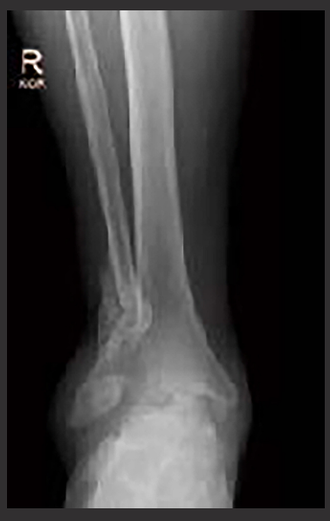
Opening Wedge Calcaneal Osteotomy

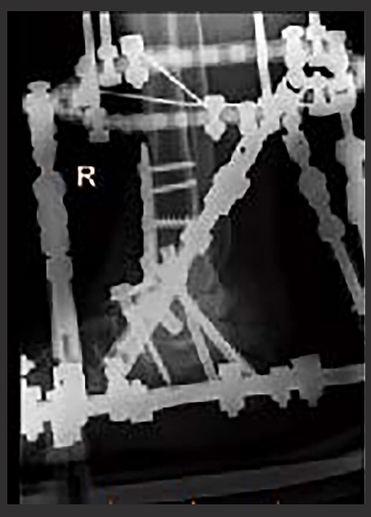
MIFS placement for severe tibpost planovalgus foot

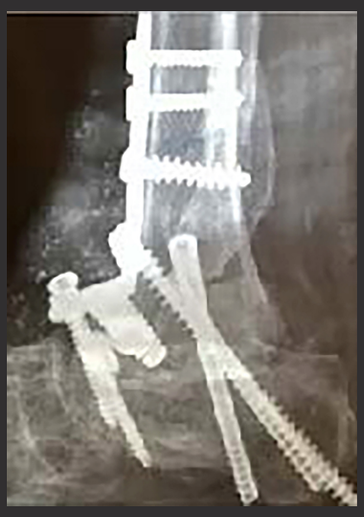


Charcot Ankle

Pathological fibular fracture and talar fracture

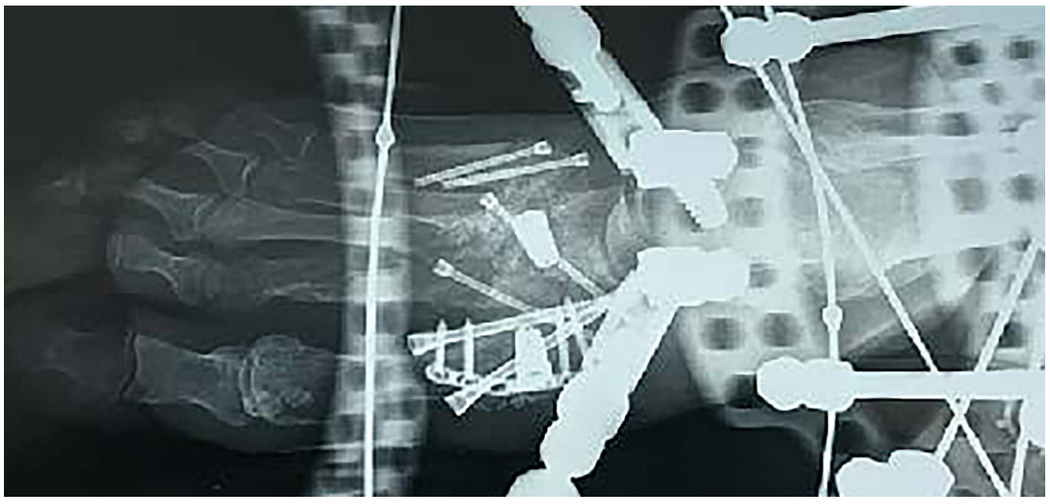


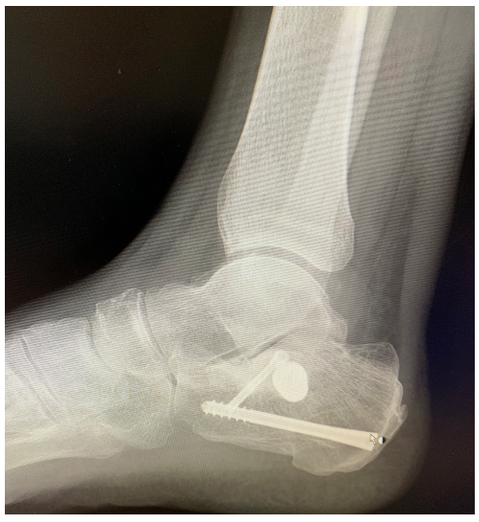


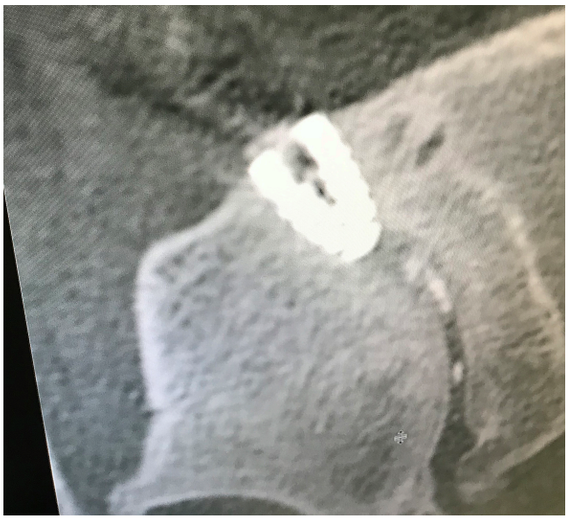


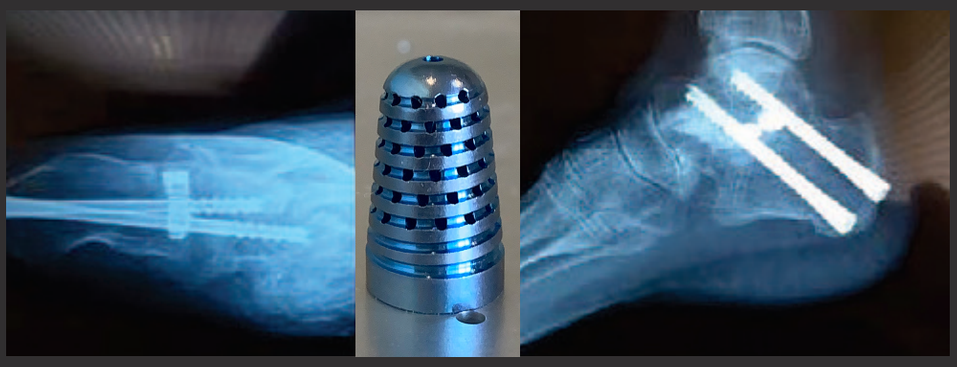
Flail Mid Foot

Secondary to charcot; salvage mid foot fusion









Post Operative

- Patient was placed in a CAM walker, NWB for 6 weeks
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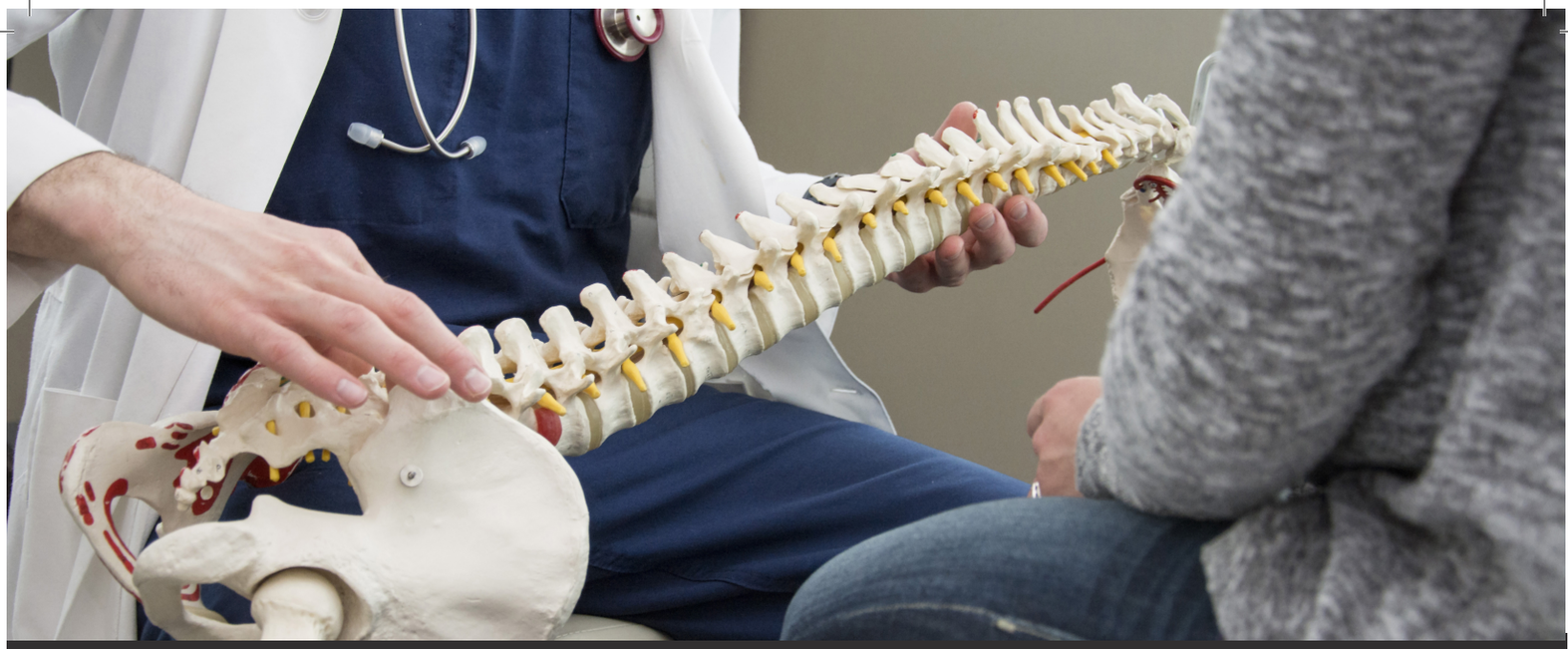
- Was back to baseline function by 5 months

Reference:
Gordon Slater and Fady Mohareb. "Subtalar Distraction Arthrodesis- An Innovative New Technique". EC Orthopaedics 5.5 (2017): 183-188.

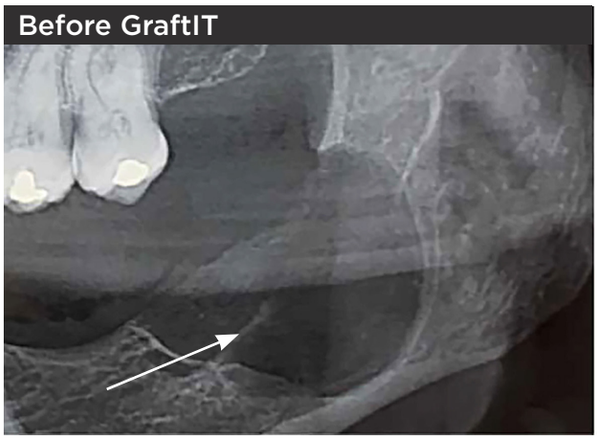
1. Reamer 2. Implants 3. Interchangeable handle 4. Guide wire 5. Titanium screw driver 6. Screw driver

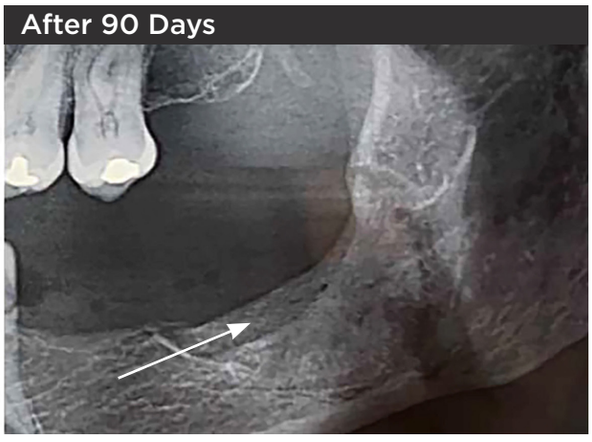


GraftIT®

The better alternative for bone healing

- GraftIT is a better alternative for your patients.
- GraftIT is a natural coralline hydroxyapaptite.
- It has been used for many years in thousands of cases.
- It is safe, effective and non-inflammatory alternative to existing grafts.





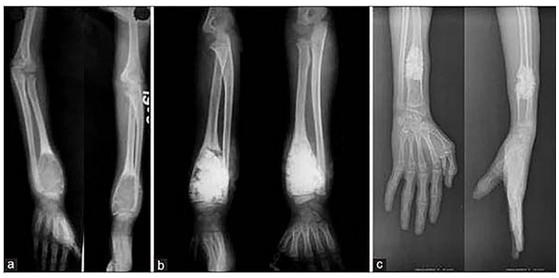
Patient Advantages

- Very close to natural bone structure. Facilitates new bone and vascular growth (Neto and Ferreira, 2018; Pountos and Giannoudis, 2016).
- Inflammatory reaction rare (Koëter et al., 2009; Neto and Ferreira, 2018)
- Low infection rate, some native anti-infective properties. Due to reduced adhesion and viability of bacteria (Alam and Balani, 2017; Carlson et al., 2004).
- New bone as strong as endogenous bone (Holmes et al., 1984; Ning et al., 2009; Vago etal., 2002).
- Outperforms, or equivalent to, most competitors (Celik et al., 2015; Devecioğlu et al., 2004; Koëter et al., 2009; Luo et al., 2013; Pountos and Giannoudis, 2016)

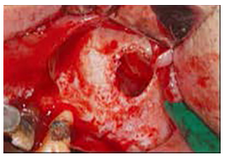
Indications

GraftIT has potential to be used in a wide variety of bone disorders as a graft substitute

1. Filling of Cavities

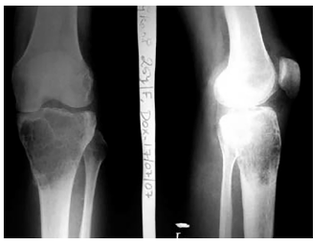


X-ray of forearm anteroposterior and lateral views showing (a) Aneurysmal bone cyst of the distal end of left radial metaphysis close to epiphysis in an 8 year male (b) Cavity filled with hydroxyapatite after curettage (c) that growth is evident and intactness of growth plate at 7 years follow up

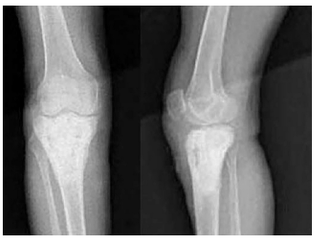


Parietal fenestration, thickness of bone less than 3mm

2. Grafting after curretage of bone tumours

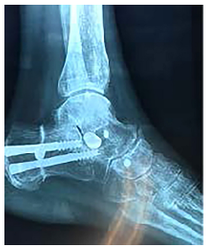


X-ray of knee joint anteroposterior and lateral views showing giant cell tumour of right proximal tibia



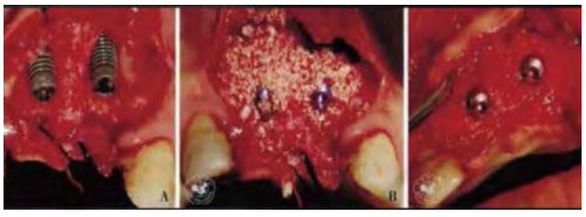
X-ray of knee joint anteroposterior and lateral views showing follow up at 3 years following curretage and grafting by HA

3. Strengthening of fusion sites



HA used in conjunction with a structural plug to assist in opening wedge osteotomy.

4. Bone supplement for deficient or defective implant sites



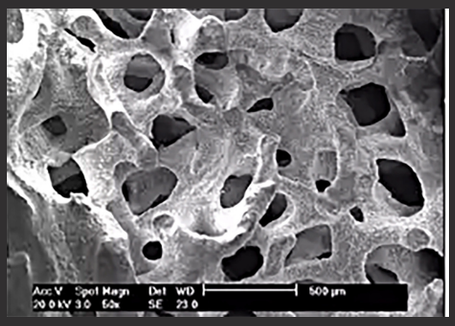
Horizontal bone defect at neck

Defect filled with

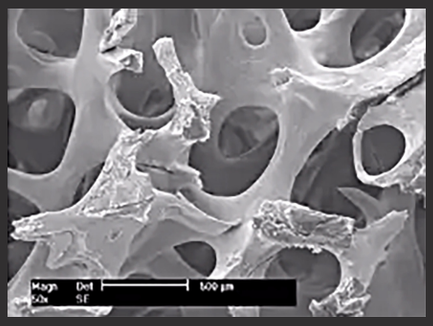
Well formed new bone

Why GraftIT?

Bone grafts are becoming more common in orthopaedic surgeries and generally autografts or allografts are the most common method. There is however high morbidity in these cases particularly with autografts where there is often donor site complications.



Graft It Natural Structure



Human Bone Structure

Hydroxyapatite (HA) is composed of calcium phosphate which forms a large percentage of human bone. Its chemical components, physical properties and crystal structure are similar to the inorganic compounds in human bone. HA has been used in over 200,000 cases to repair various bone defects and is able to promote on-, in- and through-growth at the graft site.

Benefits...

- Eliminates need for donor site
- Successful use in over 200,000 cases in a variety of fields
- High osteoconductivity, low resorption as well as promoting on, in and through growth
- Very similar structure and composition to Human bone
- Unique syringe delivery apparatus with various attachments

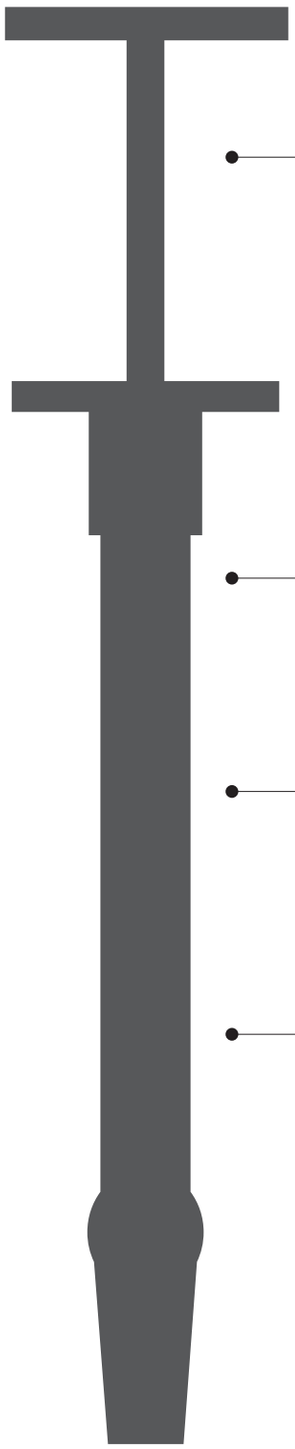
Comparative clinical trials of coralline Hydroxyapatite (cHA)

and selected HA trials versus bovine xenograft.

Autograft > cHA > (HA = Bovine Xenograft)

Study	Comparison	Results	Citation
Thoracic vertebrae in rabbits	cHA versus autologous iliac bone graft versus human xenograft	cHA bone formation better than human xenograft but less than autograft.	(Karaismailoglu et al., 2002)
Interproximal periodontal defects in humans	cHA versus freeze dried allograft	cHA induced statistically significant greater fill than allograft.	(Oreamuno et al., 1990)
Tibial plateau fractures in humans	cHA versus cancellous autograft	No significant differences in bone growth.	(Bucholz et al., 1989)
Posterolateral lumbar and lumbosacral fusion in humans	cHA with marrow or bone chips versus autologous iliac bone graft	cHA inferior to iliac bone autograft only when bone contact surface area is low. But cHA faster procedure with no donor site morbidity or pain.	(Korovessis et al., 2005)
Posterolateral lumbar fusion in humans	cHA versus demineralised bone matrix allograft, both with autologous bone	cHA equivalent to allograft	(Thalgott et al., 2001)
Femoral trochlea in goats	cHA versus autograft	cHA slower to grow new bone than autograft but acceptable replacement.	(Koëter et al., 2009)
Orbital implants in humans	cHA versus porous HA	cHA more rapid vascularisation than porous HA.	(Celik et al., 2015)
Periodontal ligament (PDL) cell adhesion in vitro	cHA versus freeze dried allograft versus freeze-dried dentin (DFDD) versus cementum	cHA provides significantly greater long term cell adhesion.	(Devecioglu et al., 2004)
Full-thickness skull defects in rabbits	Porous HA versus bovine xenograft versus autologous bone dust	HA and bovine xenograft equivalent bone formation results, both inferior to autologous bone dust.	(Fukuta et al., 1992)
Sinus implants in dogs	HA versus human freeze dried bone versus bovine xenograft	HA and bovine xenograft bone formation equivalent, both superior to human freeze dried bone.	(Wetzel et al., 1995)

Characteristics

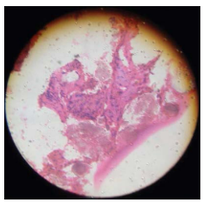


Derived from natural coral:
Non-antigenic and non-carcinogenic; no documented iatrogenic effects of using HA

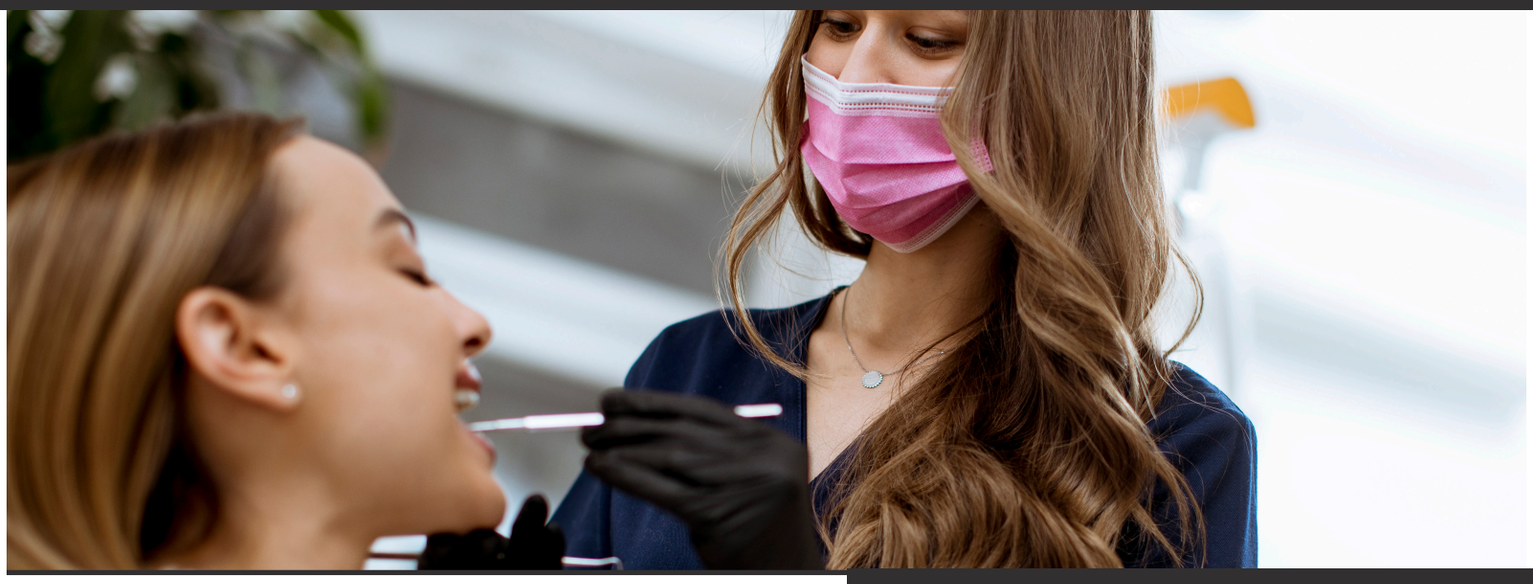
High osteoconductivity and tissue compatibility:
Promotes revascularisation and clot stabilisation

Clinical use for over 20 years:
Successful use in over 200,000 cases to repair various bone defects

Histopatholgical Picture showing new osteoid formation and presence of hydroxyapatite at the grafted area:
This also shows ingrowth of osteoid (pink dotted) around hydroxyapatite crystals (dark and dense)



Preserving Your Gums
After Tooth Extraction (with GraftIT® Bone Graft)



After tooth extraction an empty space is left in your gum where the tooth and nerve were. If this space is left empty, the surrounding bone and tissue may die or heal incorrectly. Imagine a circus tent if the central support pole is removed (the tooth and nerve), the surrounding tent canvas will collapse without this support. If this happens in your gum, additional surgeries may be required to repair the gum tissue, or defective healing may make placement of prostheses difficult in the future. After 6 months between 29 and 63% of the bone is lost horizontally around the extracted tooth (Tan et al., 2011).

Filling the empty gum space with bone graft, known as "socket preservation", has been proven to aid new bone growth and aid healing (Avila-Ortiz et al., 2014).

GraftIT is a bone-like material used by the surgeon to fill spaces in bone after injury or surgical procedures. GraftIT provides a scaffold for new bone to grow. The material of GraftIT has been used for many years with few adverse events. Derived from natural abundant coral, it has a very similar structure to bone.

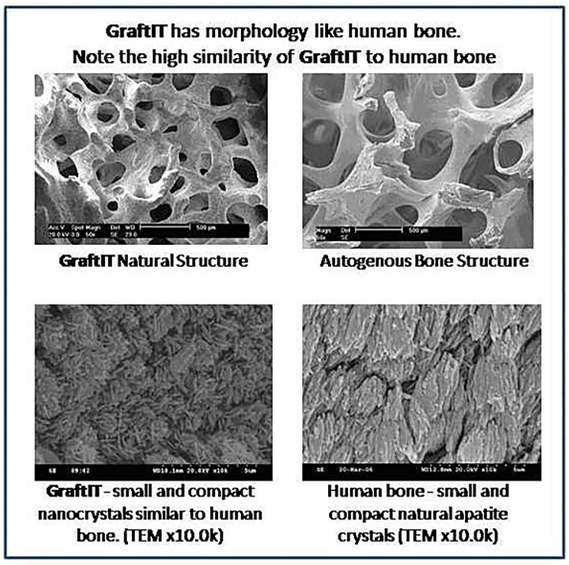
Should you have any questions about GraftIT, please ask your support representative who will be happy to assist you.

Technical Information

- GraftIT is a natural osteoconductive bone hydroxyapatite derived from abundant coralline materials.
- GraftIT provides a scaffold for bone cell migration and is integrated during the remodelling process.
- GraftIT offers predictable results proven through years of clinical experience. Usage has been documented extensively in the scientific literature.
- GraftIT was developed as an ideal bone substitute that replaces the structure of natural bone. It has similar chemical and physical properties to natural bone.
- The trabecular architecture and fine crystalline structure of GraftIT are preserved during the patented manufacturing process. This results in an exceptional osteoconductive matrix.

GraftIT is natural hydroxyapatite and has several advantages:

- GraftIT is injectable.
- GraftIT is biocompatible with a long history of usage.
- GraftIT is readily available from renewable sources.
- GraftIT is easily stored at room temperature.
- GraftIT does not require complicated preparation protocols. Easy to use.
- GraftIT is naturally occurring, a mineral form of calcium apatite with the formula of $Ca_{10}[PO_4]_6[OH]_2$ which comprises about 50% of the weight of the bone. Therefore has excellent osteoconductive and osteointegrative properties. (Bhatt and Rozental, 2012; Wang and Yeung, 2017).
- GraftIT has wide pores (macroporosity) allow for adhesion, proliferation, and differentiation of osteoprogenitor cells. As well as revascularization, and subsequently ingrowth of new bone (DiDomenico and Thomas, 2015; Roberts and Rosenbaum, 2012; Wang and Yeung, 2017).
- When GraftIT is soaked in blood and bone chips, healing is enhanced (DIDomenico and Thomas, 2015).
- Lower risk of infection and immune reactions, unlike allogeneic grafts.
- Low risk of co-moridity, unlike autograft.

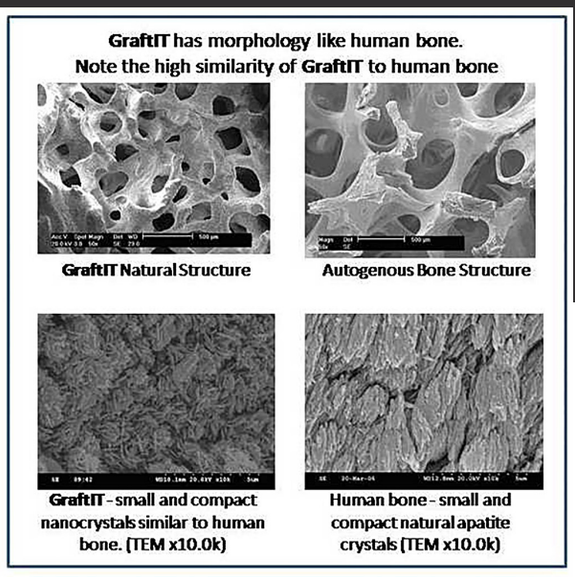


References

- Avila-Ortiz G, Elangovan S, Karmer KW, Blanchette D, Dawson DV. Effect of alveolar ridge preservation after tooth extraction: a systematic review and meta-analysis. J Dent Res. 2014 Oct,; 93(10): 950-8.
- Betz, R.R. (2002). Limitation of autograft and al lograft: new synthetic solutions. Orthopedics 25, s561-570.
- Bhatt, R.A, and Rozental, T.D. (2012). Bone graft substitutes. Hand Clin 28, 457-468.
- DiDomenico, L.A., and Thomas, Z.M. (2015). Osteobio logics in foot and ankle surgery. Clin Prodiatr Med Surg 32, 1-19.
- Roberts, T.T,. and Rosenbaum, A.J (2012). Bone grafts, bone substitudes and orthobiologics: the bridge between basic science and clinical advancements in fracture healing. Organogenesis 8, 114-124.
- Tan WL, Wong TL, WOng MC, Lang N P. A systematic review of post-extractional alveolar hard and soft tissue dimensional changes in humans. Clin Oral Implants Res. 2012 Feb; 23 Suppl 5:1-21.
- Tassos Irinakis, Rationale for Socket Preservation after Extraction of a SIngle-Rooted when Planning for Future Implant Placement. J Can. Dent. Assoc., Dec 2006/Jan 2007, Vol. 72, No. 10.
- Wang, W., and Yeung, K.W.K (2017). Bone grafts and biomaterials substitutes for bone defect repair: A review. Bioact Meter 2, 224-27.

Natural Bone Regeneration With GraftIT

1. Clot stabilisation facilitated by GraftIT interconnected macro and micropores.
2. Revascularisation, migration of osteoblasts and in-growth of woven bone is enhanced by GraftIT scaffolding.
3. Lamellar bone and GraftIT are successfully integrated after about 6 months. GraftIT becomes part of the natural physiologic remodelling process by osteoclasts.

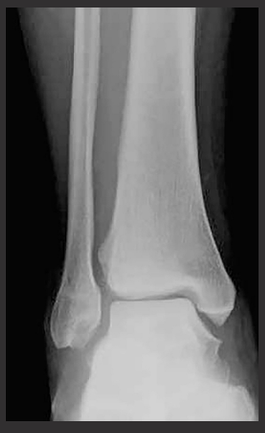


References

- Tan WL, Wong TL, Wong MC, Lang NP. A systematic review of post-extractional alveolar hard and soft tissue dimensional changes in humans. Clin Oral Implants Res. 2012 Feb;23 Suppl 5:1-21.
- Avila-Ortiz G, Elangovan S, Kramer KW, Blanchette D, Dawson DV. Effect of alveolar ridge preservation after tooth extraction: a systematic review and meta-analysis. J Dent Res. 2014 Oct;93(10):950-8..
- Tassos Irinakis. Rationale for Socket Preservation after Extraction of a Single-Rooted Tooth when Planning for Future Implant Placement. J Can. Dent. Assoc., Dec 2006/Jan 2007, Vol. 72, No. 10.

LoopIT

Double Loop Lift Implant



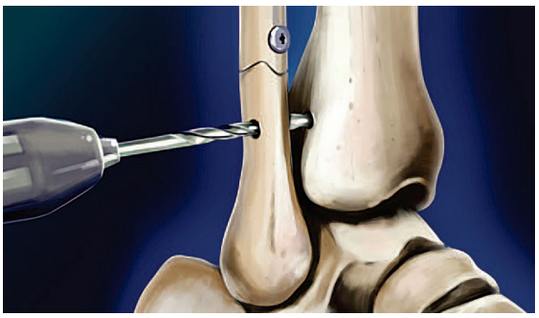
Ankle Syndesmosis Repair

- Equivalent force to screws with less bone stress
- Rapid rehabilitation, as quick as 2 months
- Loop buttons low profile, less damage
- Also for shoulder and other ligaments
- Does not need to be removed
- Faster surgical times
- Proven technology

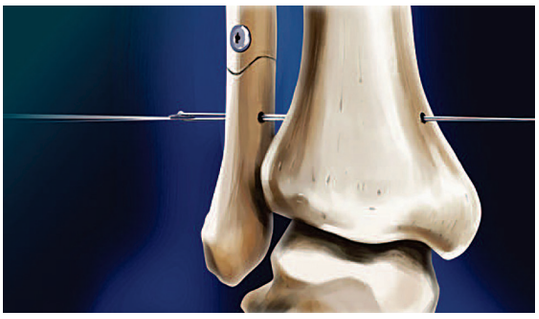
Hallux Valgus Repair

- Hallux Vagus and Lisfranc repair
- Small LoopIT system
- Technically simple and fast
- Allows formation of healing tissue
- Also applicable to hand and wrist

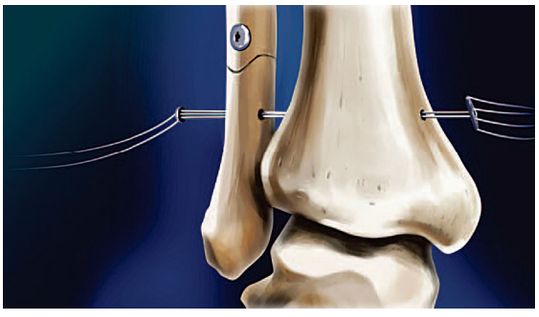
Fiberwire and Titanium buttons provide strength and compatibility.



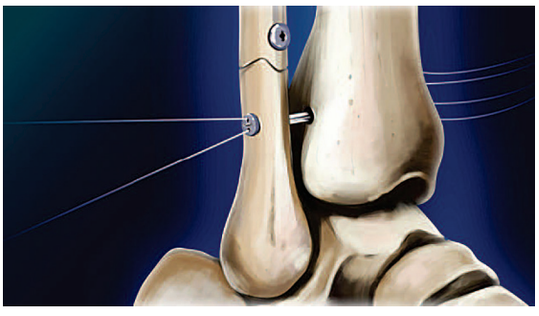
A guide wire and large cannulated drill bit are used to drill a passage for the LoopIT. The passage is normally 1.5 cm above the ankle joint in the transmalleolar plane.



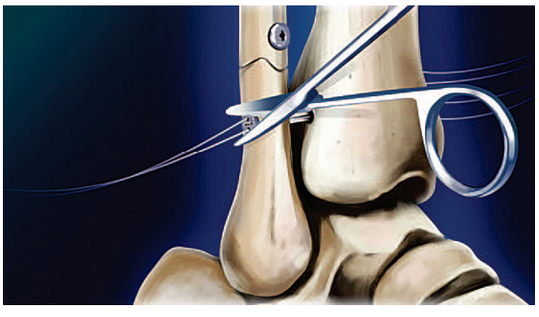
The LoopIT is inserted through the guide until the rectangular button just exits. Keep the threads slack during insertion.



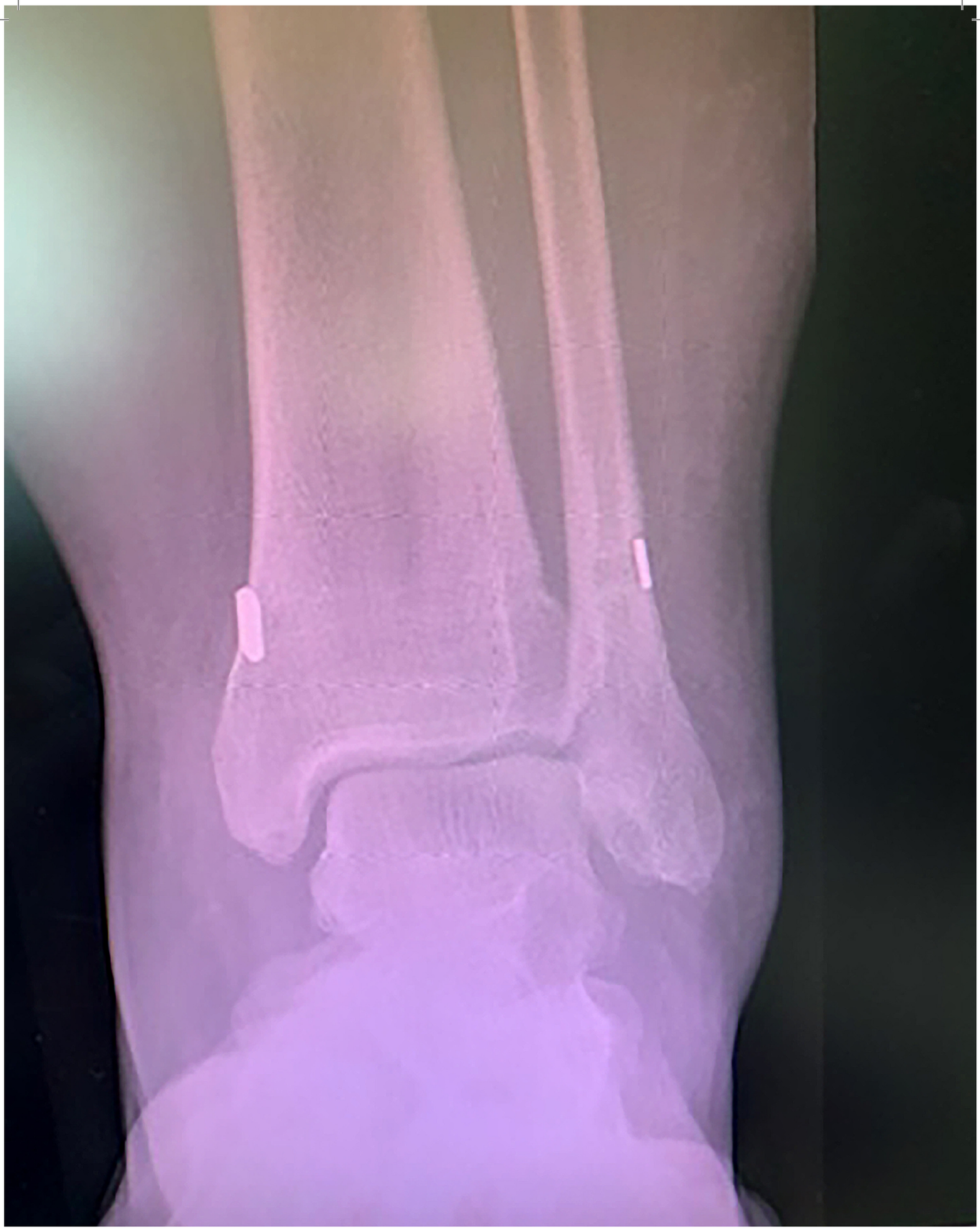
Grasp the sutures on the tibial side with gentle tension. Pull coloured sutures down and white sutures up. So that the rectangular button lies flat against the tibia. The sutures on the fibula may need gentle tension to aid this step.



Confirm correct placement of the LoopIT using C-arm Xray. Cut the white suture away. Cut the colored sutures near the knot. Pull the colored sutures alternately on each side (not both at the same time). Pull the sutures on the fibula side gently but firmly. So that the button sits against the fibula and the joint is firmly secure.

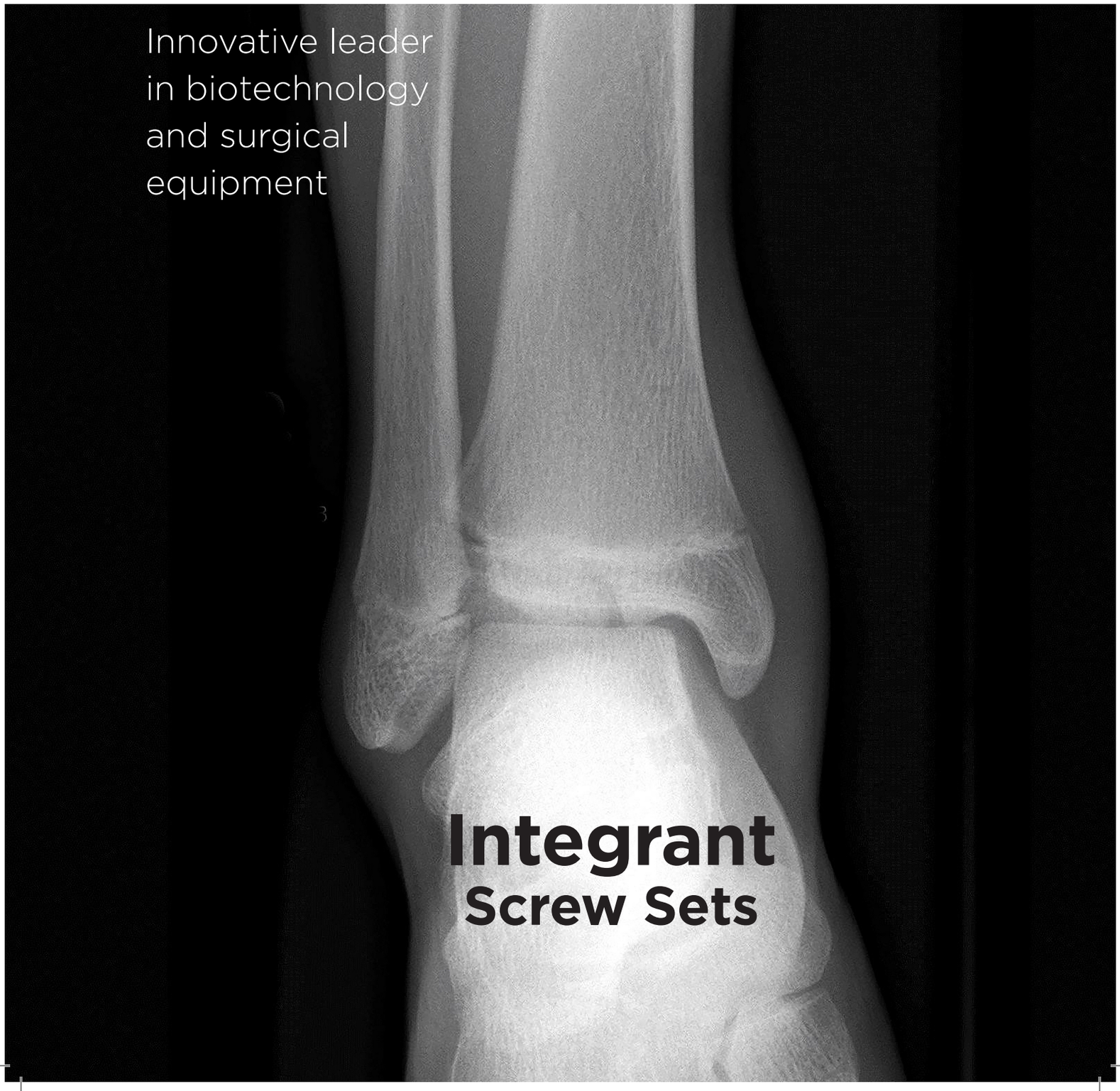


Cut excess suture on both sides.



INTEGRANT

Innovative leader
in biotechnology
and surgical
equipment



Integrant
Screw Sets

Integrant 2.0mm Twist Off Screw

The 2.0 mm twist-off screw is made from titanium and features a self-tapping and self-drilling design. The screw is available in 8 different lengths, either 1mm or 2mm increments.

Lengths	Catalogue Numbers
11mm	# LA-007-11
12mm	# LA-007-12
13mm	# LA-007-13
14mm	# LA-007-14
15mm	# LA-007-15
16mm	# LA-007-16
18mm	# LA-007-18
20mm	# LA-007-20

Integrant 2.0mm Twist Off Screw

Surgical Technique - Weil Osteotomy

An approach was made between extension longus and brevis tendons to the metatarsophalangeal joint. The first phalanx was held in strong plantar flexion and two Homan retractors were set around the metatarsal heads. The lateral ligaments were then re- sected. A small hinged retractor was then set into the same place as the Hohman retractors, protecting the extensors and soft tissue and isolating the metatarsal head. An osteotomy was then made in the transverse plane beginning at the cephalic cartilage but close to its upper border. A cut was made 2.5cm long. A second layer of bone was then removed, approximately 2mm in width, to allow for the shortening and raising of the metatarsal. After cutting the metatarsal head in a backward direction a proximal force was applied to the metatarsal head. A twist off screw was then selected and this was inserted on the AO wire driver collette, securing the osteotomy site. This allowed compression of the osteotomy. The soft tissue balance was then checked, and noted to be correct. Fluoroscan was used to confirm correct cascade at the metatarsals

Integrant 3.0mm Cannulated Screw System

The 3.0 mm cannulated screw system is made from titanium alloy and features a self tapping tripple thread design for ease of insertion. Features include a guide pin for precise screw placement The screw is available in 19 different lengths and including unique 50mm size. Lengths listed below

Lengths	Catalogue Numbers
14mm	LA-008-14
16mm	LA-008-16
18mm	LA-008-18
20mm	LA-008-20
22mm	LA-008-22
24mm	LA-008-24
26mm	LA-008-26
28mm	LA-008-28
30mm	LA-008-30
32mm	LA-008-32
34mm	LA-008-34
36mm	LA-008-36
38mm	LA-008-38
40mm	LA-008-40
42mm	LA-008-42
44mm	LA-008-44
46mm	LA-008-46
48mm	LA-008-48
50mm	LA-008-50

Guide Pin
Catalogue Numbers

LA-009-1

Integrant 3.0mm Cannulated Screw System

Surgical Technique

Sharp dissection was made down the medial wall of the 1st Metatarsal. A capsulotomy was made at the medial capsule of the 1st MTP joint. Sharp dissection was made through this exposing the medial exostosis. A resection of the exostosis was performed at the sagittal grove. A scarf osteotomy was then performed of the 1st Metatarsal. The intermetatarsal angle was corrected and the distal metatarsal angle was preserved. A 3.0mm screw was inserted into the distal metatarsal in a 60˚ oblique angle. A proximal screw was inserted at 90˚ angle. Fluoroscan was used to confirm correct positioning.

An osteotomy was performed of P1. 4mm of closing was performed correcting the interphalangeus. The P1 osteotomy was fixed with one 3mm screw. Fluoroscan was used to confirm P1 osteotomy positioning. A medial capsulodesis was performed at the 1 stMTP
joint with Ethibond 2/0.

Integrant 4.0mm Cannulated Screw System

The cannulated screw system features a washer and pin. The screw and washer is made from titanium alloy and has a self tapping design. The screws come in a 4.0 mm diameter and offers 23 different lengths to choose from. Lengths listed below.

Lengths	Catalogue Numbers
26mm	LA-004-26
28mm	LA-004-28
30mm	LA-004-30
32mm	LA-004-32
34mm	LA-004-34
36mm	LA-004-36
38mm	LA-004-38
40mm	LA-004-40
42mm	LA-004-42
44mm	LA-004-44
46mm	LA-004-46
48mm	LA-004-48
50mm	LA-004-50
52mm	LA-004-52
54mm	LA-004-54
56mm	LA-004-56
58mm	LA-004-58
60mm	LA-004-60
62mm	LA-004-62
64mm	LA-004-64
66mm	LA-004-66
68mm	LA-004-68
70mm	LA-004-70

Washer	Guide Pin
LA-006-1	LA-005-1

Integrant 4.0mm Cannulated Screw

Malleoular Fracture Surgical Technique

Surgical Technique

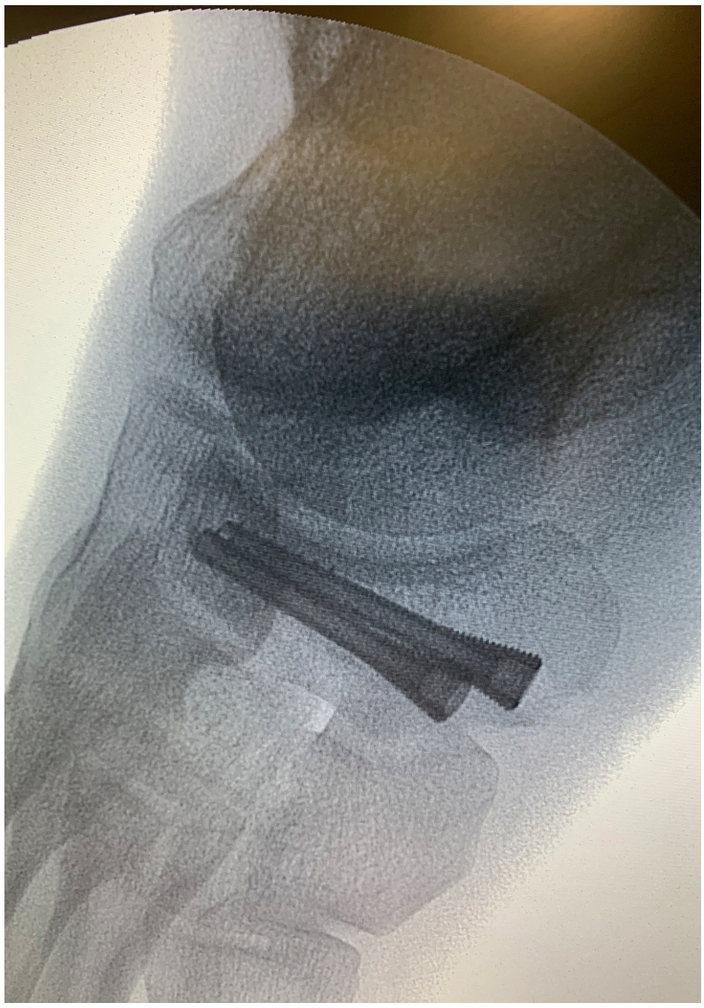
Medial malleoular fracture was expoed and reduced into anatomical position. Two k-wires where introduced under fluoroscopy control. A cannulated drill was used to over drill. Two 4.0mm headless compression screws where used to internally fixate the fracture.

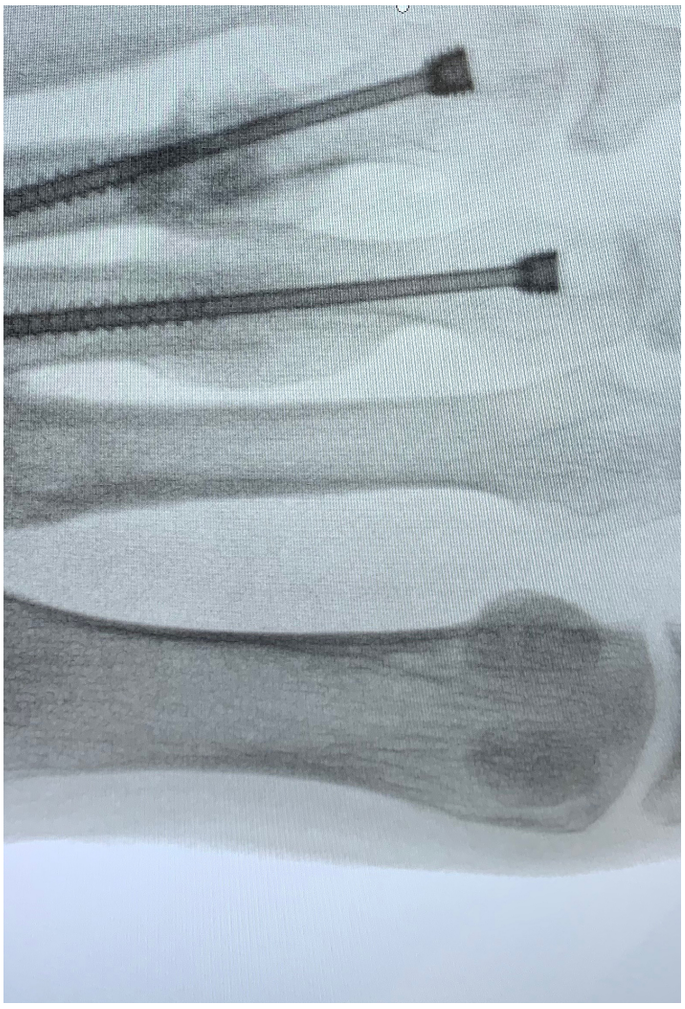
Integrant 6.5mm Cannulated Screw System

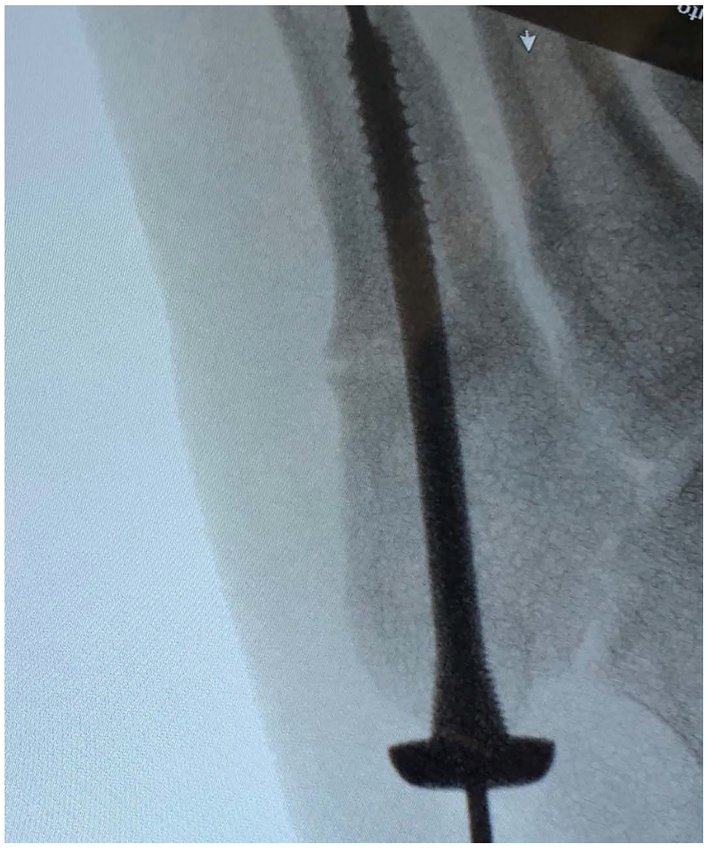
The 6.5mm cannulated screw system features a stainless steel guide pin and washer. The screw and washer are made from titanium . The screw features a self tapping triple thread design for ease of insertion. It is available in 15 different lengths. Lengths listed below.

Lengths	Catalogue Numbers
45mm	LA-001-45
50mm	LA-001-50
55mm	LA-001-55
60mm	LA-001-60
65mm	LA-001-65
70mm	LA-001-70
75mm	LA-001-75
80mm	LA-001-80
85mm	LA-001-85
90mm	LA-001-90
95mm	LA-001-95
100mm	LA-001-100
105mm	LA-001-105
110mm	LA-001-110
115mm	LA-001-115

Washer	Guide Pin
LA-003-1	LA-002-1





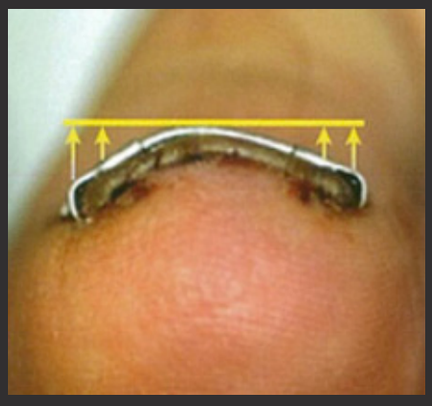


Top left - Navicular stress fracture fixation
Per cutaneous insertion of “GraftIt”

Top right - P/c fixation of stress fracture with GraftIt

Bottom left - P/C Jones Fracture fixation

About NaillT



An ingrown toenail is a common disorder. The prevalence of ingrown nails is 26 per 1000 (from NHIS95 report), approximately one in 38 (2.6%) or 7.1 million people in the US.

There have been many previous attempts to treat ingrown toenails, wire, and shape-memory devices. However, those devices act similarly to a nail splint while the incurved toenial grows.

There is a difference in the basic concepts of toenail deformity correction. With the NaillT correcting a nail deformity is not like a simple splint during normal growth of the toenail but actually a correction of a nail deformity and its environment.

Treatment with a NaillT repairs nail deformity in a short time and makes the skin under the nail stick to its newly shaped nail while walking. After that, the straightened skin makes the nail grow in the right way. Therefore, the NaillT is based on a completely different concept than other nail devices. It is convenient for patents using a NaillT to be under treatment for such a short time.

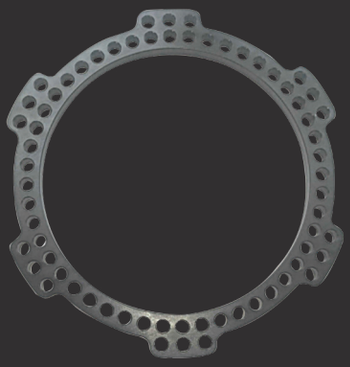
Application of the NaillT is the simplest and most effective way to treat a deformed toenail while causing the least pain and alleviating inflamation. Furthermore, most patients are satisfied with the cosmetic results that is offers.

Key Features

- Simple procedure (Only take 5-15 min)
- Ensure the efficiency for treatments
- Easy to move in daily life (patient can run one day after surgery)
- Low recurrence rate (Only 5%)
- HIgh satisfaction of patient

FrameIT

External Frame



The FrameIT external frame is designed to stabilize and adjust bone and joints. Where there is a need to relieve stress on joints, to shift bone to an improved alignment, repair advanced fractures or to lengthen bone.

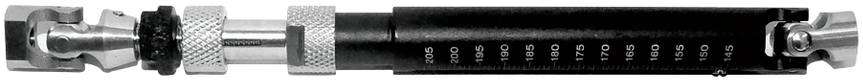
Unlike internal plates and other invasive procedure frames cause less disruption. A frame suited to patients with poor healing , for example diabetic patients with Charcot foot.

Hard wire frame- removing need for wire tensioning.

Block and cap locking providing cover for exposed wires.

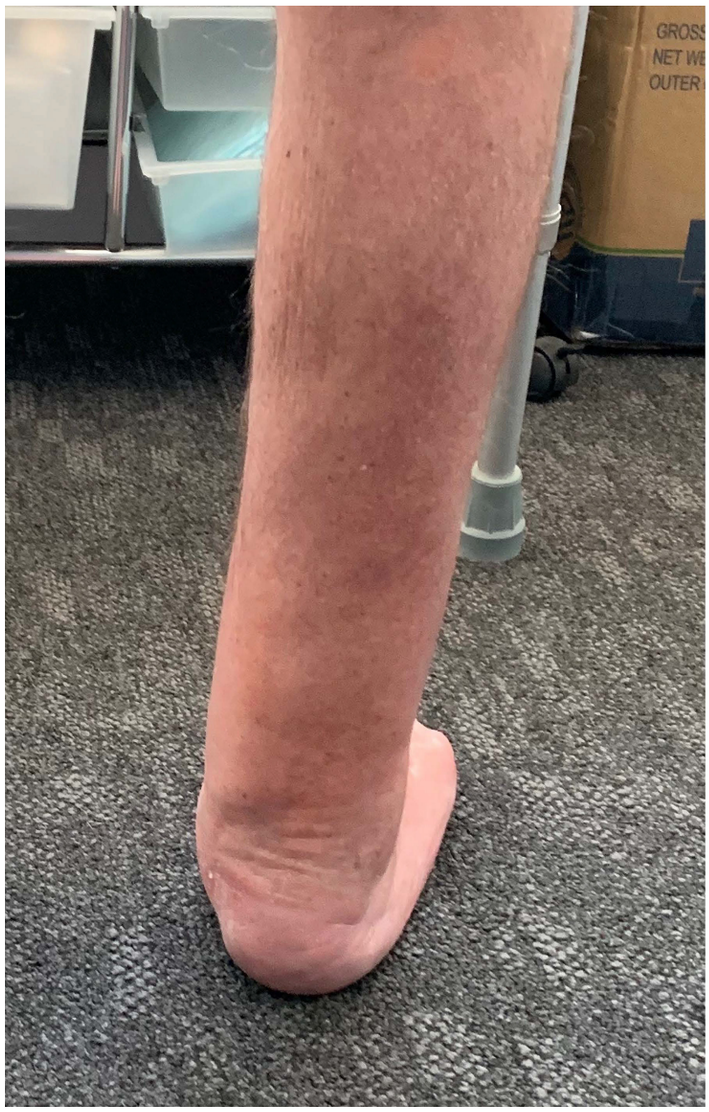
Applications

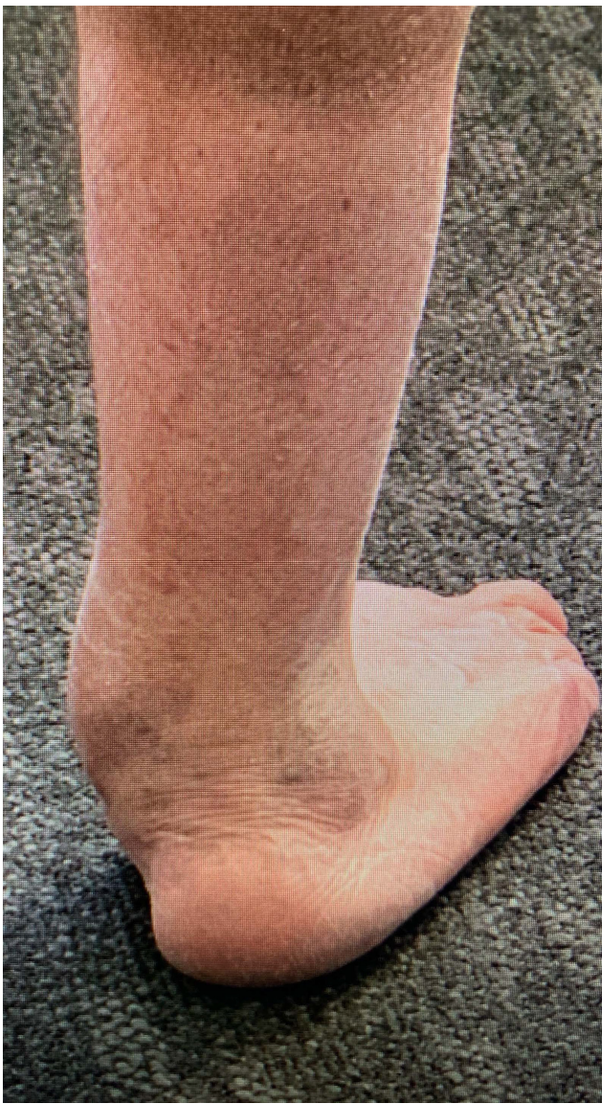
- Charcot Foot (Reduce Amputation Risk)
- Distraction "Portable Traction"
- Fracture Realignment
- Fracture Non-Union
- Bone Lengthening
- Bone Straightening
- Ankle Arthodesis Advanced
- Foot and Ankle Realignment



Why Integrant Frames?

- Specifically designed in consultation with surgeons
- All equipment required for external frame application
- Training available
- Continuous improvement
- Thicker wires with no need for tensioning
- In procedure support





Our story

Integrant started with a simple philosophy- to make surgical procedures more efficient by allowing surgeons to use our integrated equipment to best suit their needs. Our products have been chosen to provide a full surgical suite of what is needed in procedures, our tools are interconnectable to allow for cross configuration of our kits, and we're always happy to hear feedback on how we can modify our offerings to best suit your needs.

Our representatives are highly trained and will be present during your procedures to help ensure everything flows smoothly and all equipment is ready prior to use. Being a small boutique company allows us the agility to adapt to changing needs in order to provide not only the best service but also change with you to keep ahead of the game.

INTEGRANT

Innovative leader in biotechnology and surgical equipment

GPO Box 1906, Sydney, NSW, 2001, Australia | admin@integrant.com.au