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Your foot & ankle company

lync®

Hammertoe Correction

Operative Technique
PIP & DIP Joint Arthrodeses
Small / Medium / DIP

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Introduction

Surgical Technique

References

Introduction

Indications

Lync intra-medullary implants are indicated for PIP and DIP inter-digital fusion of lesser rays, especially for Hammertoe corrections.

Contra-indications

. Severe muscular or vascular deficiency in the extremity concerned.

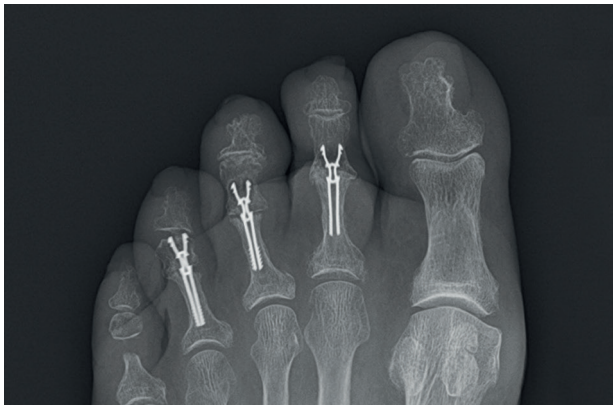
. Bone destruction or poor bone quality, likely to impair implant stability.

. Surgical procedures other than those listed in the « Indications » section.

. Known or suspected allergy to any of the device components.

. Use of this implant in combination with implants of another origin is not recommended by Novastep.

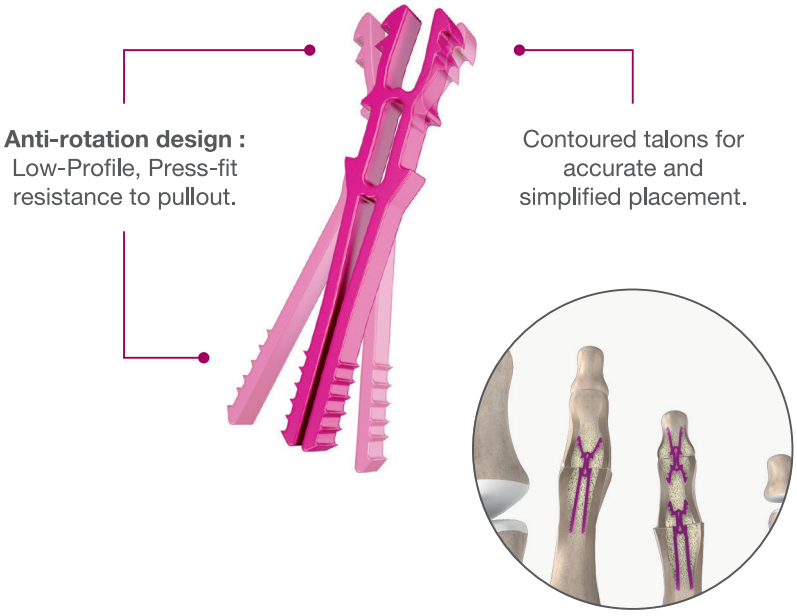
Note: See package insert for a complete list of potential adverse effects, warnings, precautions, contra-indications and instructions for use.



Introduction

The Lync Solution

Its low-profile configuration ensures implant stability by reducing the risks of rotation and pullout. Its expansion capacity and the notched grooves allow effective intraoperative anchorage to prevent migration.



Features

Initial anchorage by means of mechanical expansion of the implant.

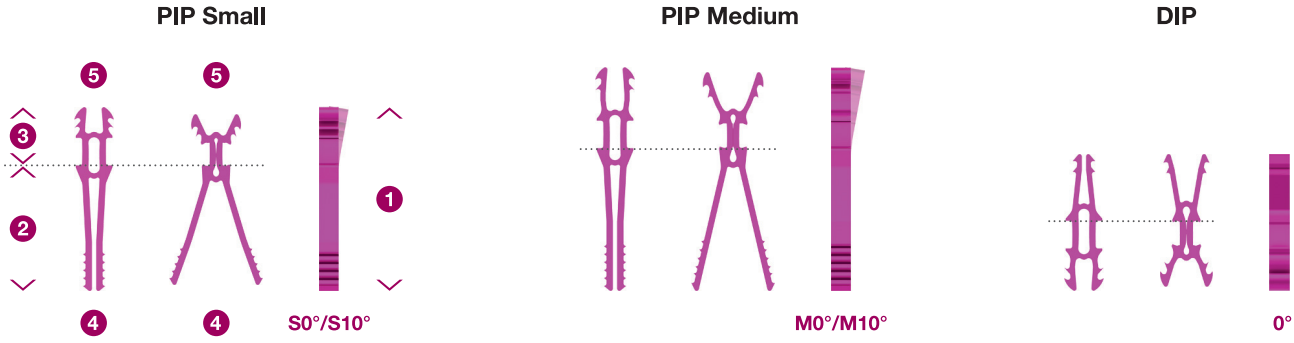
Interphalangeal gap reduction by impaction, anchorage due to press-fit fixation.

High mechanical resistance.

No freezing. The implant may be used at ambient temperature.

Anodized pure titanium (Nickel free) - Radiopaque.

The Range



	Small	Medium	DIP
1 - Total Length	16 mm	20 mm	12 mm
2 - Proximal Length	11 mm	13 mm	6 mm
3 - Distal Length	5 mm	7 mm	6 mm
4 - Initial / Final Proximal Opening*	2 / 8 mm	2 / 8.5 mm	3.5 / 4.0 mm
5 - Initial / Final Distal Opening*	3.5 / 5.5 mm	3.5 / 4.5 mm	2 / 5 mm

** Maximum Opening.*

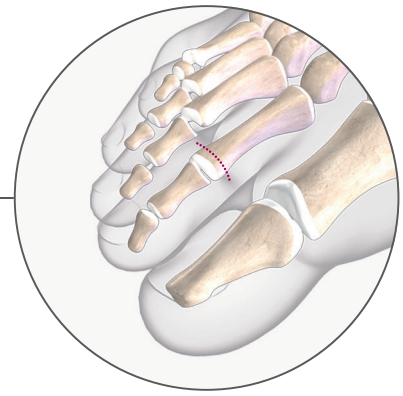
Surgical Technique

This document provides technical guidance for the proper usage of the Lync Hammertoe implant, however Novastep does not recommend this or any other surgical technique.

Proximal Inter-phalangeal Arthrodesis

1 - Approach

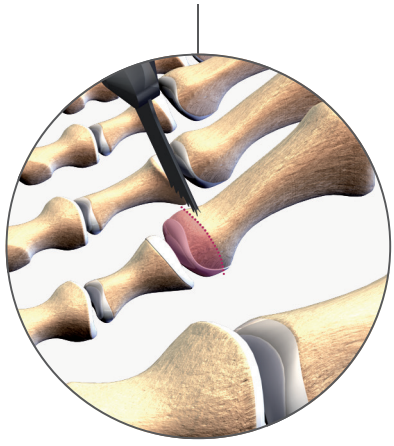
Make a transverse incision to expose the joint. The extensor is cut transversely, leaving a distal central strip free. Dorsal arthrolysis is performed by cutting the internal and external ligaments. A plantar flexor tenolysis procedure may also be utilized.



2 - Preparation of the Proximal Phalanx (P1)

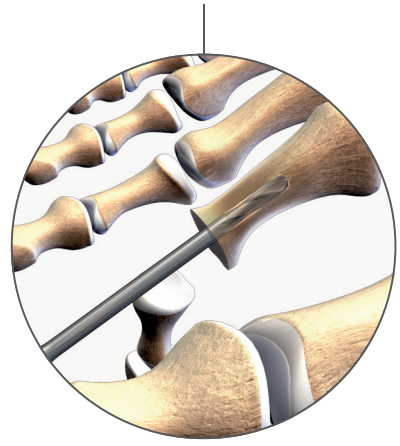
2.1 - Resect the proximal phalangeal head with an oscillating saw (about 2-3 mm).

The plantar plate and the lateral ligaments may be released with a periosteal elevator or with a cutter to facilitate joint distraction.



2.2 - Prepare the proximal phalangeal canal using the drill bit. Drill until the cutting flutes are buried into the bone fragment.

Note: In case of narrow canal, the drill bit may be used in a reciprocating fashion to widen the pathway.

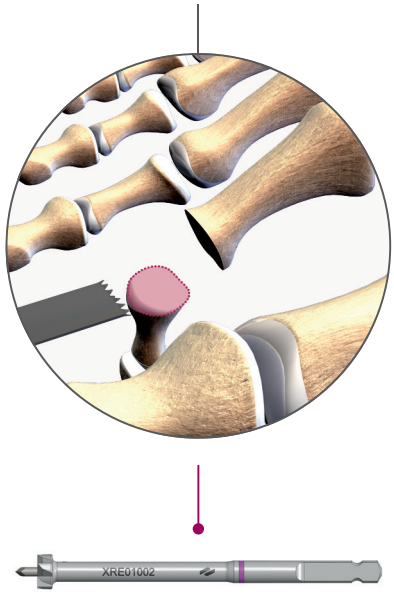


Surgical Technique

3 - Preparation of the Distal Phalanx (P2)

3.1 - Minimally resect the distal phalangeal head.

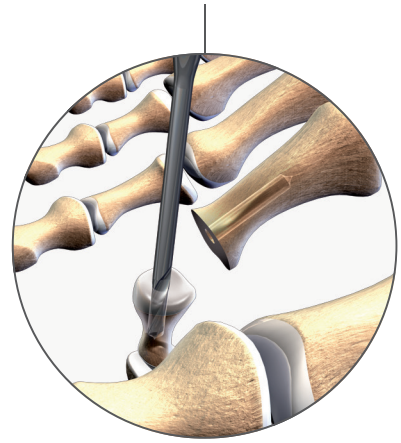
Optional: *it is also possible to manually denude the cartilage using the provided Surfacing Reamer.*



Surfacing Reamer

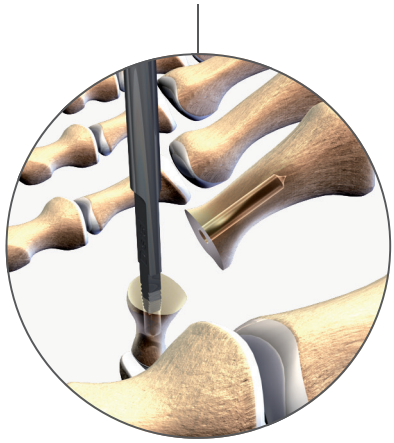
3.2 - Prepare the proximal phalangeal canal using the drill bit.

Note: In case of narrow canal, the drill bit may be used in a reciprocating fashion to widen the pathway.



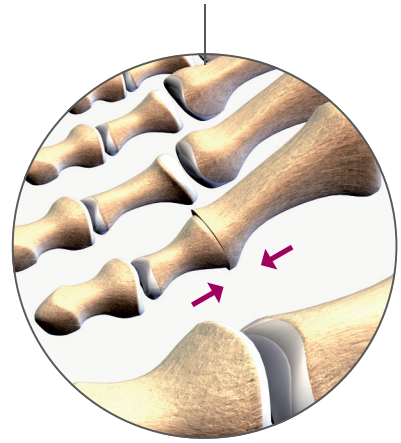
3.3 - Finalize the medullary canal preparation by making a reciprocating movement with the rasp until the rasp shoulder is flush with the plane of the resected bony surface.

Note : To avoid creating an oversized medullary canal, do not use the rasp in the proximal phalanx.



Shoulder **Rasp**

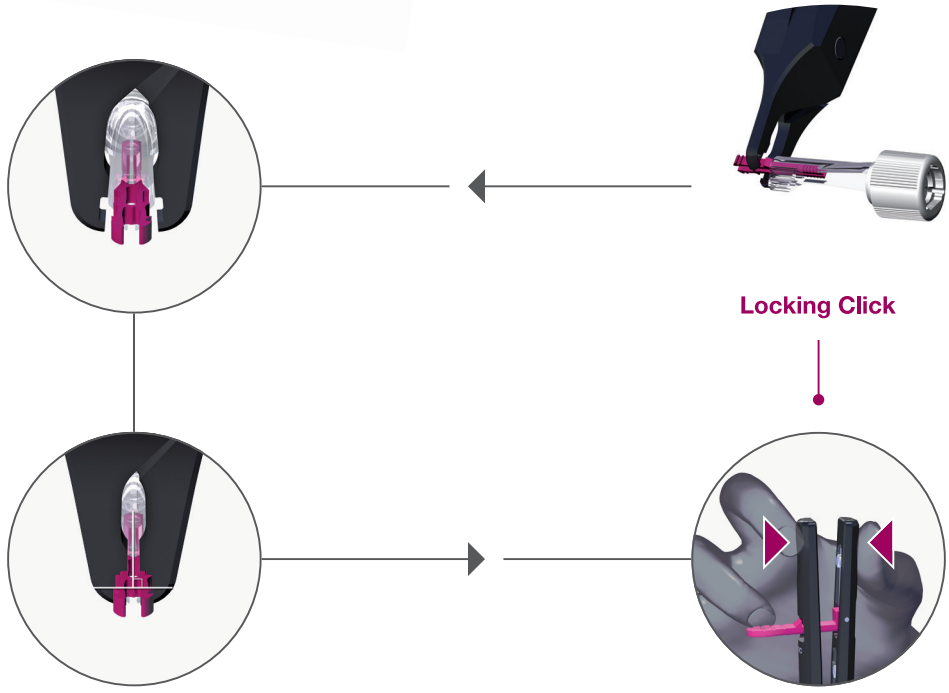
3.4 - Check to ensure proper joint surface contact.



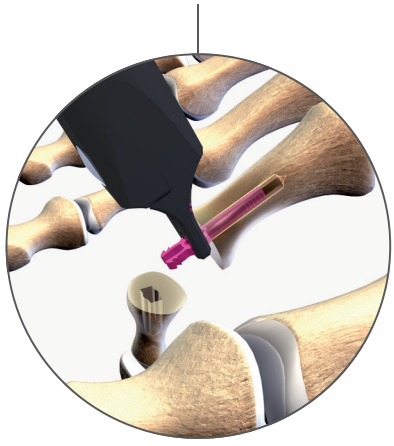
Surgical Technique

4 - Implant Insertion

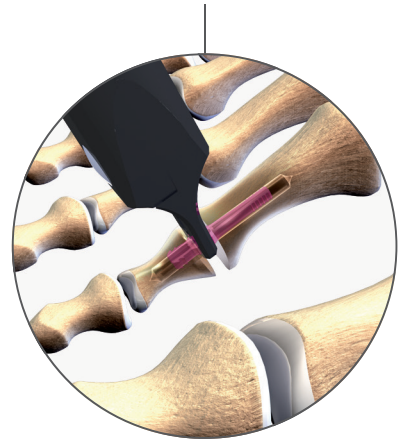
4.1 - After opening the tube, capture the implant by positioning the tip of the forceps on the oval flats of the Lync and ensure that the implant is situated at 90° with respect to the instrument in all planes. Press on the forceps handles until you hear a click to lock the implant in place. Remove the Lync from its polyethylene holding clip with a gentle twist and pull.



4.2 - Insert the implant into the proximal phalanx until the forceps touch the bony surface. Do not remove the forceps at this stage of the insertion.

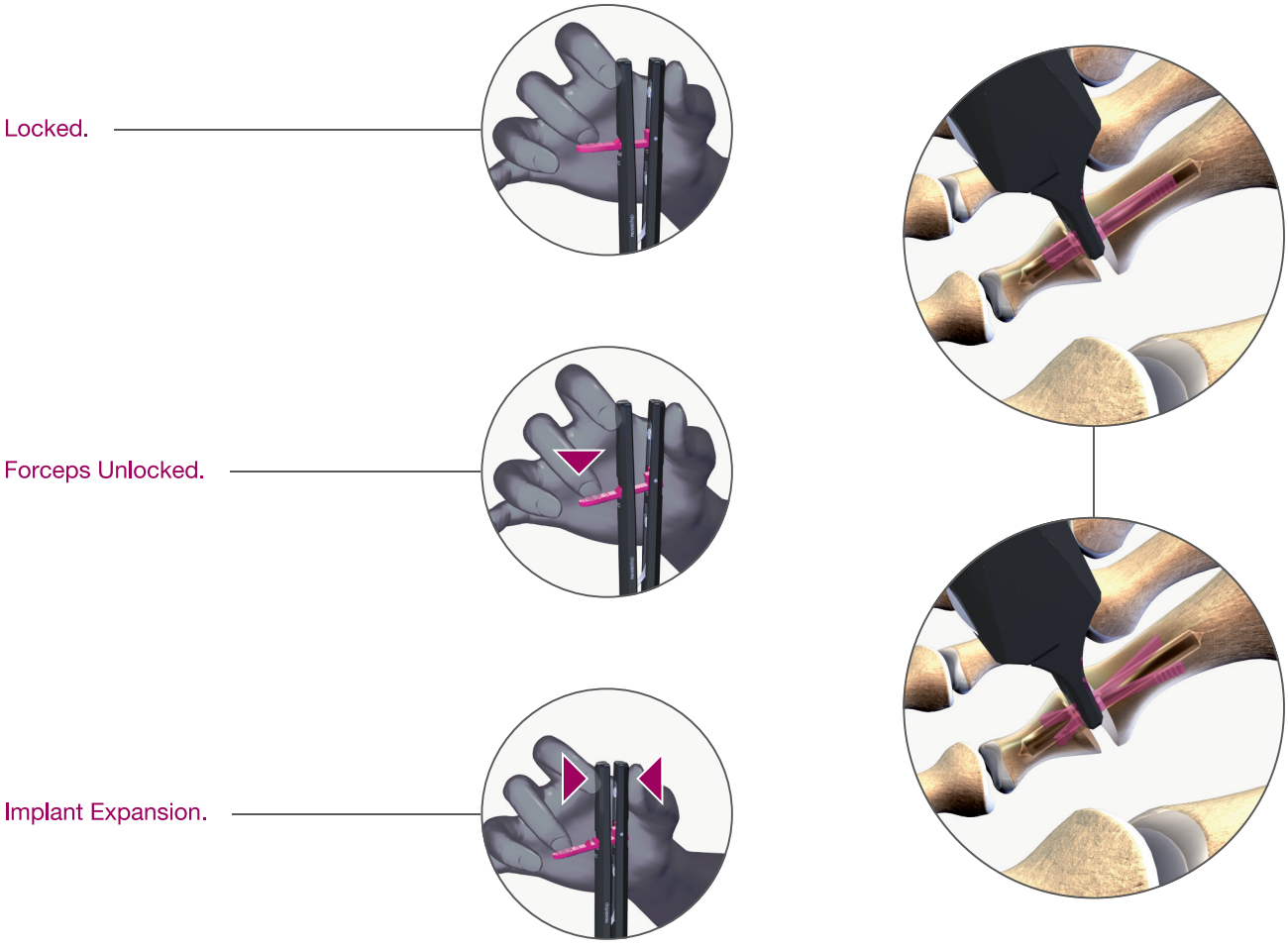


4.3 - Slide the distal phalanx back on to the distal implant legs. Maintain the forceps in position.



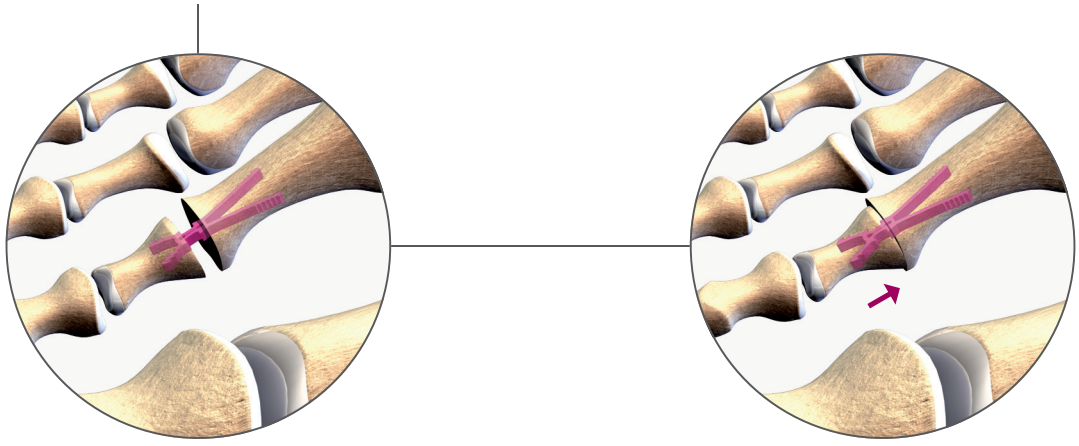
Surgical Technique

4.4 - To ensure proper anchorage, spread the proximal and distal legs of the implant by depressing the purple forceps lever while simultaneously closing the forceps handles. The notched grooves on the implant legs will engage with the inner walls of the medullary canal to achieve stable primary fixation.



5 - Implant Impaction

Remove the forceps from the implant and manually compress the middle and proximal phalanges. The implant will now be fully anchored by press-fit in the intramedullary canal.

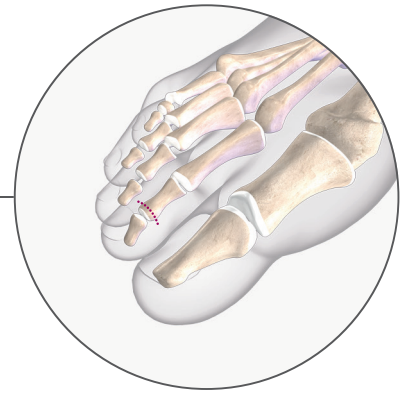


Surgical Technique

Distal Inter-phalangeal Arthrodesis

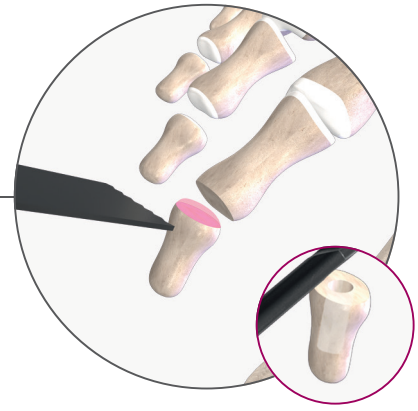
1 - Approach

Make a transverse incision to expose the joint. The extensor is cut transversely leaving a distal central strip free. Dorsal arthrolysis is performed by cutting the internal and external ligaments. A plantar flexor tenolysis procedure may also be utilized.



2 - Preparation of the Distal Phalanx (P3)

Resect the distal phalangeal head to reach the cancellous bone (about 1 mm). Prepare the distal phalangeal canal using the drill bit.

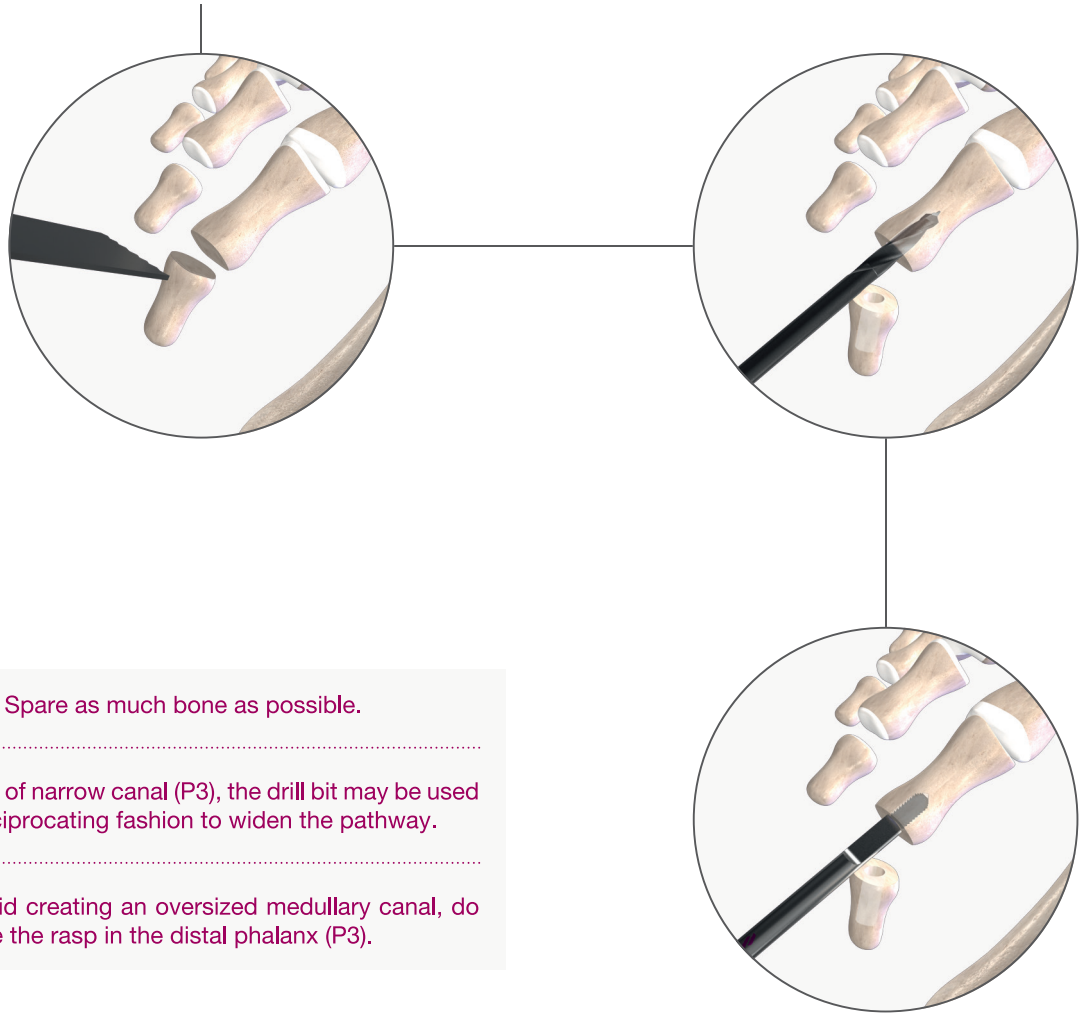


Note: Take care to keep as much bone as possible. In case of narrow canal, the drill bit may be used in a reciprocating fashion to widen the pathway.

Surgical Technique

3 - Preparation of the Middle Phalanx (P2)

Resect the middle phalangeal head with an oscillating saw (about 2 mm). Release of the plantar plate and the lateral ligaments facilitates joint distraction. Prepare the medullary canal for implant insertion by creating a pilot hole with the drill bit and then use the rasp to finalize the opening by pushing it through the canal, using a reciprocating movement, until the rasp shoulder is flush with the plane of the resected bony surface.



Notes: Spare as much bone as possible.

In case of narrow canal (P3), the drill bit may be used in a reciprocating fashion to widen the pathway.

To avoid creating an oversized medullary canal, do not use the rasp in the distal phalanx (P3).

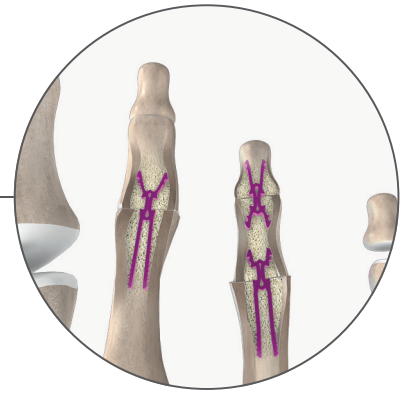
Surgical Technique

4 - Implant Insertion

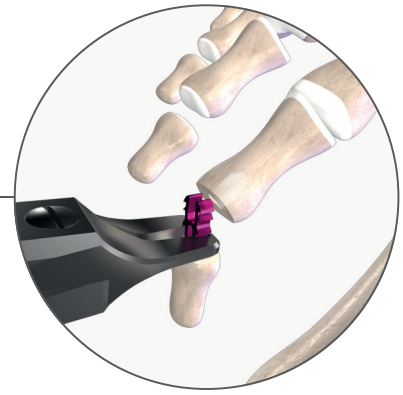
After opening the tube, grasp the implant using the Lync forceps *(Steps specified under the Proximal Interphalangeal Arthrodesis heading - Section 4, Section 4.1).*

Note: Ensure that the implant is situated at 90° with respect to the instrument in all planes.

ATTENTION - Positioning of the Distal Interphalangeal Implant (DIP) is reversed in relation to the Proximal Interphalangeal Implant (PIP). Be sure to insert the narrower legs of the DIP implant on the distal side (P3) and the wider legs into the middle phalanx (P2).



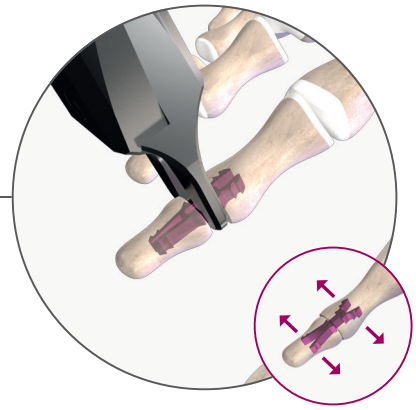
4.1 - Insert the implant into the distal phalanx (P3) until the forceps touch the bony surface. Do not remove the forceps at this stage of the insertion.



Surgical Technique

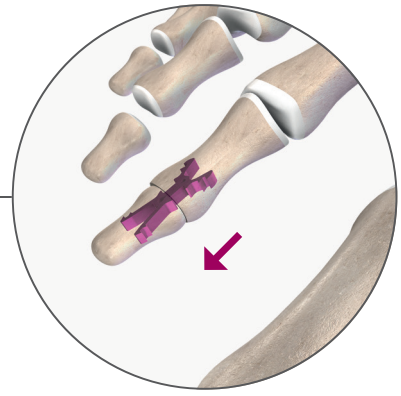
4.2 - Slide the medial phalanx (P2) back on to the shorter implant legs. Maintain the forceps in position.

To ensure proper anchorage, spread the proximal and distal legs of the implant by depressing the purple forceps lever while simultaneously closing the forceps handles *(Steps specified under the Proximal Interphalangeal Arthrodesis heading - section 4, paragraph 4.4)*. The notched grooves on the implant legs will engage with the inner walls of the medullary canal to achieve reliable fixation.



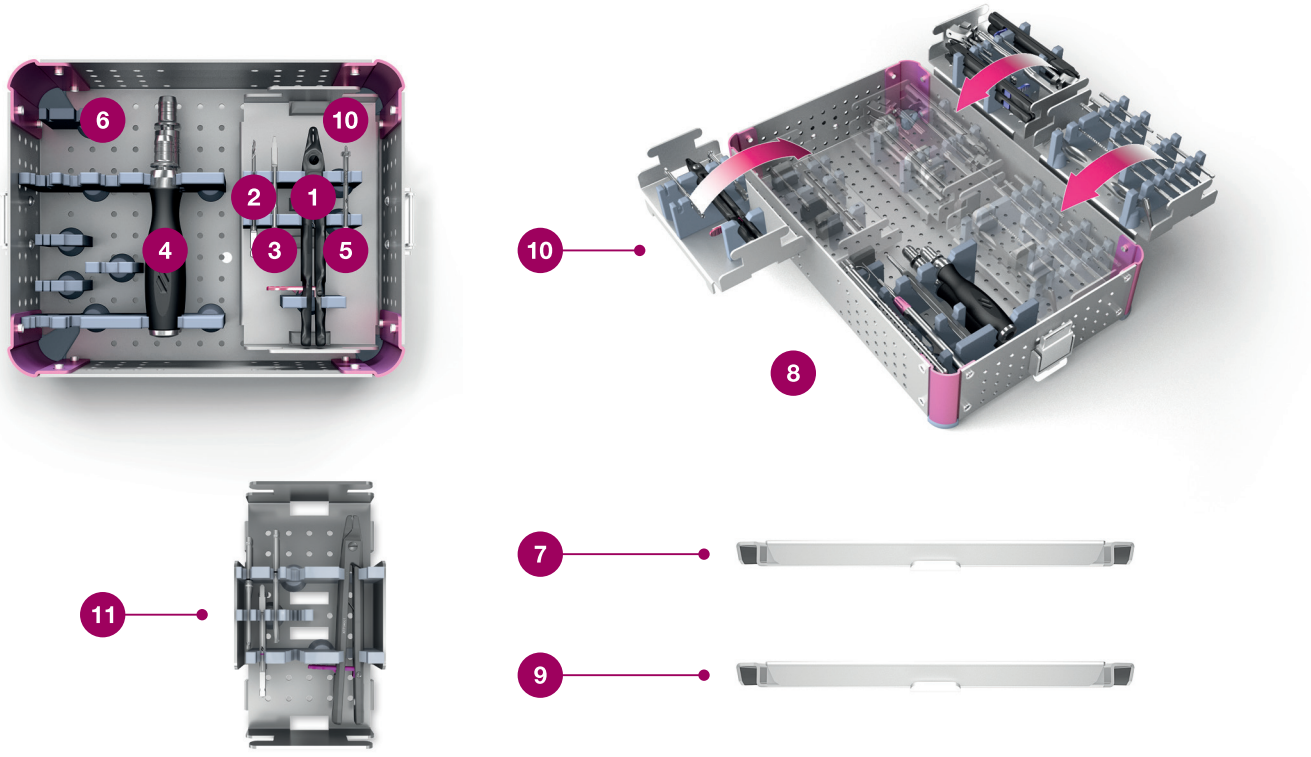
5 - Implant Impaction

Remove the forceps from the implant and manually compress the distal (P3) and the medial (P2) phalanges. The implant will now be fully anchored by press-fit in the intramedullary canal.



References

Forefoot EXACT & Forefoot COMPLETE: Modular Platform



Lync (Package Sterile)

	Reference Number	Designation
	CM010030	S0° - Straight
	CM010031	S10° - Bent
	CM010010	M0° - Straight
	CM010011	M10° - Bent
	CM010040	DIP - Straight

Instrumentation

Number	Reference Number	Designation
1	XFP04001	Lync Forceps
2	XDB01003	Lync Drill Bit Ø 2.3 mm
3	XRA01002	Lync Rasp
4	XHA01001	AO Handle

References

Instrumentation (suite)

Number	Reference Number	Designation
5	XRE01002	Lync Re-surfacing Reamer - Optional
6	ACC1001P0008	ForefootEXACT Tray
7	ACC1001P0007	ForefootEXACT Tray Lid
8	ACC1001P0001	ForefootCOMPLETE Tray
9	ACC1001P0002	ForefootCOMPLETE Tray Lid
10	ACC1001P0004	Lync Module
11*	ACC1001P0015	Module Lync - Nexis - Static Staple

** ForefootEXACT may be configured with the Lync & Nexis module.*

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Hammertoe Correction

CAUTION: Federal (USA) law restricts this device to sale by or on the order of a surgeon. Rx only.

This document is intended solely for the use of healthcare professionals. This technique was developed in conjunction with healthcare professionals. A surgeon must always rely on his or her own professional clinical judgment when deciding whether to use a particular product when treating a particular patient. Novastep does not dispense medical advice and recommends that surgeons be trained in the use of any particular product before using it in surgery. The information presented is intended to demonstrate a Novastep product. A surgeon must always refer to the package insert, product label and/or instructions for use, including the instructions for Cleaning and Sterilization (if applicable), before using any Novastep product.

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