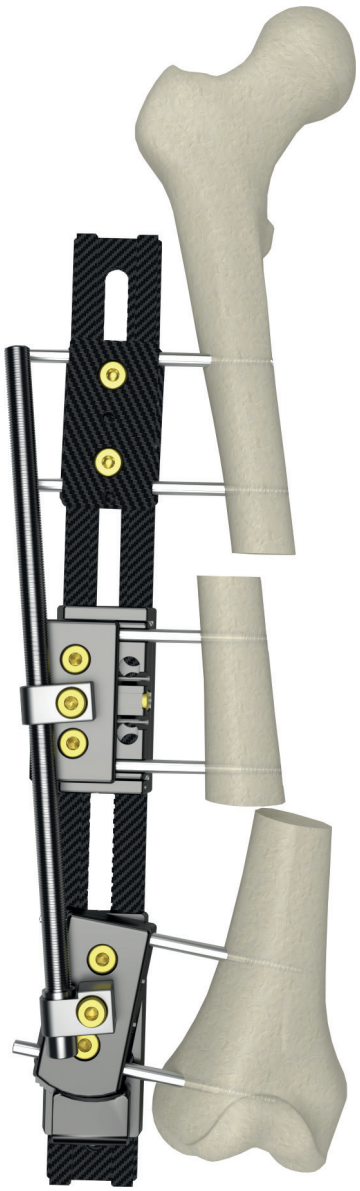
UNIX®

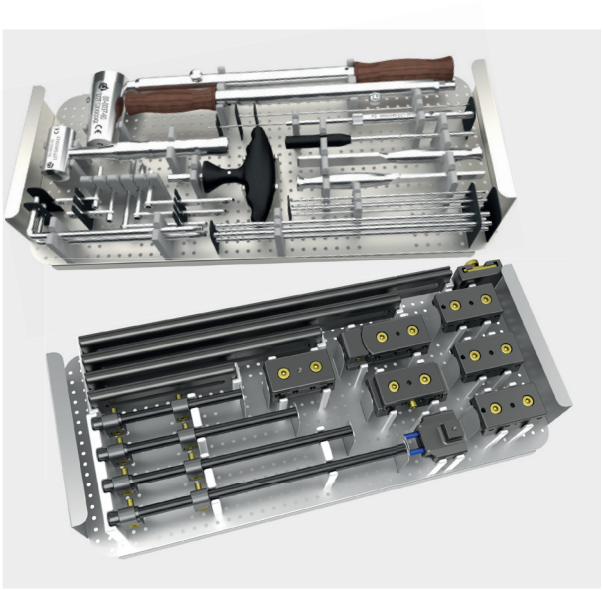
Rail Fixator System



RESPONSE ORTH

Response Ortho is a global
orthopaedic trauma solutions manufacturer
offering premium products
created under its founding principles of
innovation, excellence by design

RESP ORTH NSE



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Introduction

The UniX® Rail Fixator System is a modular unilateral external fixator designed for the gradual or acute correction of angular and translational deformities, limb length discrepancies, and bone transport procedures. Its modular structure provides maximum flexibility and is compatible with other components of the UniX® Fixator Family as well as the Smart Fixator® - Hexapod.

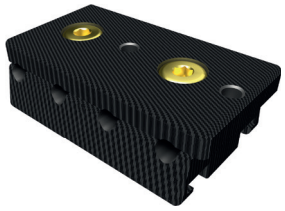
This cross-system compatibility allows UniX® to function as part of one of the most comprehensive deformity correction platforms available for unilateral applications.

The UniX® Rail Fixator System is available in two configurations to accommodate both pediatric and adult patients. Components are manufactured from aluminum to ensure lightweight, stable constructs that improve patient comfort and minimize body contour extension.

Additionally, a version with carbon fiber rail and standart clamp are available, offering further weight reduction and enhanced radiographic visualization for intraoperative and postoperative imaging.

System Components

Double Distractor Connection Clamp

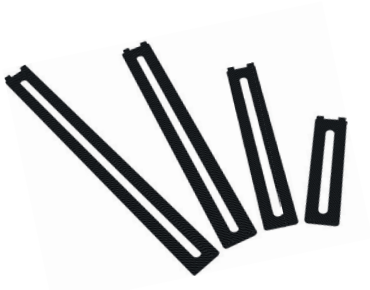


- Available in aluminum and carbon fiber* versions
- Allows connection of two Gradual Distractors for bifocal applications

Gradual Angular Correction Clamp

- Allows for incremental angular corrections up to 50˚ (±25˚ from neutral)
- Clamp offers four equidistant half pin slots
- 1˚ correction can be achieved by ¼ turn of the angular adjustment bolt
- Clamp can be utilized for acute or gradual correction
- The center of rotation is at the center of clamp

Rails



- Multiple rail lengths; 100mm, 150mm, 250mm and 350mm for pediatric patients and 150mm, 250mm, 350mm, 420mm for adult patients
- Available in Aluminum and CarbonFiber* versions.

Translation Clamp

- Offers up to 20mm of medial/lateral translation (±10mm from neutral)
- Allows extensive lengthening where translation is common during varus deformity correction
- Provides translation in the plane of the half pins

Angular Adjustment Clamp

- Allows angular half pin application
- Clamp can be utilized for acute correction
- Serrated surface provides stability

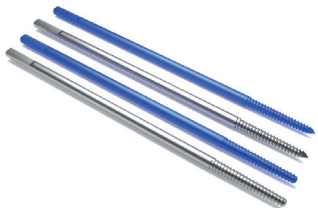
Gradual Distractors

- Available in 5cm, 10cm, 15cm, 20cm working lengths
- Durable rod structure for stronger resistance against shear forces
- Allow for gradual compression / distraction
- 1mm correction can be achieved by 1 turn of the rod
- Made of titanium for lightweight construction

Dynamization Component

- Variable Micro-motion
- Stimulates Bone Regeneration

Half pins



- Tapered Pins allow better bone purchase
- Trocar or Blunt Point Pins offer fast or drill first application
- HA Coated Pins are suggested for better bone integration in long term applications
- All type of pins are available in titanium or stainless steel

Hybrid Components

Ring Adapter

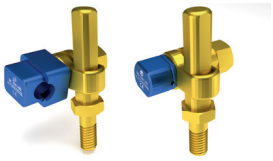
- Ring adapter allows for direct adaptation to circular and/or foot rings
- 1/3 Ring with Advanced Pin Clamp is utilized to achieve versatile pin placement in proximal femur applications
- 2/3 Ring can be utilized with Advanced Pin Clamp to provide stabilization in a more versatile manner
- Supports to connect C/D unit

Rings

- Low profile design with aircraft grade aluminium material
- All ring holes are numbered
- Numbered holes to follow the frame
- 1/3 and 2/3 rings are for proximal femur and/or periarticular applications
- Ring connector for constructing full ring from with 1/3 and 2/3 rings
- Available in Aluminum and CarbonFiber* versions.

** The Carbon Fiber version of the products are 40% lighter than the Aluminum version (Test report available in company records)*

Advanced Pin and Advanced Wire Clamps



- Allows desired positioning (0-3cm adjustable height, 2 planes of angulation over the ring)
- Advanced wire clamp secures 1.6mm, 1.8mm and/or 2.0mm diameter wires
- Advanced pin clamp secures 4.5 & 6mm pin shaft
- Titanium material
- Helps to follow pin first method

Easylock Pin Clamp

- 1 hole to 5 holes lenght options are available
- Secures a 6mm pin with a single bolt
- Stronger fixation over the bone
- Easier to use than a rancho cube
- Very low profile design

Wires

Customer choice:

- Bayonet or trocar point wires
- Straight or olive wires for regular or reduction applications
- 1.6mm, 1.8mm or 2.0mm diameter wires are for different extremity or patient requirements
- Titanium or stainless steel

Supplemental Rod and Connector

- Used to construct “Delta” or triangular frames for hybrid applications
- Available in Stainless steel and carbon fiber
- 6mm rods in short (110mm) and long (300mm) sizes

Indications

The UniX® Rail Fixator System is a unilateral fixation device intended for use in;

- Orthopaedic reconstructive procedures including limb lengthening
- Corrective osteotomies
- Arthrodesis
- Fracture fixation
- Acute or gradual multiplanar correction
- Other bone conditions amenable to treatment with external fixation

Disclaimer

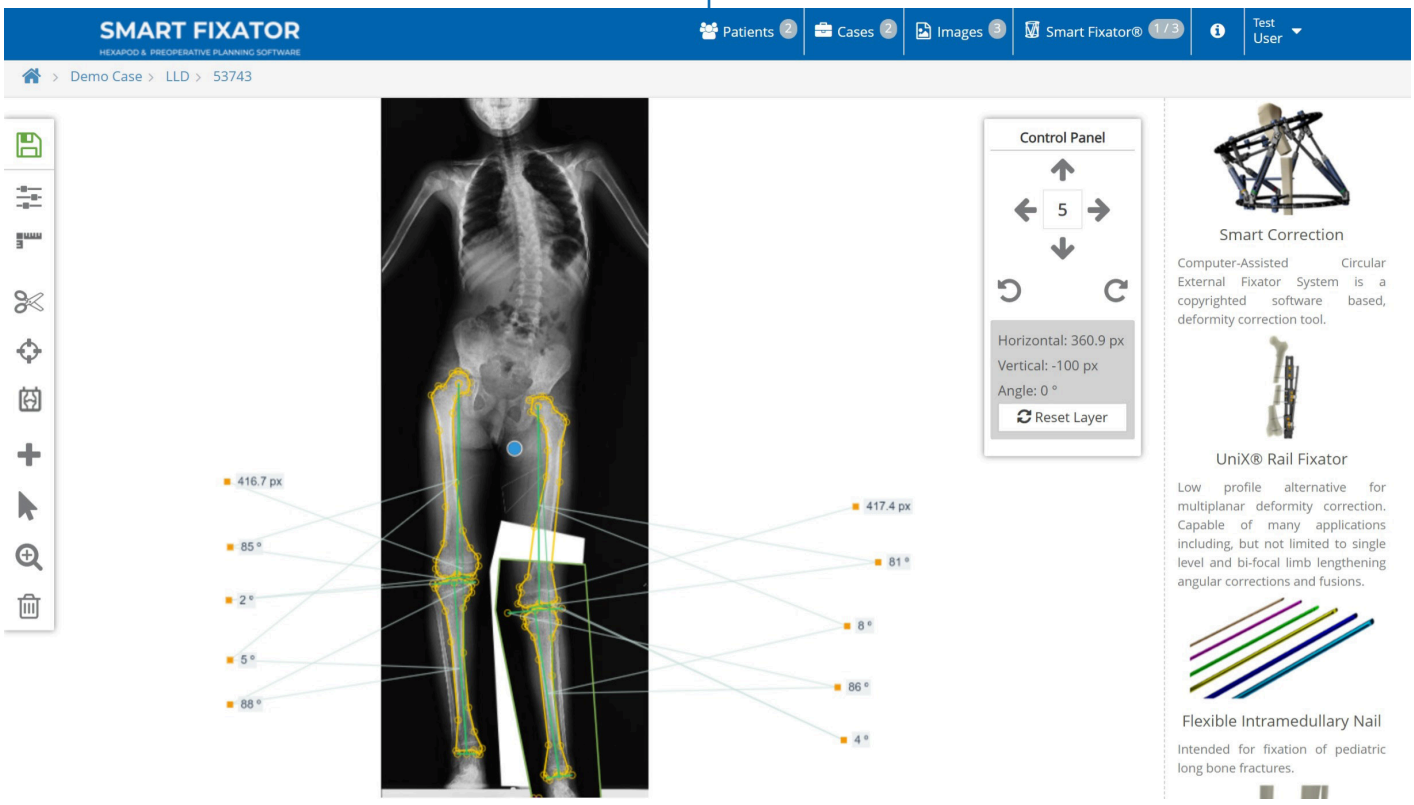
The UniX® Rail Fixator should only be used by a suitably qualified and experienced physician.

Deformity Planning

All data obtained via clinical examination and radiographic images should be carefully evaluated as part of the surgical planning.

Deformity correction surgery is a complicated process requiring several coordinated steps; determination of the level(s) of osteotomy/ osteotomies in the affected bone segments according to anatomic axis planning and CORA planning using joint orientation lines, planning of the appropriate rail components and their locations.

Smart Fixator® (www.SmartFixator.com) software includes a webbased pre-operative planning module. It can be used to simulate the surgery and to determine the provisional and final position of the bone segment, osteotomy levels and external fixation/ bone pins applications.

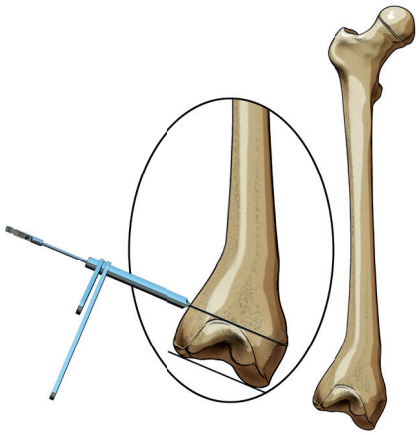


Surgical Technique

The following technique will describe the standard application of the UniX® Rail Fixator System for a straight lengthening procedure of the femur. Single level lengthening can be achieved using the UniX® Rail Fixator System with two clamps. Prior to the insertion of any half pin the precise parallel relationship between the rail and the mechanical axis of the bone should be established. This can be accomplished by inserting k-wires into the bone through the designated hole on the clamps.

Rail positioning is confirmed and the half pin positions are marked. The k-wires may then be removed to facilitate freehand placement of the first half pin. For lengthening procedures, initial half pin insertion should alternate between proximal and distal clusters to allow for accurate sagittal alignment of the rail with the axis of lengthening.

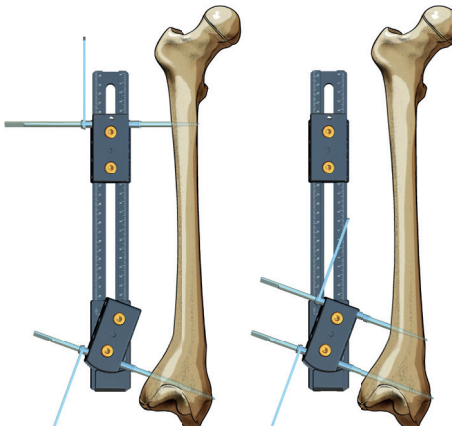
It is recommended that the first half pin is the one that is placed in closest proximity to the joint (when operating on a femur, the most distal half pin should be placed parallel to the joint, when operating on a tibia the first half pin to be placed should be the most proximal half pin).



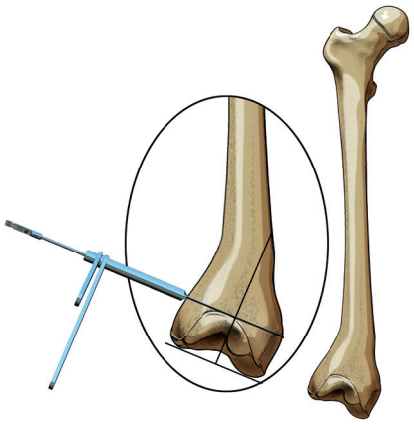
The second half pin is recommended to be the furthest away from the position of the first half pin. This approach will help to ensure that all of the remaining bone pins are aligned correctly. In cases where a deformity exists, it is recommended that the first pin(s) is inserted perpendicular to the segment where the deformity exists and parallel to the adjacent joint.

This decision should be based on:

1. Anatomical considerations
2. Level of desired osteotomy
3. Presence of deformity



A 1cm incision is made and blunt dissection is continued down to bone. The trocar and appropriate length soft tissue guide are then utilized to identify the center of the bone and to establish the orientation of the half pin. Half pin insertion should be perpendicular to the mechanical axis.



Once the pin site is selected, hold the drill guide in the non-dominant hand and use gentle pressure

to maintain contact between the soft tissue guide and the cortex of the bone while marking the bone with the trocar, prior to drilling. Insert the appropriate drill guide into the soft tissue guide.

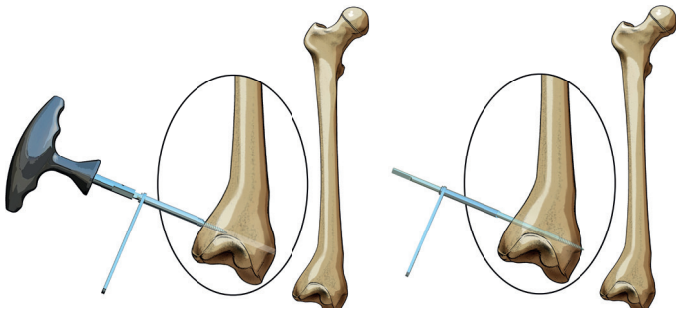
Note:

Drill Guide	Drill Bit	Half pin
4.8mm	4.8mm	6.0mm Cortical
3.2mm	3.2mm	6.0mm Cancellous
3.2mm	3.2mm	4.5 mm Cortical

Half pin diameter should not exceed 1/3 of the diameter of the bone.

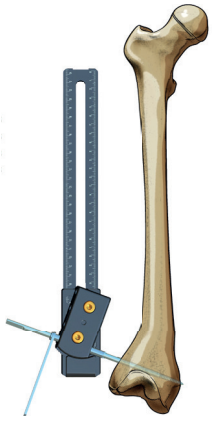
Insert the matching drill bit into the drill guide. After bi-cortical penetration of the bone, the drill bit and drill guide are withdrawn. Maintain contact and position of the soft tissue guide to prevent losing the predrilled hole. If the position of the pin hole is lost, a 2.0 k-wire can be inserted in the soft tissues to locate the hole. The soft tissue guide can then be placed over the k-wire and the position re-established.

The appropriate size and length of half pin is inserted through the soft tissue guide. The half pin T-wrench is used to advance the pin. To obtain optimal purchase, all half pins must be bi-cortical with no less than 2mm of thread protruding beyond the far cortex and 5mm remaining outside the near cortex. Image intensification is utilized to confirm depth of penetration. Care must be taken to avoid over penetration. Due to the tapered design, once a half pin is inserted, it must not be backed out or it will lose purchase.

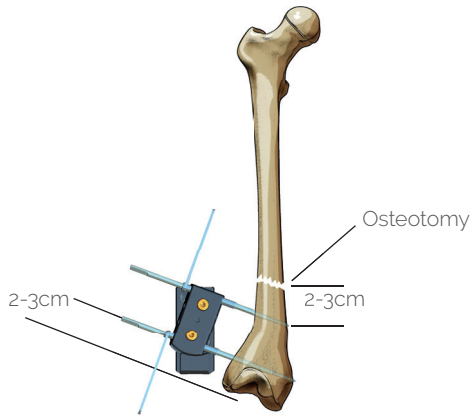


The half pin wrench is now removed and the clamp can now be applied to the patient using the first half pin in place as a reference point. The appropriate rail size and clamps should be applied to the rail taking into account the desired spacing between the clamps and the osteotomy.

The clamp covers on the selected rail clamps should be loosened to allow the necessary soft tissue guides to fit into the half pin slots. Once the soft tissue guides are in place, the clamp covers should be tightened to prevent the soft tissue guides from falling out of the clamp during the remainder of the procedure. The fixator is now ready to serve as a template assuring the half pins will be positioned according to the appropriate spacing and angle in relation to one another.



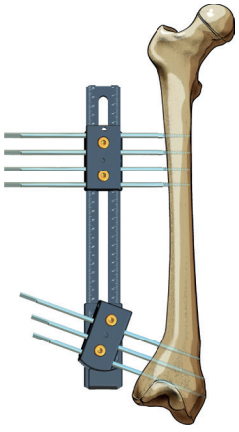
The UniX® Rail Fixator System is then connected to the half pin and soft tissue guide. Soft tissue guides must remain in all half pin slots where half pins will be used. Removal of a soft tissue guide before all half pins are inserted into the bone will alter the predetermined spacing between the half pins. This will result in the half pins not fitting properly in the clamps. Always use soft tissue guides and never remove any prior to completion of inserting all half pins.



Drilling and half pin insertion in the second clamp can proceed in the same manner as performed for the first half pin, making sure bi-cortical penetration is achieved. Once appropriate alignment is secured, subsequent half pins are inserted into both proximal and distal clamps, alternating half pin insertions between clamps .

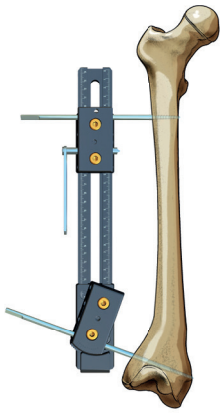
Stability is also improved by using three half pins in each half pin clamp and moving the frame as close to the skin as possible (while still maintaining a safe acceptable distance for half pin hygiene).

After all half pins have been inserted, the soft tissue guides should be removed from the clamps and definitively tightened to the half pins allowing 2-3cm between the skin and the fixator for subsequent half pin hygiene..



Once the half pins have been inserted and the frame has been assembled, the corticotomy incision is made according to surgeon preference. This may be via pre-drilling with a 3.2mm drill bit and corticotomy with a small osteotome, or gigli saw. Care should be taken to avoid damaging neurovascular structures as well as breaking off any small fragments of bone.

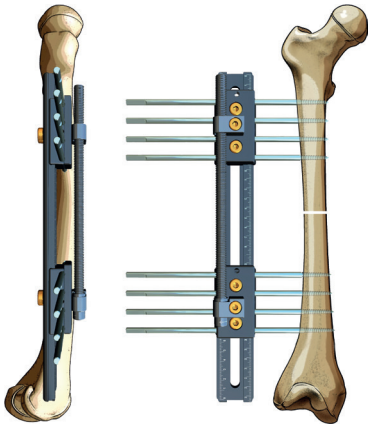
The soft tissue guide and drill guide can be locked into the most distal seat of the proximal half pin clamp. This will ensure proper positioning of the rail in the medial/lateral plane as it relates to the axis of lengthening. Failure to do so will predetermine the position of the rail and may affect the relationship of the rail to the desired lengthening access.



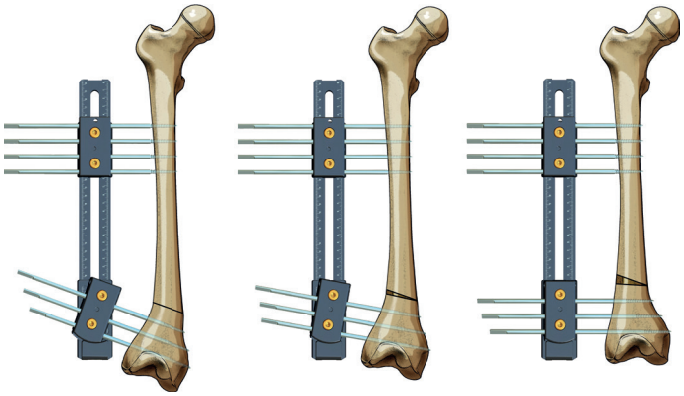
It is important to remember that increased stability of the frame can be achieved through increasing the distance between the half pins within the same clamp (i.e. using the #1 and #4 position on the clamp). Using the fixator as a template, the rail may be slid along the clamp to obtain optimal positioning for half pin insertion. To maximize stability, the clamps should be in close proximity to the level of the osteotomy, although never closer than 2-3cm to any half pin.

The UniX® Rail Gradual Distractor Unit is then attached to the clamps using the 5mm wrench. With one clamp definitively locked to the rail and the lengthening clamp loose, the frame

is distracted to ensure completeness of the corticotomy.



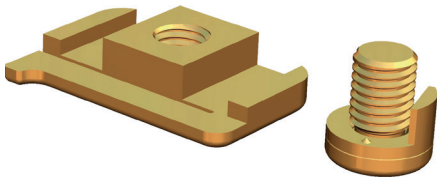
Completeness should also be verified fluoroscopically. Plain radiographs in the OR can be taken in order to ensure that the mechanical axis of the bone and fixator are parallel.



Application of the Rail Dynamization Component

1. Rail Dynamization Component

The rail dynamization component comes in two pieces, a rail locking bolt (identical to the rail locking bolt used for the rail clamps), and the dynamization component. The dynamization component is straight on one side and semicircular on the remaining three sides. The straight side has a raised 2mm lip which allows for the 2mm of dynamization the device will provide to the rail fixator. The straight side of the dynamization component is intended to sit flush against the clamp. The underside of the dynamization component is raised to serve as a key for the beam slot of the rail.



Please note: The adult rail dynamization component can NOT be used for the pediatric rail, and the pediatric rail dynamization component can NOT be used to dynamize the adult rail.

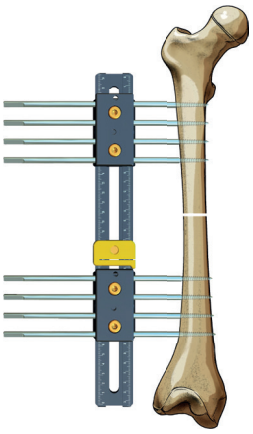
2. Dynamization

The rail dynamization component has been designed to allow up to 2mm of micro-motion in the axial plane. For the dynamization component to allow for a full 2mm of dynamization, 30Kg (15Kg for the Paediatric) of weight bearing pressure is required. Due to its design the component can be placed on the rail at any given point. In order to apply the dynamization component the locking bolt must be removed.

3. Placement

The dynamization component is placed on the rail above the loaded clamp assembly. In the illustrated case, the distal clamp will be loaded. The lip on the straight side of the dynamization

component must be flush against the proximal end of the distal clamp.



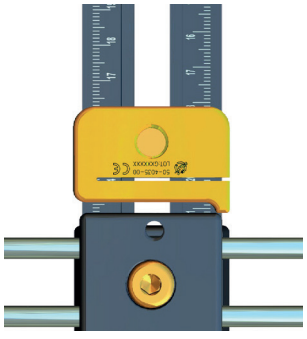
Correct placement of dynamization unit to prevent potential shortening or collapse

3.1. Rule #1

The determining factor in the placement of any dynamization component is prevention of undesired shortening or collapse. The dynamization component must be placed on the side where shortening could potentially take place. When attempting to dynamize a bifocal configuration, segmental, or any other complex rail configuration you must apply the principles of rule #1 stated in the first line of this paragraph.

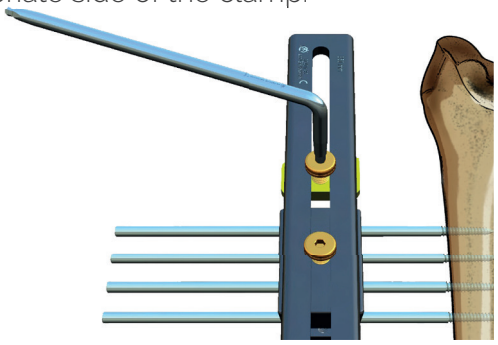
3 2. Rule #2

Any space between the dynamization component and the clamp must be removed to prevent instability of the fracture site. The rail dynamization component is positioned on the frame with its key recessed into the center beam of the rail. This will allow the dynamization component to sit flush against the rail.



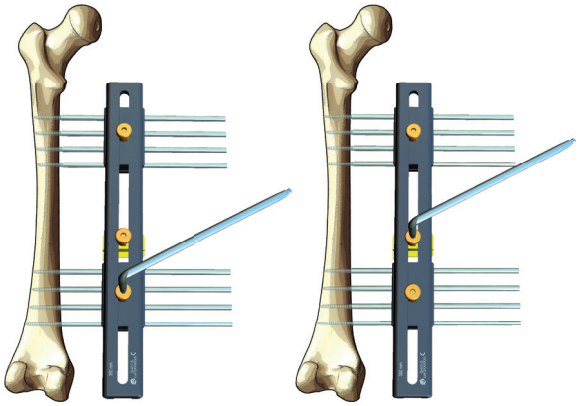
4. Securing The Dynamization Component

Upon reaching satisfactory placement, now replace the locking bolt into the back of the dynamization component, as you would for any clamp.. Before tightening the locking bolt, check to make sure that the 2mm lip is flush against the appropriate side of the clamp.



5. Final Step In Application

After the dynamization component is locked in place, loosen the rail locking bolt on the distal clamp (see note). This will result in the clamp directly resting on the dynamization component. The clamp should not move at all until axial load is applied.



Suggestions;

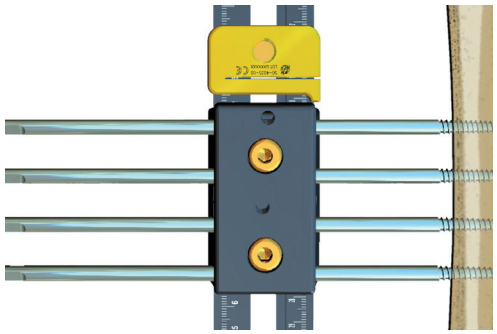
1. *In order to prevent the loss of the locking screw from the clamp, tape should be applied over the bolt to prevent the locking screw unscrewing itself.*
2. *Alternatively the locking screw can be removed all together and stored in a safe place for future use.*

6. Location

Location of the dynamization component (in the referenced example) is the same regardless of whether it is the small or adult rail system.

Please note that this application guide for the dynamization component is based on the following criteria:

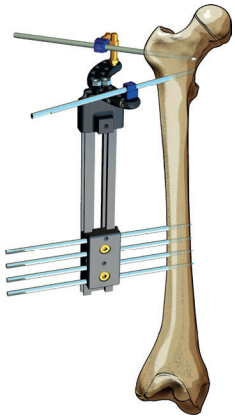
- Standard Lengthening Construct (One Rail, Two Clamps)
- The rail compression/distraction module has been removed



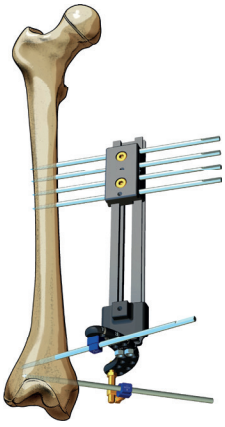
System Modularity

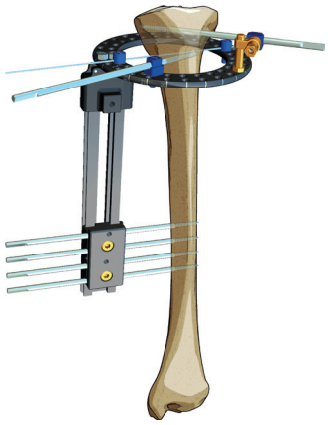
Providing Maximum Flexibility And Component Modularity In The Treatment Of Limb Lengthening, Angular Deformity And Bone Transport

1. 1/3 Ring with Advanced Pin Clamp is utilized allowing varied half pin placement on proximal femur applications.



2. Rail Fixator frame can be utilized with 2/3 and full rings on distal femur, proximal tibia, and distal tibia.





Rail to Ring connector allows use of 1/3, 2/3 and full rings.

Suggested Half Pin Care

The fixator and corticotomy should be compressed for a latency period of 5-10 days as appropriate. Once the inflammatory process of bone healing has subsided, the lengthening process can be addressed on a daily basis. In order to employ the gradual lengthening feature of the device, the frame should be distracted at a rate of four 1/4 turns per day (totaling 1mm per day). This is achieved by loosening the fixator clamp locking bolt on the lengthening clamp, while maintaining a definitive and locked position on the opposite clamp. The gradual distractor features a measured stop at each 1/4 turn to ensure precise distraction. Depending on patient age and quality of regenerate bone, distraction or compression can be adjusted (increased or decreased) to accommodate the patient's bone regenerative capacity.

Typically the lengthening process proceeds at 1mm of length per day. In conservative estimates, it usually takes three times as long for the bone to consolidate as it does to distract. For example, if 5cm of distraction is the surgical goal, the approximate length of fixator duration should take:

1. 7-10 days for latency period.
2. 50 days for distraction.
3. Roughly 150 days for consolidation:

totaling approximately 210 days. Patients should be monitored routinely to evaluate the lengthening process, regenerate bone formation, and half pin site hygiene.

Once length has been established, it is recommend that a dynamization unit is inserted in the rail construct. This component is placed proximal to the lengthening clamp to allow for elasticity and controlled micromotion of the clamp. Dynamization should lead to increased rates of consolidation.

Dry sterile gauze is wrapped around the shanks of the half pins to prevent pistoning of the soft tissues on the half pins. A solution of 2% hydrogen peroxide and sterile water should be used on the pin sites until the wounds have healed and sutures are removed. The patients are then instructed to shower on a daily basis using an antibacterial soap and water as a means for routine half pin hygiene.

Clinic Visits and Post-Op Monitoring

Pin sites should be monitored during subsequent clinic visits. All fixator fittings should be evaluated for tightness during subsequent clinic visits. Antero-posterior and lateral x-rays with the knee extended and the patella forward should be obtained weekly during the correction to assure patient compliance and proper usage of the distraction device.

Who ever performs any implant procedure is responsible for determining and utilizing the appropriate techniques for implanting the device in each individual patient.

Response Ortho, and their surgical consultants are not responsible for selection of the appropriate surgical technique to be utilized for an individual patient.

00-9069-02	UniX Rail Fixator Kit*	
00-8109-02	UniX Rail Fixator Case	1
50-4021-05	UniX Rail Gradual Distractor, 5cm	1
50-4021-10	UniX Rail Gradual Distractor, 10cm	1
50-4021-15	UniX Rail Gradual Distractor, 15cm	1
50-4021-20	UniX Rail Gradual Distractor, 20cm	1
50-4011-15	UniX Rail, 150mm	1
50-4011-25	UniX Rail, 250mm	1
50-4011-35	UniX Rail, 350mm	1
50-4011-42	UniX Rail, 420mm	1
50-4012-15	UniX Rail, Carbon Fiber, 150mm	
50-4012-25	UniX Rail, Carbon Fiber, 250mm	
50-4012-35	UniX Rail, Carbon Fiber, 350mm	
50-4012-42	UniX Rail, Carbon Fiber, 420mm	
50-4033-00	Unix Rail to Ring Connector	1
50-4041-00	UniX Rail, Angular Correction Clamp	1
50-4042-00	UniX Rail, Translation Correction Clamp	1
50-4044-00	UniX Rail, Double Distractor Conn. Clamp	3
50-4044-00C	UniX Rail, Double Distractor Clamp, Carbon	
50-4045-00	UniX Rail, Angular Adjustment Clamp	1

** Carbon Fiber components are optional.*

00-9069-03	UniX Pediatric Rail Fixator Kit*	
00-8109-03	UniX Pediatric Rail Fixator Case	1
50-7011-10	UniX Pediatric Rail, 100mm	1
50-7011-15	UniX Pediatric Rail, 150mm	1
50-7011-25	UniX Pediatric Rail, 250mm	1
50-7011-35	UniX Pediatric Rail, 350mm	1
50-7012-10	UniX Pediatric Rail, Carbon Fiber, 100mm	
50-7012-15	UniX Pediatric Rail, Carbon Fiber, 150mm	
50-7012-25	UniX Pediatric Rail, Carbon Fiber, 250mm	
50-7012-35	UniX Pediatric Rail, Carbon Fiber, 350mm	
50-7044-00	UniX Ped. Rail, Double Dist. Conn.Clamp	3
50-7044-00C	UniX Ped. Rail, Double Dist. Clamp, Carbon	
50-7045-00	UniX Pediatric Rail, Angular Adj. Clamp	1
50-7041-00	UniX Ped. Rail, Ang. Correction Clamp	2
50-7042-00	UniX Ped. Rail, Translation Corr. Clamp	1
50-4021-05	UniX Rail Gradual Distractor, 5cm	1
50-4021-10	UniX Rail Gradual Distractor, 10cm	1
50-4021-15	UniX Rail Gradual Distractor, 15cm	1
50-7033-00	UniX Pediatric Rail to Ring Connector	1

** Carbon Fiber components are optional and aluminium should be ordered seperate*

00-9069-00	General Instrument Tray	
00-8109-00	External Fixator General Instrument Case	1
00-0013-90	Depth Gauge, 4.5/6.0mm Range 90mm Length	1
00-0022-00	Hammer (Light)	1
00-0037-60	Low Profile Rod Cutter, 6mm (modular handle)	1
00-0041-32	Drill Guide 3.2 mm	2
00-0041-48	Drill Guide 4.8 mm	2
00-0050-00	Trocar	1
00-0052-40	Soft Tissue Guide, 40mm	2
00-0052-60	Soft Tissue Guide, 60mm	2
00-0130-13	Osteotome, 13mm Blade	1
00-0130-19	Osteotome, 19mm Blade	1
00-2035-19	Allen Wrench, 5mm/190mm	2
00-2036-00	T-Wrench for Half pin	1
00-3321-20	Quick Release Drill, 3.2mm / 200mm	2
00-3323-20	Quick Release Drill, 3.2mm / 200mm, Cann.	2
00-3481-03	Quick Release Drill, 4.8mm / 280mm	2
00-3483-28	Quick Release Drill, 4.8mm / 200mm, Cann	2
00-7057-00	2.0mmx250mm Non- Threaded Guide Wire	4

00-9069-11	SC & Hybrid Ring Set (2/3 - Full Ring)	
00-8103-10	Smart Fixator & Hybrid Ring Tray	1
50-1012-10A	Dual Hole Full Ring, 105mm ID, Aluminium	2
50-1012-12A	Dual Hole Full Ring, 120mm ID, Aluminium	2
50-1012-13A	Dual Hole Full Ring, 135mm ID, Aluminium	4
50-1012-15A	Dual Hole Full Ring, 150mm ID, Aluminium	4
50-1012-16A	Dual Hole Full Ring, 165mm ID, Aluminium	6
50-1012-18A	Dual Hole Full Ring, 180mm ID, Aluminium	6
50-1012-19A	Dual Hole Full Ring, 195mm ID, Aluminium	4
50-1012-21A	Dual Hole Full Ring, 210mm ID, Aluminium	2

** The part numbers for carbon fiber rings end with 'C' instead of 'A'.*

Ordering Information

00-9069-01	**Smart Fixator and Hybrid Set**	
00-8109-01	Smart Fixator Case	1
50-1056-10	EasyLock Drill Guide	2
50-1056-11	EasyLock Pin Clamp, 1 hole	6
50-1056-12	EasyLock Pin Clamp, 2 hole	6
50-1056-13	EasyLock Pin Clamp, 3 hole	6
50-1056-14	EasyLock Pin Clamp, 4 hole	6
50-1056-15	EasyLock Pin Clamp, 5 hole	6
00-2050-10P	10mm Hex Bolt Wrench (ratchet), 90°	1
00-2050-10	10mm Hex Bolt Wrench (ratchet)	2
00-2050-13	13mm Hex Bolt Wrench	1
00-5020-00	Wire Plier	1
00-0034-40	Wire Cutter	1
00-0083-02	Wire Tensioner	2
00-2033-15T	T Allen Wrench, 3mm/150mm	2
50-1051-00	Washer	60
50-1042-30	Advanced Pin Clamp	10
50-1042-00	Standard Pin Clamp	15
50-1041-30	Advanced Wire Clamp	10
50-1041-00	Standard Wire Clamp	17
50-1053-12	Connection Bolt, Short, 12mm	20
50-1053-16	Connection Bolt, Medium, 16mm	40
50-1053-20	Connection Bolt, Long, 20mm	40
50-1052-01	Standard Nut	60

	Optional Ring Codes
50-1012-22A	Dual Hole Full Ring, 225mm ID, Aluminium
50-1012-24A	Dual Hole Full Ring, 240mm ID, Aluminium
50-1012-25A	Dual Hole Full Ring, 255mm ID, Aluminium
50-1012-27A	Dual Hole Full Ring, 270mm ID, Aluminium
50-1012-28A	Dual Hole Full Ring, 285mm ID, Aluminium
50-1012-30A	Dual Hole Full Ring, 300mm ID, Aluminium
50-1017-10A	Dual Hole 2/3 Ring, 105mm ID, Aluminium
50-1017-12A	Dual Hole 2/3 Ring, 120mm ID, Aluminium
50-1017-13A	Dual Hole 2/3 Ring, 135mm ID, Aluminium
50-1017-15A	Dual Hole 2/3 Ring, 150mm ID, Aluminium
50-1017-16A	Dual Hole 2/3 Ring, 165mm ID, Aluminium
50-1017-18A	Dual Hole 2/3 Ring, 180mm ID, Aluminium
50-1017-19A	Dual Hole 2/3 Ring, 195mm ID, Aluminium
50-1017-21A	Dual Hole 2/3 Ring, 210mm ID, Aluminium
50-1017-22A	Dual Hole 2/3 Ring, 225mm ID, Aluminium
50-1017-24A	Dual Hole 2/3 Ring, 240mm ID, Aluminium
50-1017-25A	Dual Hole 2/3 Ring, 255mm ID, Aluminium
50-1017-27A	Dual Hole 2/3 Ring, 270mm ID, Aluminium
50-1017-28A	Dual Hole 2/3 Ring, 285mm ID, Aluminium
50-1017-30A	Dual Hole 2/3 Ring, 300mm ID, Aluminium
50-1018-13A	Dual Hole 1/3 Ring, 135mm ID, Aluminium
50-1018-15A	Dual Hole 1/3 Ring, 150mm ID, Aluminium
50-1018-16A	Dual Hole 1/3 Ring, 165mm ID, Aluminium
50-1018-18A	Dual Hole 1/3 Ring, 180mm ID, Aluminium
50-1018-19A	Dual Hole 1/3 Ring, 195mm ID, Aluminium
50-1018-21A	Dual Hole 1/3 Ring, 210mm ID, Aluminium
50-1018-22A	Dual Hole 1/3 Ring, 225mm ID, Aluminium
50-1018-24A	Dual Hole 1/3 Ring, 240mm ID, Aluminium
50-1018-25A	Dual Hole 1/3 Ring, 255mm ID, Aluminium
50-1018-27A	Dual Hole 1/3 Ring, 270mm ID, Aluminium
50-1018-28A	Dual Hole 1/3 Ring, 285mm ID, Aluminium
50-1018-30A	Dual Hole 1/3 Ring, 300mm ID, Aluminium
50-1018-00A	Dual Hole 1/3 - 2/3 Ring connection part

	Pin - Wire Covers
50-1070-06	Half pin Covers, 6mm/15mm length (6 per pack)
50-1070-02	Wire Cover, 1.8/2.0mm/15mm length (6 per pack)

	Wire
50-1061-16	Wire - 1.6mm, Bayonet Tip, Ti
50-1061-18	Wire - 1.8mm, Bayonet Tip, Ti
50-1061-20	Wire - 2.0mm, Bayonet Tip, Ti
50-1061-16S	Wire - 1.6mm, Bayonet Tip, SS
50-1061-18S	Wire - 1.8mm, Bayonet Tip, SS
50-1061-20S	Wire - 2.0mm, Bayonet Tip, SS
50-1062-16	Olive Wire - 1.6mm, Bayonet Tip, Ti
50-1062-18	Olive Wire - 1.8mm, Bayonet Tip, Ti
50-1062-20	Olive Wire - 2.0mm, Bayonet Tip, Ti
50-1062-16S	Olive Wire - 1.6mm, Bayonet Tip, SS
50-1062-18S	Olive Wire - 1.8mm, Bayonet Tip, SS
50-1062-20S	Olive Wire - 2.0mm, Bayonet Tip, SS
50-1062-00S	Olive Wire Washer, SS
50-1064-16	Olive Wire - 1.6mm, Trocar tip, Ti
50-1064-18	Olive Wire - 1.8mm, Trocar tip, Ti
50-1064-20	Olive Wire - 2.0mm, Trocar tip, Ti
50-1064-16S	Olive Wire - 1.6mm, Trocar tip, SS
50-1064-18S	Olive Wire - 1.8mm, Trocar tip, SS
50-1064-20S	Olive Wire - 2.0mm, Trocar tip, SS

Bone Screws

	Length		Blunt Tip		Trocar Tip	
	Shaft	Thread	HA Coated	Non-Coated	HA Coated	Non-Coated
4.5mm	100mm	20mm				
		40mm				
	120mm	20mm	50-1084-122HB	50-1084-122B		50-1084-122
		30mm	50-1084-123HB	50-1084-123B		50-1084-123
		40mm	50-1084-124HB	50-1084-124B	50-1084-124H	50-1084-124
		50mm	50-1084-125HB		50-1084-125H	
	150mm	30mm	50-1084-153HB	50-1084-153B	50-1084-153H	50-1084-153
		40mm	50-1084-154HB	50-1084-154B	50-1084-154H	50-1084-154
		50mm	50-1084-155HB		50-1084-155H	
6.0mm	100mm	30mm				50-1086-103
	110mm	30mm				
		40mm				
	120mm	20mm			50-1086-122H	50-1086-122
		30mm	50-1085-123HB		50-1085-123H	50-1086-123
		40mm	50-1085-124HB		50-1085-124H	
		50mm	50-1085-125HB		50-1085-125H	
	130mm	30mm				
	140mm	40mm				
	150mm	30mm	50-1086-153HB	50-1086-153B	50-1086-153H	50-1086-153
		40mm	50-1086-154HB	50-1086-154B	50-1086-154H	50-1086-154
		50mm	50-1085-155HB		50-1085-155H	
		60mm				
	160mm	30mm				
		40mm				
	180mm	20mm				50-1086-182
		30mm	50-1086-183HB	50-1086-183B	50-1086-183H	50-1086-183
		40mm	50-1086-184HB	50-1086-184B	50-1086-184H	50-1086-184
		50mm				
		60mm				
	200mm	30mm	50-1086-203HB	50-1086-203B	50-1086-203H	50-1086-203
		40mm	50-1086-204HB	50-1086-204B	50-1086-204H	50-1086-204
		50mm	50-1086-205HB	50-1086-205B	50-1086-205H	50-1086-205
		60mm				
	220mm	30mm	50-1086-223HB	50-1086-223B	50-1086-223H	50-1086-223
		40mm	50-1086-225HB	50-1086-224B	50-1086-225H	50-1086-224
		50mm				50-1086-225
		60mm				
	250mm	30mm	50-1086-253HB	50-1086-253B	50-1086-253H	50-1086-253
		40mm	50-1086-255HB	50-1086-254B	50-1086-255H	50-1086-254
		50mm				50-1086-255
	300mm	60mm		50-1086-306B		50-1086-306

Rail Fixator System

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