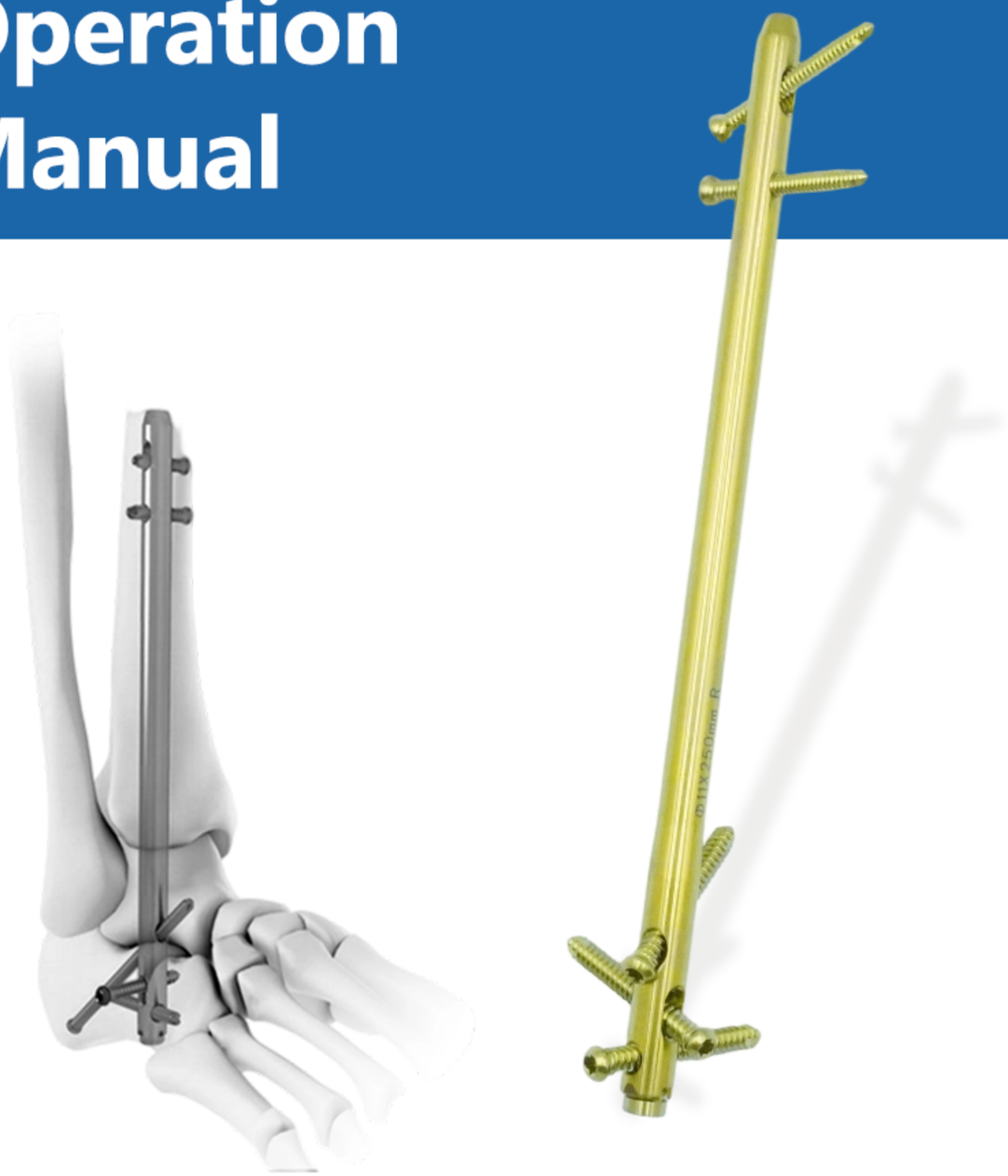
XC Medico

High-quality Orthopedic Manufacturer

XC Medico

Ankle Fusion Intramedullary Nail

Operation Manual



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Characteristics and Indications

Indications

1.Ankle and Subtalar Arthritis (e.g., post-traumatic arthritis) or pseudonodules

2.Avascular necrosis of the ankle and subtalar bone.

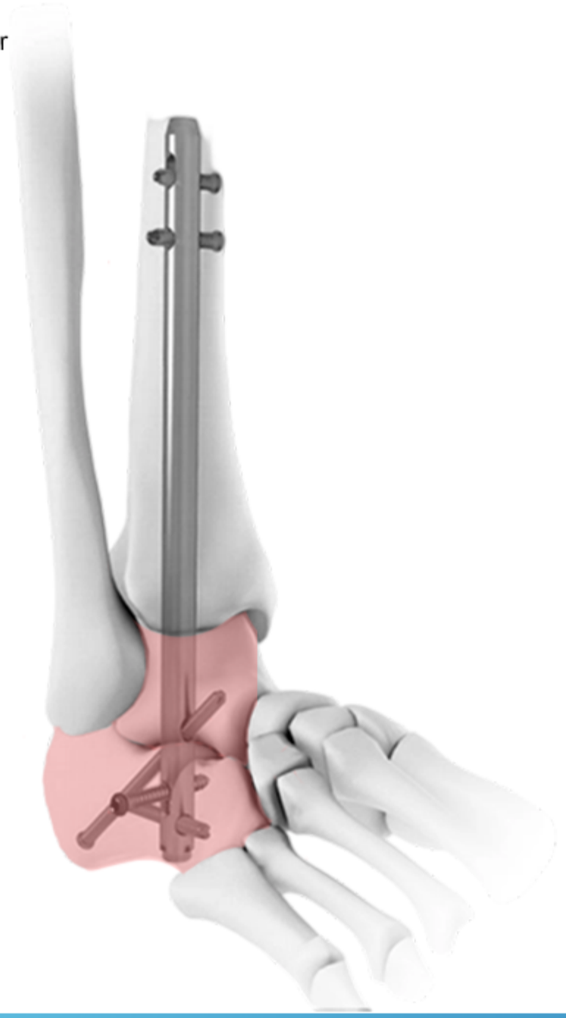
3.Failed total ankle arthroplasty and ankle arthrodesis.

4.Comminuted fractures and nonunion of the distal tibia.

5.Severe deformities secondary to neuromuscular disorders

6.Ankle instability and bone deficiency post tumor resection

7.Severe foot and ankle deformities



Characteristics

1.Proximal dynamic and static locking screw holes provide different kinds of locking.

2.The aiming arm,combined with the handle,delivers precise aiming;the integrated design for both proximal and distal aiming ensures more convenient

3.Main nails of various diameters and lengths are available for clinical selection.

4.The product color options are available upon reqyest,with left and right colors customizable.

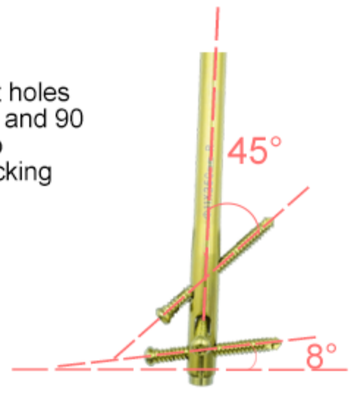
5.Distal multi-planar, divergent locking screw holes enhance fixation stability.



- Proximal and distal compression slots with compression nuts allow for maximum compression of up to 5mm.



- Three proximal divergent holes (45 degrees, 10 degrees and 90 degrees) are designed to accommodate 6.0mm locking screws.



Preoperative Preparation and Surgical Procedures

1. Patient Position

Place the patient in the supine position. (Prone or lateral decubitus positions are also acceptable).



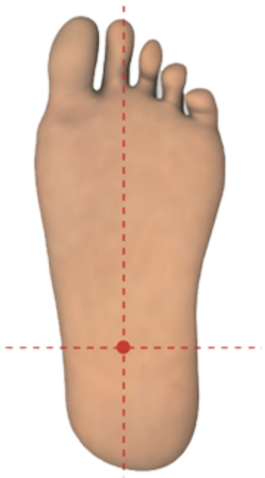
2. Determination of Intramedullary Nail Diameter and Length

Place the fixation ruler medially to the ankle. Under fluoroscopic guidance, determine the required main nail diameter and length, and mark them.



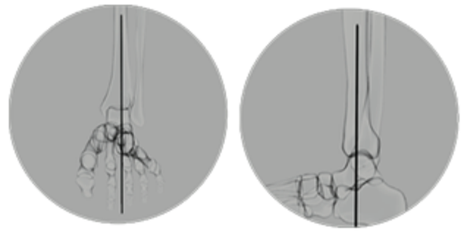
3. Determination of the Entry

Draw a line in the sagittal plane from the second toe to the center of the heel and a second line in the coronal plane at the junction of the anterior and middle third of the heel. The intersection of these two lines is the entry point for the intramedullary nail.



4. Insertion of the Guide Wire.

Insert a Φ3.2*340mm K-wire into the center of the tibial medullary canal at the entry point. Under fluoroscopic guidance, confirm that the guide wire is centered within the tibial medullary canal on both anteroposterior and lateral views.

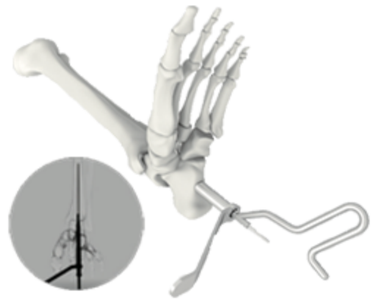


5. Creation of the Entry Point

Within the entry cannula, use the four-faceted AWL over the guide wire to create the entry point at the plantar heel.



Insert the ball-type guide wire (Φ 3.9*700mm) and use the reamer to drill up to the distal tibial medullary cavity.



Perform reaming by flexible reamers. Begin with the 7.5mm flexible reamer and incrementally increase by 0.5mm until the reamer diameter is 0.5mm larger than the required main nail diameter.



6. Insertion of the Main Nail

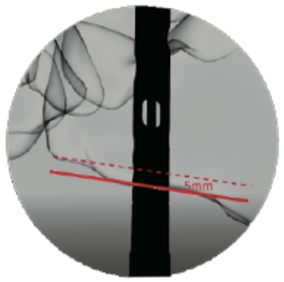
Based on the measurements from the fixation ruler, select the corresponding intramedullary nail. Then, connect the main nail to the insertion handle and tighten them with a wrench. (Prior to this procedure, it is essential to check that the compression nut is flush with the bottom of the compression slot. And, a pre-operative assembly can be performed to test the stability and accuracy of the aiming arm.)



Insert the main nail over the ball-type guide wire (Φ3.9*700mm). (If it is difficult to insert the main nail, connect a slotted hammer to the insertion handle and gently tap it with a sliding hammer).

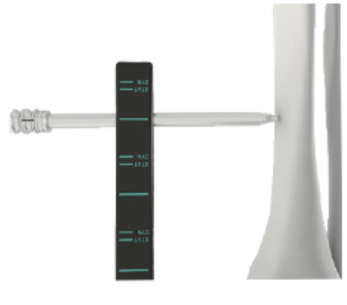


Under fluoroscopic guidance, confirm the insertion depth of the main nail. The tail of the nail should ideally be inserted approximately 5mm deep into the

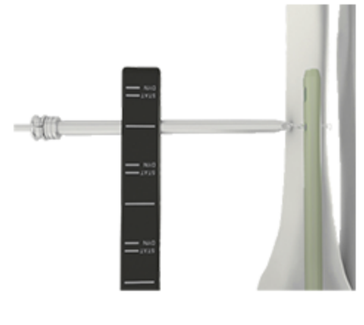


7. Insertion of the Proximal Locking Screws

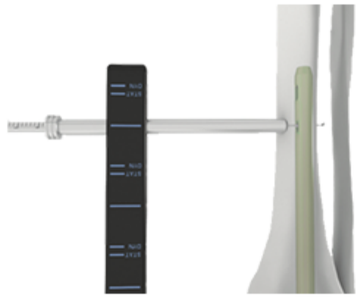
Position the aiming arm medially on the distal tibia. According to the selected main nail length, insert the sleeve, drill sleeve and AWL into the proximal static locking hole of the aiming arm. Make a small incision and perform drilling with a 4.3mm drill. Use the depth gauge to determine the screw length, select the 5.0mm transverse locking screw of appropriate length and tighten it quickly with a T25 screwdriver.



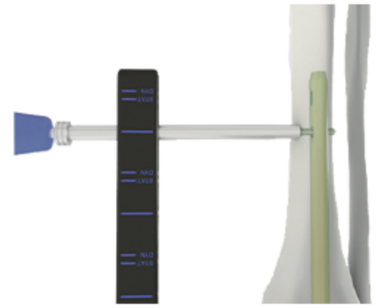
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II

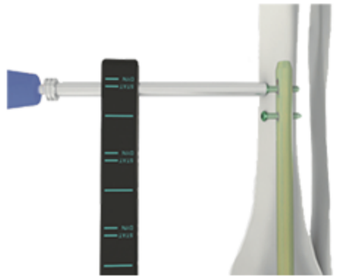


III



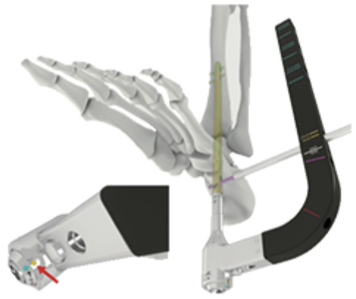
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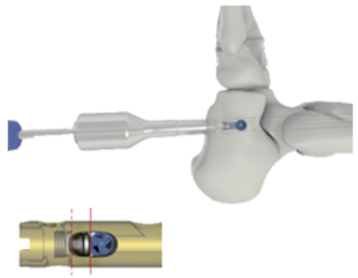
Follow the above steps to insert a 5.0mm transverse locking screw into the dynamic locking hole.



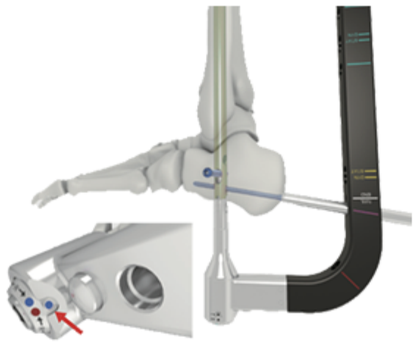
8. Insert the Calcaneal Locking Screws

Insert the distal compression transverse locking screw: Adjust the aiming arm to the lateral aspect of the ankle (align the groove at the bottom of the aiming arm with the yellow zone). Insert the sleeve, drill sleeve and AWL into the distal compression slot of the aiming arm. Make a small incision and perform drilling with a Φ4.8mm drill. Use the depth gauge to determine the screw length, select the 6.0mm transverse locking screw of appropriate length, and tighten it quickly with a T25 screwdriver. Use the T30 screwdriver to turn the compression nut to apply compression and achieve fixation across the joint.

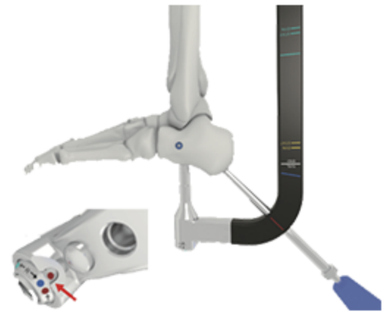




Inserting the calcaneal transverse lockingscrew:Adjust the aiming arm to the posteromedial aspect of the ankle (align the groove at the bottom of the aiming arm with the blue zone). Repeat the steps above to insert the screw



Inserting the talocalcaneal transverse locking screw:Adjust the aiming arm to the posterolateral aspect of the ankle (align the groove at the bottom of the aiming arm with the red zone). Repeat the steps above to insert the screw.



9. Tighten the End Cap

Use the T25 self-holding screwdriver to tighten the end cap.



Implant Information



Hindfoot Fusion Ankle Nail

REF	Material	Diameter	Lenght
RJSZD10150L	TC4	10	150
RJSZD10200L	TC4	10	200
RJSZD10250L	TC4	10	250
RJSZD10150R	TC4	10	150
RJSZD10200R	TC4	10	200
RJSZD10250R	TC4	10	250
RJSZD11150L	TC4	11	150
RJSZD11200L	TC4	11	200
RJSZD11250L	TC4	11	250
RJSZD11150R	TC4	11	150
RJSZD11200R	TC4	11	200
RJSZD11250R	TC4	11	250
RJSZD12150L	TC4	12	150
RJSZD12200L	TC4	12	200
RJSZD12250L	TC4	12	250
RJSZD12150R	TC4	12	150
RJSZD12200R	TC4	12	200
RJSZD12250R	TC4	12	250



5.0mm Locking Screws

REF	Material	Lenght
RSHDSD5028	TC4	28
RSHDSD5030	TC4	30
RSHDSD5032	TC4	32
RSHDSD5034	TC4	34
RSHDSD5036	TC4	36
RSHDSD5038	TC4	38
RSHDSD5040	TC4	40
RSHDSD5042	TC4	42
RSHDSD5044	TC4	44
RSHDSD5046	TC4	46
RSHDSD5048	TC4	48
RSHDSD5050	TC4	50
RSHDSD5052	TC4	52
RSHDSD5054	TC4	54
RSHDSD5056	TC4	56
RSHDSD5058	TC4	58
RSHDSD5060	TC4	60

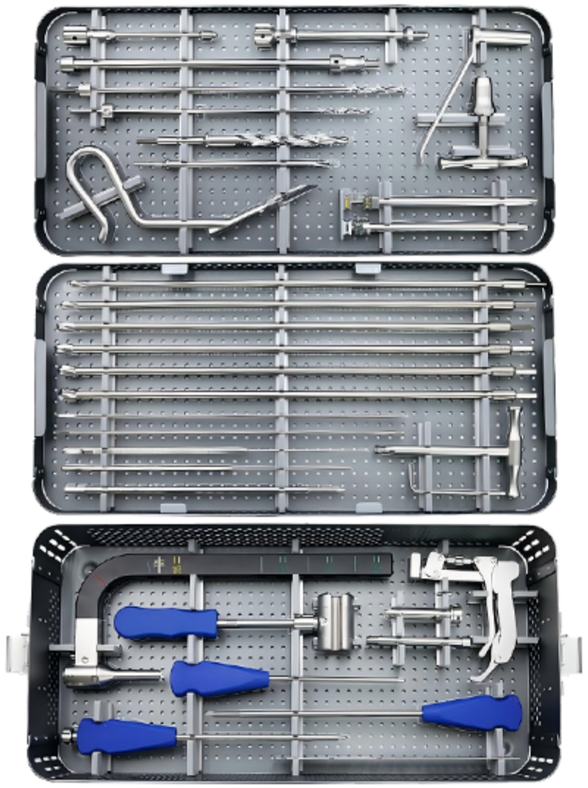


6.0mm Locking Screws

REF	Material	Lenght
RSHDSD6026	TC4	26
RSHDSD6028	TC4	28
RSHDSD6030	TC4	30
RSHDSD6032	TC4	32
RSHDSD6034	TC4	34
RSHDSD6036	TC4	36
RSHDSD6038	TC4	38
RSHDSD6040	TC4	40
RSHDSD6042	TC4	42
RSHDSD6044	TC4	44
RSHDSD6046	TC4	46
RSHDSD6048	TC4	48
RSHDSD6050	TC4	50
RSHDSD6052	TC4	52
RSHDSD6054	TC4	54
RSHDSD6056	TC4	56

REF	Material	Lenght
RSHDSD6058	TC4	58
RSHDSD6060	TC4	60
RSHDSD6062	TC4	62
RSHDSD6064	TC4	64
RSHDSD6066	TC4	66
RSHDSD6068	TC4	68
RSHDSD6070	TC4	70
RSHDSD6072	TC4	72
RSHDSD6074	TC4	74
RSHDSD6076	TC4	76
RSHDSD6078	TC4	78
RSHDSD6080	TC4	80
RSHDSD6085	TC4	85
RSHDSD6090	TC4	90
RSHDSD6095	TC4	95
RSHDSD60100	TC4	100

Instrument Information



No.	Products	Qty.
1	4.3mm Sleeve(φ10/φ8/φ4.3)	1
2	4.8mm Sleeve(φ10/φ8/φ4.8)	1
3	T-handle Quick Coupling	1
4	Drill Guider	1
5	Cannulated AWL	1
6	Countersink Drill	1
7	Proximal Drill φ3.5/φ12.5*210	1
8	Drill Bit 4.3*300	1
9	Drill Bit 4.3*300 with Limitator	1
10	Drill Bit 4.8*350	1
11	Drill Bit 4.8*350 with Limitator	1
12	Slide Rod M8*1	1
13	Hammer Connector	1
14	Nail Remover M10	1
15	Cannulated Flexible Reamer 7.5mm	1
16	Cannulated Flexible Reamer 8.5mm	1
17	Cannulated Flexible Reamer 9.5mm	1
18	Cannulated Flexible Reamer 10.5mm	1
19	Cannulated Flexible Reamer 11.5mm	1
20	Cannulated Flexible Reamer 12.5mm	1

No.	Products	Qty.
21	K-wire 3.2*340	3
22	Threaded K-wire 3.2*340	3
23	Depth Gague 10-110mm	1
24	Depth Gague 10-90mm	1
25	Star Screwdrivr T25 Quick Coupling	1
26	T-handle Universal Hex Screwdriver	1
27	L-wrench SW3	1
28	Handle Guider	1
29	Slide Hammer	1
30	Star Screwdrivr T30	1
31	Star Screwdrivr T25	1
32	End Cap Cannulated Star Screwdrivr T25	1
33	Developing Calculator	1
34	Limiter Block	1
35	Multi-hole Guider	1
36	Connect Bolt	2
37	Guide Pin Holding Device	1
38	Olive Guide Wire 3.9*700mm	1
39	Aluminim Box	1