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Locking
High Tibia Osteotomy TYPE I-II
Plates
Surgical Technique

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Locking High Tibia Osteotomy TYPE I-II Plates

Contents

CONTENS

1. Introduction

1.1.High Tibia Osteotomy Plate Tpye 1	3
1.1.1.Specification	
1.2.High Tibia Osteotomy Plate Tpye 2	4
1.2.1.Specification	

2.Surgical Technique

2.1.High Tibia Osteotomy	5
2.1.1.Causes of surgery	
2.1.2.Opening/Closing Wedge Osteotomy	
2.2.High Tibia Osteotomy Plate Tpye 1	6
2.2.1. Approach	
2.2.2. Osteotomy	
2.2.3. Placement of the Plate and Wedge	7
2.2.4. Ø 6.5 Locking Cancellous Screw	
2.2.5. Ø 5.0 Locking Screw	8
2.2.6. Torque and Finishing	
2.3.High Tibia Osteotomy Plate Tpye 2	9
2.3.1.Approach	
2.3.2.Osteotomy	
2.3.3. Plate Placement & Ø5.0 Locking Scew	10
2.3.4. Plate Placement & Ø6.0 Locking Cancellous Scew	11

3.Disinfection

3.1. Device Cleaning Conditions	12
3.1.1. Manual Cleaning/Disinfection	
3.1.2. Combination Manual / Automated Cleaning	
and Disinfection:	
3.1.3. Automated Cleaning and Disinfection	

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ISO 9001:2015
ISO 13485:2016  1984



1. Introduction

Locking High Tibia Osteotomy Plate Type 1

1.1. Locking High Tibia Osteotomy Plate Type 1

1.1.1 Specifications

Open wedge osteotomies of the medial proximal tibia are indicated for idiopathic or post-traumatic varus deformities of the proximal tibia. It is used with (2052)Ø5mm locking screw and (2182)Ø6.5 Locking Cancellous screw. There is an option to open from 6–15 mm. Plate is produced from ISO 5832-2 TiGr3 (ASTM F 67) material.



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Locking High Tibia
Osteotomy Plate Type 1



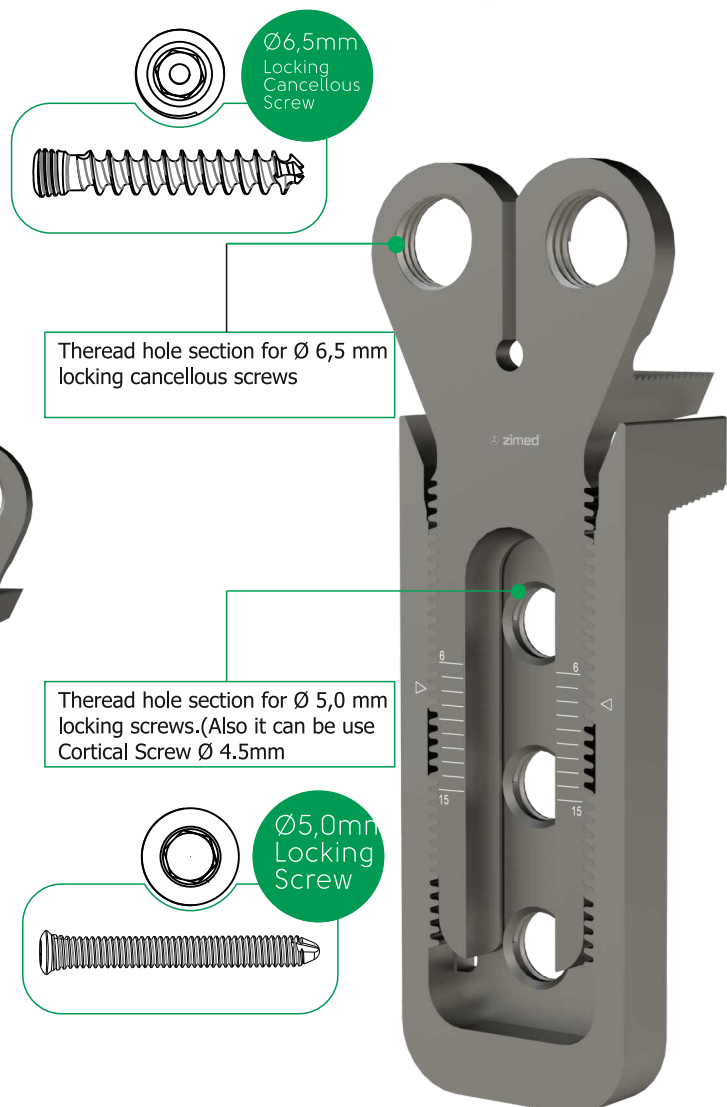
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1972-0015



REF. NO

1972-0020





1. Introduction

Locking High Tibia Osteotomy Plate Type 2

1.1. Locking High Tibia Osteotomy Plate Type 2

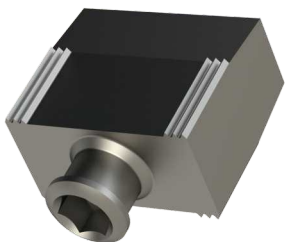
1.2.1 Specifications

Open wedge osteotomies of the medial proximal tibia are indicated for idiopathic or post-traumatic varus deformities of the proximal tibia. It is used with (2052)Ø5mm locking screw and (2182)Ø6.5 Locking Cancellous screw. There are 5 types of wedge to provide 6-14 mm range. Plate is produced from ISO 5832-2 TiGr3 (ASTM F 67) material.

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Locking High Tibia
Osteotomy Plate Type 2

Wedge Plate



REF. NO	LENGTH (mm)
1972-0006	6
1972-0008	8
1972-0010	10
1972-0012	12
1972-0014	14





2.1. High Tibial Osteotomy

2.1.1. Causes of surgery

High tibia Osteotomy is a surgical procedure to relieve the pressure on the arthritic knee joint damaged area. A wedge cut is done from the proximal tibia and a bone graft can be added according to patient need. It is used to relieve when non-surgical treatments fail.

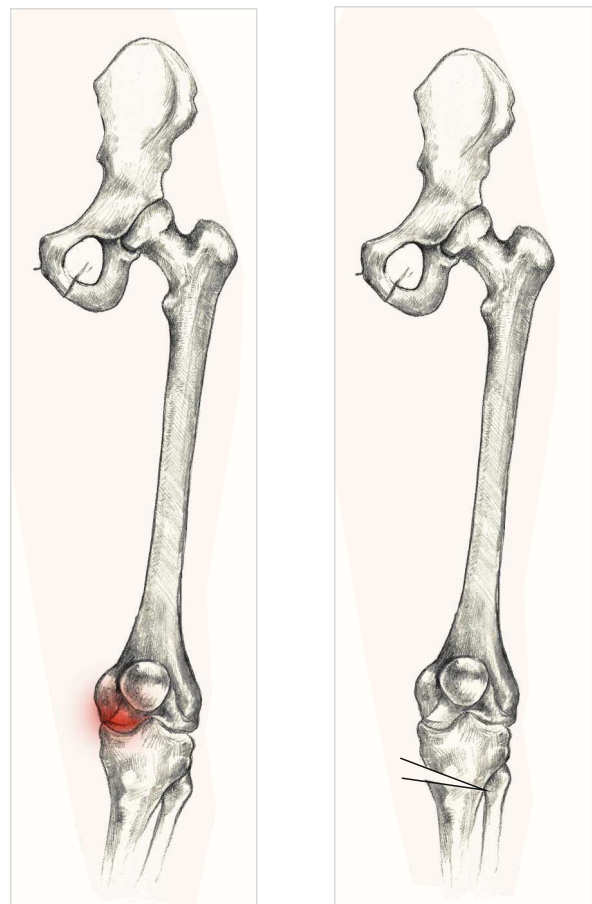


2.1.2. Open and Closed Wedge Osteotomy

The purpose of the surgery is to fix the wrong alignment of the tibia at the same time releasing the associated joint area and hold it straight to the joint line to the leg's mechanical axis.

It can be used with two techniques: Closing wedge osteotomy and opening wedge osteotomy. The surgeon chooses the technique according to the patient's need. In this surgical technique, opening wedge of the tibia and how to use high tibia plates for fixing varus tilt. In this surgical technique, there are two different plates for the same purpose.

Locking proximal Medial Tibial Plate can be a suggestion for the valgus tilt. You can ask for more information for this plate.

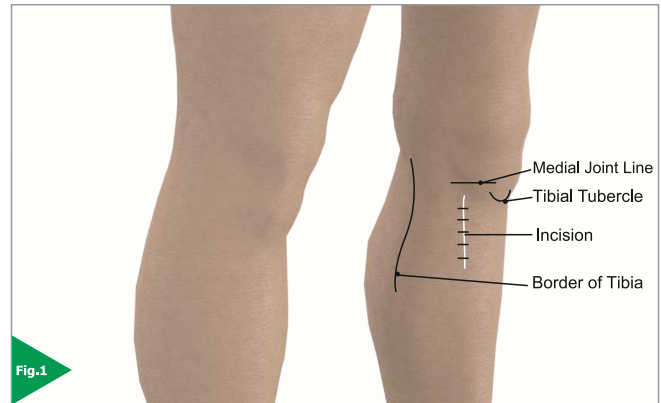




2.2. Locking High Tibia Osteotomy Plate Type 1

2.2.1 Approach

In this technique Surgeon start with incision from anterior of knee and under the distal edge of patella. This incision from medial joint line reach 5cm distal and anterior tubercle between posteromedial edge of tibia centered a vertical (Fig.1)

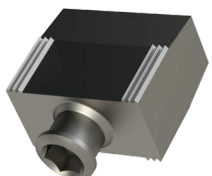
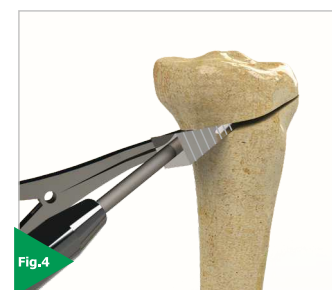
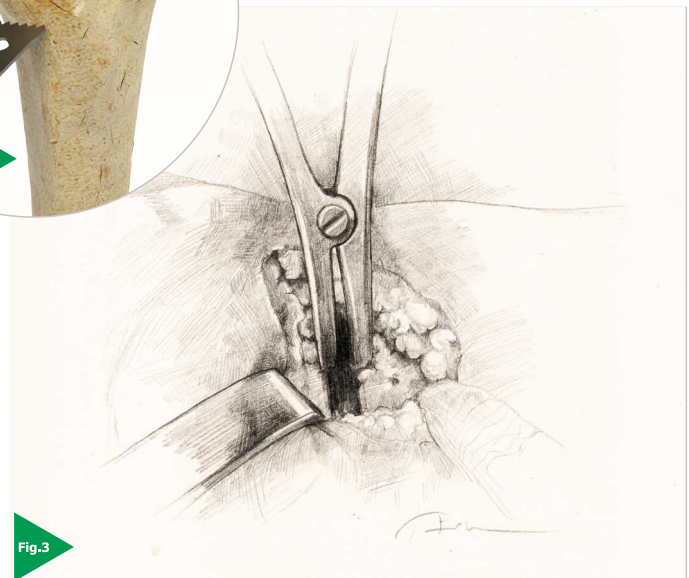


2.2.2 Osteotomy

Wedge cut is made to tibia with oscillating saw (Fig.2)



An opening is created from the incision made on the bone. (Fig.3). Openness is fastened with distraction pliers. Height is determined for the wedge implant.(Fig.4). It's provide height possibility from 6mm to 14mm. Bone graft can be added before wedge implant attachment (Fig.5).

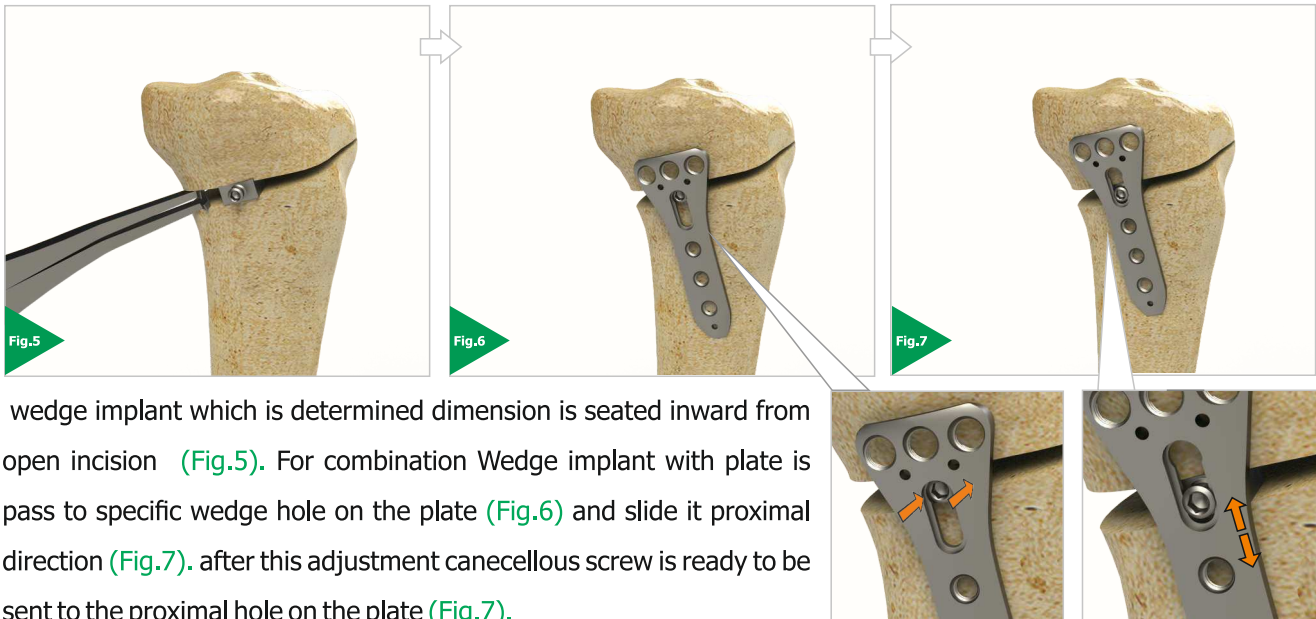


REF. NO	LENGTH (mm)
1972-0006	6
1972-0008	8
1972-0010	10
1972-0012	12
1972-0014	14

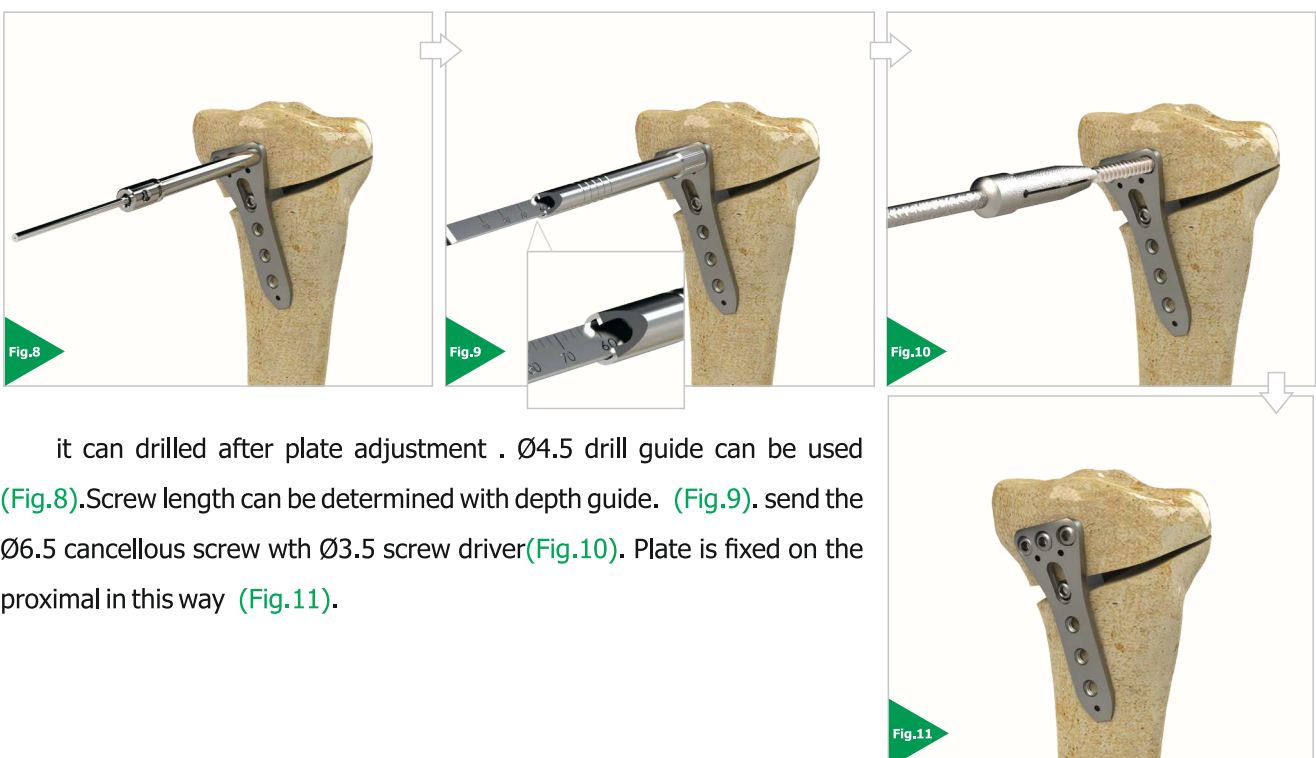


2.2. Locking High Tibia Osteotomy Plate Type 1

2.2.3 Plate placement and wedge



2.2.4. Ø6.5 Locking Cancellous Screw





2.2. Locking High Tibia Osteotomy Plate Type 1

2.2.5. Ø5.0 Locking Screw



For the Ø5.0 Locking screw Ø4.5 drill guide is placed distally of the plate (Fig.12). Drilling can be done. Decide the screw length with depth guide (Fig.13). Send the Ø5.0 locking screw with Ø3.5 screw driver (Fig.14).

2.2.6. Torque and finishing

After the screw sending process, torque is done and all control is made (Fig.15-16)





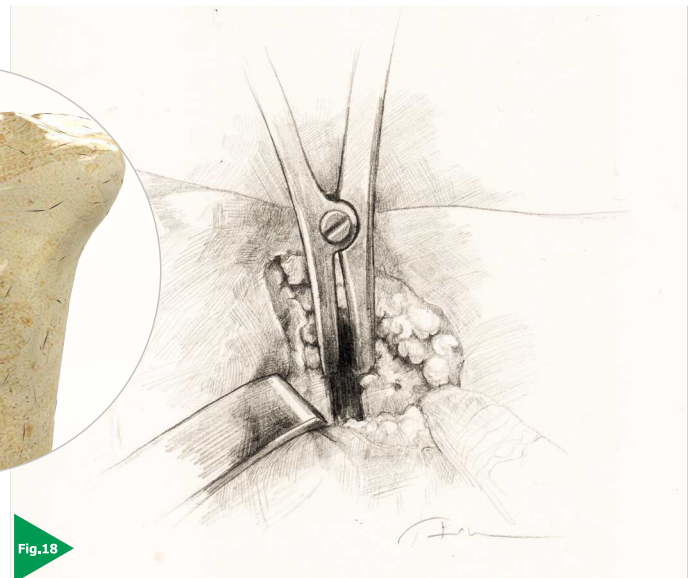
2.3. Locking High Tibia Osteotomy Plate Type 2

2.3.1. Approach

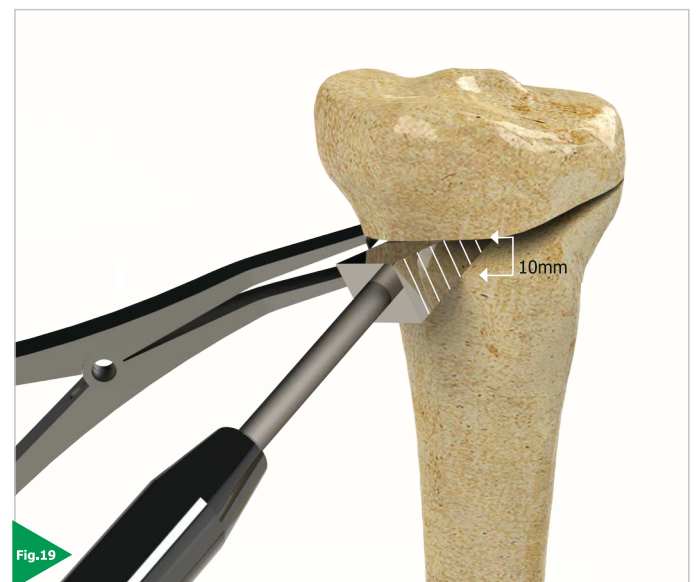
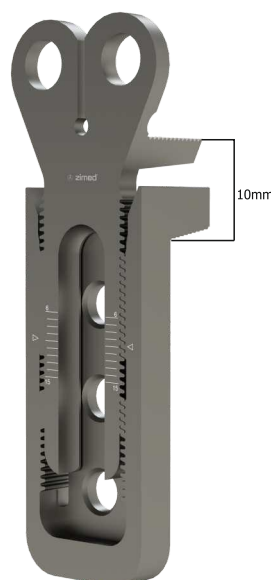
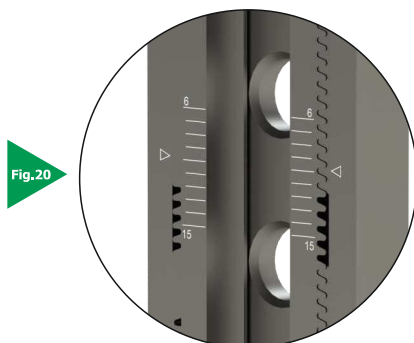
In this technique Surgeon start with incision from anterior of knee and under the distal edge of patella. This incision from medial joint line reach 5cm distal and anterior tubercle between posteromedial edge of tibia centered a vertical

2.3.2 Osteotomy

Wedge cut is made to tibia with oscillating saw (Fig.17)



An opening is created from the incision made on the bone. Openness is fastened with distraction pliers.(Fig.18). the plate itself is used to this openness instead of wedge implant. Openness of height is determined (Fig.19). It's provide height possibility from 6mm to 15mm. (Fig.20). Bone graft can be added before plate attachment .

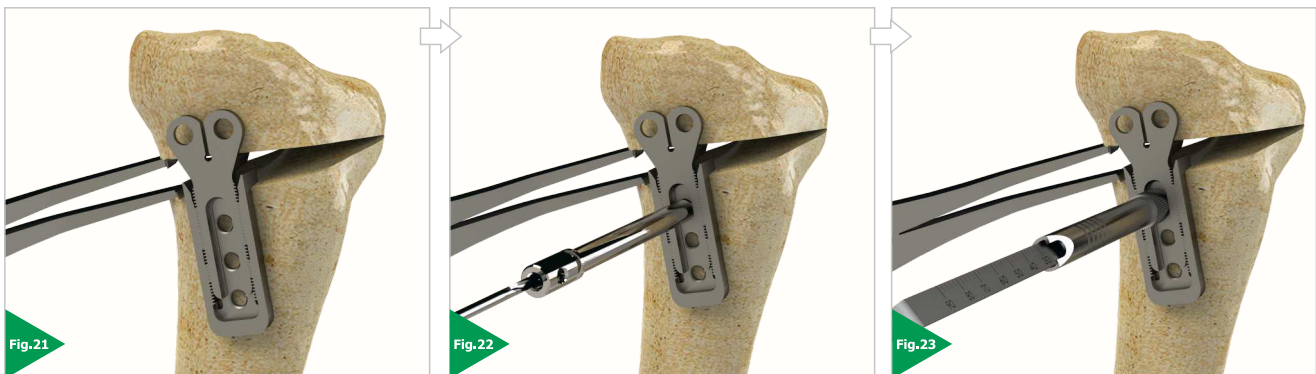




2.3. Locking High Tibia Osteotomy Plate Type 2

2.3.3 Plate Placement and Ø5.0 Locking Screw or Ø4.5 Cortical Screw

Adjusted plate can attach to the openness(Fig.21). For the Ø5.0 Locking screw Ø4.5 drill guide is placed distally of the plate (Fig.22). Drilling can be done. Decide the screw length with depth guide(Fig.23).



Send the Ø5.0 locking screw with Ø3.5 screw driver(Fig.24). Same procedure can do for another Ø5.0 Locking screw for this section. In this way distal fixing is completed . Additionally Ø 4.5 mm cortical can be use for this section (Fig.25)





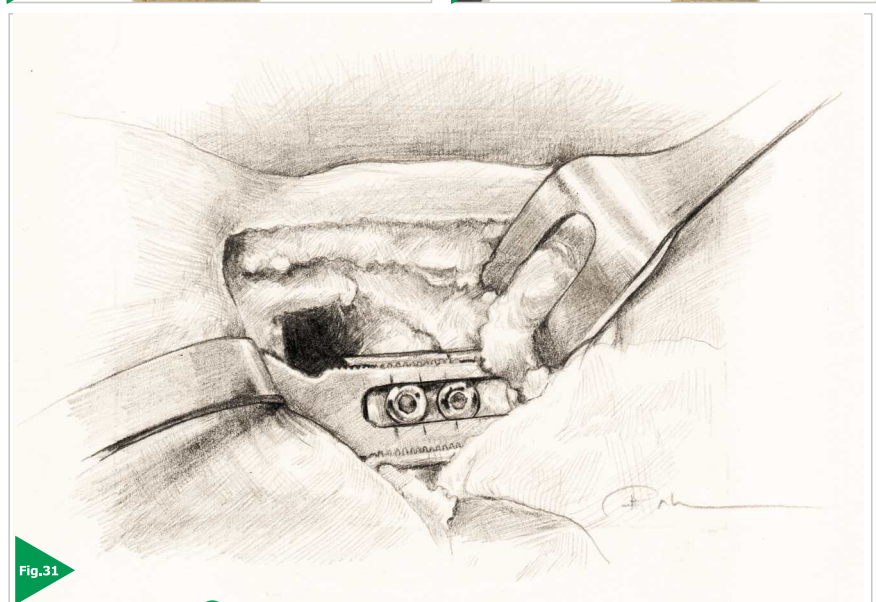
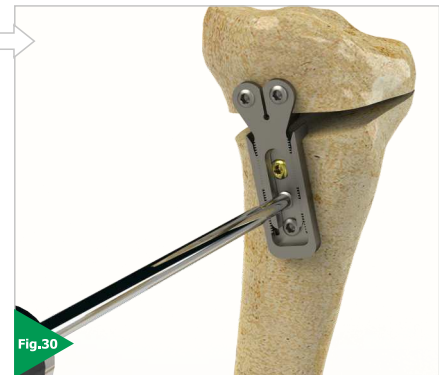
2.3. Locking High Tibia Osteotomy Plate Type 2

2.3.4 Plate Placement and Ø6.5 Locking Cancellous Screw

Ø4.5 drill guide can be used(Fig.26). Screw length can be determined with depth guide.(Fig.27). send the Ø6.5 cancellous screw with Ø3.5 screw driver(Fig.28).



Plate is fixed on the proximal in this way(Fig.29). After the screw sending process, torque is done and all control is made(Fig.30-31).





3.1. DEVICE CLEANING CONDITIONS

Do not use metal brushes or rubbing pads during Decontamination of the tools should be performed immediately after the surgical procedure is completed. Contaminated tools must not be allowed to dry before reprocessing.

Excessive blood or debris must be removed in order to prevent the drying on the surface. All users must be qualified staff with documented evidence of training and competence. Training should include the current guidelines, standards and hospital policies. Even if they are made of high-grade stainless steel, the surgical tools must be thoroughly dried in order to prevent rust formation. Prior to sterilization, all the tools should be examined for the cleanliness of the lumens of the joints of the surfaces. manual cleaning process. Use cleaning agents with low-foam surfactant to be able to see the tools in the cleaning solution. Rinse the cleaning materials easily from the tool in order to prevent residue formation.

Mineral oil or silicon lubricants should not be used on Zimed tools. Neutral pH enzymatic and cleaning materials are recommended for cleaning the reusable instruments. It is very important to neutralize and rinse the alkaline cleaning materials thoroughly from the tools. Anodized aluminum should not contact with certain cleaning or disinfectant solutions. Avoid strong alkaline cleaners and disinfectants and solutions containing iodine, chlorine or certain metal salts.

3.1.1. Manual Cleaning/Disinfection:

Prepare the enzymatic and cleaning materials at the dilution rates and temperatures as recommended by the manufacturer. New solutions should be prepared when the existing solutions are heavily contaminated. Place the tools in the enzymatic solution so that they are completely immersed. Operate all the movable parts so that the detergent contacts with all the surfaces.

Keep in the fluid for minimum 20 min. Use a nylon, soft-bristled brush to gently rub the tools until all visible debris is cleaned. Pay particular attention to the accessible areas and use a suitable bottle brush. In order to remove the dirt in the open springs, coils or flexible parts, wash the recesses with plenty of cleaning solution. Rub the surface with a scrubbing brush to remove all the visible dirt from the surface and the recesses. To ensure that all the recesses are cleaned, turn the component while rubbing. Remove the tools and rinse them for minimum 3 min. under running water. Pay particular attention to the cannulas and use a syringe to pass the fluid through the hard-to-reach areas. Place all the tools that are completely immersed in water, in an ultrasonic unit containing the cleaning solution. Operate all the movable parts so that the detergent contacts with all the surfaces. Expose the tools to sonification process for minimum 10 min..

Remove the tools and rinse with deionized water for at least 3 minutes or unless all the blood or dirt traces are eliminated in the rinsing water. Examine the tools under normal light to verify that visible dirt is removed. If

visible dirt is present, repeat the above mentioned sonification procedure and the rinsing steps. Remove the excessive moisture on the tool with a clean, absorbent, lint-free cloth.

3.1.2. Combination Manual / Automated Cleaning and Disinfection:

Prepare the enzymatic and cleaning materials at the dilution rates and temperatures as recommended by the manufacturer. New solutions should be prepared when the existing solutions are heavily contaminated. Place the tools in the enzymatic solution so that they are completely immersed. Operate all the movable parts so that the detergent contacts with all the surfaces. Keep in the fluid for minimum 10 min. Use a nylon, soft-bristled brush to gently rub the tools until all visible debris is cleaned. Pay particular attention to the accessible areas and use a suitable bottle brush. A sonicator will help to clean the instruments thoroughly. The use of a syringe or a water fountain will facilitate passing of the liquid from the low-spaced areas and difficult-to-access areas. Remove the tools from the enzyme solution and rinse them for minimum 1 min. under deionized water. Place the tools in a suitable washer / disinfectant basket and perform a standard washer / disinfectant cycle. Specific minimum parameters are essential for a complete cleaning and disinfection. These parameters are given in a below mentioned table.

3.1.3. Combination Manual / Automated Cleaning and Disinfection:

Automated washing / drying systems are not recommended as the only cleaning method for surgical tools. An automated system can be used as a follow-up operation after manual cleaning. To ensure an effective cleaning, tools must be thoroughly examined before sterilization. For detailed information on Washing and Disinfection see

Specific minimum parameters used for a complete cleaning and disinfection:

	Definition
1	Pre-washing for 2 minutes with cold tap water
2	enzyme spray for 20 seconds with hot tap water
3	Immersion in enzyme after 1 minute
4	rinsing for 15 seconds with cold tap water (Should be repeated twice)
5	Washing with detergent for 2 minutes with hot tap water
6	rinsing for 15 seconds with hot tap water
7	Rinsing with 10 seconds with optional lubricated purified water
8	Drying for 7 minutes with hot air

Note: Follow the instruction of the washer/disinfectant manufacturer

Zimed Medical, as the manufacturer of this device, and their surgical consultants do not recommend this or any other surgical technique for use on a specific patient. The surgeon who performs any implant procedure is responsible for determining and utilizing the appropriate techniques for implanting the device in each individual patient. Zimed and their surgical consultants are not responsible for selection of the appropriate surgical technique to be utilized for an individual patient.

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