RELIABLE
您可信赖的华森

伽玛型髓内钉 II 型
GAMMA II Intramedullary Nail

操作手册
Surgical technique

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华森医疗
waston medical

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前言
INTRODUCTION

随着社会人口老龄化和高能量损伤日益增多，转子部骨折的发生率也不断增高，大部分是老年患者。传统的牵引治疗要获得良好的复位和可靠的固定非常困难，并且高龄患者长期卧床引起的转 子内翻和死亡率高。因此，如果全身条件允许，早期手术治疗被认为是减少卧床并发症、提高生活 质量的有效方法。

目前内植物治疗转子部骨折存在手术对老年患者的创伤大，手术时间长，手术并发症多和无法保持稳定固定等特点。常州华森医疗器械有限公司设计推出的伽玛型髓内钉II型旨在给予转子间骨折稳定的抗旋转和支撑固定，以及减少手术中的创伤、手术时间和并发症。

In great part due to the huge increase in the elderly population and high-energy trauma, the incidence rates of trochanteric area fracture are increasing, mostly in the elderly. It is very difficult to achieve good reduction and maintain stable fixation in the patients of trochanteric area fracture after the traditional traction treatment. And especially the high age of patients among them are always suffering hip varus and high mortality due to keep the bed for long time. So early operation is regarded as an effective way to reduce the complications and improve the quality of life in the elderly patients of trochanteric area fracture who can bear the surgical wound.

Now the treatment of trochanteric area fractures and especially unstable intertrochanteric fractures with current kinds of implants in the elderly, still remains a challenge to the surgeon, usually due to too much surgical wound, duration and associated co-morbidity. And it is not satisfied with maintaining a stable fixation in an aged patient who has survived the operation. GAMMA II Standard GAMMA Intramedullary Nail II is promoted by Waston Medical, and designed to achieve rotational and angular stability, as well as reduce surgical wound, duration and associated co-morbidity.

产品特点和优点
FEATURES & BENEFITS

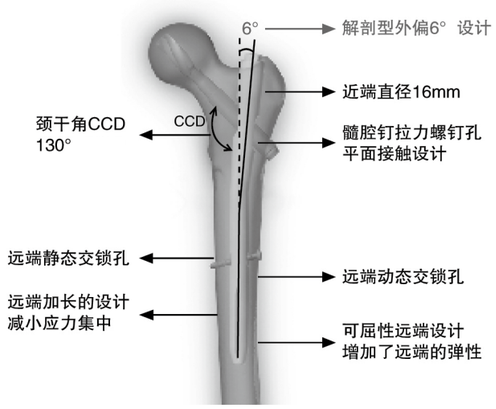
- 一个部件可以完成抗旋转和稳定支撑两个功能。
- 拉力螺钉可以很好的填压骨质，获得更好的抓持力。
- 远端较长的尖端及凹槽设计，避免局部应力集中。
- 外侧切口完成植入，简化手术步骤。

- Rotational and angular stability achieved with one single element
- Compaction of cancellous bone: additional anchoring to the Lag Screw, which is especially important in osteoporotic bone.
- The designed tip eases insertion and avoids stresses at the tip of Intramedullary Nail
- Ateps required to insert Lag Screw are done through the lateral incision.

髓腔钉
INTRAMEDULLARY NAIL

- 设计与髓腔解剖结构完美匹配
- 外展6°角，便于从大转子顶点置入
- 空心钉，置入方便

- The anatomical design guarantees an optimal fit in the femur
- The medial-lateral angle of 6°allows insertion at the tip of the greater trochanter
- The cannulated nail facilitates easy insertion.

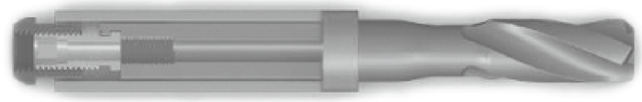


拉力螺钉
LAG SCREW

- 一个内固定完成防旋和成角固定。
- 填压松质骨，增加螺旋刀片的锚合力和抗切出能力，尤为适合骨质疏松患者。
- 内部锁定防止螺片和股骨头的旋转。
- 外侧切口完成全部操作，步骤简单。
- 置入及取出方便，节省手术时间。

- Rotational and angular stability achieved with one single element.
- Compaction of cancellous bone: additional anchoring to the Lag Screw and resistance to cut-out, which is especially important in osteoporotic bone.
- Locking device inside controls rotational stability of helical blade and femoral caput.
- All surgical steps required to insert Lag Screw are done through the lateral incision.
- Convenient insertion and extraction reduce surgical duration.

防旋锁定　　拉力螺钉外套直径10.4mm　　螺旋刀刃直径10mm



拉力螺钉长度: 75–120 mm

内植物
IMPLANTS

伽玛型髓内钉II型
GAMMA Intramedullary Nail II

拉力螺钉
Lag Screw

远端锁钉
Locking Bolt

封帽
End Cap

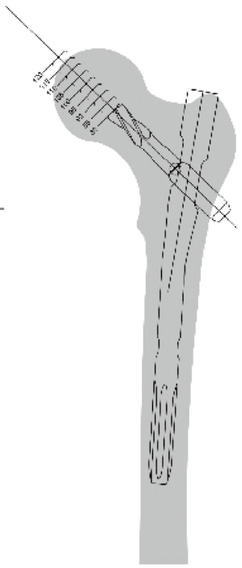
伽玛型髓内钉II型（加长型）
GAMMA Intramedullary Nail II (Extra-long)

临床指征INDICATIONS

- 经转子骨折(31-A1 和 31-A2)
- 转子间骨折 (31-A3)
- 高位转子下骨折

- Petrochanteric fractures (31-A1 and 31-A2)
- Intertrochanteric fractures (31-A3)
- High subtrochanteric fractures

术前准备
PREOPERATIVE PREPARATION



1 确定髓腔钉规格
DETERMINATION OF INTRAMEDULLARY NAIL

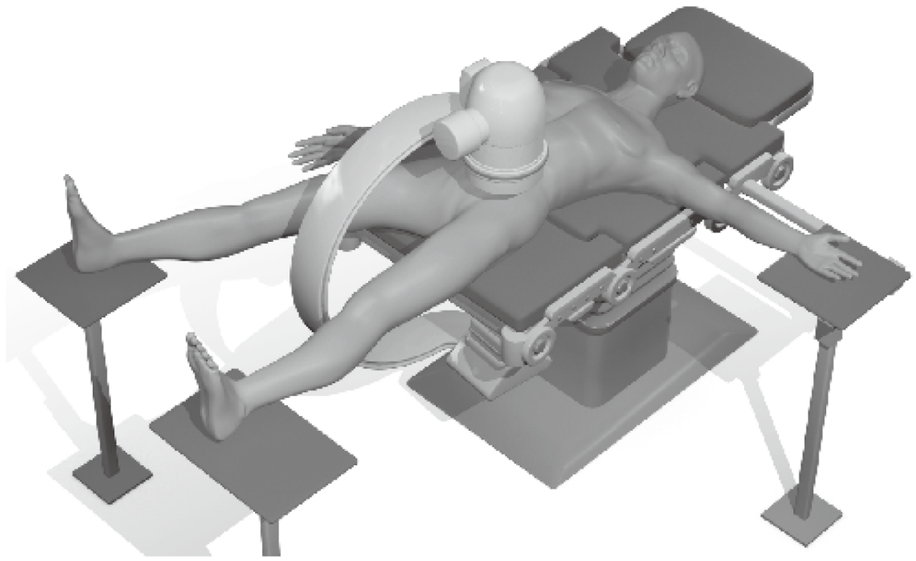
术前根据健侧转子部正位X平片，用角度模板测量患者的股骨颈干角和峡部直径。

Take a preoperative AP radiography of the unaffected leg. Determine the CCD angle (caput-cullum-diaphysis Angle) and the length of Intramedullary Nail. using a goniometer or the preoperative planning template, and the isthmus diameter for the selection of Intramedullary Nail.

2 患者体位
PATIENT POSITIONING

患者仰卧于手术牵引床或透光手术床上，患肢内收伸直位；为了透视方便，健侧尽量外展，远离患肢。

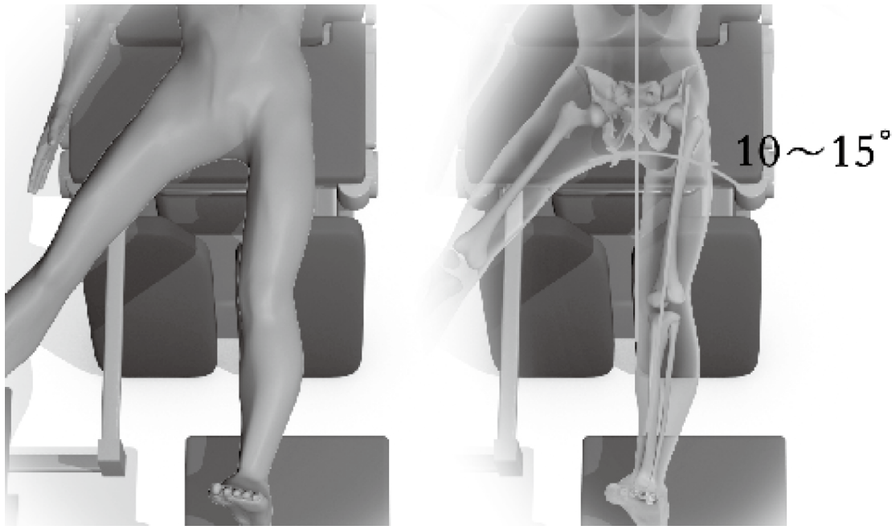
Position the patient supine on an extension table or a radiolucent operating table. Abduct the unaffected leg as far as possible and place it on a leg support, so that it does allow free fluoroscopic examinations. This should be tested preoperatively.



3 闭合复位
CLOSED REDUCTION

用C臂机正位和侧位透视确定骨折复位满意后，将患肢内旋10°—15°固定，髌骨处于水平位或轻度内旋位。

Perform closed reduction of the fracture under image intensifier control. For an unimpeded access to the medullary cavity, abduct the upper body by about 10 15° to the unaffected side (or adduct the affected leg by 10 15°)

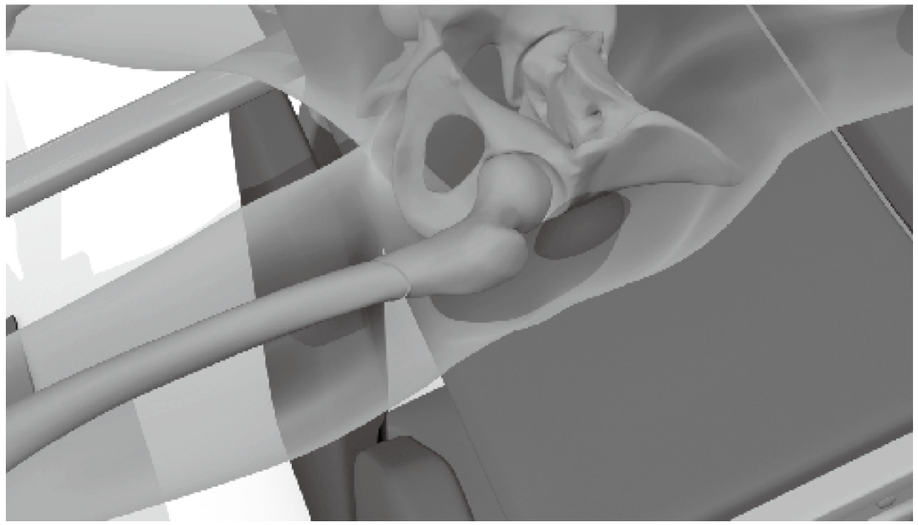


手术技术
SURGICAL TECHNIQUE

1 做入路切口
INCISION

大粗隆顶点以上作5–8cm皮肤纵形切口，顺臀中肌肌纤维方向分开，到达大粗隆顶点。

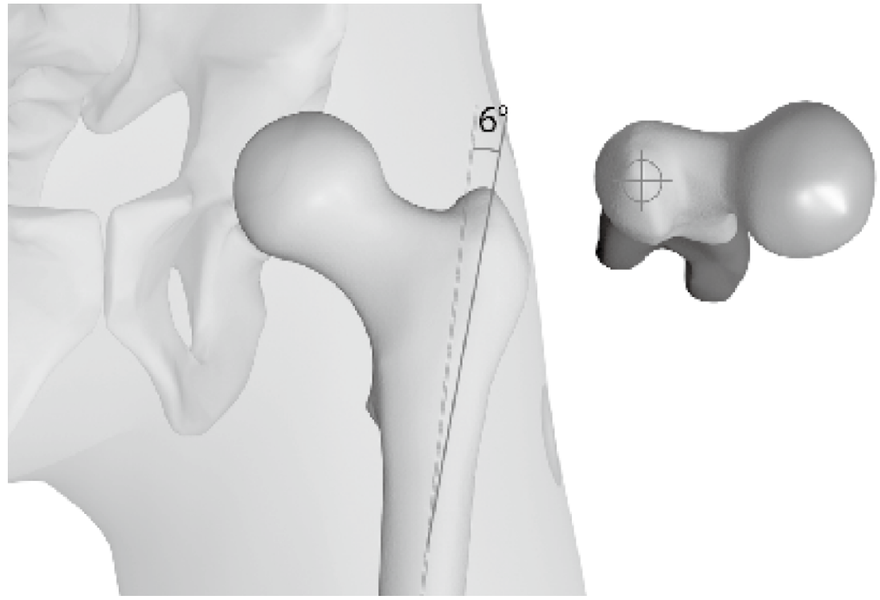
Make a 5 to 8 cm incision approximately from the tip of the greater trochanter. Make a parallel incision of the fasciae of the gluteus medius and split the glutaeus.



2 确定进针点和进针方向
DETERMINATION OF THE ENTRY POINT AND DIRECTION

正位透视下髓腔钉进钉点位于大转子顶点稍外侧，入路方向内偏与股骨解剖颈角度为6°；侧位透视下确定进钉方向在髓腔中央，用开孔器开孔。

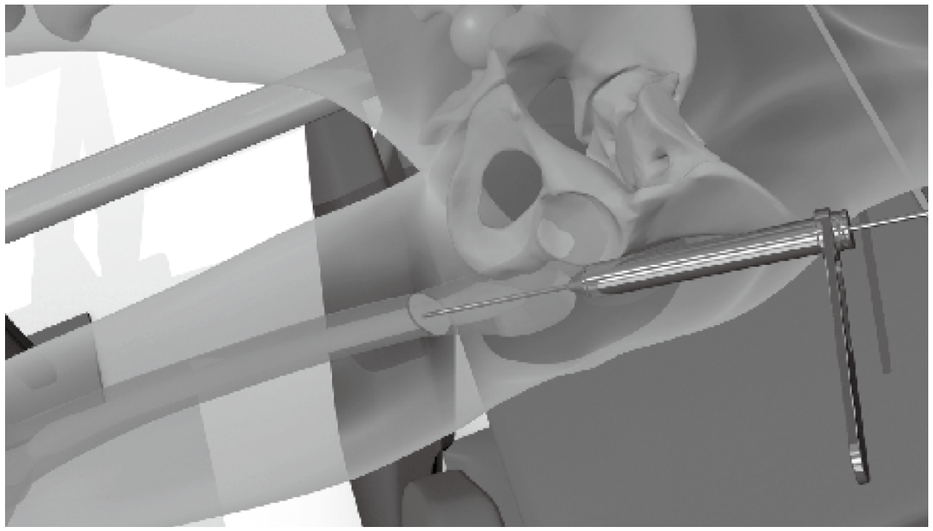
In AP view, entry point of Intramedullary Nail is usually on slightly lateral to the tip of the greater trochanter in the 6°curved extension of the medullary cavity, as the ML angle of Intramedullary Nail is 6°. In lateral view, verify whether the position of the guide wire is straight and in the centre of the medullary cavity, Make a incition by awl.



3 置入入路导针
INSERTION OF THE GUIDE WIRE

经切口插入入路导向套筒和入路克氏针套筒至已确定的进针点；延入路克氏针套筒置入Φ3.2螺纹导针后，取出入路克氏针套筒。

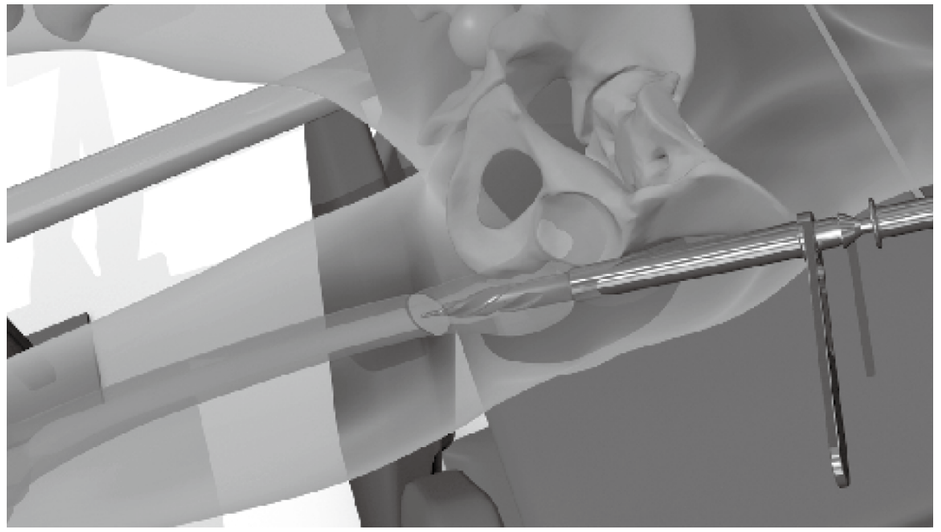
Position both Entry Drill Guide and Entry Drill Sleeve for Guide Wire at the determined entry point. Insert Φ3.2 Guide Wire through the Protection Sleeve and the Drill Sleeve. Then remove the Drill Sleeve.



4 股骨入路开口
OPENING OF THE FEMUR

延克氏针通过入路导向套筒插入带有快捷手柄的Φ17入路扩髓钻；钻入骨皮质，直至限深处；取出入路导向套筒和导针。

Guide Entry Reamer through Entry Drill Guide over Φ3.2 Guide Wire and drill with T-handled Universal Chuck as far as the stopper on Entry Drill Guide. Remove Entry Drill Guide and the Guide Wire.



5 组装髓内钉和手柄
ASSEMBLY OF INTRAMEDULLARY NAIL AND INSERTION HANDLE

用8mm球头六角扳手将吊紧螺栓和术前准备合适长度的髓内钉固定于手柄。

注意：

- 吊紧螺栓必须要拧紧，防止置入髓内钉时偏离髓道导致HA5远端锁钉无法对准。

Guide the Connecting Screw through the Insertion Handle and secure preoperatively determined Intramedullary Nail to the insertion handle using the Hexagonal Wrench with spherical head.

Note:

- Ensure that the connection between Intramedullary Nail and Insertion Handle is tight to avoid deviations when inserting the Lag Screw through the Insertion Handle.

6 插入髓腔钉
INSERTION OF INTRAMEDULLARY NAIL

尽可能远的用手边转动边向前推插髓内钉进入髓腔。如果手动置入有困难，安装打入器在手柄上，用固定锤柔和敲击打入器协助髓内钉的插入。

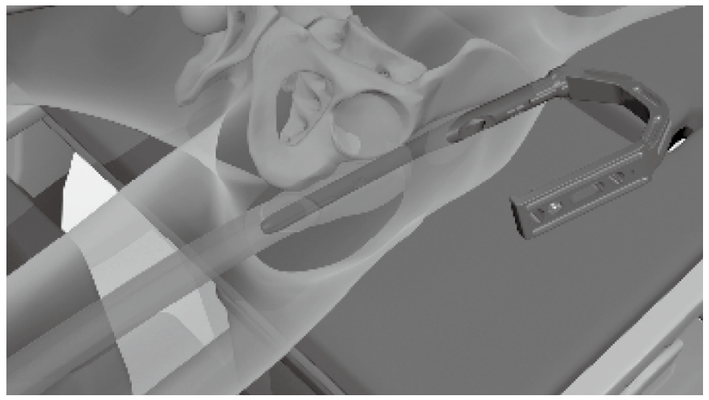
注意：

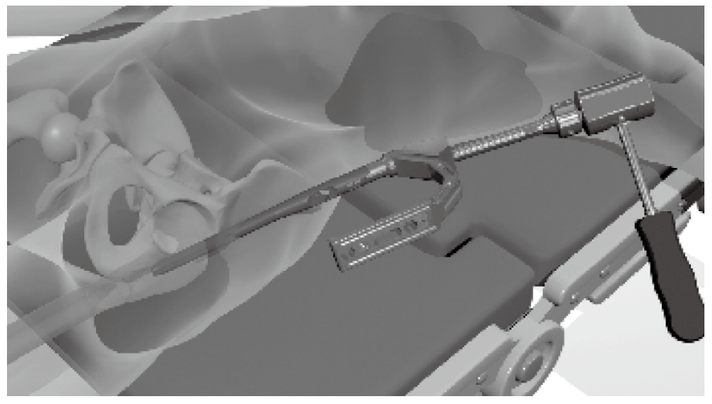
- 避免暴力，防止复位的丢失或医源性的骨折。

Carefully insert the Intramedullary Nail manually as far as possible into the femoral opening. Slight twisting hand movements help insertion. If necessary, light blows with the Hammer on the Impactor of the Insertion Handle can support the insertion of Intramedullary Nail.

Note:

- Use only light blows by way of avoiding unnecessary use of force to prevent loss of reduction or an iatrogenic fracture.

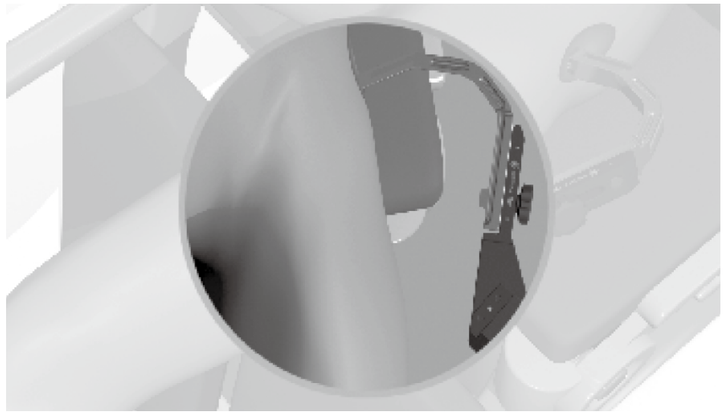


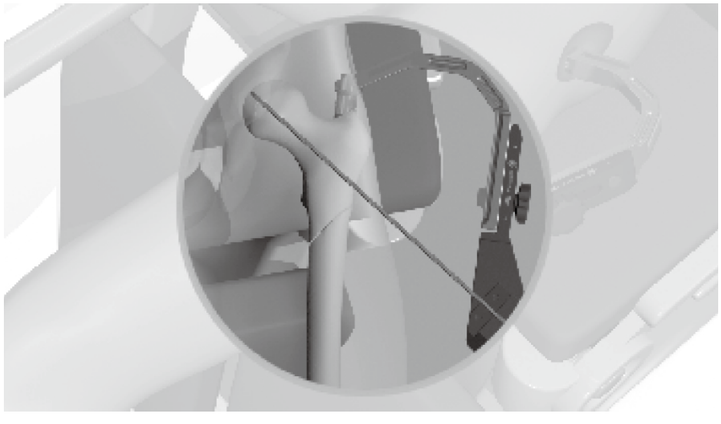


7 准备置入导针
PREPARATION OF GUIDE WIRE INSERTION

稳固安装所需角度的近端瞄准器在手柄上。平行拉力螺钉瞄准孔轴线放置一导针于体表，正位透视下观察与股骨颈位置关系：导针投影应位于股骨颈下半部分。

Mount the appropriate Proximal Aiming device and fix it firmly to the insertion handle. On the body surface put one Guide Wire parallel to the central axis of the aiming hole for Lag Screw in the Aiming Device. And estimate the position of the Guide Wire that in AP view should be in the lower half of the femoral neck.





8 置入导针
INSERTION OF GUIDE WIRE

通过拉力螺钉套筒置入Φ3.2螺纹导针套筒和Φ3.2软组织保护器。按照近端瞄准器上标记，整体插入安装完成的拉力螺钉套筒；推进套筒至皮肤表面，在软组织保护器顶端做小切口；继续推进套筒直至股骨外侧皮质；锁紧拉力螺钉套筒固定螺栓于近段瞄准器，听到“喀嗒”一声；顺时针旋转固定螺栓，推进拉力螺钉套筒接触外侧皮质。

取出软组织保护器后，透视导引下置入螺纹导针。螺纹导针理想的位置应该是：一、正位片中，尖端距离股骨头关节软骨下不多于5mm；二、正位透视中，导针位于股骨颈的下半部份；三、侧位透视中，导针位于股骨颈的中央。

注意：

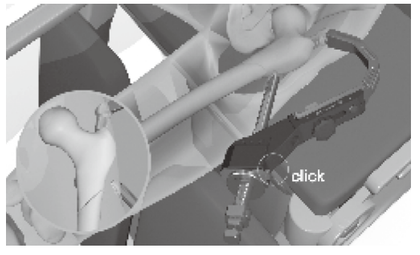
- 在置入拉力螺钉整个过程中，套筒必须与股骨接触。
- 适当旋紧固定螺栓，否则会影响整体装置的瞄准精度。

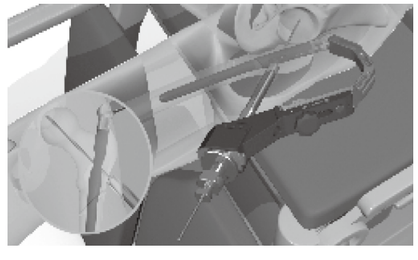
Insert Drill sleeve for Φ3.2 Guide Wire and Trocar through the Protection Sleeve for Lag Screw. Insert the entire sleeve assembly for Lag Screw through the Proximal Aiming Device to the skin, thereafter seeing marking on the Proximal Aiming Device. Make a stab incision in the area of the trocar tip. Promote the sleeve assembly through the soft tissues to the lateral cortex. Advance the Buttress Nut snaps into the Proximal Aiming Device. While inserting the guide wire after removing the Trocar, verify both direction and position under image intensifier in AP and lateral view.

In the AP view, the position of the guide wire should be in the lower half of the femoral neck. In lateral view, the wire should be positioned in the in the centre of the femoral neck. Insert the guide wire subchondrally into the femoral head, but at a distance of least 5mm from the joint.

Note:

- The sleeve assembly must be in contact with the bone during the entire Lag Screw implantation.
- Do not tighten the buttress nut too firmly as this could impair the precision of the Insertion Handle and sleeve assembly.

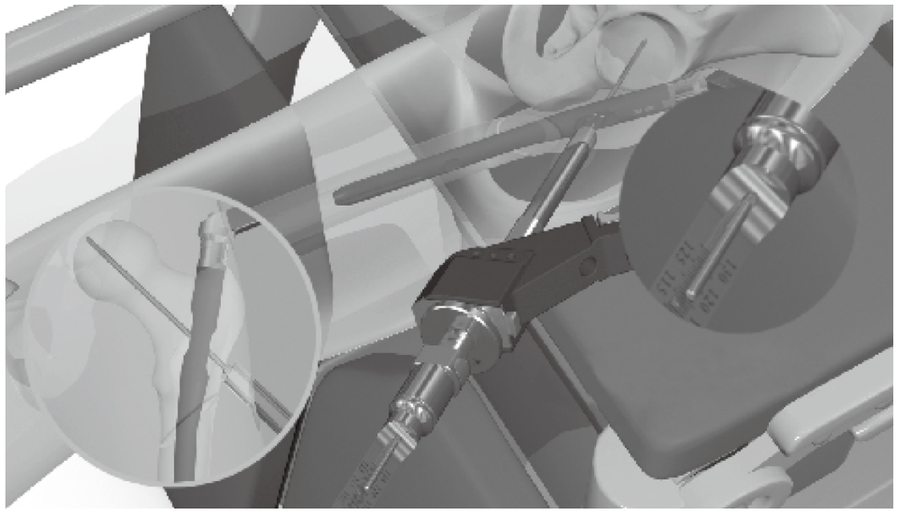




9 测量拉力螺钉长度
MEASURING OF LAG SCREW LENGTH

正侧位透视导引下确定螺纹导针合适位置后，用拉力螺钉测深尺测量套筒外导针长度；测出的长度，即是所需拉力螺钉的长度。

Guide Depth Gauge for Lag Screw over the Guide Wire, advance it to the Protection Sleeve and determine the length of the required Lag Screw. The correct position of Lag Screw is below the joint level.



10 股骨外侧皮质开孔
OPENING OF LATERAL CORTEX FOR LAG SCREW INSERTION

退出螺纹导针套筒，延导针插入近端皮质骨钻孔器，钻至限位处与拉力套筒外侧缘齐平时停止；退出近端皮质骨钻孔器。

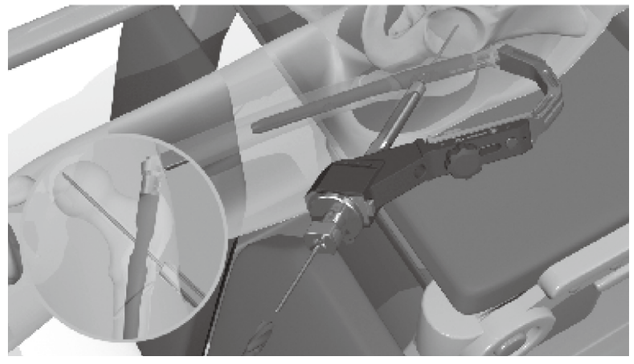
注意：

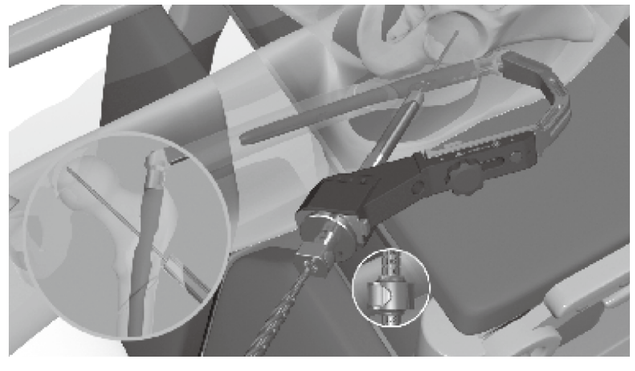
- 如果在置入近端皮质骨钻孔器发现螺纹导针出现轻度弯曲时，必须小心使用近端皮质骨钻孔器；
- 如果导针过度弯曲，则必须重新置入该导针或用新导针替换。

Carefully remove Drill Sleeve without changing the position of the Guide Wire. Push Drill Bit for opening proximal cortical bone over 3.2 mm Guide Wire, and drill to the stopper. This opens the lateral cortex.

Note:

- If the Guide Wire has been bent sl ightly during insertion, guide the Drill Bit over it using carefully forward and backward movements. However
- If the wire has been bent to a greater extent, reinsert it or replace it by a new Guide Wire. Otherwise, the tip of the Drill Bit risks to break off.

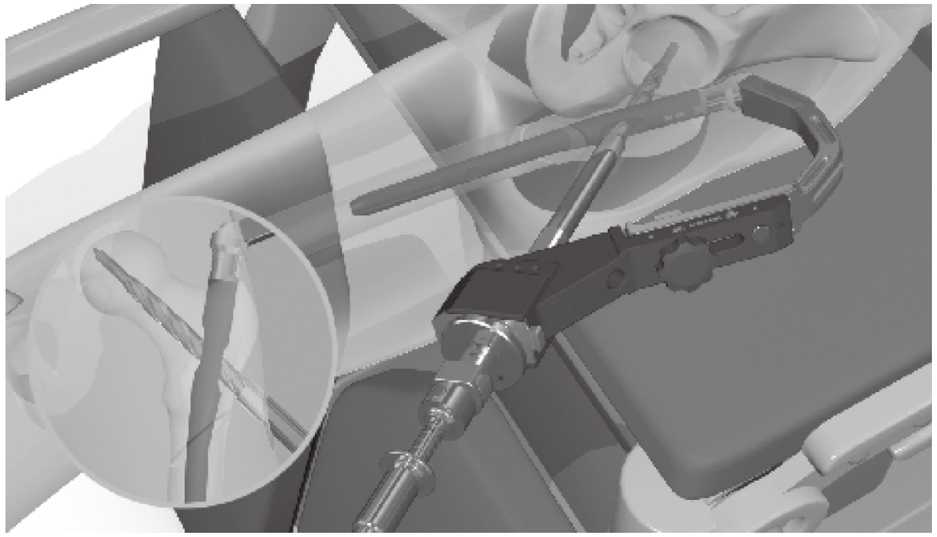




11 扩孔（选择性）
DRILL HOLE FOR LAG SCREW (SELECTION)

根据所需拉力螺钉的长度，用近端扩孔钻杆上限位器的头端做上标记；延螺纹导针置入近端 扩孔钻，直至限位器标记处停止。

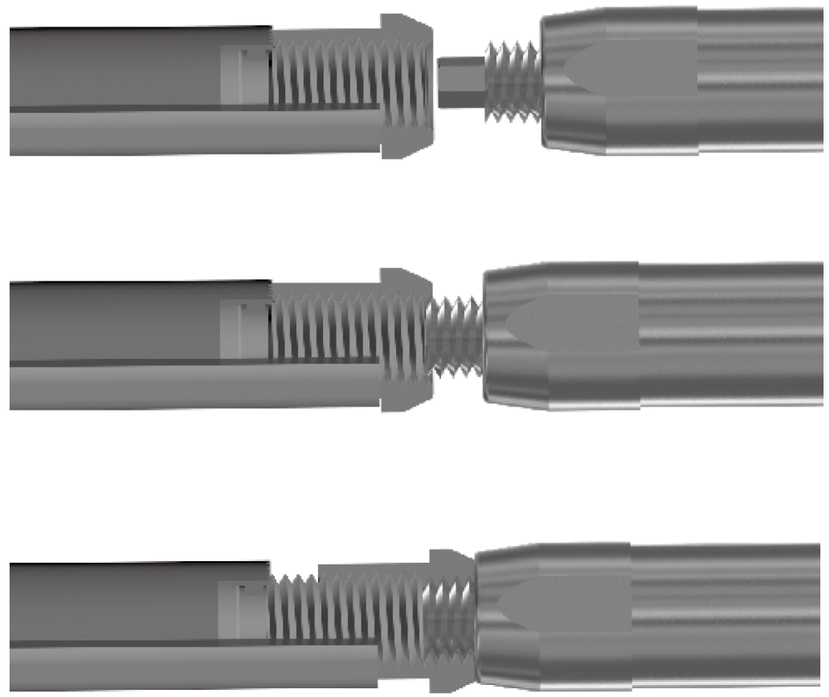
Set the measured length of Lag Screw on the Proximal Reamer in the corresponding position. Read off the correct length on the side of the stopper pointing towards the tip of the Drill Bit. Push the reamer over Guide Wire and drill to the stopper.



12 连接拉力螺钉和拉力螺钉打入器
ASSEMBLY OF LAG SCREW AND IMPACTOR FOR LAG SCREW

拉力螺钉是处于锁紧的状态。逆时针旋转置入拉力螺钉打入器于拉力螺钉内，直至打入器与拉力螺钉稳固的连接，拉力螺钉头端的螺片能够自由旋转。

The Lag Screw is supplied in a locked state. Use slight anticlockwise pressure to insert the Impactor for Lag Screw into the selected Lag Screw to the stopper. Then the blade rotates freely.



13 置入拉力螺钉
INSERTION OF LAG SCREW

按拉力螺钉套筒孔特有的形状，延螺纹导针置入拉力螺钉及其打入器；手动用固定锤缓缓敲击打入器尾部，推进拉力螺钉至股骨头内，顺时针旋转打入器，直至锁紧拉力螺钉，正位透视下拉力螺钉的螺片部与钉体部间隙消失；按下拉力螺钉上的按钮，取下拉力螺钉打入器和导针。

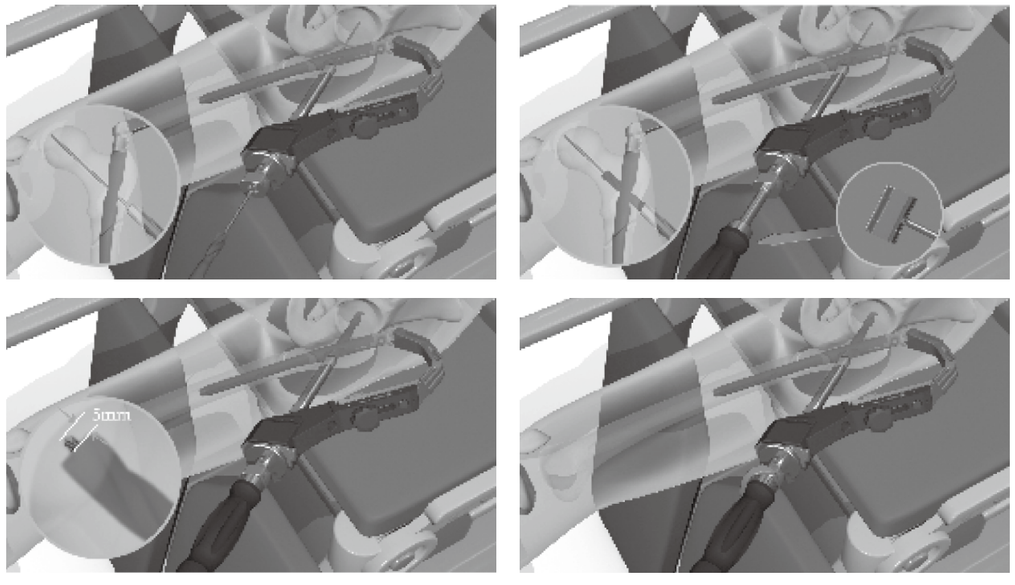
注意：

- 置入拉力螺钉过程中，切忌使用暴力；
- 如果拉力螺钉无法锁紧，退出该拉力螺钉，选择另外一个拉力螺钉重新置入。

In view of the particular shape of Lag Screw, align it with the Protection Sleeve for insertion. Insert both Lag Screw and Impactor over the Guide Wire through the Protection Sleeve until the Impactor snaps into the Protection Sleeve. Insert the Lag Screw to the stopper by hammering lightly with the Hammer. Turn the Impactor clockwise to the stopper. Verify Lag Screw locking intraoperatively that all gaps of Lag Screw are closed. Press the button on the Protection Sleeve to remove the Impactor. Remove and dispose of the Guide Wire.

Note:

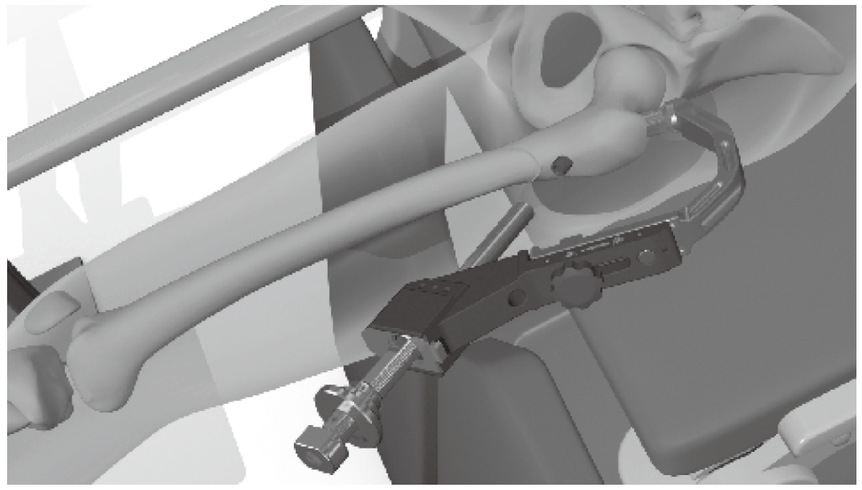
- Do not use unnecessary force when inserting the Lag Screw. If the Lag Screw cannot be locked, remove it and replace it by a new Lag Screw.
- If Lag Screw cannot be locked, remove it and replace it by a new Lag Screw.



14 取出拉力螺钉套筒
REMOVAL OF PROTECTION SLEEVE

按下近端瞄准器上按钮，取出拉力螺钉套筒。

Release and remove the Protection Sleeve by pressing the button on the Proximal Aiming Device.



15 远端静态锁定
STATIC DISTAL LOCKING

通过近端瞄准器上静态锁钉孔，置入HA5远端锁钉套筒、Φ4钻套和Φ4软组织保护器至皮肤表面。在软组织保护器定点处，做一小皮肤切口；通过切口，推进HA5远端锁钉套筒、Φ4钻套和Φ4软组织保护器直至股骨外侧表面；取出Φ4软组织保护器，置入Φ4骨钻，钻穿股骨对侧皮质。取出骨钻以及套筒，置入HA5远端锁钉测深尺；钩住股骨对侧皮质后，读数即是所需螺钉长度。

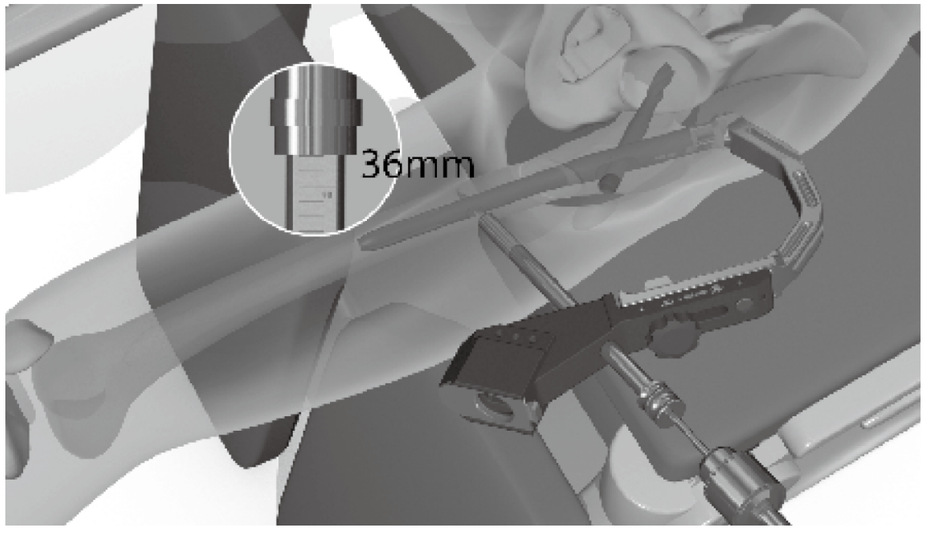
注意：

- 远端锁定前，必须保持整体的稳定性，否则会导致延迟愈合；
- 整个远端锁定过程中，保持瞄准器和手柄的稳定，否则会损坏髓腔钉。

Insert the drill sleeve assembly for distal locking, consisting of Distal Protection Sleeve for Locking Bolt, Φ4 Drill Sleeve and Φ3.2 Trocar, through the static locking hole in the Proximal Aiming Device to the skin. Then make a stab incision at the tip of Trocar. Then promote the drill sleeve assembly to the cortex. Remove Trocar and use the 4.0 mm Drill Bit to drill through both cortices. The Protection Sleeve should be in direct contact with the bone. Remove the 4.0 mm Drill Bit and Determine the length of Locking Bolt with the Depth Gauge for Locking Bolt. Advance the Depth Gauge to the cortex. Then draw back the hook until it engages in the opposite cortex. Remove the Depth Gauge.

Note:

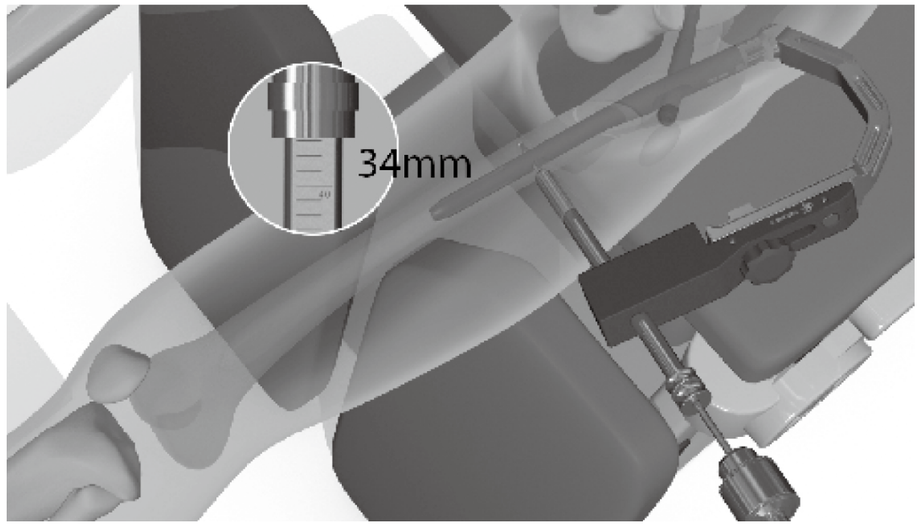
- Always make sure that no diastasis has occurred intraoperatively before beginning distal locking. Diastasis can cause delayed healing.
- Always ensure that the connection between Intramedullary Nail, Insertion Handle and Aiming Device is good, otherwise reaming for the Distal Locking Bolt can damage the Intramedullary Nail.



16 远端动态锁定
DYNAMIC DISTAL LOCKING

取下近端瞄准器，连接远端瞄准器至手柄，并拧紧螺栓；其余步骤同远端静态锁定步骤。

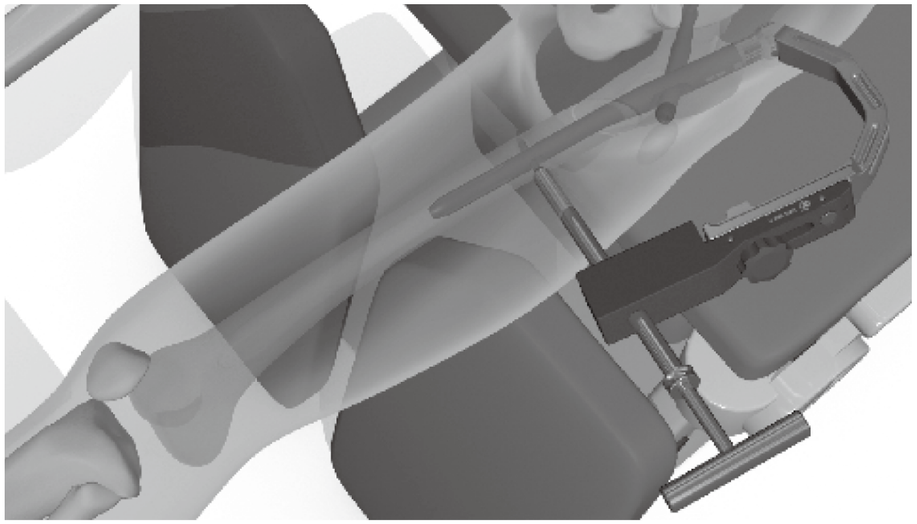
Remove the Proximal Aiming Device and mount the Distal Aiming Device for dynamic locking. Proceed as described in point 16.



17 置入HA5远端锁钉
INSERTION OF LOCKING BOLT, HA5

通过锁钉套筒，用SW3.5T型六角扳手拧入所需长度的锁钉；取出远端锁钉套筒。

Insert the Locking Bolt through the Protection Sleeve using Hexagonal Wrench, SW3.5T. Then remove the Protection Sleeve for Locking Bolt.



18 拆除手柄
REMOVAL OF HANDLE FROM INTRAMEDULLARY NAIL

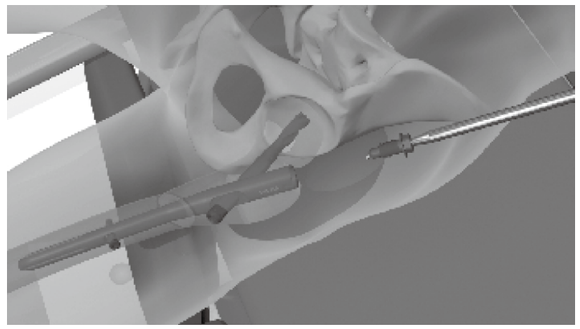
取下瞄准器，拧出吊紧螺栓，从手柄上髓腔钉上取下手柄。

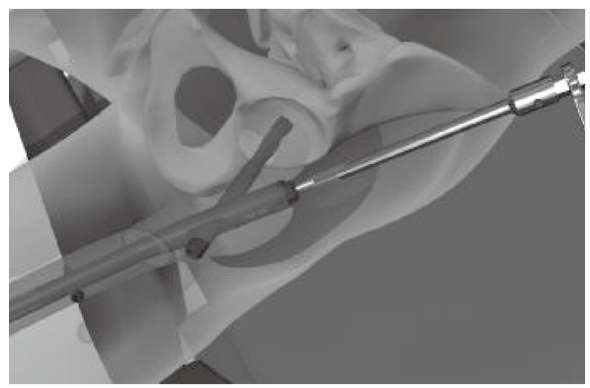
Remove the Aiming Device. use Hexagonal Wrench with spherical head to loosen the Connecting Screw and remove the Insertion Handle.

19 拧入封帽
INSERTION OF END CAP

连接封帽和封帽六角扳手在带钩导针上，如果需要可以连接封帽扳手延长杆在封帽六角扳手上配合弯形扳手或开口扳手，将封帽完全拧入髓腔钉头端内，以确保封帽不会滑脱；取下弯形扳手或开口扳手、封帽六角扳手和带钩导针。

I nsert the hook of Uncal Guide Wire through the selected End Cap. Then guide Hexagonal Wrench for End Cap over the guide wire to the End Cap. The End Cap is retained automatically as soon a s this connection is established. Guide t he cannulated End Cap t o the proximal end o f Intramedullary Nail. Use the Bicipital Wrench to secure the End Cap. Fully insert the End Cap into the nail. The l ast t urns o f the End Cap in t he I ntramedullary Nail w ill o ffer increased r esistance. Continue to turn until the stopper of the End Cap touches the Proximal end of Intramedullary Nail . This prevents the End Cap from slipping out. Remove Hexagonal W rench f or End Cap, B icipital Wrench and Uncal Guide Wire.



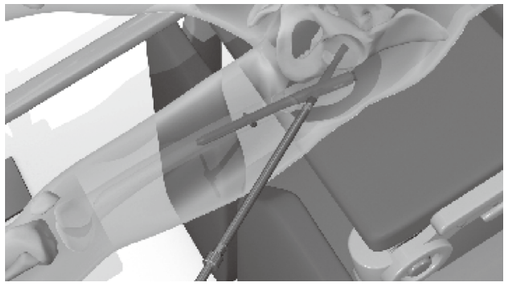


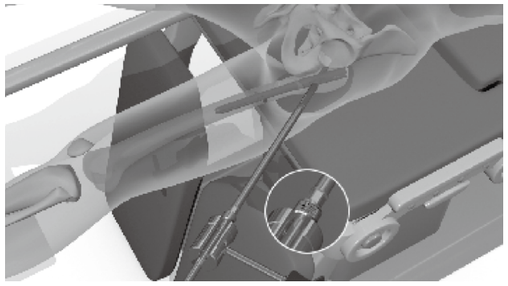
取出内植物
IMPLANT REMOVAL

1 取出拉力螺钉
REMOVAL OF LAG SCREW

在原切口疤痕处作切口，根据触诊或透视的导引下，确定拉力螺钉位置；温和的逆时针方向将拉力螺钉取出器拧入并锁紧于拉力螺钉尾部；用滑动锤延取出器滑杆，缓缓向取出器尾段打击，取出拉力螺钉。

After an incision through the old scars, locate the Lag Screw by palpation or under image intensification. Push the Extractor for Lag Screw and use gentle pressure to turn it anticlockwise into Lag Screw. Use light hammer blows with the Slotted Hammer to remove and dispose of Lag Screw.





2 取出封帽
REMOVAL OF END CAP

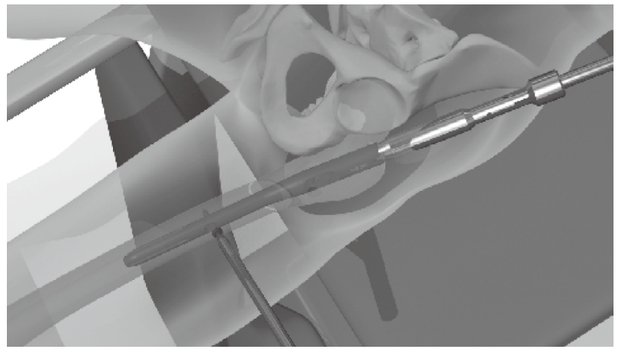
原手术切口疤痕作切口，通过封帽头端插入带钩导针，延弯形导针连接封帽六角扳手和封帽；配合弯形扳手或开口扳手，取出封帽。

After an incision through the old scars, insert the hook of Uncal Guide Wire through End Cap. Then guide Hexagonal Wrench for End Cap over the Guide Wire to the End Cap. As soon as this connection is established, remove the End Cap using Bicipital Wrench.

3 取出HA5远端锁钉
REMOVAL OF DISTAL LOCKING BOLT, HA5

稳固连接取钉器与髓腔钉，通过原手术切口疤痕作切口，插入带有螺钉把持套筒的SW3.5T型六角扳手，取出HA5远端锁钉。

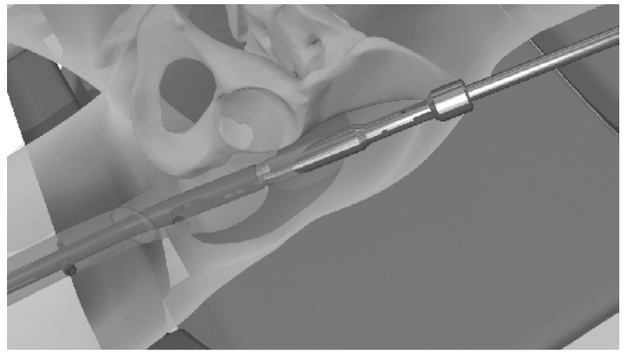
Attach the Extractor to Intramedullary Nail firmly. Thereafter an incision through the old scars, use Hexagonal Wrench, SW3.5T to remove the distal Locking Bolt.



4 取出髓腔钉
REMOVAL OF INTRAMEDULLARY NAIL

连接滑动锤至髓腔钉取出器，缓缓敲击取出器尾端，温和的取出髓腔钉。

Attach the Slotted Hammer to the Extractor to remove the Intramedullary Nail. Use gentle hammer blows to extract Intramedullary Nail from the femur.



修正拉力螺钉深度
CORRECT INSERTION DEPTH OF LAG SCREW

取下拉力螺钉打入器、拉力螺钉套筒和近端瞄准器，稳定连接拉力螺钉取出器至拉力螺钉尾部，逆时针旋转使拉力螺钉呈完全解锁状态；延拉力螺钉取出器滑杆用滑动锤向头端温柔打击，使拉力螺钉至所需深度；顺时针锁紧拉力螺钉。

Remove the Impactor, the sleeve assembly and the Proximal Aiming Device. Use gentle anticlockwise pressure to insert the Extractor for Lag Screw over the Guide Wire into the Lag Screw. Advance the now unlocked Lag Screw to the desired insertion depth by applying gentle blows with the Slotted Hammer. Turning it clockwise to the stopper allows relocking of the Lag Screw.

清洁
CLEANING

术中和术后，可以使用清洁导针清理中空工具中的空管。

Use the Cleaning Stylet for intraoperative and postoperative cleaning of the instrument cannulations.

工具
INSTRUMENTS

15045–001 近端导杆
Proximal Targeting Device Handle

15045–002 远端导杆
Distal Targeting Device Handle

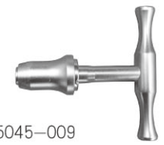
15045–003 固定手柄
Gamma Locking Nail Fixed Handle

15045–004 螺纹套管
Threaded Guide

15045–005 连接螺栓
Connecting Bolt

15045–007 导向器
Parallel Guide

15045–008
导针套筒
K-wire Screw Guide



15045–009
T型快换手柄
T-Quick Coupling Reamer Handle

15045–010 刀片取出器
Helix Blade Extractor

15045–011 滑动锤
Sliding Hammer

15045–012 固定锤
Fixed Hammer

15045–013 刀片打入器
Sliding Hammer

15045–014 锁定套管
Locking Screw Guide

15045–015 钻套
Drill Bit Guide

15045–016 钻套针
Pin Guide

15042–017 锁钉测深尺
Locking Screw Sliding Hammer

15042–018
连接螺栓扳手(SW8)
T-poly Screwdriver (Hex/SW8)

15042–019
远端锁钉六角起子(SW3.5)
Hex Screwdriver (Hex/SW3.5)

15042—020 清洁导针
Clean Pin

15042—021 尾帽空心起子+延长杆
Prolong Hex Screwdriver with End Cap

15045—022 清洁毛刷
Clean Brush

15045—023 近端限位空心钻
Cannulated Drill & Slide Limited Device

15045—024 近端扩髓钻
Rigid Reamer

15045—025 近端皮质骨空心钻
Cannulnted Drill

15045—026 骨钻(ø4.0)
Drill Bit (ø4.0)

15045—027 开口扳手(SW11)
Wrench (Hex/SW11)

15045—028 主钉打入器
Sliding Hammer

15045—031 刀片测深尺
Depth Gange

15045—032 导针套管(ø3.2)
Pin Guide (ø3.2)

15045—033 软组织保护器(ø3.2)
Obturator (ø3.2)

15045—034 刀片松紧扳手
Key for PFNA Blade

15045—035 主钉取出器
Broker Screw Extractor

15045—036 加力杆
Pin Wrench

15042—037 带钩导针
Guide Pin with Hook

15042—038
尾帽万向六角起子(SW4.0)
Poly-screwdriver (Hex/SW4.0) With End Cap

15042—039 螺纹导针
Threaded Kirschner Wire

15045—040
显影模板
Template

15045—041
软组织护板
Soft Tissue Protector

15045—042
刀片退出连接杆
Connecting Bar, Extraction
PFNA Blode

15045—043/143/243
静态远端导杆(170/240/240)
Gaide Bar (Static) (170/240/240)

15045—044
长钉远端连接导杆
Connecting Guide Bar

15045—045
长钉远端导杆
Guide Bar

15045—046
长钉远端定位架
Position Distal Outtigger

15045—047
空心开孔器
CannulatedAwl

15045—048
平头钻(ø5.2)
T-drill Bit (ø5.2)

15045—049 骨钻
Drill Bit

15045—050
定位杆钻套(ø5.2/ø8.1)
Position Rod Guide (ø5.2/ø8.1)

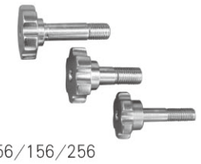
15045—051
球头导针
Ball Tip Guide Wire

15045—052 导针引入器
Pin Guide

15045—053 锁轮扳手(SW5)
Locking Srew Wrench (Hex/SW5)

15042—054 小扳手(SW3.0)
Wrench (Hex/SW3.0)

15042—055
导针把持器
Guide Wire Holding Clamp



15042—056/156/256
远端导杆锁轮/连接锁轮
Guide Bar Locking Screw/Connecting Screw

15042—057 软钻扩刀杆
Flexible Reamer

15042—058—958
软扩刀头(ø8.5—ø13)
Reamers (ø8.5-ø13)

15045—059
定位卡块
Locking Block

15045—060
定位杆
T-handled Stabilizing Rod

产品信息
PRODUCT INFORMATION

伽玛型髓内钉器械包II型
GAMMA INTRAMEDULLARY NAILS INSTRUMENTS II

器械编号 Producdt No.	器械名称	Product Name	数量 Qty
15045—001	近端导杆	Proximal Targeting Device Handle	1
15045—002	远端导杆	Distal Targeting Device Handle	1
15045—003	固定手柄	Gamma Locking Nail Fixed Handle	1
15045—004	螺纹套筒	Threaded Guide	1
15045—005	连接螺栓	Connecting Bolt	1
15045—007	导向器	Parallel Guide	1
15045—008	导针套筒	K-wire Screw Guide	1
15045—009	T型快换手柄	T-Quick Coupling Reamer Handle	1
15045—010	刀片取出器	Helix Blade Extractor	1
15045—011	滑动锤	Sliding Hammer	1
15045—012	固定锤	Fixed Hammer	1
15045—013	刀片打入器	Sliding Hammer	1
15045—014	锁钉套管	Locking Screw Guide	1
15045—015	钻头套管(Φ4)	Drill Bit Guide (Φ4)	1
15045—016	钻套针(Φ4)	Pin Guide (Φ4)	1
15045—017	锁钉测深尺	Locking Screw Sliding Hammer	1
15045—018	连接螺栓扳手(SW8)	T-poly Screwdriver (Hex/SW8)	1
15045—019	远端锁钉六角扳手(SW3.5)	Hex Screwdriver (Hex/SW3.5)	1
15045—020	清洁导针	Clean Pin	2
15045—021	尾帽空心起子+延长杆	Prolong Hex Screwdriver with End Cap	1
15045—022	清洁毛刷	Clean Brush	2
15045—023	近端限位空心钻	Cannulated Drill & Slide Limited Device	1
15045—024	近端扩髓钻	Rigid Reamer	1
15045—025	近端皮质骨空心钻	Cannulnted Drill	1
15045—026	骨钻(Φ4)	Drill Bit (Φ4)	2
15045—027	开口扳手(SW11)	Wrench (Hex/SW11)	1
15045—028	主钉打入器	Sliding Hammer	1
15045—031	刀片测深尺	Depth Gange	1
15045—032	导针套管(Φ3.2)	Pin Guide (Φ3.2)	1
15045—033	软组织保护器(Φ3.2)	Obturator (Φ3.2)	1
15045—034	刀片松紧扳手	Key for PFNA Blade	1
15045—035	主钉取钉器	Broker Screw Extractor	1
15045—036	加力杆	Pin Wrench	1
15045—037	带钩导针	Guide Pin with Hook	1
15045—038	尾帽万向六角起子(SW4.0)	Poly-screwdriver With End Cap (Hex/SW4.0)	1
15045—039	螺纹导针(Φ3.2)	Threaded Kirschner Wire (Φ3.2)	2
15045—000	器械盒	Instrument Case	1

(加长型)伽玛型髓内钉器械包II型
(EXTRO LONG) GAMMA INTRAMEDULLARY NAILS INSTRUMENTS II

器械编号 Producdt No.	器械名称	Product Name	数量 Qty
15045—001	近端导杆	Proximal Targeting Device Handle	1
15045—003	固定手柄	Gamma Locking Nail Fixed Handle	1
15045—004	螺纹套筒	Threaded Guide	1
15045—005	连接螺栓	Connecting Bolt	1
15045—007	导向器	Parallel Guide	1
15045—008	导针套筒	K-wire Screw Guide	1
15045—009	T型快换手柄	T-Quick Coupling Reamer Handle	1
15045—010	刀片取出器	Helix Blade Extractor	1
15045—011	滑动锤	Sliding Hammer	1
15045—012	固定锤	Fixed Hammer	1
15045—013	刀片打入器	Sliding Hammer	1
15045—014	锁钉套管	Locking Screw Guide	1
15045—015	钻头套管(Φ4)	Drill Bit Guide (Φ4)	1
15045—016	钻套针(Φ4)	Pin Guide (Φ4)	1
15045—017	锁钉测深尺	Locking Screw Sliding Hammer	1
15045—018	连接螺栓扳手(SW8)	T-poly Screwdriver (Hex/SW8)	1
15045—019	远端锁钉六角扳手(SW3.5)	Hex Screwdriver (Hex/SW3.5)	1
15045—020	清洁导针	Clean Pin	2
15045—021	尾帽空心起子+延长杆	Prolong Hex Screwdriver with End Cap	1
15045—023	近端限位空心钻	Cannulated Drill & Slide Limited Device	1
15045—024	近端扩髓钻	Rigid Reamer	1
15045—025	近端皮质骨空心钻	Cannulnted Drill	1
15045—027	开口扳手(SW11)	Wrench (Hex/SW11)	1
15045—031	刀片测深尺	Depth Gange	1
15045—034	刀片松紧扳手	Key for PFNA Blade	1
15045—038	尾帽万向六角起子(SW4.0)	Poly-screwdriver With End Cap (Hex/SW4.0)	1
15045—039	螺纹导针(Φ3.2)	Threaded Kirschner Wire (Φ3.2)	2
15045—040	显影模板	Template	1
15045—041	软组织护板	Soft Tissue Protector	1
15045—042	刀片退出连接杆	Connecting Bar, Extraction PFNA Blode	1
15045—043/143/243	静态远端导杆(170/240/240)	Gaide Bar (Static) (170/240/240)	1
15045—044	长钉远端连接导杆	Connecting Guide Bar	1
15045—045	长钉远端导杆	Guide Bar	1
15045—046	长钉远端定位架	Position Distal Outtigger	1
15045—047	空心开孔器	Cannulated Awl	1
15045—048	平头钻(Φ5.2)	T-drill Bit (Φ5.2)	1
15045—049	骨钻(Φ4.2)	Drill Bit (Φ4.2)	3
15045—050	定位杆钻套(Φ5.2/Φ8.1)	Position Rod Guide (Φ5.2/Φ8.1)	1
15045—051	球头导针	Ball Tip Guide Wire	1
15045—052	导针引入器	Pin Guide	1
15045—053	锁轮扳手(SW5)	Locking Srew Wrench (Hex/SW5)	1
15045—054	小扳手(SW3.0)	Wrench (Hex/SW3.0)	1
15045—055	导针把持器	Guide Wire Holding Clamp	1
15045—056/156/256	导杆远端锁轮/连接锁轮	Guide Bar Locking Screw/Connecting Screw	3
15045—057	软钻扩刀杆	Flexible Reamer	2
15045—058—958	软扩刀头(Φ8.5—Φ13)	Reamers (Φ8.5-Φ13)	10
15045—059	定位卡块	Locking Block	1
15045—060	定位杆	T-handled Stabilizing Rod	1
15045—000	器械盒	Instrument Case	1

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