SKII CR

SKII CR High Flexion Total Knee System

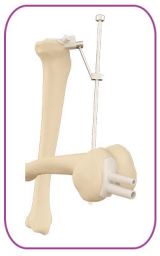
Surgical Technique

JUST KNEE 第二代 熊掌与鱼兼得

JUST 嘉思特医疗
MEDICAL

KNEE 膝关节阶梯性手术

在国际CNAS实验室完成1000万次胫骨假体动态循环疲劳试验，试验结果优异， 产品无断裂风险；在


PSI AUSK单髁


PSI HTO截骨导板


PSI SK全膝

股骨髁


AUSK 活动型


AUSK 固定型


XI


XII CR


XI

平台垫


AUSK 活动型

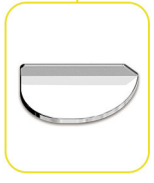

AUSK 固定型


XI


XII CR/AS


XI

胫骨平台


AUSK 活动型


AUSK 固定型


XI

延长杆 垫块


直型延长杆


偏心延长杆


胫骨中

组套图


AUSK
活动型单间室
膝关节假体系统


AUSK
固定型单间室
膝关节假体系统


XI PS初次全膝关节系统


XII CR初次全膝关节系统

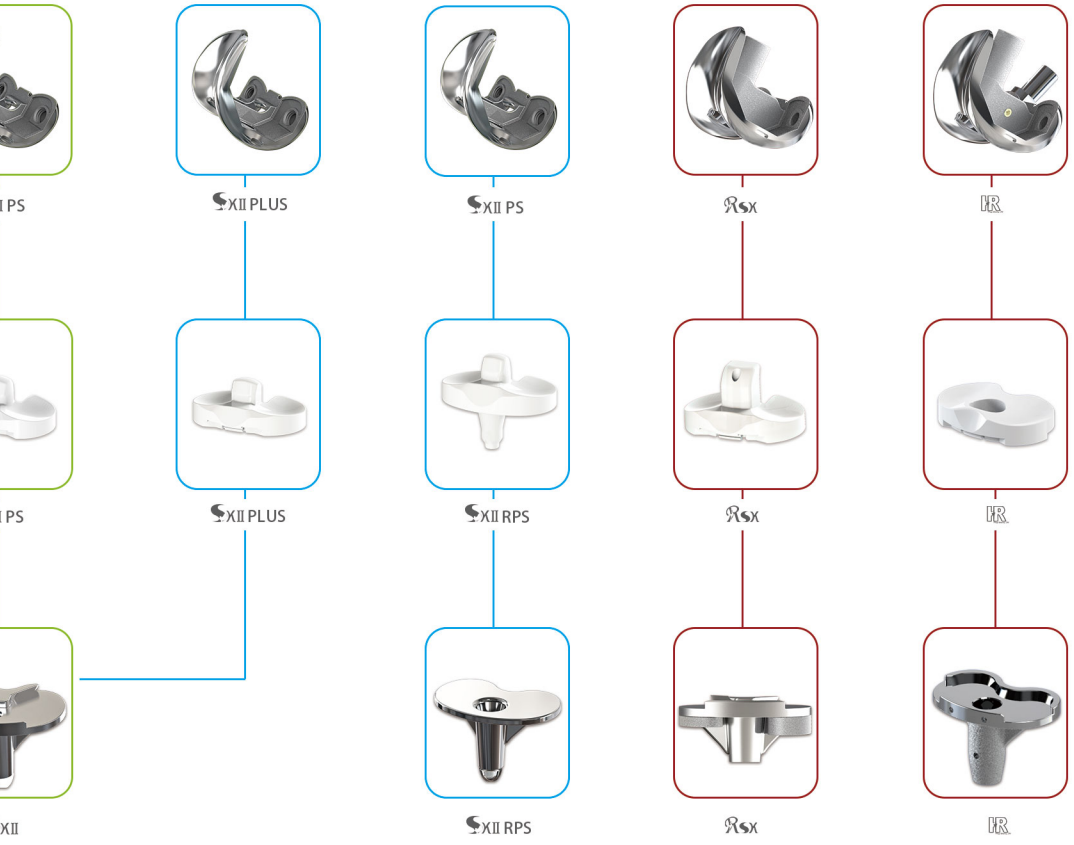

XII PS初次

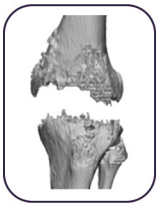
—PSI系列— 保膝 普通初次

术产品解决方案倡导者

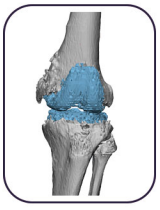
在国际Endolab实验室完成500万次动态磨损试验，试验结果优异，产品实现耐磨损的承诺。

嘉思特创研院　嘉思特微信公众号

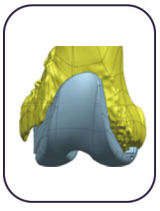




骨骼模型还原-1



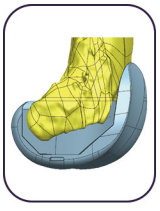
骨骼模型还原-2



定制假体设计

心型垫块　胫骨内外侧垫块　股骨远端内外侧垫块　股骨后髁垫块　膝关节 Spacer

全膝关节系统　XII Plus初次全膝关节系统　XII RPS初次全膝关节系统　RSX 翻修全膝关节系统　HR 旋转铰链膝关节系统

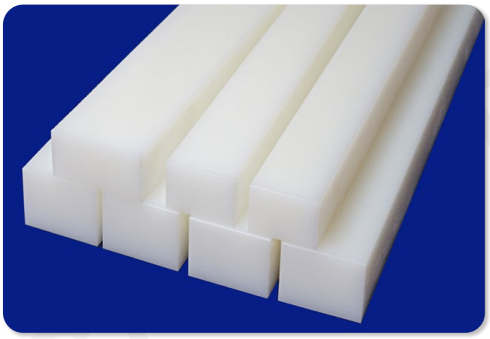


定制产品模拟预装

复杂初次　翻修　定制化

Imported Raw Material

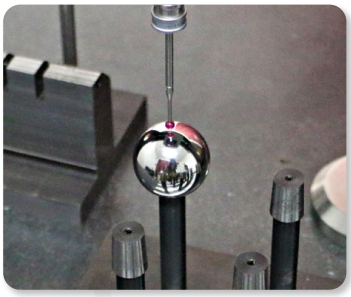
All raw material of UHMWPE inserts were manufactured in Germany, meeting the technical requirements in ISO 5834 part 2 and ASTM F648.



Precise Processing

Strict Inspection

JUST MEDICAL Inspection Center

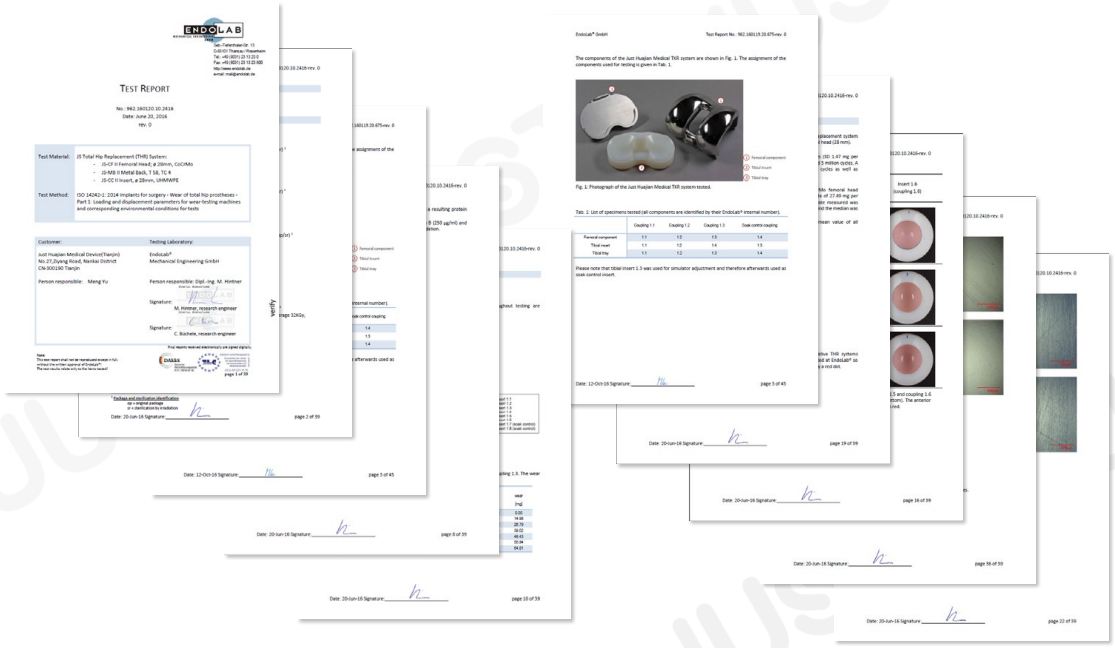


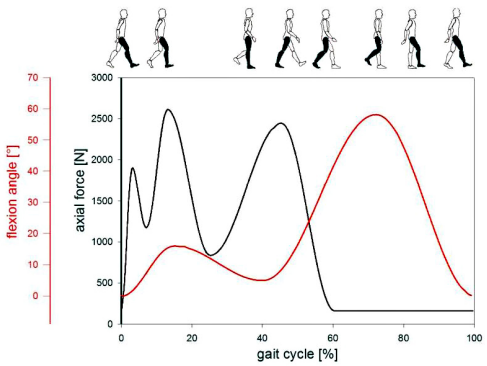
Wear Test in EndoLab®

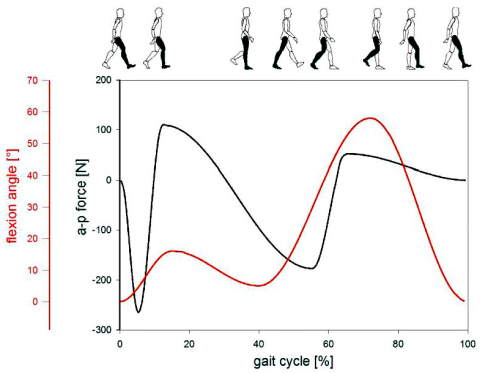
EndoLab® GmbH offers a variety of technological implant testingservices to develop and certify medical products.

EndoLab® is an accredited (DAkkS O-PL-18838-02-00) and certified (ZLG-P-944.98.07) test laboratory according to DIN EN ISO/IEC 17025 and 93/42/EWG.

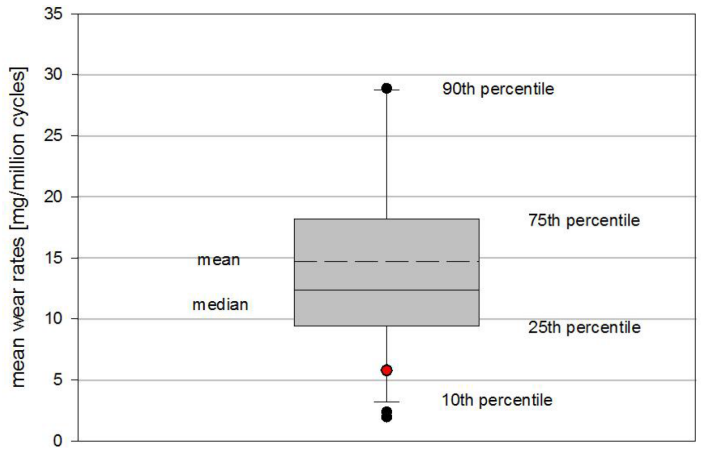
The company is a spin-off from the Technical University of Munich and is closely connected to several national and international research departments.







▲ The purpose of the test was to determine the wear behavior of the Just Huajian Medical fixed bearing posterior stabilized TKA system.



A mean tibial insert wear rate of 5.79 mg per million cycles was determined after 5.0 million cycles, which was found below the mean value of all comparative TKR systems tested at EndoLab® 14.73 mg per million cycles.

▲ The value established herein is marked by a red dot.

Patent Certificate

Patent Name：An integrated structure of femoral trial and intercondylar notch preparation for CR and PS.

Patent No.：ZL 2015 1 0940960.0

Patent Name：A femoral condylar prosthesis with the modified trochlear groove.

Patent No.：ZL 2015 2 0299126.3

Patent Name：Tibial plateau prosthesis.

Patent No.：ZL 2016 3 0617285.3

High-Flexion, Versatile, Simplified

Meeting the needs of primary total knee replacement

◆ Design Features

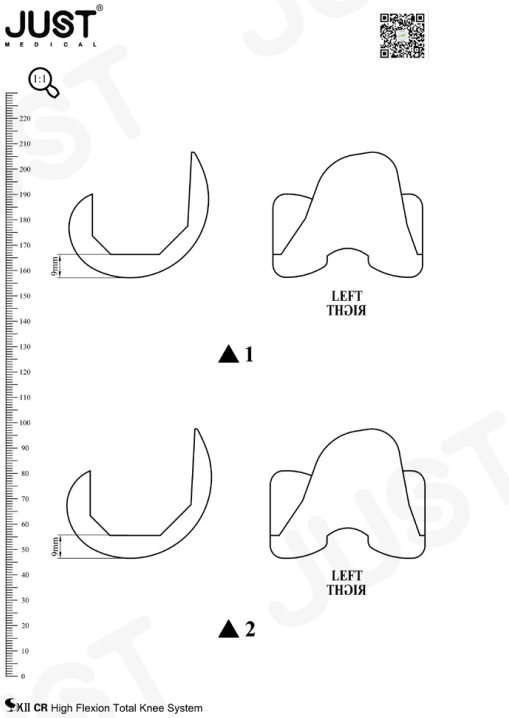
- ◆ Sizing;
- ◆ Optimized patellofemoral articular surface: deeper, extended, swept-back, wider trochlear groove;
- ◆ According to the function of the ligaments, various methods can be switched during the operation:

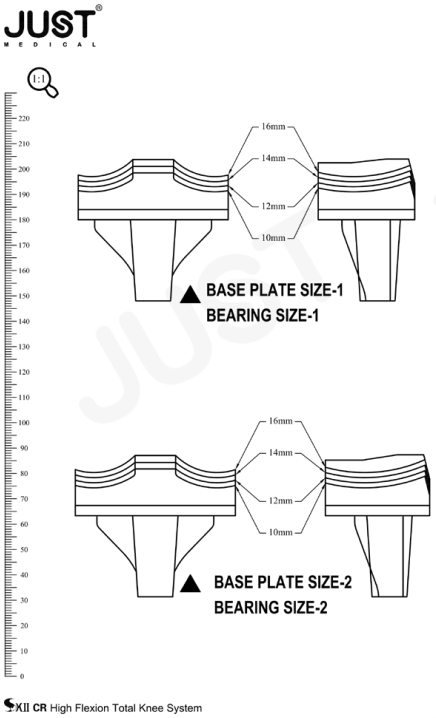
  A: Both standard (CR) and anterior stabilized (AS) tibial bearings are compatible with CR femoral prosthesis;

  B: One set of instruments for both cruciate retaining (CR) and posterior-stabilized (PS) knee replacement.
- ◆ Intercondylar bone mass is conserved to reduce the risk of periprosthetic fracture;
- ◆ The proprioceptive and stress transduction functions of the PCL are preserved.Effectively reduce postoperative wear.

Preoperatively Plan

In order to assess bone stock, potential ligament instability and the anatomical axis, a long standing A/P X-ray is recommended. Determine the angle between the anatomic and mechanical axis, assuring the distal femoral cut is perpendicular to the mechanical axis. Estimate femoral component size preoperatively by using lateral view X-ray and radiographic templates. Confirmation of the appropriate size component intraoperatively is critical for normal kinematics.





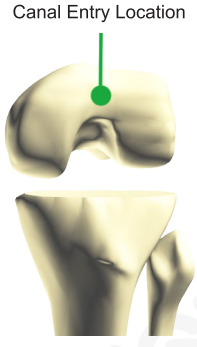


Figure1-1

I.Intramedullary Distal Femoral Resection

Utilize the intramedullary (IM) drill to penetrate the femoral canal. Place the canal entry location 1cm above the insertion of the posterior cruciate ligament ligament and slightly medial in the intercondylar notch (Figure 1-1).

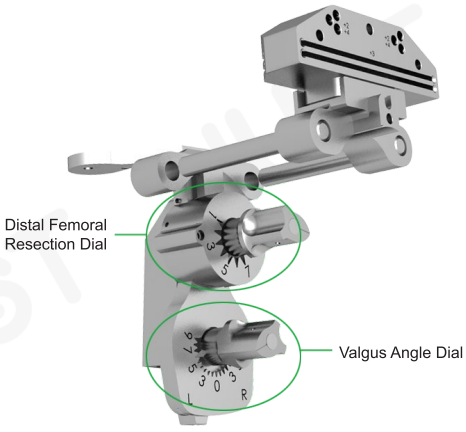


Figure1-2

Set the adjustable distal femoral resectio guide to the desired valgus angle by pressing and turning the valgus angle dial. A valgus angle setting of 5 to 7 degrees is recommended. Select the depth for 9mm of distal resection by turning the resection level dial (Figure 1-2).

Attach the adjustable distal guide adaptor and cut block to the adjustable femoral resection guide by sliding the two legs on the adaptor through the anterior holes of the resection guide. Continue sliding the adaptor until the block is sitting against the anterior cortex. Pin the resection block into place using quick release drill pins in the most proximal pin holes of the block. (Figure 1-3).

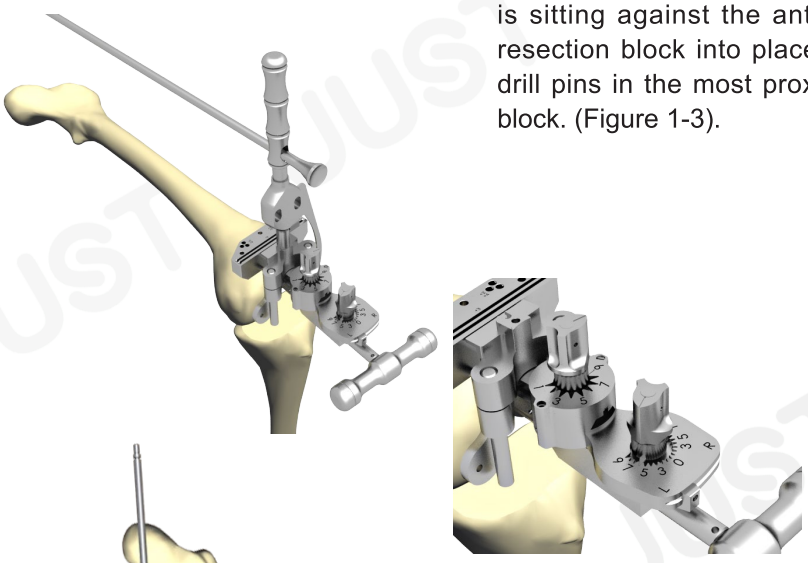


Figure1-3

To confirm the valgus angle, the alignment handle can be inserted into the adjustable distal resection guide adaptor and the alignment rod can be inserted and extended to the center of the femoral head Make sure the valgus is correct(Figure 1-4).

Figure1-4

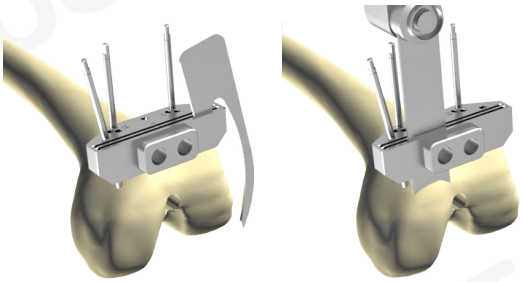


Figure1-5

The two resection slots of 0 and +3mm are available for the distal resection. The 0mm slot will resect 9mm from the most prominent part of the contacting distal condyle. If additional distal resection is required, the +3mm slot will resect 12mm. If additional distal resection is required beyond the +3mm slot, shift the resection guide proximal by utilizing the +2 or +4mm pin holes (Figure 1-5).

II. Femoral Sizing

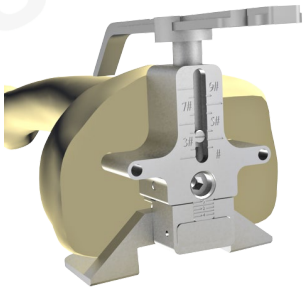


Figure2-1

Place the adjustable A/P Sizer flat against the resected distal surface with the feet in contact with posterior condyles of the femur. Two options are available when utilizing posterior feet: 3 degree external rotation (left and right) and neutral.(Figure 2-1).

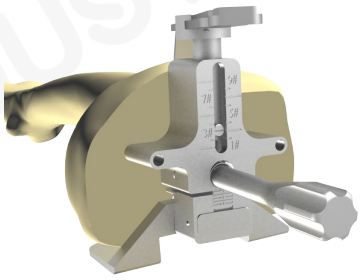


Figure2-2

Adjustable dial feet can be used with the A/P Sizer. They are available in left and right with the ability to set external rotation from 0 to 10 degrees. It is suggested that an initial setting of 3 degrees of external rotation be utilized. The femoral component size can now be read from the central scale.

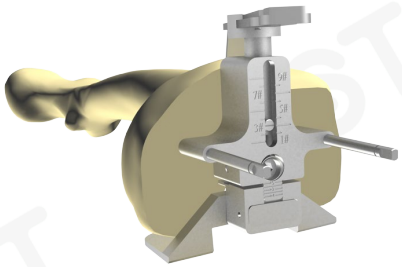


Figure2-3

Drill the two 4-in-1 cutting block location holes utilizing the drill pin. (Figure 2-3)

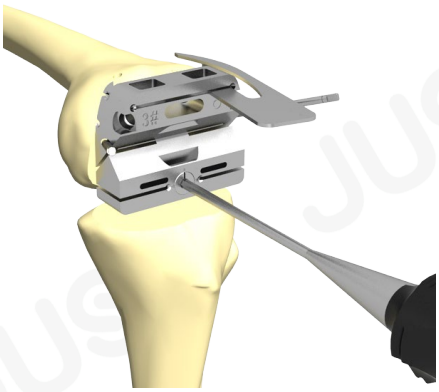


Figure3-1

III. Femoral 4-in-1 Resections

Choose the 4-in-1 block that matches the selected size on the A/P sizer and place it into the holes drilled into the distal femur. A feeler blade can be used to determine the amount of anterior bone resection.
If the feeler blade indicates a probability of notching, turn the screw mechanism in the central portion of the block, which in turn raises the level of resections anteriorly in 1mm increments. Moving the block anteriorly will resect additional posterior condylar bone.
Ensure the A/P block is sitting flush against the distal femur.(Figure 3-1).

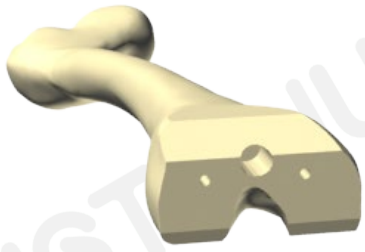


Figure3-2

If additional stability is required, pins can be placed in the side holes provided. Once the block position is satisfactory, resect the anterior and posterior bone, and anterior and posterior chamfers, with saw blade (Figure 3-2).

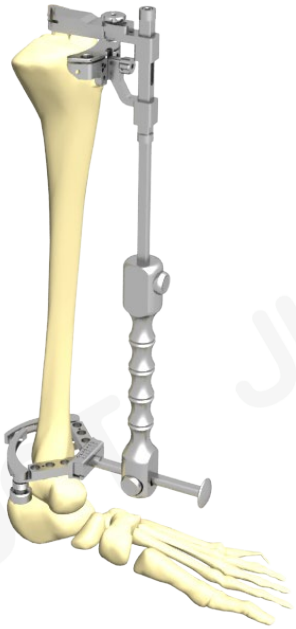


Figure4-1

IV.Extramedullary Tibial Resection

Set the tibial posterior slope using the posterior slope adjustment mechanism (3 degrees of posterior slope is built in the SKII tibial bearing). (Figure 4-1).

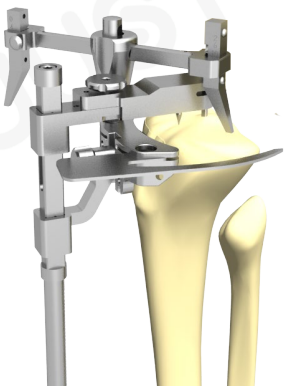


Figure4-2

Set varus/valgus rotation by aligning the proximal central marking on the tibial cutting block with the medial one third of the tibial tubercle. A pin can be inserted through the temporary fixation pin slot to fix the varus/valgus rotation. From the sagittal view, depress the side of the EM guide bottom and adjust the EM guide along the perpendicular shaft of the guide bottom until the EM guide is parallel with the shaft of the tibia.
Push the button on the stylus and snap the stylus into the cutting block. When referencing the lateral condyle, set the stylus to read 10mm. Set the stylus to read 2mm when referencing the medial condyle.
Press the lever on the EM guide to lock the resection level.

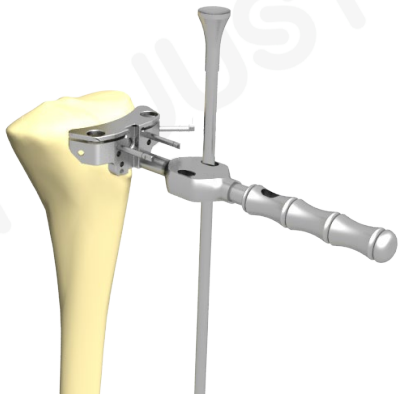


Figure4-3

To confirm alignment, an alignment tower can be placed on the cut block and a alignment rod can be inserted into the lateral hole of the guide(Figure 4-3)

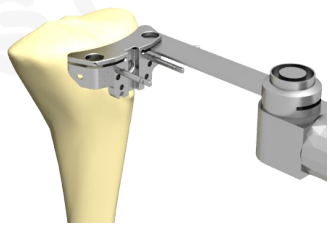
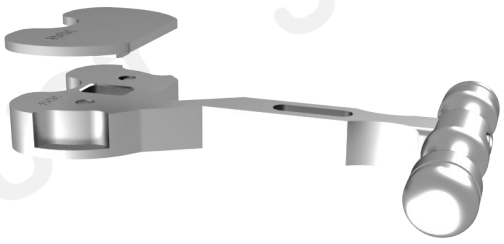


Figure4-4

Once the correct position is established, pins are used to secure the cutting block to the tibia through the most distal pin holes of the cut block. This will allow resection of +2 or +4mm of the proximal tibial plateau.
Remove the tibial resection guide, alignment tower and rod, leaving the tibial resection block in place. Resect the plateau.(Figure 5-4).



V. Flexion and Extension Gap Assessment and Balancing

Extent the knee, insert the Gap Spacer Base Block with the 8mm Gap Spacer Shim into the gap between femoral and tibial, check the stability of the knee in extension, a thicker Gap Spacer Shim can be used until the stability is achieved.

Do not use excessively thick Gap Spacer Shim. (Figure 5-1)

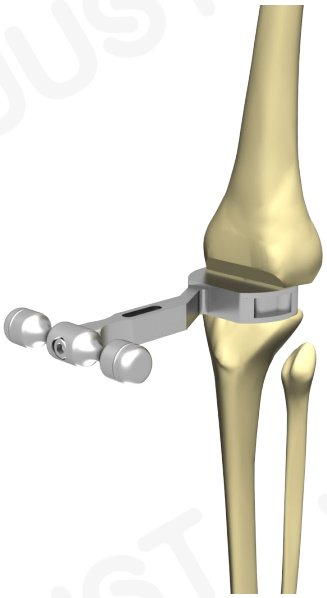


Figure 5-1: Extension Gap Assessment

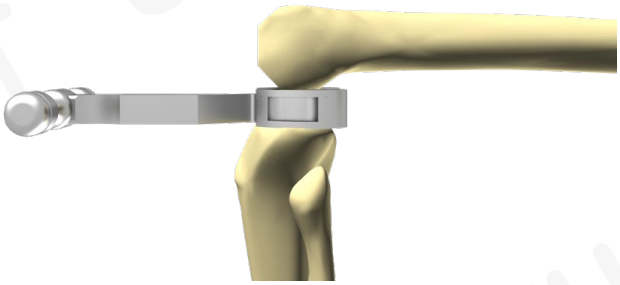


Figure 5-2: Flexion Gap Assessment

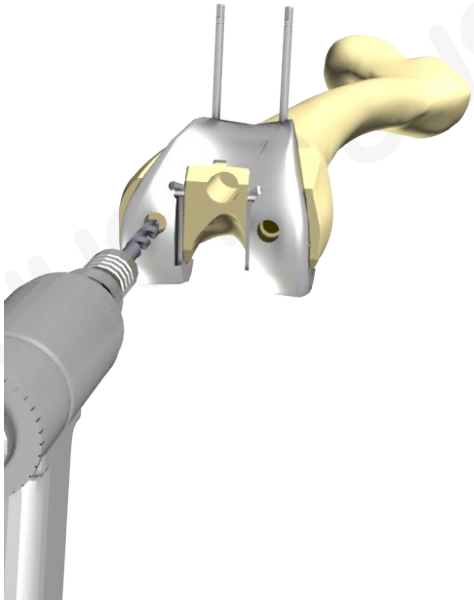


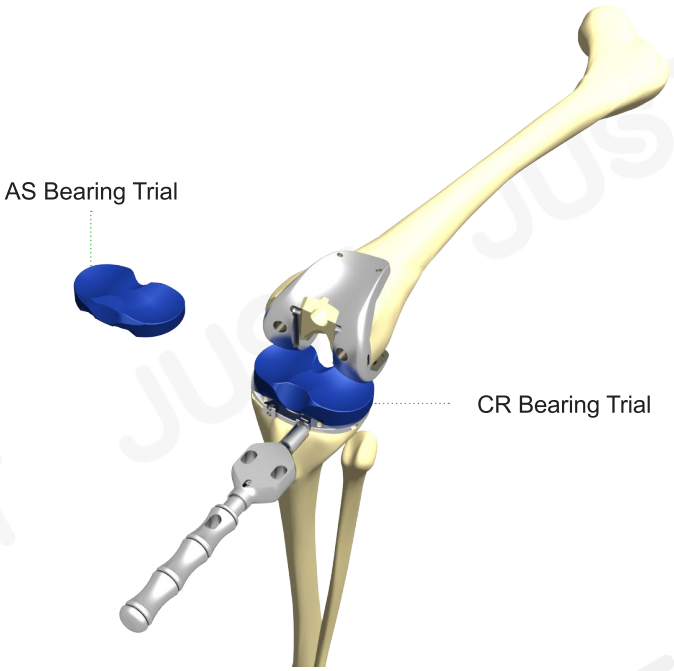
Figure 6-1: Femoral lug hole preparation

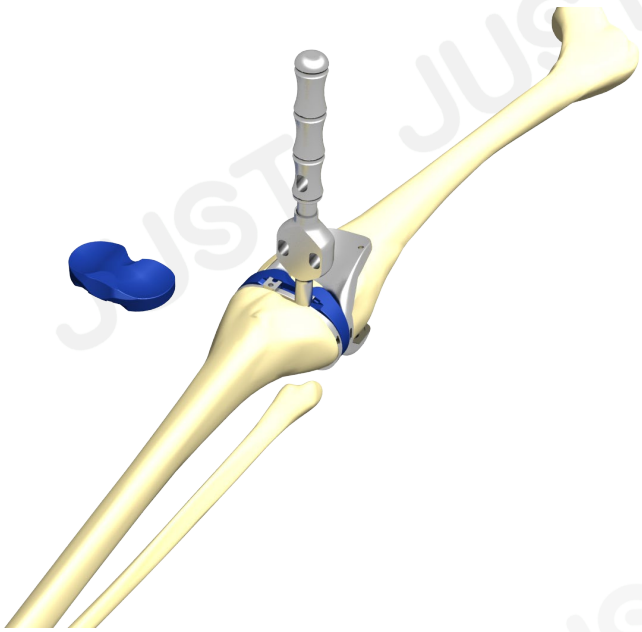
VI. Femoral Lug Hole Preparation

Drill the femoral lug holes through the Femora Trial using the Lug Drill. (Figure 6-1)

VII. Trial Reduction

Insert proper Femoral Trial, Tibial Plate Trial, Bearing Trial, check the range of motion and stability of the knee.





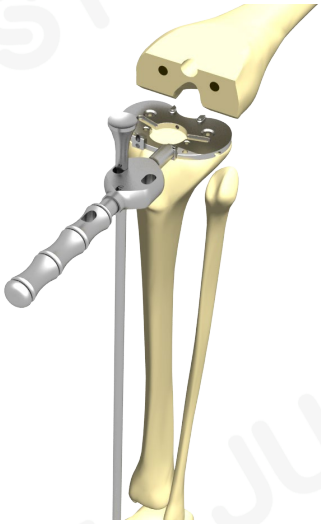


Figure8-1

VIII. Tibial Preparation

Slight external rotation is preferred to optimize patellofemoral tracking. Perform an initial trial reduction to confirm proper external rotation. When correct lateral rotation has been determined, mark the position by extending the anterior mark of the baseplate onto the anterior tibia with electrocautery (Figure 8-1).

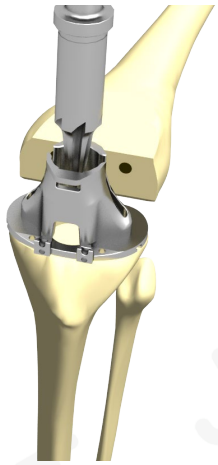


Figure8-2

Introduce the tibia reamer to provide an initial hole into the tibia. The tibia reamer should be fully engaged in the punch guide before power is started (Figure 8-2).

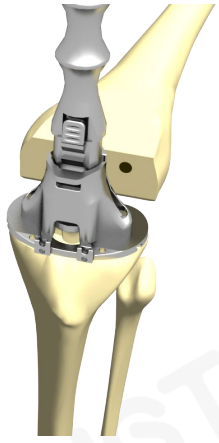


图 8-3：SKII 三角翼锉头与 SKII 冲击锉打拔器

When the keel punch is fully seated, the punch handle will automatically disengage from the keel punch, allowing the punch handle and the tibial punch tower to be removed together.(Figure 8-3.）

IX. Patellar Resection

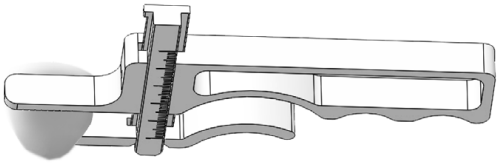


Figure9-1

Tilt the patella to 90 degrees and remove the osteophytes and peripatellar tissues down to the level of the tendinous insertions of quadriceps and patellar tendons. Determine the level of the cut through caliper measurement of the total patellar thickness (Figure 9-1).

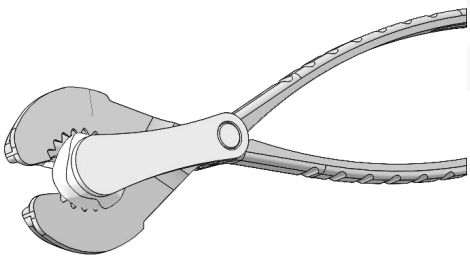


Figure9-2

Perform the initial patellar resection utilizing the patella clamp surface cut guide. Clamp the guide to perform a flat cut across the patella. Care should be taken to restore original patella thickness to prevent overstuffing of the patellofemoral joint. (Figure 9-2).

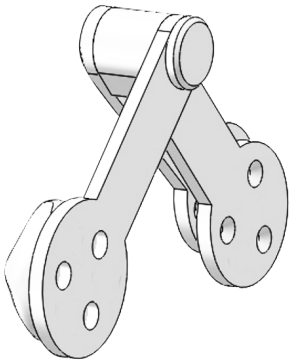


Figure9-3

Place the appropriately sized 3-peg drill guide onto the resected patella and use the patellar drill to prepare for the component pegs.
(Figure 9-3).

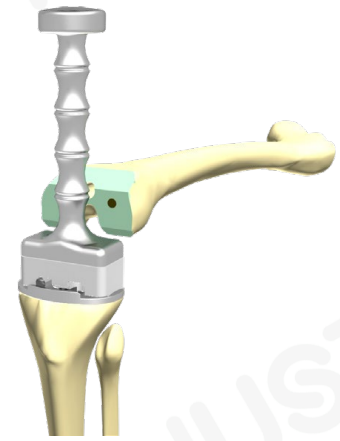


图 10-1：植入的胫骨假体

X. Implant Insertion

Implant insertion sequence:

(Patella) - Tibial Tray - Tibial Bearing - Femoral Condyle

Apply cement to the bone and implant surface. Carefully insert the tibial tray, avoiding malrotation. Impact it with the tibial tray impactor in order to pressurize the cement. Remove all extruded cement with a curette. (Figure 10-1)

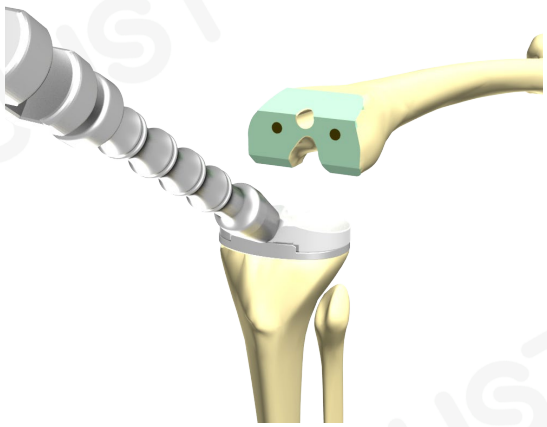


图 10-2：植入 CR 平台垫片

Tibial Bearing Insertion

Angle the tibial bearing posteriorly and slide the posterior tabs into the posterior undercuts of the tibial tray. With an impactor, impact the tibial bearing into place. (Figure 10-2)

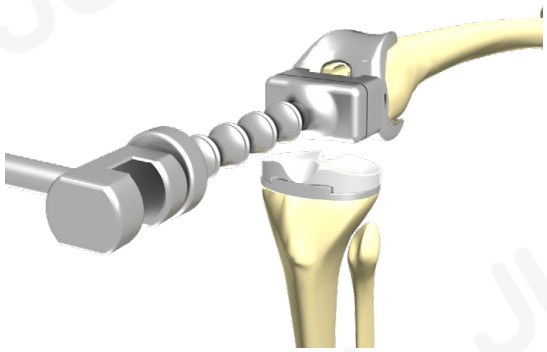


图 10-3：植入 CR 股骨髁假体

SKII CR Femoral Condyle Implantation

PS Femoral Component Insertion

Place the appropriate femoral component into position manually as far as possible. Impacting with blow helps to pressurize the cement. Remove the extruded cement with a curette.The bearing trial may be reinserted, and a trial reduction performed to confirm joint tension and stability. (Figure 10-3).

Parameter

Name	REF No.	Specification(L/R)	A/P(mm)	M/L(mm)
Femoral Condyle	549239	1# R	55	59
	549299	2# R	57	61
	549297	3# R	59	64
	549295	4# R	61	66
	549293	5# R	63	68
	549291	6# R	66	71
	549289	7# R	68	73
	549287	8# R	70	75
	549285	9# R	72	78
	549300	1# L	55	59
	549298	2# L	57	61
	549296	3# L	59	64
	549294	4# L	61	66
	549292	5# L	63	68
	549290	6# L	66	71
	549288	7# L	68	73
	549286	8# L	70	75
	549284	9# L	72	78

Name	REF No.	Specification	A/P (mm)	M/L (mm)	Thickness (mm)
Tibial Bearing (CR)	549283	1#×10	38	59	10
	549282	1#×12	38	59	12
	549281	1#×14	38	59	14
	549280	1#×16	38	59	16
	549279	2#×10	41/43	63/67	10
	549278	2#×12	41/43	63/67	12
	549277	2#×14	41/43	63/67	14
	549276	2#×16	41/43	63/67	16
	549275	4#×10	46/48	71/75	10
	549274	4#×12	46/48	71/75	12
	549273	4#×14	46/48	71/75	14
	549272	4#×16	46/48	71/75	16
	549271	6#×10	51/53	79/83	10
	549270	6#×12	51/53	79/83	12
	549269	6#×14	51/53	79/83	14
	549268	6#×16	51/53	79/83	16

Name	REF No.	Specification	A/P (mm)	M/L (mm)	Thickness (mm)
Tibial Bearing (AS)	549267	1#×10	38	59	10
	549266	1#×12	38	59	12
	549265	1#×14	38	59	14
	549264	1#×16	38	59	16
	549263	2#×10	41	63	10
	549262	2#×12	41	63	12
	549261	2#×14	41	63	14
	549260	2#×16	41	63	16
	549251	3#×10	43	67	10
	549250	3#×12	43	67	12
	549249	3#×14	43	67	14
	549248	3#×16	43	67	16
	549259	4#×10	46	71	10
	549258	4#×12	46	71	12
	549257	4#×14	46	71	14
	549256	4#×16	46	71	16
	549247	5#×10	48	75	10
	549246	5#×12	48	75	12
	549245	5#×14	48	75	14
	549244	5#×16	48	75	16
	549255	6#×10	51	79	10
	549254	6#×12	51	79	12
	549253	6#×14	51	79	14
	549252	6#×16	51	79	16
	549243	7#×10	53	83	10
	549242	7#×12	53	83	12
	549241	7#×14	53	83	14
	549240	7#×16	53	83	16

Name	REF No.	Specification	A/P(mm)	M/L(mm)
Tibial Tray	549307	1#	38	59
	549306	2#	41	63
	549305	3#	43	67
	549304	4#	46	71
	549303	5#	48	75
	549302	6#	51	79
	549301	7#	53	83

Name	REF No.	Specification
Patellar	548955	28×8
	548956	30×9
	548957	34×9

Case

Preoperative X-ray

Postoperative X-ray

JUST MEDICAL DEVICES (TIANJIN) CO., LTD.

Add: No.27, Ziyang RD, Nankai DIST, Tianjin, 300190, China

Tel：+86 22 2339 9501　　Mobile：+86 150 2277 3540 (WhatsApp)

Web：www.just-ortho.com

E-mail：sales@justmedical.cn

Version：202308-14