



Factory : 2-Ba #514 Shihwa Industrial Complex, Jeongwang-dong, Siheung-si, Gyeonggi-do, Korea
Tel : +82 31 319 0406~7 **Fax** : +82 31 319 0414

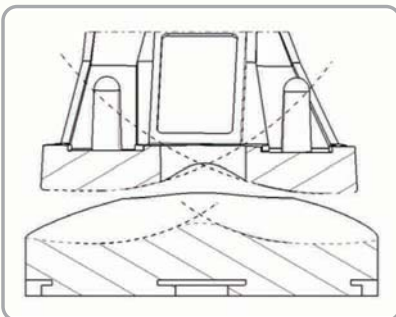
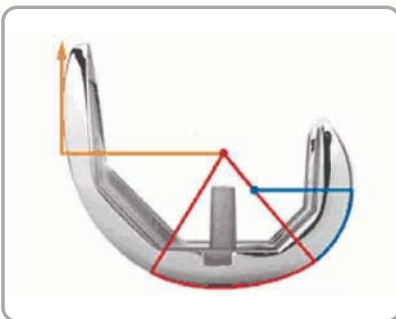
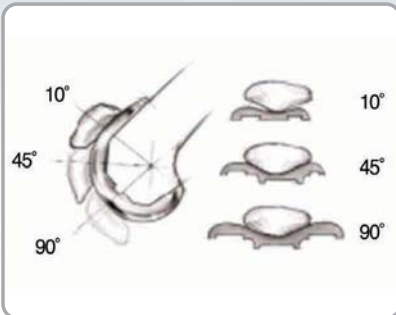
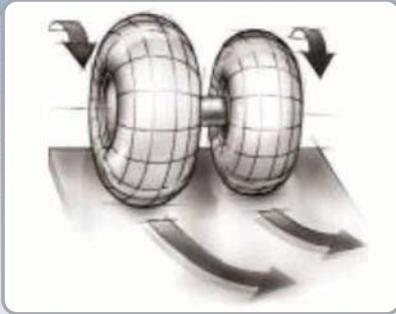
Seoul Office : 1804 Renaissance Tower, 456 Gongdeok-dong, Mapo-gu, Seoul 121-706, Korea
Tel : +82 2 416 4596 **Fax** : +82 2 416 4591

*Better Life
Better Technology*

Mighty™ Total Knee System



 **OTIS** Biotech



PREFACE

Mighty total knee system strives to give patients every opportunity to resume the activities that define their lifestyle.

OTIS Biotech knee system specifically designed for the orthopedic surgeon, it's a good choice for patients because it offers new design elements that address not only high flexion, but all the important issues faced by surgeons. The knee that is tight in flexion and acceptable in extension can be actualized.

Mighty total knee system makes effort in below issues to achieve a better function and a longer longevity.

- 1 Asymmetrical femoral condyles work in concert with the PCL to facilitate normal asymmetric rollback of the femur on the tibia during flexion.
- 2 The lateral distal radius of femoral component is extended posteriorly to further aid natural anteroposterior rollback when the PCL is present.
- 3 A deepened patellar groove increases the contact area and a thinner anterior flange helps relieve tension on the exterior mechanism.
- 4 Multi-radius in the sagittal plane to keep longer lever arm in deeper flexion angle.
- 5 Tibio femoral conformity provides a high degree of conformity in the frontal plane that better distributes and reduces stresses.



MIGHTY™ TOTAL KNEE SYSTEM

PRODUCT FEATURES

Femoral Component



1. 6 sizes Left and Right
2. CoCrMo Casting
3. Cemented design
4. Matching AP/ML size ratio
5. Curve on curve design on coronal plane
6. Multi radius design on sagittal plane
7. 9mm bone cut at distal and posterior condyles for better ROM
8. Two fixation pegs for orientation and fixation

Tibia Component



1. Titanium forged
2. 6 sizes available
3. Cemented design
4. Precise AP/ML ratio for better bone coverage
5. 7deg posterior slope for better ROM
6. Full capture mechanism to reduce back side wear and easily assemble and disassemble

Tibia Inserter



1. UHMWPE
2. Minimum 6mm articulating thickness
3. Curve on curve design on both sagittal and coronal planes
4. Anterior cut off to reduce soft tissue impingement
5. Posterior Cut off to increase ROM
6. Full capture locking mechanism

Patella Component

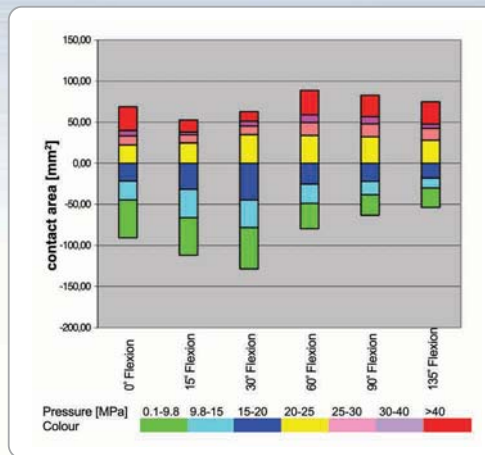


1. UHMWPE
2. 3 peg design
3. Different thickness for maintaining bone stock
4. Dome shape

DESIGN RATIONAL

Pressure distribution and the total contact area of the knee prosthesis under different flexion angles and loads.

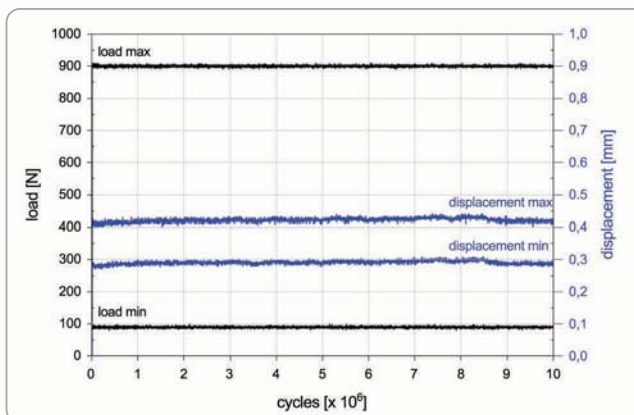
The OTIS Biotech total knee system designed curve on curve design for the better contact area between femoral and tibial inserter, this design feature reduces the contact stress and UHMWPE wear.



Pressure levels at different flexion angles

Fatigue properties of the knee tibial trays under the worst case conditions

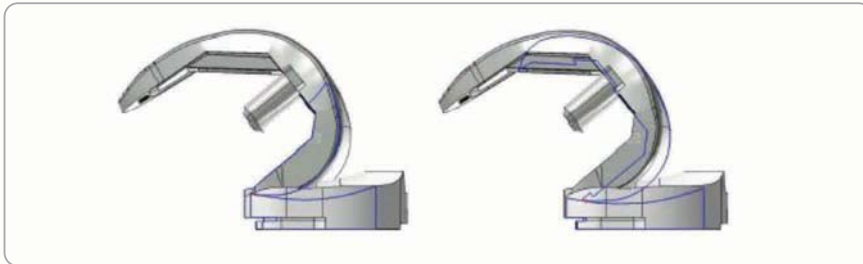
The OTIS Biotech total knee system tibial trays tested at maximum load of 200 lbs passed 10 Million cycles without any failure.



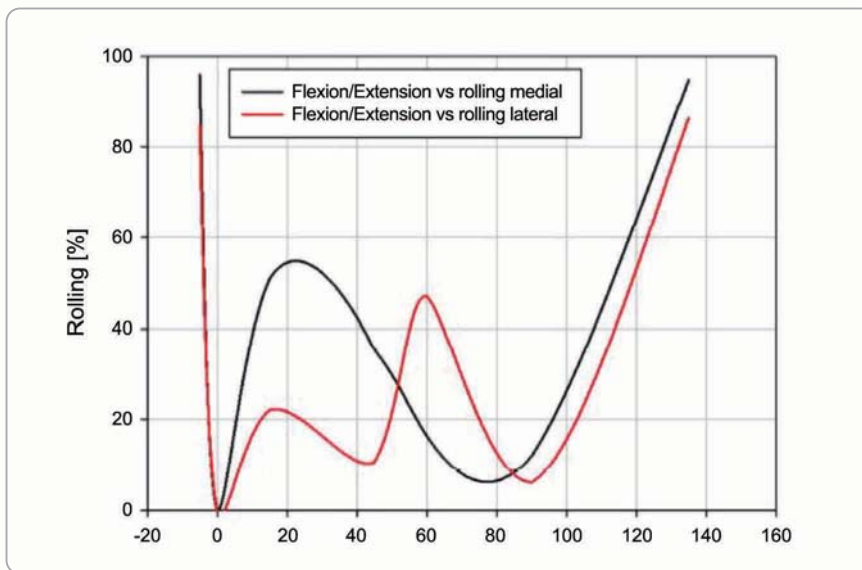
MIGHTY™ TOTAL KNEE SYSTEM

◉ RANGE OF MOTION

The posterior femoral component comprises medial and lateral condyles, wherein the width and offset of posteromedial condyle are greater than those of the posterolateral condyle. This design feature and 7 deg posterior slope in the tibia component increase the ROM by reducing the bony impingement. Mighty total knee system is designed to safely accommodate flexion up to 150 deg for patients with the ability and desire to do so, while maintaining the kinematic function that allows natural rollback in a cruciate retaining knee prosthesis.

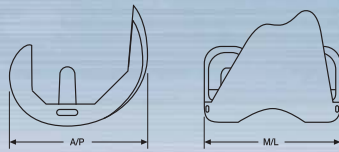


Deep Flexion

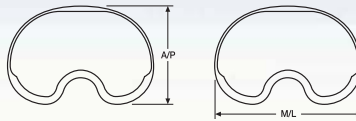


Flexion/Extension [degrees]

SIZE DISTRIBUTION

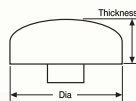


Model	Size	1	2	3	4	5	6
Femoral Component	ML	56	60	64	68	72	76
	AP	52	56	60	64	68	72



Model	Size	1	2	3	4	5	6
Tibia Component	ML	63	67	71	71	80	80
	AP	42	44.5	47	50.5	50.5	55.5

Model	Size	1	2	3	4	5	6
Tibia Inserter	ML	63	63	71	71	80	80
	AP	42	42	47	47	50.5	50.5



Model	Size	XS	S	M	L	XL
Patella Component	Dia	26	29	32	35	38
	Thickness	8	8.5	8.5	9	9.5





The instruments of Mighty total knee system was designed for the surgeon who prefers posterior referencing. Successful total knee arthroplasty depends in part on re-establishment of normal lower extremity alignment, proper implant design and orientation, secure implant fixation, and adequate soft tissue balancing and stability. The OTIS Biotech complete Knee Solution and Multi-Reference 4-in-1 Instruments are designed to help surgeon accomplish these goals by combining alignment accuracy with a simple, straight-forward technique.

Now the patient and the surgeon compose their own tunes for knee surgery with the OTIS Biotech Total Knee system.

