



**NEXGEN<sup>®</sup>**  
**COMPLETE KNEE**  
**SOLUTION**  
**LEGACY<sup>®</sup> IMPLANT OPTIONS**

The vision endures.



legacy      interchangeability  
precision      confidence

## The Legacy of Distinction Continues

Dr. John N. Insall stands among the great innovators of modern medicine. His extraordinary contributions to the art and science of total knee arthroplasty have guided the hands of orthopaedic surgeons for more than three decades, and improved the quality of life for countless people throughout the world. The powerful impact of Dr. Insall's vision has endured. And so has the passion for excellence which drove him to reach beyond the success of his original designs. Therein lies the evolution of this great legacy.



Dr. Insall developed a new philosophy in total knee arthroplasty, revealing a rare insight into the factors that affect its outcome. And beyond the success of his original designs, he continued to explore knee kinematics and apply new technologies in an effort to further enhance implant function, facilitate the surgical technique, accommodate a variety of surgeon preferences, and meet the needs of differing patient requirements.

This relentless quest to reduce pain and restore mobility to knee patients

led to the evolution of a family of excellent knee implants, all of which retain the essential design elements of his initial posterior stabilized and constrained condylar knees. The *NexGen Legacy* LPS, LPS-Flex, and LCCK Implants represent the next generation, building on the solid foundation of the original *Insall/Burstein*<sup>®1</sup> Knee designs while addressing the most current issues in TKA. These implants establish a lasting testament to the enormous contribution made by Dr. John N. Insall.<sup>1</sup>

## An Accomplished Clinical History<sup>2,3,4,5</sup>

Total Condylar Knee  
90.77% at 21 years

*Insall/Burstein* Knee with All-Poly Tibial  
94.10% at 16 years

I/B Knee with Metal-Backed Tibial  
98.10% at 14 years

I/B II Modular Posterior Stabilized Knee  
93.63% at 10 years

I/B II Modular Constrained Condylar Knee  
98.12% at 7 years



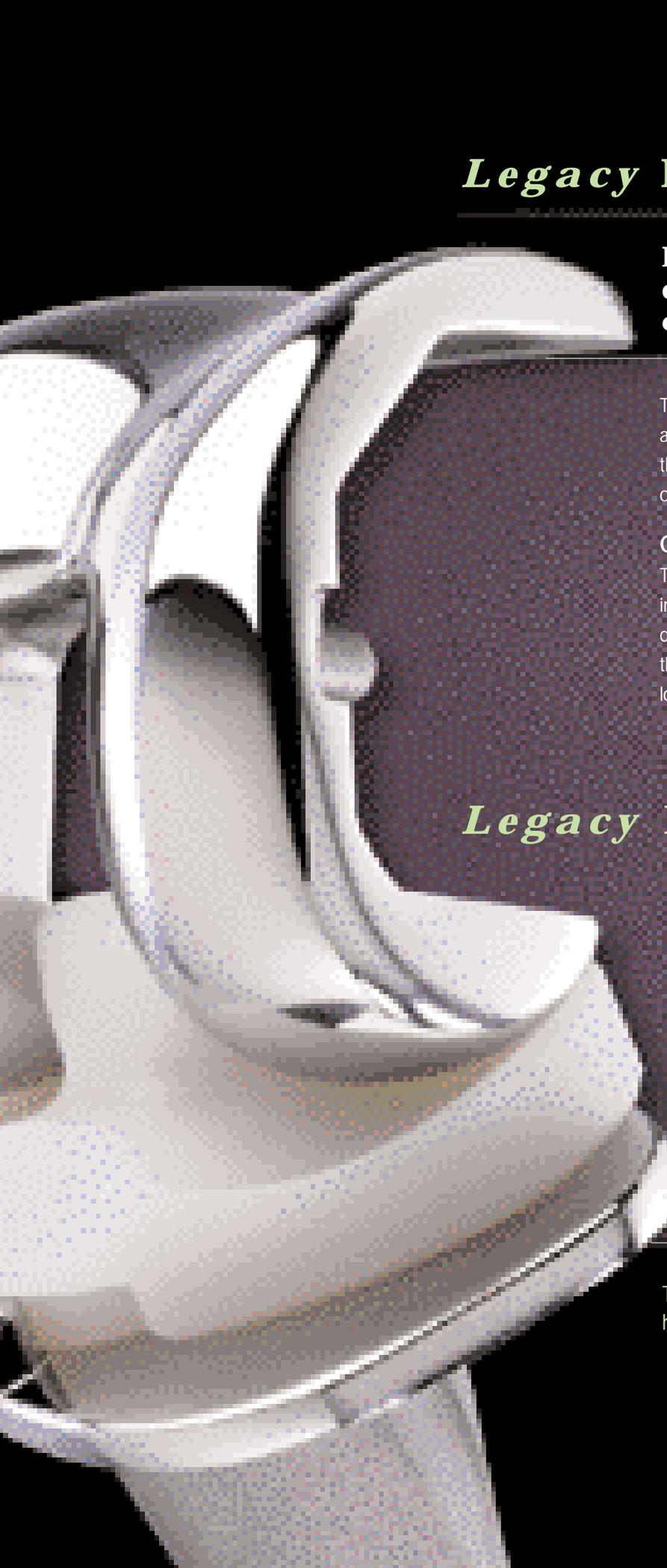
Legacy LPS



Legacy LPS-Flex



Legacy LCCK



## ***Legacy LPS Mobile***\*

### **Retaining the essential design elements while employing new technologies.**

The *NexGen Legacy* LPS design has been enhanced by careful application of selected technologies, without compromising the features responsible for the initial clinical success of the original *Insall/Burstein* Knee designs.

#### **Cam/spine mechanism**

The cam/spine mechanism engages at approximately 75° to induce mechanical rollback. As flexion increases up to 125°, so does the resistance to subluxation because the contact point of the cam moves down the spine, reducing the moment arm of the load on the spine.

## ***Legacy LPS-Flex Mobile***\*

#### **Addressing patient needs for deep flexion**

Designed for patients with the ability and desire to perform high-flexion activities with optimal rotation, the LPS-Flex components safely accommodate active flexion up to 155° and rotation up to  $\pm 25^\circ$ .

#### **Extended posterior condyles**

The articular surface of the posterior condyles has been extended to help maintain conformity with the tibial articular surface during greater flexion angles.

The fundamental concepts initiated by Dr. Insall have been retained in the *NexGen Legacy* Implants.

- Dished tibio/femoral condyles
- Symmetrical femoral condyles
- LPS to LCCK constraint versatility
- Cam/spine – substitution for PCL function

### Patellofemoral compatibility

The extended and deepened trochlear recess design improves patellofemoral contact and reduces contact stress on the patella. The patella rides smoothly in the patellar groove throughout the range of motion. The minimized width and thickness of the anterior femoral flange helps relieve tension on the extensor mechanism. And the asymmetry of the flange allows for a more natural Q angle.

### Dished tibio/femoral conformity

The tibio/femoral articulating geometries provide a large contact area on the loaded condyle up to 7° of varus/valgus tilt. The radii of conformity in the frontal plane is maintained at a 1.07/1.0 ratio.

### Extensor mechanism clearance

During deep flexion, extensor mechanism tension is reduced by a deep anterior patellar cut-out on the articular surface, which provides greater clearance for the patellar tendon.

### Cam/spine mechanism

The cam/spine mechanism is designed to help maintain a low contact point in deep flexion, up to 155°, providing even greater resistance to subluxation, beyond 125° flexion of the original LPS design.

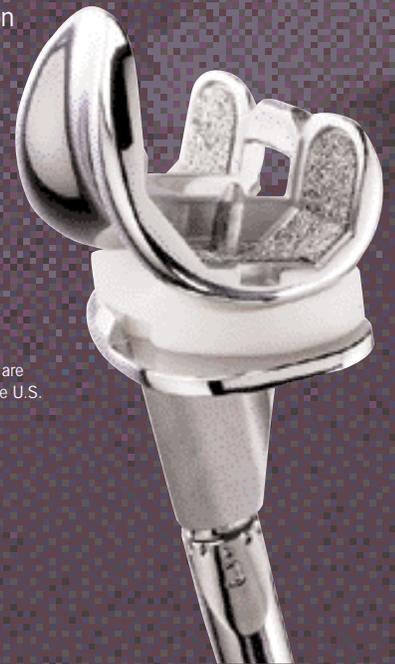


### Symmetrical sagittal geometry

In the sagittal plane, the radii of curvature are the same on both the medial and lateral condyles. This allows the cam/spine interaction to provide rollback, while minimizing the tendency of the femoral component to rotate around the spine.

### Reduced articulation with better ROM

The Fluted Stem Mobile Tibial Plate allows internal/external total axial rotation of 50°. An anterior stop helps prevent the spin-outs reported with other mobile systems while allowing ±25° of rotation.<sup>6</sup> The anterior location of the trunnion on the tibial base plate replicates the anatomic center of rotation and permits the mobile articular surface to rotate without excessive polyethylene overhang on the tibial plate.



\* LPS Mobile Knee and LPS-Flex Mobile Knee are not available for commercial distribution in the U.S.

### Trabecular Metal Monoblock Tibial Components.

Monoblock Tibial Components combine the benefits of *Trabecular Metal*<sup>™</sup> with the clinically proven geometries of the *NexGen* LPS Tibial Articular Surfaces. The result is an implant that offers physical and material characteristics closely resembling bone and promoting outstanding bone ingrowth capabilities. The unique monoblock construct eliminates the potential for micro-motion between the poly and metal surfaces. (This device cannot be used with the LPS-Flex femoral.)



## *Legacy Revision Mobile*<sup>\*</sup>

### **Mobile bearing features extend stabilization and flexibility.**

For difficult primary cases or revision surgeries, the *Legacy* LCCK Mobile knee provides an alternative that minimizes rotational constraint and enhances prosthetic stabilization. The system is designed specifically for patients with adequate functional collateral ligaments and insufficient femoral bone stock.

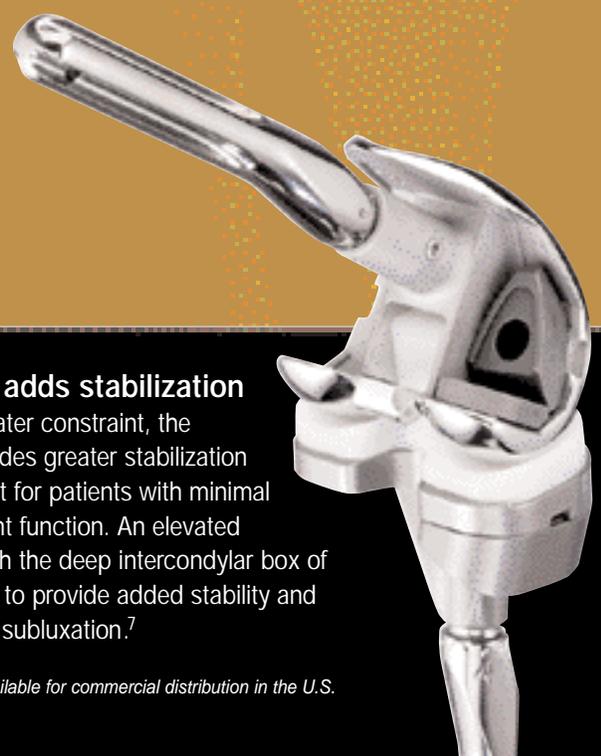
### **Femoral and tibial augmentation**

A variety of femoral and tibial augments available with the LCCK Mobile knee help to compensate for inadequate bone stock. Femoral augments include posterior, distal, posterior/distal, and anterior options. Tibial augments range from third-, half-, and full-wedge to 5mm, 10mm, 15mm, and 20mm blocks.

### **LCCK Fixed Knee adds stabilization**

For cases requiring greater constraint, the LCCK Fixed Knee provides greater stabilization and rotational constraint for patients with minimal bone stock and ligament function. An elevated tibial spine interacts with the deep intercondylar box of the femoral component to provide added stability and increased resistance to subluxation.<sup>7</sup>

\* LCCK Mobile Knee is not available for commercial distribution in the U.S.



## The Merit of Distinction

### Refining the vision while making the design more versatile

#### Net-Shape Compression-Molded Polyethylene

This manufacturing process, used to produce LPS and LCCK tibial articular fixed-bearing surfaces, results in a smooth and dimensionally consistent *Micro-Finish™* surface finish.

#### Instrumentation Options

A variety of instrumentation options are available for the *NexGen Legacy* Implants for both anterior and posterior referencing.

#### Fixation Options

The *Legacy* LPS Femoral Component and standard fixed-bearing stemmed tibial base plates are available with porous fiber metal, PMMA precoat, or uncoated surfaces.

*Trabecular Metal* Monoblock Tibial Components provide a secure polyethylene/metal material interface and a unique fixation surface remarkably similar to cancellous bone.

#### Tibial Base Plate Options

A variety of stemmed tibial base plates are available, including keeled, fluted, and A/P wedge plates. *Legacy* LPS, LPS-Flex, and LCCK knee systems can be used with a mobile or fixed tibial plate, depending on case requirements. For patients requiring an LPS or LCCK fixed tibial plate, the Monoblock Tibial

Component offers a nonmodular implant with hex-shaped pegs and highly porous *Trabecular Metal* that promotes outstanding bone-ingrowth capabilities.

#### Tibial Articular Surface Options

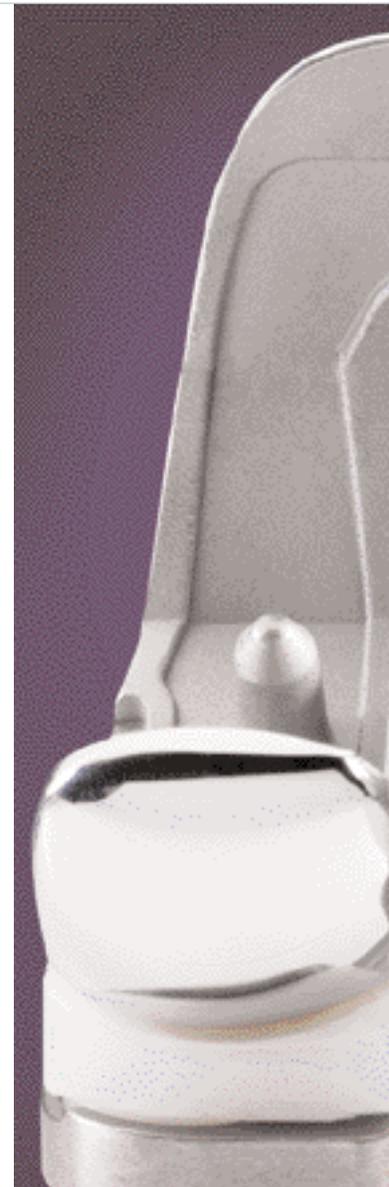
*Legacy* Femoral Components are available with specific articular surface options. The LPS Femoral Component can be combined with an LPS articular surface or an LPS All-Polyethylene tibial component. LCCK Femoral Components also can be combined with the LPS articular surface or a specially designed LCCK articular surface. Only an LPS-Flex articular surface can be used for the LPS-Flex femoral component.

#### Size Interchangeability

To help optimize patient fit and kinematic function, many femoral and tibial component sizes are interchangeable.

#### Stem Extension Options

Straight and offset stem extensions optimize canal fill and bone coverage and can be used with any *Legacy* System stemmed femoral or tibial component. The offset stem allows the component to be positioned 4.5mm away from the center of the canal to accommodate patients whose canal is not centered relative to the surface of the distal femur or proximal tibia.



† Trademark of The Hospital for Special Surgery

†† Manufactured by Implex Corp.

1. Scuderi GR, Scott WN, Tchejeyan GH. The Insall Legacy in Total Knee Arthroplasty. *Clinical Orthopaedics & Related Research*. 2001;392:3-14.
2. Colizza WA, Insall JN, Scuderi GR. The posterior stabilized total knee prosthesis: Assessment of polyethylene damage and osteolysis after a ten-year minimum follow-up. *J Bone Joint Surg*. 1995;77-A:1713-1720.
3. Diduch DR, Insall JN, Scott WN, et al. Total knee replacement in young, active patients: Long-term follow-up and functional outcome. *J Bone Joint Surg*. 1996;79-A:575.
4. Stern SH, Insall JN. Posterior stabilized prosthesis: Results after follow-up of nine to twelve years. *J Bone Joint Surg*. 1992;74-A:980-986.
5. Brassard MF, Insall JN, Scuderi GR, Colizza W. Does Modularity Affect Clinical Success? A Comparison With a Minimum 10-Year Followup. *Clinical Orthopaedics & Related Research*. 2001;388:26-32.
6. Hollister AM, Jatana S, Singh AK, et al. The axes of rotation of the knee. *CORR*. 993;290:259-268.
7. Scuderi GR. Revision Total Knee Arthroplasty: How Much Constraint is Enough? *Clinical Orthopaedics & Related Research*. 2001;392:300-305.

For more information about the *NexGen* Complete Knee Solution, contact your Zimmer representative or visit us at [www.zimmer.com](http://www.zimmer.com).

**World Headquarters** – Zimmer, Inc., 345 East Main Street, Warsaw, IN 46580, U.S.A.

**Regional Headquarters** – Zimmer Pty. Ltd., Unit 1/1 Skyline Place, Frenchs Forest, N.S.W. 2086, Australia • Zimmer of Canada Limited, 2323 Argenta Road, Mississauga, Ontario, L5N 5N3, Canada • Zimmer Ltd., The Courtyard, Lancaster Place, South Marston Park, Swindon, Wiltshire SN3 4UQ, United Kingdom • Zimmer Latin America, 2400 E. Commercial Blvd., Fort Lauderdale, FL 33308, U.S.A. • Zimmer Pte. Ltd., 315 Alexandra Road, #03-03 Performance Centre, Singapore 159944 • Zimmer K.K., Shinjuku i-Land Tower, 6-5-1 Nishishinjuku, Shunjuku-Ku, Tokyo 163-13, Japan.

*NexGen Legacy* components are manufactured by Zimmer, Inc.



LPS Monoblock tibial component is manufactured by Implex Corp.

