



 **smith&nephew**  
**LEGION<sup>®</sup>**  
Total Knee System

Proven Performance,  
Continuous Innovation

Durability

Flexibility

Clinical Heritage





Give your patient the potential to regain an active lifestyle. With the **LEGION<sup>®</sup> Total Knee System** you can offer a customized solution to meet your patient's high expectations. This system is designed to empower surgeons to address diverse challenges and simplify decision-making intraoperatively.

# Peace of Mind

LEGION® Total Knee System is a comprehensive, state-of-the-art system that empowers surgeons to provide personalized joint care. The system includes simple solutions for addressing the increasingly diverse needs of your patients.



## Exceptional durability

The LEGION Total Knee System offers biocompatible implant technology with unmatched wear performance. Smith & Nephew is the only company to offer VERILAST® Technology. With the combination of OXINIUM® alloy and highly cross-linked polyethylene (XLPE), VERILAST Technology offers the full solution in knee implant materials.

## System flexibility

Today's knee implant patients present increasingly diverse scenarios. The versatility of the LEGION Total Knee System allows surgeons to simplify decision making intraoperatively and deliver personalized joint care.

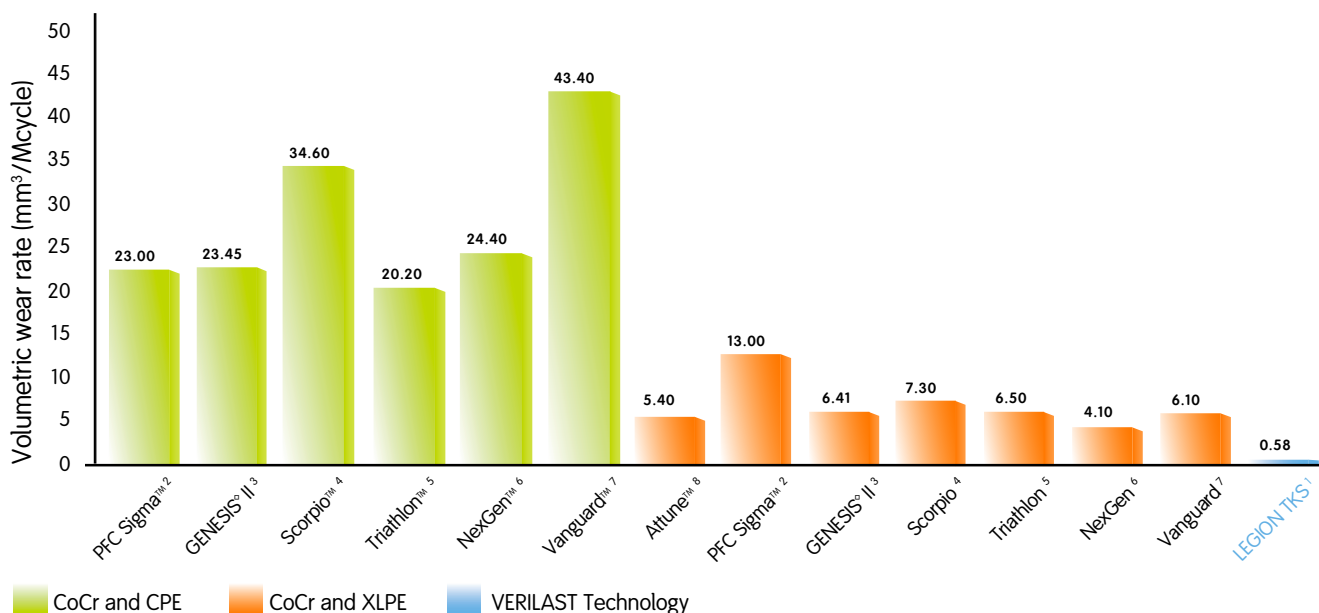
## Rich clinical heritage

Smith & Nephew has a rich history in the medical field dating back over 150 years. The company has produced many products that demonstrate proven performance. Built upon the world-class GENESIS® II design and its over 20 years of clinical data, the LEGION Total Knee System is carrying on the legacy.

# Durability: Wear Performance

As today's patients seek more active lifestyles, knee implants will be expected to endure more stress without succumbing to wear. However, the functional lifetime demand of younger and active patients is 10-fold greater than the estimated functional lifetime of traditional implant bearings.<sup>1</sup> VERILAST<sup>®</sup> Technology from Smith & Nephew is the only bearing technology with published results of 45 Million Cycles of in-vitro knee wear simulation testing with the LEGION<sup>®</sup> Primary Knee System. This means the replacement may provide improved wear performance. More importantly, if implanted earlier, it may restore patients to their active lifestyles.

The implants identified below were tested by their manufacturers using different testing protocols and, therefore, the results are not directly comparable.



Mean volumetric wear rates of CoCr against conventional polyethylene (CPE), CoCr against crosslinked polyethylene (XLPE) and OXINIUM against XLPE as published by the respective companies with their respective implants. Please see references for testing information.



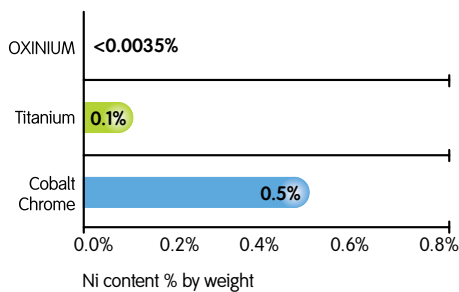
# Durability

Just as metal ions are a well described problem for many hip replacement patients, cobalt, chromium and nickel are commonly cited allergens for knee replacement patients.

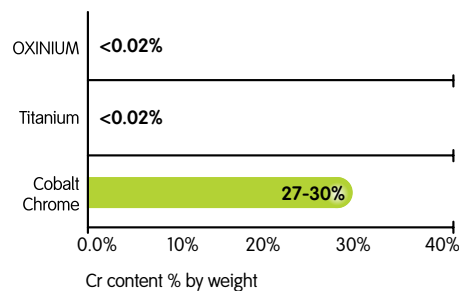
Surgeons should be aware that all metal implants contain varying amounts of cobalt, chromium, and nickel. When selecting the appropriate implant, surgeons should consider the composition of each implant before use. To help with this decision, VERILAST<sup>®</sup> Technology incorporates proprietary OXINIUM<sup>®</sup> alloy. Compared to cobalt chrome, OXINIUM alloy has much less cobalt (<0.002%), chromium (<0.02%) and nickel (<0.0035%) content.

## Metal content of implants<sup>13</sup>

Maximum nickel content

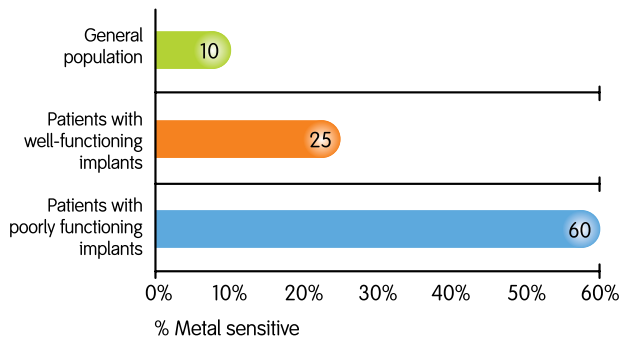


Maximum chromium content

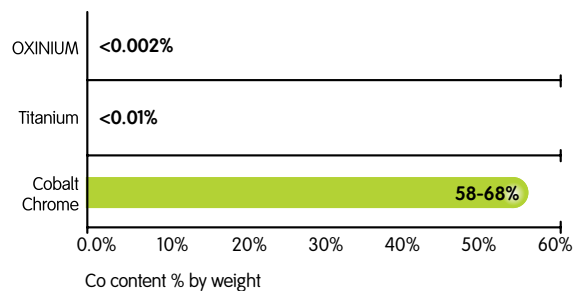


## Clinical studies<sup>14</sup>

Prevalence of patients demonstrating metal sensitivity

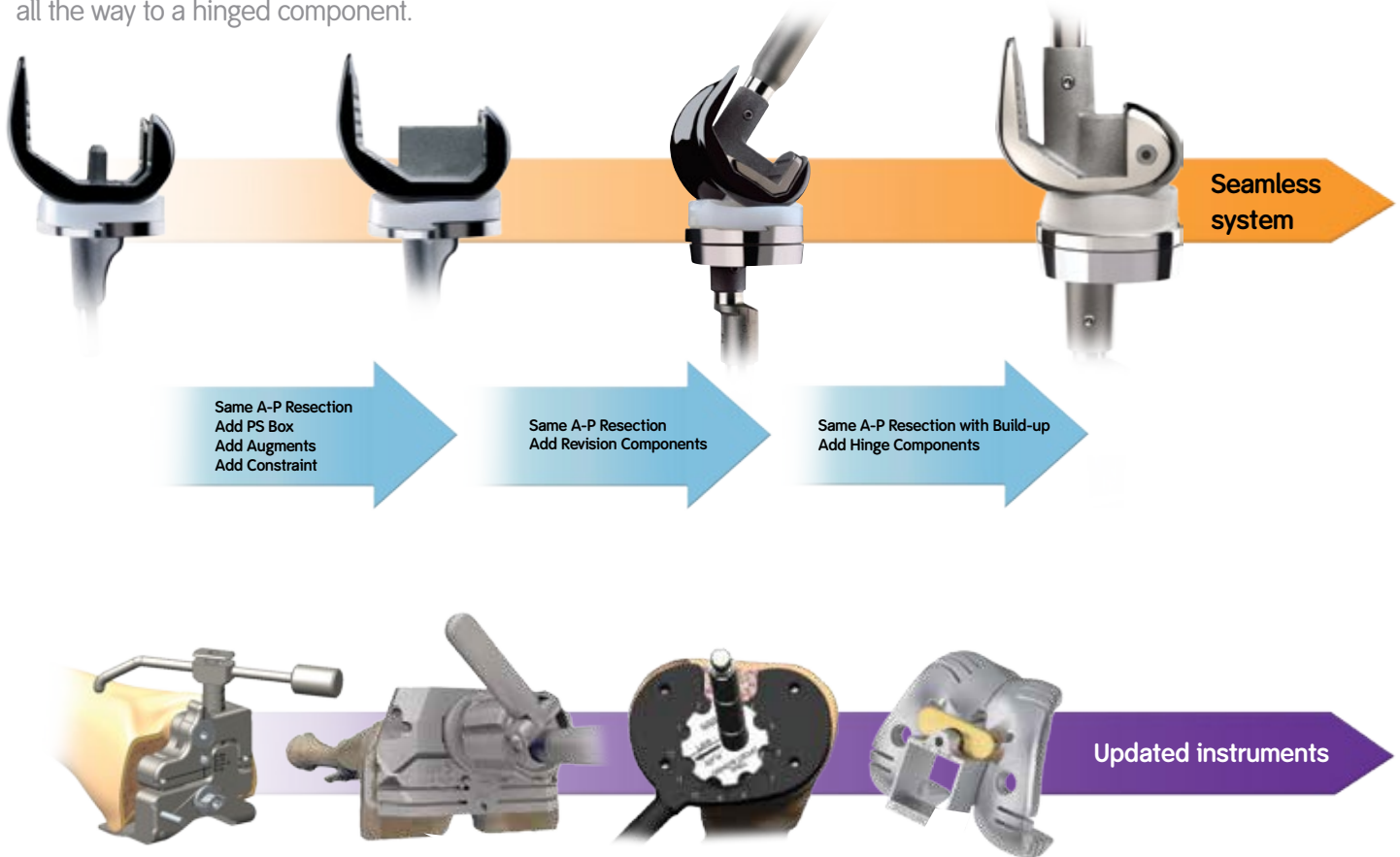


Maximum cobalt content



# System Flexibility

LEGION® has the flexibility to address diverse surgical challenges and simplify decision making intraoperatively. The LEGION instrumentation gives you the ability to move from a cruciate retaining implant all the way to a hinged component.



LEGION is not only offered with updated traditional instrumentation but also with a more cost-effective and simplified approach to total knee arthroplasty. VISIONAIRE® FastPak includes VISIONAIRE Cutting Guides and size-specific disposable instruments.





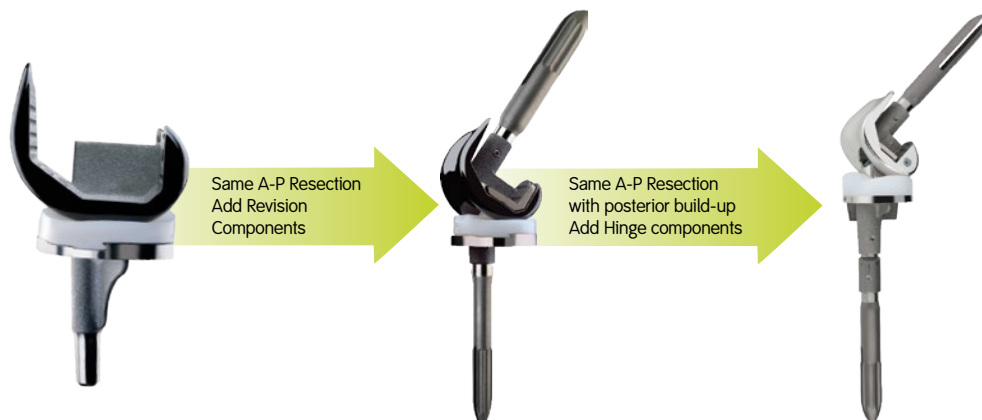


# Patient Flexibility

Today's knee implant patients present increasingly diverse scenarios. Even with thorough preoperative planning some factors may not be visible until surgery is underway. You have to make decisions fast, and you need a knee system that can react quickly and work with you each step of the way.

## Pathology

- Primary to Revision and Hinge
- Offsets, wedges and augments



## Range of motion

- Constrained, standard and high flexion inserts

## Age

- Cemented and porous options
- CoCr and VERILAST<sup>®</sup> Technology



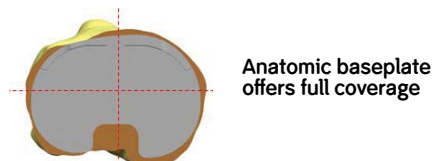
## Anatomy

- Bone-preserving PS box
- Anatomically designed base plate
- Offset capability for optimal component position



## Activity level

- CoCr and VERILAST Technology
- Standard polyethylene and highly cross-linked poly



## Biocompatible implants

- OXINIUM<sup>®</sup> Oxidized Zirconium
- All-polyethylene tibial components
- Titanium tibial base plates



## Optimal Sizing

- Ideal sizing for male and female anatomy
- 1mm increment inserts

# Rich Clinical Heritage

## Proven performance, continuous innovation

Smith & Nephew has a rich history in the medical field dating back over 150 years. The company has produced many products that demonstrate proven performance. Built upon the world-class GENESIS<sup>®</sup> II design and its over 20 years of clinical data, the LEGION<sup>®</sup> Total Knee System is carrying on the legacy.

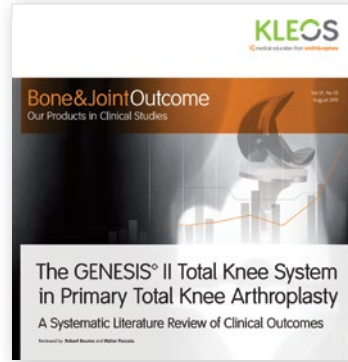
### GENESIS II clinical results:

International Orthopaedics (SICOT) (2014) 38:235-241  
DOI 10.1007/s00264-013-2231-8

ORIGINAL PAPER

**Total knee arthroplasty at 15–17 years: Does implant design affect outcome?**

Jan Victor · Stijn Ghijssels · Farhad Tajdar · Geert Van Damme · Patrick Deprez · Nele Arnout · Catherine Van Der Straeten



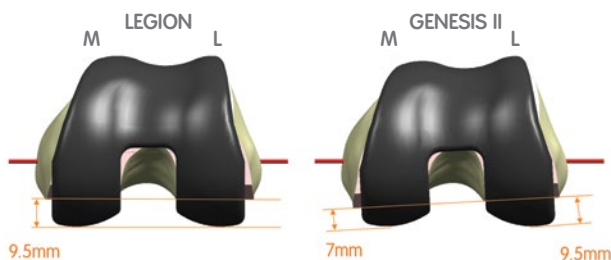
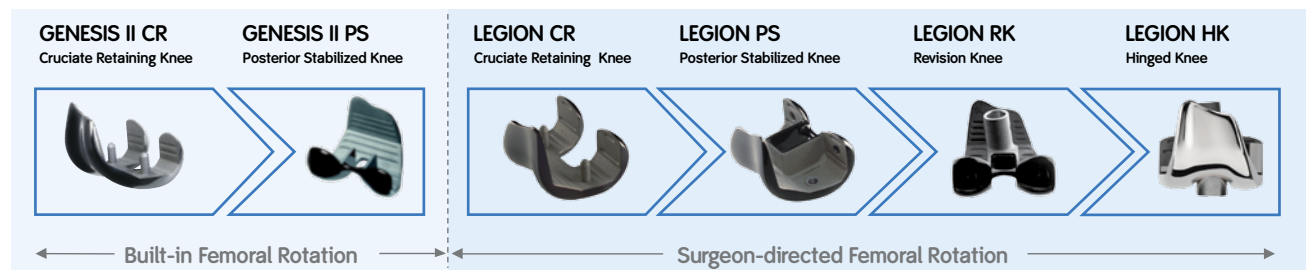
### GENESIS II: A Systematic Literature Review of Clinical Outcomes<sup>16</sup>

- 99.5% cumulative mean survival rate at 5 years 99.9% at 7 years; 98.8% at nine years
- Low revision rate (up to 11.9 year follow-up)
- Includes 19 studies and 2656 knees
- Mean post op Knee Society score of 90.6

### 15 – 17 year Clinical Results<sup>15</sup>

- “Excellent” survivorship of 98.1% at a minimum follow-up of 15 years
- 89 consecutive GENESIS II knee procedures were studied
- “Minimum 15-year follow-up reports after TKA are not abundant”

LEGION and GENESIS II achieve equivalent articulation but do so via different surgical approaches to femoral external rotation.



LEGION has symmetric posterior condyles while GENESIS II has a thinner medial posterior condyle due to the built in external rotation.

LEGION encompasses the same design features that have demonstrated excellent long-term survivorship with GENESIS II. LEGION CR and PS knees provide the same kinematic motion and articulation as GENESIS II with the addition of updated instrumentation and a seamless total knee system able to handle all stages of knee reconstruction.<sup>17</sup>

LEGION® is carrying on the legacy of excellent clinical results.

### LEGION Primary Knee System - Safety and Efficacy Clinical Study<sup>18</sup>

- A ten year study spanning five sites and 138 patients.
- Two year interim results show just two revisions; one for infection and one for patella clunk.
- LEGION Primary demonstrated excellent clinical survivorship of 98.6%.

### Australian Orthopaedic Association National Joint Replacement Registry 2016

LEGION PS CoCr has the lowest cumulative percent revision of all PS categorized knees with cement fixation at 5 years: 2.2%.<sup>19</sup> At their longest follow-up, the cumulative percent revision of all other LEGION combinations is at or below the class average for primary total knee replacement (Primary Diagnosis OA.)<sup>20</sup>

Table KT1 Cumulative Percent Revision of Primary Total Knee Replacement with Cemented Fixation

Femoral Component	Tibial Component	N Revised	N Total	1 Yr	3 Yrs	5 Yrs	7 Yrs	10 Yrs	15 Yrs
AGC	AGC	176	3493	0.5 (0.4, 0.9)	2.4 (2.0, 3.0)	3.5 (2.9, 4.1)	4.1 (3.5, 4.9)	5.4 (4.6, 6.3)	6.9 (7.1, 11.1)
Active Knee	Active Knee	40	1430	1.0 (0.6, 1.6)	2.4 (1.6, 3.4)	3.6 (2.6, 5.0)	4.4 (3.0, 6.3)	4.9 (3.3, 7.2)	
Advantus	Advantus II	54	1918	1.5 (0.9, 2.4)	4.1 (3.1, 5.4)	4.8 (3.6, 6.4)	6.0 (4.5, 8.0)	7.2 (5.4, 9.6)	
Apex Knee CR	Apex Knee	2	586	0.2 (0.0, 1.2)	0.6 (0.1, 2.5)				
Apex Knee PS	Apex Knee	4	1116	0.4 (0.1, 1.2)					
Attune CR	Attune	17	3199	0.5 (0.3, 0.9)					
Attune PS	Attune	7	1632	0.4 (0.2, 0.9)					
Balaflex	Balaflex	20	1417	0.2 (0.0, 0.6)	1.5 (0.8, 2.5)	1.9 (1.1, 3.2)	2.6 (1.5, 4.5)	3.9 (2.2, 7.1)	
Duracore	Duracore	424	8968	1.0 (0.8, 1.2)	2.4 (2.1, 2.8)	3.3 (2.9, 3.7)	3.9 (3.5, 4.3)	4.8 (4.3, 5.3)	7.0 (5.9, 8.2)
EMotion	EMotion	18	446	1.9 (0.9, 3.7)	4.8 (3.0, 7.6)				
Evolve	Evolve	12	730	0.3 (0.1, 1.1)	1.1 (0.5, 2.3)	1.6 (0.8, 3.1)	2.9 (1.5, 5.3)		
Evolution	Evolution	8	1636	0.5 (0.2, 1.3)	1.5 (0.7, 3.3)				
GMK Primary	GMK Primary	10	549	0.8 (0.3, 2.1)	2.4 (1.2, 4.7)	4.2 (1.7, 10.2)			
GMK Spine Primary	GMK Primary	23	1602	1.6 (1.0, 2.6)					
Genesis II CR	Genesis II	421	13019	0.9 (0.8, 1.1)	2.4 (2.2, 2.7)	3.1 (2.8, 3.5)	4.0 (3.6, 4.4)	4.3 (3.9, 4.7)	5.4 (4.7, 6.7)
Genesis II CR	Profile Mobile	32	490	1.7 (0.8, 3.3)	3.4 (2.1, 5.5)	5.6 (3.8, 8.2)	6.7 (4.6, 9.6)	9.2 (6.3, 13.3)	
Genesis II	Genesis II	809	6923	1.0 (0.8, 1.3)	2.8 (2.4, 3.2)	3.7 (3.2, 4.2)	4.7 (4.1, 5.3)	6.2 (5.5, 7.0)	
Oxinium CR	Genesis II	686	14338	1.5 (1.3, 1.7)	3.8 (3.5, 4.2)	5.2 (4.8, 5.7)	6.2 (5.8, 6.8)	7.7 (7.0, 8.4)	
Genesis II	Oxinium PS	518	14812	1.2 (1.1, 1.4)	2.8 (2.6, 3.1)	3.7 (3.4, 4.1)	4.3 (3.9, 4.7)	5.0 (4.5, 5.5)	
Genesis II PS	Genesis II	220	3032	1.4 (1.0, 1.9)	4.5 (3.8, 5.3)	6.4 (5.5, 7.4)	8.8 (7.6, 10.0)		
Journey	Journey	101	1826	0.9 (0.6, 1.5)	2.4 (1.8, 3.3)	3.1 (2.4, 4.0)	3.9 (3.1, 4.9)	4.5 (3.6, 5.6)	7.8 (6.3, 9.7)
Oxinium	Kinemax Plus	294	3936	1.0 (0.7, 1.4)	3.8 (3.2, 4.4)	5.0 (4.4, 5.8)	6.1 (5.4, 6.9)	7.2 (6.4, 8.1)	9.4 (8.1, 10.8)
Kinemax Plus	LCS	303	9849	0.7 (0.6, 0.9)	2.4 (2.0, 2.7)	3.3 (2.9, 3.7)	4.1 (3.6, 4.6)	5.0 (4.4, 5.6)	
LCS CR	MBT	33	492	1.4 (0.7, 3.0)	5.8 (4.0, 8.3)	7.5 (5.3, 10.5)			
LCS PS	MBT	22	975	1.4 (0.8, 2.5)	2.6 (1.6, 4.0)	3.6 (2.3, 5.7)			
Legion CR	Genesis II	43	2180	0.8 (0.5, 1.3)	2.3 (1.7, 3.1)	2.7 (2.0, 3.8)	3.3 (2.1, 5.1)		
Legion Oxinium CR	Genesis II	183	7996	1.1 (0.9, 1.4)	3.2 (2.8, 3.8)	3.9 (3.4, 4.7)	4.2 (3.5, 5.0)		
Legion PS	Genesis II	51	3208	0.9 (0.6, 1.3)	1.9 (1.4, 2.6)	2.2 (1.6, 3.0)			
MRK	MRK	6	402	0.8 (0.3, 2.4)	1.7 (0.8, 3.8)	1.7 (0.8, 3.8)			
Maatm	Maatm	36	498	1.2 (0.5, 2.7)	2.6 (1.5, 4.5)	4.8 (3.2, 7.3)	5.2 (3.6, 7.6)	6.6 (4.7, 9.4)	
Natural Knee Flex	Natural Knee II	23	1129	0.8 (0.4, 1.5)	2.5 (1.6, 3.8)	3.0 (2.0, 4.7)	3.0 (2.0, 4.7)		

Femoral Component	Tibial Component	N Revised	N Total	1 Yr	3 Yrs	5 Yrs	7 Yrs	10 Yrs	15 Yrs
Legion CR	Genesis II	22	975	1.4 (0.8, 2.5)	2.6 (1.6, 4.0)	3.6 (2.3, 5.7)			
Legion Oxinium CR	Genesis II	43	2180	0.8 (0.5, 1.3)	2.3 (1.7, 3.1)	2.7 (2.0, 3.8)	3.3 (2.1, 5.1)		
Legion Oxinium PS	Genesis II	183	7996	1.1 (0.9, 1.4)	3.2 (2.8, 3.8)	3.9 (3.3, 4.7)	4.2 (3.5, 5.0)		
Legion PS	Genesis II	51	3208	0.9 (0.6, 1.3)	1.9 (1.4, 2.6)	2.2 (1.6, 3.0)			

Table KT12 Cumulative Percent Revision of Primary Total Knee Replacement (Primary Diagnosis OA)

Knee Class	N Revised	N Total	1 Yr	3 Yrs	5 Yrs	7 Yrs	10 Yrs	15 Yrs
Total Knee	17213	482373	1.0 (1.0, 1.1)	2.7 (2.7, 2.8)	3.6 (3.6, 3.7)	4.4 (4.3, 4.4)	5.3 (5.2, 5.4)	7.3 (7.1, 7.6)



Today's orthopaedic environment demands simple solutions with proven clinical history. With the **durability** of VERILAST® Technology, interoperative **flexibility** of both implants and instrumentation, and a rich **clinical heritage**, the LEGION Total Knee System gives surgeons peace of mind not only in the OR but with the knowledge that their patients can return to their active lifestyles.

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19. Australian Orthopaedic Association National Joint Replacement Registry. Annual Report. Adelaide:AOA; 2016 Table KT9: Cumulative Percent Revision of Primary Total Knee Replacement with Cement Fixation.
20. Australian Orthopaedic Association National Joint Replacement Registry. Annual Report. Adelaide:AOA; 2016 Table KT12: Cumulative Percent Revision of Primary Total Knee Replacement (Primary Diagnosis OA)



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