

# UNIQUE<sup>®</sup>

CUSTOMIZED PROSTHESIS



CUSTOM



ORTH  
OPED  
ICS<sup>®</sup>

**C** Unique<sup>®</sup> custom fit prostheses. A perfect fit for every patient.

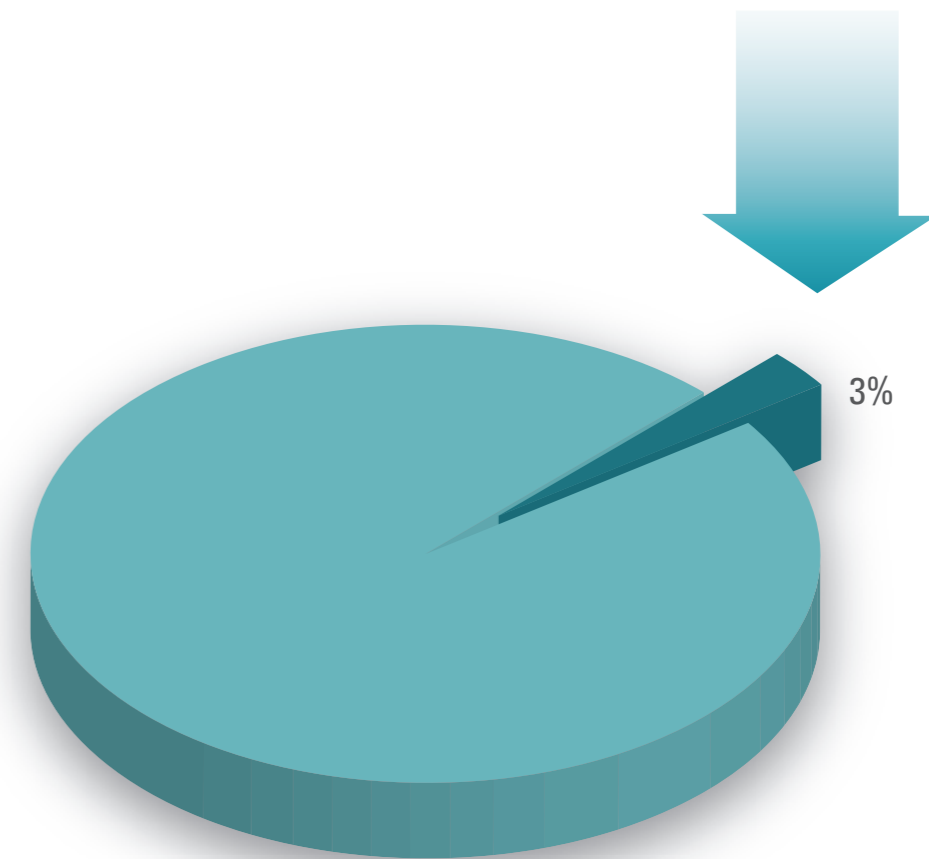
Up to 97% of all patients who require hip replacements can be treated with today's standard solutions like the Furlong total hip system which has proven long term survivorship.

The evidence speaks for itself.<sup>1,2,3,4,5</sup>



The remaining 3% require something Unique<sup>®</sup>

- DDH
- Epiphysiolysis
- Calve' Legg Perthes Disease
- Avascular Necrosis
- Sequelea after Trauma
- Juvenile Idiopathic Arthritis
- Osteopetrosis

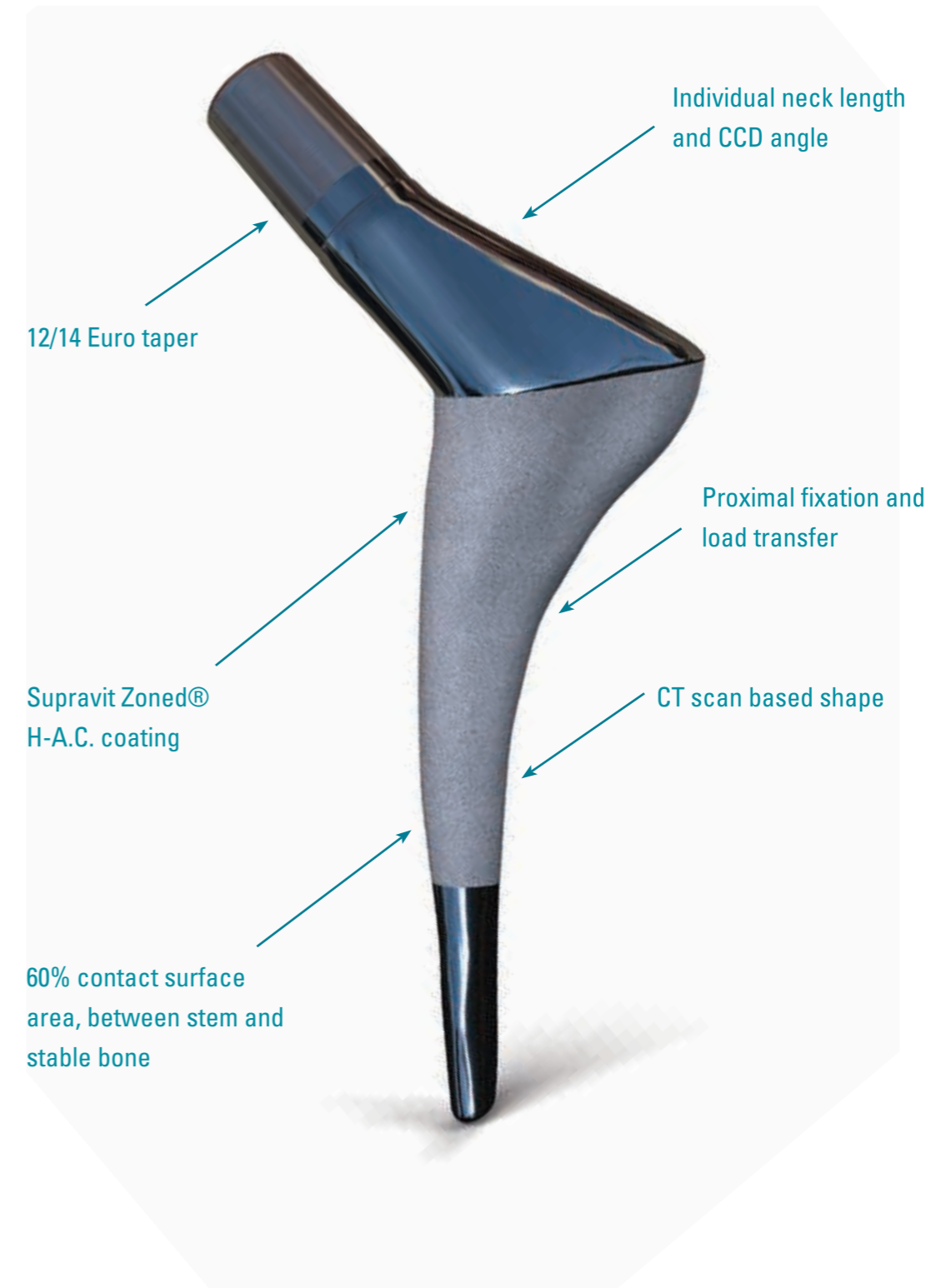




The advantage of using a customised femoral component in complex primary cases is that it enables the surgeon to precisely match the implant to the patient providing a greater opportunity to normalise the hip biomechanics than when trying to match the patient to an implant from a standard range.

### Surgical benefits

- Custom designed femoral component
  - enables the optimum fit of the implant to the host bone, ensuring superior mechanical stability.
- Optimisation of the femoral neck geometry
  - increases the opportunity to achieve soft tissue balance and normalisation of centre of rotation of the hip joint.
- Accurate pre-operative planning
  - helps ensure a predictable outcome in challenging cases.
  - reduces operating procedure time thereby reducing cost and risk of infection.
- uniqueNET web based templating and design system
  - interaction between the clinician and the design engineer speeds up the planning process and helps ensure the implant design specification exactly matches the patients needs.
- Excellent customer support
  - experienced design professionals ensure a smooth and logical process

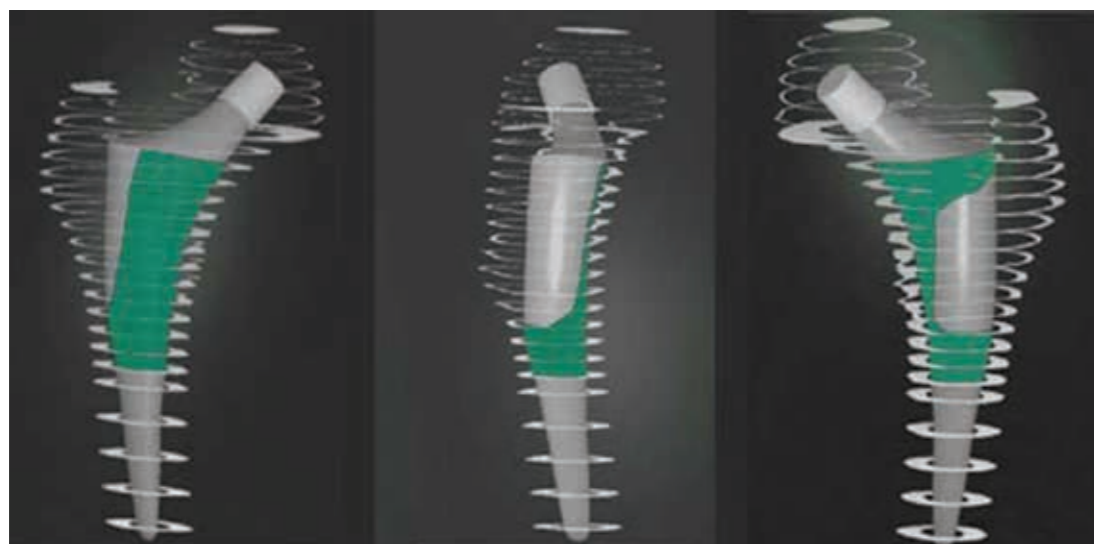


## Intramedullary design

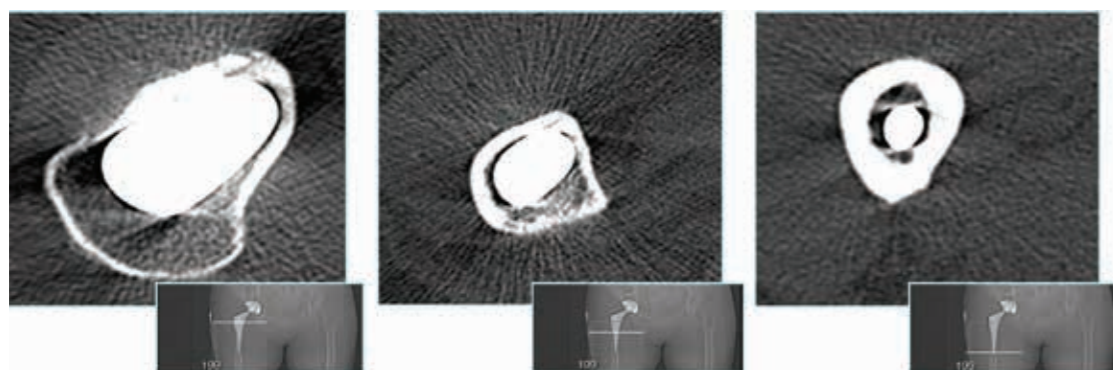
The design of the stem is based on CT-scans of the patient's femur. Precise 3-D computer modelling of the femur from the CT images allows the stem to be designed to achieve maximum contact between the implant and endo-corticle bone in the following regions:

- Proximal medial
- Proximal anterior
- Lateral flare
- Proximal posterior, immediately distal of the resection.

A 3D model of the femur is built from CT images.



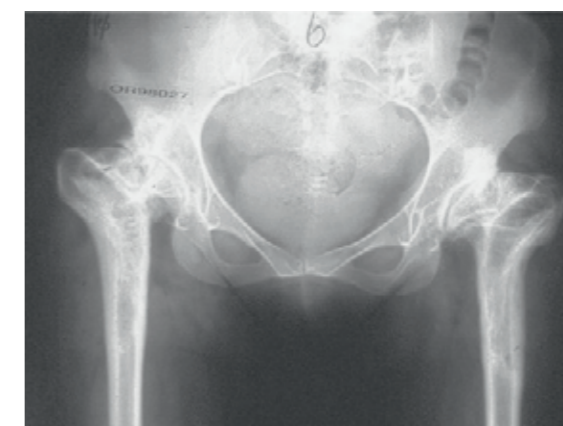
Post operative CT images showing stem in situ.



## A perfectly fitted stem

The design is modified in order to ensure easy insertion for safe implantation, but still achieve contact of up to 50 – 60% to endo-cortical bone. This ensures that the surgeon can obtain maximum primary stability. The distal part of the Unique stem is scaled down to prevent contact with the endo-cortical bone. Physiological transfer to the surrounding bone proximally stimulates bone remodelling which speeds up osseointegration.

- Maximum contact with the proximal cortical bone
- Excellent primary stability
- Physiological transfer of load from prosthesis to the femoral bone.



Pre operative



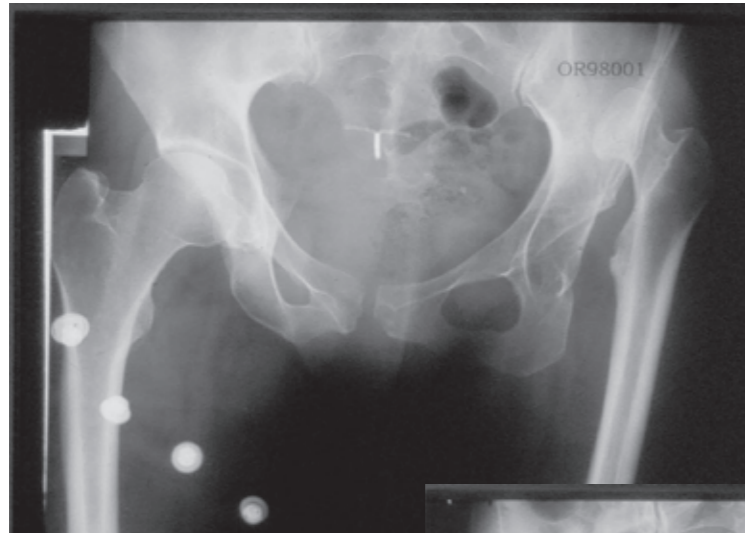
Post operative



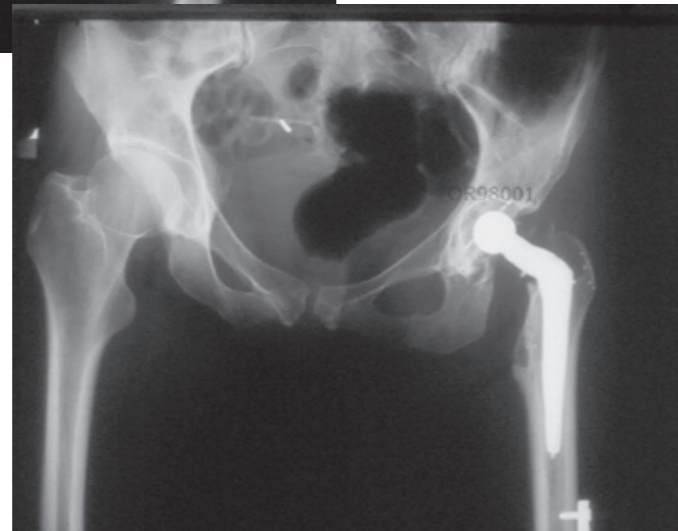
10 year post operative

The femoral neck geometry is planned and designed conjointly between SCP's engineers and the surgeon via the patented internet surgical planning solution (UniqueNET).

The individual planning and design of the neck gives the surgeon the possibility to optimise the extra medullary geometry.



Extreme case of coxa vara pre operative and immediate post operative



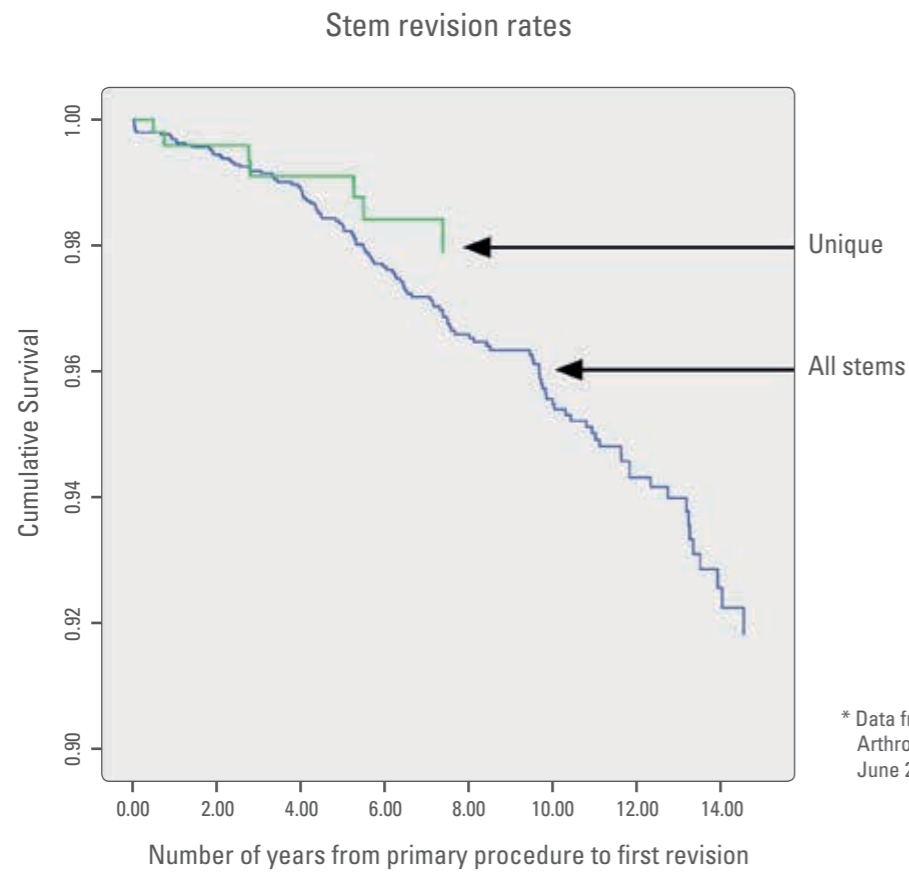
Extreme coxa valga pre operative and 10 years post operative

Customisation of the neck geometry facilitates:

- Optimisation of medial and anterior offset
- CCD angle correction
- Correction of leg length differences
- Optimisation of anteversion
- Correction to allow for optimum positioning of the acetabular component

For patients this offers the advantage of a well-functioning hip after surgery. For the surgeon, difficult surgery in patients with various abnormalities of the hip geometry may be performed with thorough planning and without the need for correctional osteotomies.

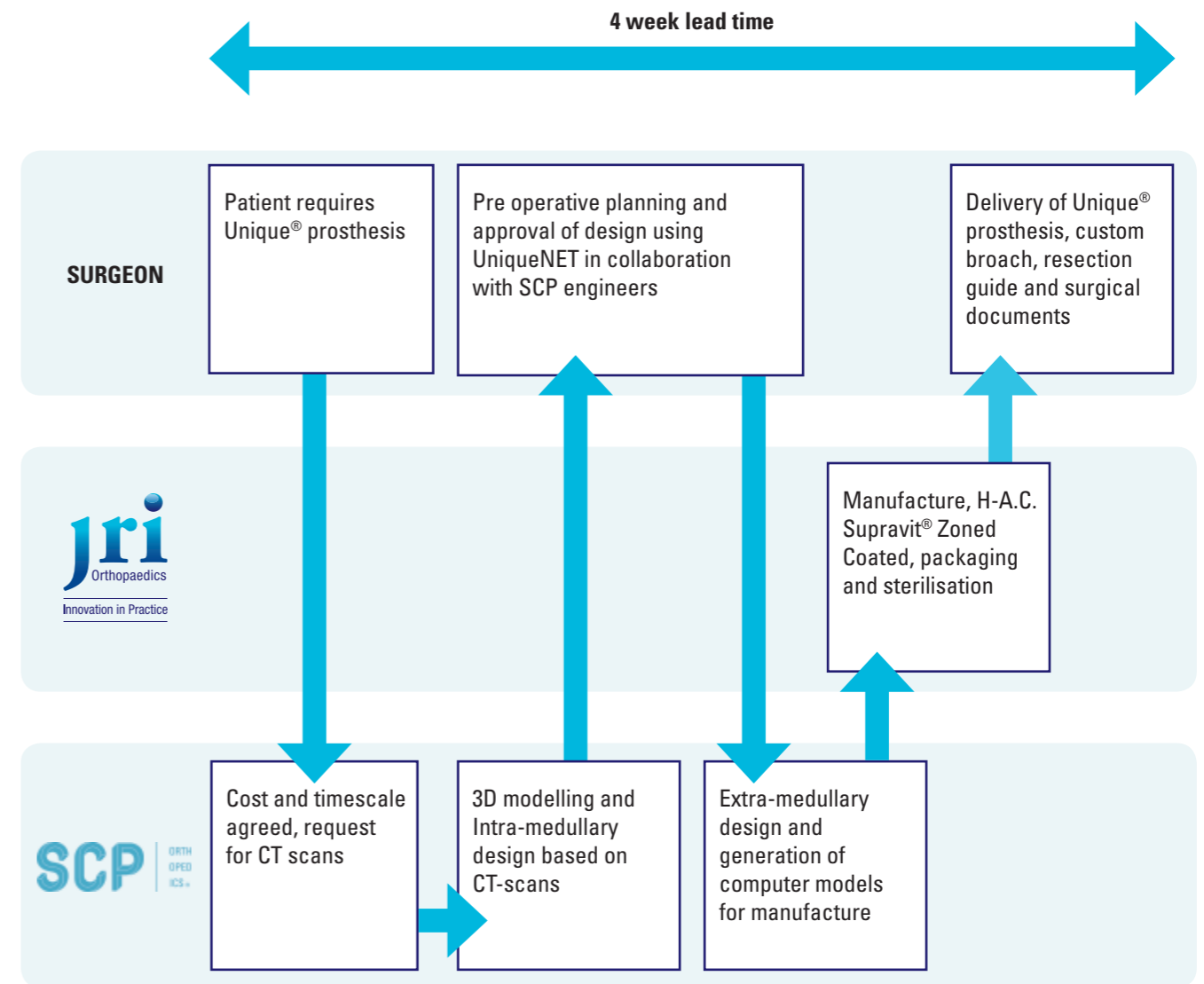
Stem survival \*



Revision rate for Unique \*\*

Revision rate		
	7 years	10 years
Any reason	1.1 %	2.4 %
Aseptic loosening	0	0

\*\* Pål Benum and Arild Aamodt. Uncemented custom femoral components in hip arthroplasty. A prospective clinical study. Acta Orthop, 2010; 81 (4): 427-435.



## SCP Services/Education

- Nurse Training
- Factory Visits
- Basic, instructional and advanced hip courses
- On demand loan sets
- In service technical support
- Consignment stock audits
- Instrumentation checks and maintenance
- Digital PACS and hard-copy X-Ray templates

### References:

1. Survivorship of 38 cases in under 50 year olds. N.N. Shah et al J Bone Joint Surg [Br] 2009; 91-B:865-9
2. Survivorship of 331 consecutive cases. J.A.N Shepperd et al J Bone Joint Surg [Br] 2008; 90-B:27-30
3. Survivorship of 134 consecutive cases. A.A. Shetty et al J Bone Joint Surg [Br] 2005; 87-B:1050-4
4. Survivorship in 2212 cases. J.M. Buchanan, Sunderland Royal Hospital Data presented at BOA, Manchester, 26 - 28 September 2007.
5. Sources: Fisher J, University of Leeds (UK); Pandorf T, CeramTecAG (Germany), 2006

A product from:

**SCP**

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SCP Orthopedics AS  
Hornebergv. 7A  
7038 Trondheim, Norway  
Telephone: +47 73 40 17 70  
Telefax: +47 73 96 31 90

[www.scp.no](http://www.scp.no)