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Primary Total Knee Replacement

Fixed Bearing
Cemented or cementless options

BROCHURE

anatomic®

Posterior Stabilised Total Knee Replacement

- Femoral component[1] design based on a study of 420 knees digitised using the AMPLIVISION® CAS system
- Size-dependent mediolateral bone coverage: 2 mm increments from Sizes 0 to 4 and 3.2 mm increments for Sizes 4 to 8
- Anteroposterior height between sizes: 2.6 mm
- Lateralised trochlear groove of 2 mm on average

- Centred cage is proportionately scaled, thereby preserving bone stock
- The posterior stabilisation cam provides stability throughout the range of motion while allowing some rotational movement.

- The femoral component has a single radius of curvature (from 0° to 100°) throughout the active flexion arc.
  Then the radius of curvature decreases to allow high flexion
- 6° anterior cut to preserve the anterior cortex
- Material: Cobalt-Chromium (CoCr)

Posterior Stabilised Total Knee Replacement

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- Stability and range of motion are ensured:

  - in extension by a congruent anterior lip
  - in flexion by delaying contact between the posterior stabilisation cam and the insert's post

- 9 femoral and tibial component sizes (Sizes 0 and 8 optional)
- 6 insert heights (10 to 20 mm)
- Cemented and cementless versions: Plasma-sprayed Titanium (80 µm) and Hydroxyapatite(80 µm)

Posterior-stabilised, fixed bearing, primary total knee replacement

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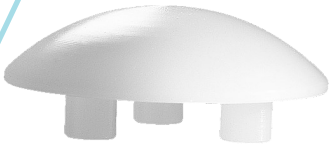
- Insert has curved anterior lip to ensure joint stability throughout the range of motion. Posterior stabilisation (PS) mechanism engages beyond 90° flexion
- Flat posterior surface (large radius) allows roll back
- Posterior contact area located on the thicker part of the post
- Material: Ultra-High Molecular Weight Polyethylene (UHMWPE)

- Highly-polished contact surface reduces backside wear[2]
- Insert clips into anterior edge of the baseplate
- Grooves on lateral edges and around the notch guide the insert placement
- Optional tibial stems and augments
- Material: Cobalt-Chromium (CoCr)

- Patellar component:

  - Dome-shaped contact area
  - Material: Ultra-high Molecular Weight Polyethylene (UHMWPE)



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Posterior Stabilised Total Knee Replacement

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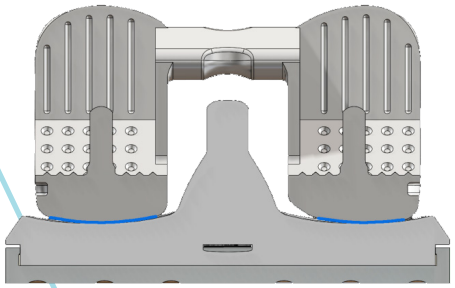
- The post/cam contact beyond 90° flexion and roll back allow deep flexion and stability
- Maximum 10° recurvatum possible

110° Flexion

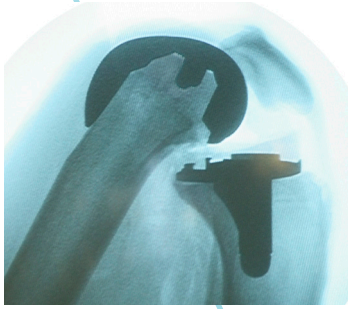
130° Flexion

- The shape of the PS cam is rounded to allow rotational movement arround the post

- Polyethylene insert is thicker posteriorly to support the load of the posterior condyles in high flexion



- Asymmetrical femur-insert contact surfaces
- Femoral component and insert can either be matched size-for-size or combined one size up and one size down



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References

[1]*Piriou P, Mabit C, Bonnevialle P, Peronne E, Versier G. Are gender-specific femoral implants for total knee arthroplasty necessary? J Arthroplasty. 2014 Apr;29(4):742-8.*

Retrospective study of morphometric data from 420 knees operated on between May 2010 and January 2012 in 7 French hospitals using Amplivision® computer-assisted surgery (CAS).

The purpose of this study was to determine the effect of gender on epiphyseal morphology and using this information to determine if an implant product line with a single mediolateral (ML) width provides sufficient bone coverage for the entire population of knees being replaced.

The patient population is divided into 7 groups corresponding to the 7 anteroposterior (AP) sizes of the Score® total knee repalcement (TKR).
The three-dimensional model of the femoral epiphysis generated with Amplivision® CAS system are cut by 19 slices parallel to the Eckhoff axis from 0° to 90° every 5°. The dimensions of these slices are studied.

Female knees had smaller AP and ML dimensions than male knees in average. However, the ML/AP ratio is the same for male and female. Moreover, the ML width of the distal femoral epiphysis was not associated with gender, only femur length.
The authors therefore decided to create a range of TKR (Anatomic®) that did not depend on the patient's sex, with a single ML dimension for each AP dimension and choosing to avoid femoral oversizing in 96% of cases.

[2]*Łapaj Ł, Mróz A, Kokoszka P, Markuszewski J, Wendland J, Helak-Łapaj C, Kruczyński J. Peripheral snap-fit locking mechanisms and smooth surface finish of tibial trays reduce backside wear in fixed-bearing total knee arthroplasty. Acta Orthop. 2017 Feb;88(1):62-69.*

Review of a consecutive series of 102 total knee replacement (TKR) insert explants.

Explants are divided into 2 categories of locking mechanism on the tibial baseplate: peripheral or «dovetail». Articular and backside surfaces wear was assessed by two independent observers according to the Hood et al. (1983) scale using a scanning electron microscopy.

No significant difference in wear between implants with a peripheral locking mechanism and those with a «dovetail» locking mechanism. More backside wear was observed on explants with a «dovetail» locking mechanism and in particular on inserts in contact with an unpolished tibial baseplate.

The authors concluded that a peripheral locking mechanism and a polished tibial baseplate surface reduce backside wear of inserts *in vivo*.

ANATOMIC® IMPLANTS

CE 2797

ANATOMIC® posterior stabilized femoral component cementless HA coated Size 1 to 7 RIGHT	1-0204301 to 1-0204307
ANATOMIC® posterior stabilized femoral component cementless HA coated Size 1 to 7 LEFT	1-0204401 to 1-0204407
ANATOMIC® posterior stabilized femoral component cemented Size 1 to 7 RIGHT	1-0204501 to 1-0204507
ANATOMIC® posterior stabilized femoral component cemented Size 1 to 7 LEFT	1-0204601 to 1-0204607
ANATOMIC® tibial base plate for fixed bearing insert cementless HA coated Size 1 to 7	1-0204801 to 1-0204807
ANATOMIC® tibial base plate for fixed bearing insert cemented Size 1 to 7	1-0204901 to 1-0204907
ANATOMIC® fixed bearing insert Size 1 Thickness 10 mm to 16 mm	1-0204710 to 1-0204713
ANATOMIC® fixed bearing insert Size 2 Thickness 10 mm to 16 mm	1-0204720 to 1-0204723
ANATOMIC® fixed bearing insert Size 3 Thickness 10 mm to 16 mm	1-0204730 to 1-0204733
ANATOMIC® fixed bearing insert Size 4 Thickness 10 mm to 16 mm	1-0204740 to 1-0204743
ANATOMIC® fixed bearing insert Size 5 Thickness 10 mm to 16 mm	1-0204750 to 1-0204753
ANATOMIC® fixed bearing insert Size 6 Thickness 10 mm to 16 mm	1-0204760 to 1-0204763
ANATOMIC® fixed bearing insert Size 7 Thickness 10 mm to 16 mm	1-0204770 to 1-0204773
Cemented resurfacing patellar implant - Ø 30 mm to Ø 39 mm	1-02008XX (XX = 30, 33, 36, 39)

OPTIONAL

ANATOMIC® fixed bearing insert Size 1 to 7 Thickness 18 mm	1-02047X4 (X = 1 to 7)
ANATOMIC® fixed bearing insert Size 1 to 7 Thickness 20 mm	1-02047X5 (X = 1 to 7)
ANATOMIC® posterior stabilized femoral component cementless HA coated Size 0 and 8 RIGHT	1-0204300 and 1-0204308
ANATOMIC® posterior stabilized femoral component cementless HA coated Size 0 and 8 LEFT	1-0204400 and 1-0204408
ANATOMIC® posterior stabilized femoral component cemented Size 0 and 8 RIGHT	1-0204500 and 1-0204508
ANATOMIC® posterior stabilized femoral component cemented Size 0 and 8 LEFT	1-0204600 and 1-0204608
ANATOMIC® fixed bearing insert Size 0 Thickness 10 mm to 20 mm	1-0204701 to 1-0204706
ANATOMIC® fixed bearing insert Size 8 Thickness 10 mm to 20 mm	1-0204780 to 1-0204785
ANATOMIC® tibial base plate for fixed bearing insert cementless HA coated Size 0 and 8	1-0204800 and 1-0204808
ANATOMIC® tibial base plate for fixed bearing insert cemented Size 0 and 8	1-0204900 and 1-0204908
Extension stem for Total Knee Prosthesis – Cemented - Ø10 length 75mm to 150mm	1-0200710 to 1-0200712
Extension stem for Total Knee Prosthesis – Cemented - Ø12 length 75mm to 150mm	1-0200720 to 1-0200722
Extension stem for Total Knee Prosthesis – Cemented - Ø14 length 75mm to 150mm	1-0200730 to 1-0200732
Extension stem for Total Knee Prosthesis – Cemented - Ø16 length 100mm to 150mm	1-0200741 to 1-0200742
ANATOMIC® Tibial Half-Block Size 0/1/2, 3/4/5, 6/7/8 Thickness 5 mm	1-0210610, 1-0210613, 1-0210616
ANATOMIC® Tibial Half-Block Size 0/1/2, 3/4/5, 6/7/8 Thickness 10 mm RM/LL	1-0210620, 1-0210623, 1-0210626
ANATOMIC® Tibial Half-Block Size 0/1/2, 3/4/5, 6/7/8 Thickness 10 mmRL/LM	1-0210630, 1-0210633, 1-0210636
ANATOMIC® Tibial Half-Block Size 0/1/2, 3/4/5, 6/7/8 Thickness 15 mm RM/LL	1-0210640, 1-0210643, 1-0210646
ANATOMIC® Tibial Half-Block Size 0/1/2, 3/4/5, 6/7/8 Thickness 15 mm RL/LM	1-0210650, 1-0210653, 1-0210656

Reference: DC.GB.064/5.0

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