

References

1. Vanguard ROCC, design validation file, Renan Fontaine, February 2009, data file.
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3. Meding J. 4.4mm of Tibial Polyethylene: A Ten-Year Follow-Up Study. *CORR*, 388, 112–117.



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Vanguard ROCC

Design Rationale

Vanguard ROCC

Vanguard ROCC Design Rationale

The Vanguard ROCC is a rotating platform knee prosthesis forming part of the Vanguard Complete Knee System.

Closely mimicking the kinematics of the natural knee, the Vanguard ROCC offers enhanced surface contact through its concave-convex articular design, in turn providing stability in all degrees of flexion.

The Vanguard ROCC instrumentation has been designed to compliment the existing Vanguard fixed bearing instrument philosophy.

Femoral Design

Narrow Femur

The femur is designed with a narrow anterior flange medio-laterally to maintain a small profile and reduce the likelihood of overhang. The femoral component grows medio-laterally, in 2.4mm increments, providing 9 sizes (55-75) for optimal patient fit.



Deep Anatomic Trochlear Groove

The deep trochlear groove provides support for the patella in deep flexion and better aids the quadriceps tendon. The deeper and anatomic trochlear groove (5°) offers an average jump distance of 7.8mm at 90° flexion¹.

Proportional Posterior Condyles

The posterior condyles grow proportionally in size, providing increased bone coverage, aiding high flexion

and restoring femoral offset. The broad posterior condyles reduce the risk of overstuffing the flexion gap in small femurs and undersizing the posterior condyles in larger femurs. They also provide a large contact area in deep flexion dissipating forces more effectively².

Material

- Cobalt Chrome
- TiAl6V4 alloy porous coating on cementless variants only
- HA coated cementless variants

Fixation Options

- Interlok – for cemented application
- Porous HA – for cementless fixation

Tibial Bearing

Optimised Tibial Femoral Articulation

The concave-convex congruency of the prosthesis provides stability of the implant in all degrees of flexion and offers increased patient comfort.



Posterior Slope

The tibial bearing has a built in 7° posterior slope, mimicking the natural kinematics of the knee.

ArCom Polyethylene

The tibial bearings are ArCom Direct Compression Moulded Polyethylene with proven wear resistance³.

The bearings grow in 2mm increments and are available in thicknesses from 10mm to 20mm.

Tibial Tray

Highly Polished Tibial Tray

The tibial tray has a highly polished surface finish, to reduce the risk of undersurface wear.



Finned Stem

The tibial component has a finned stem for enhanced rotational stability. The trays grow medio-laterally in 4mm increments, providing 9 tibial sizes (59-91) for optimal patient fit.

Stem Options

3 modular stem options are available to provide intra-operative flexibility; 35mm, 65mm and 120mm.

Material

Tray:

- Cobalt Chrome
- TiAl6V4 alloy porous coating on cementless variants

Stems:

- HA coated cementless variants
- TiAl6V4 alloy on stems

Fixation Options

- Interlok – for cemented application
- Porous HA – for cementless fixation

Disclaimer

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Patella

The Vanguard ROCC offers 2 patella options:

- Metal Backed Patella
- Full Polyethylene

Both options use the same surgical technique, providing intra-operative flexibility.



The size of the femoral component determines the size of the Metal Backed Patella.

There is no sizing rule for the Full Polyethylene Patella.

Material

- Metal backed patella: Cobalt Chrome with ArCom button
- HA coated cementless variants
- Full Polyethylene: ArCom Direct Compression Moulded Polyethylene

Fixation Options

- Interlok – for cemented application
- Porous HA – for cementless fixation

NB: The femoral design allows for articulation with an unresurfaced patella.