

Instrumentation Options

With the introduction of Microplasty and Premier Instrumentation platforms and advancements such as our patented Slidex Technology, the Vanguard Complete Knee System is the surgeon's ally in exceeding the demands of today's active joint replacement patient.



References

1. Ritter, M.A. 20 year Follow-up of the AGC Total Knee Replacement. Proceedings of the International Symposium on Current Topics in Knee Arthroplasty - Selected Scientific Exhibits. JBS supplement June 2008.
2. Ritter, M.A. et al. Long-Term Follow-up of Anatomic Graduated Components Posterior Cruciate-Retaining Total Knee Replacement. *Clinical Orthopaedics and Related Research*. 388:51 - 57. 2001.
3. Wasielewski, R.C. et al. Tibial Insert Undersurface as a Contributing Source of Polyethylene Wear Debris. *Clinical Orthopaedics and Related Research*. 345: 53-59, 1997.
4. Insall, J. et al. The Posterior Stabilized Total Knee Prosthesis. *Journal of Bone and Joint Surgery*. 77(11): 1713-20, 1995.
5. Parks, N. et al. Modular Tibial Insert Micromotion: A Concern with Contemporary Knee Implants. *Clinical Orthopaedics and Related Research*. 356: 10-15, 1998.
6. Paavolainen, P. et al. The Finnish Arthroplasty Register 1980-1994. *Long-term Results of Total Joint Arthroplasty*, 1995.
7. Emerson, R. et al. The AGC Total Knee Prosthesis at Average 11 Years. *The Journal of Arthroplasty*. 15(4): 418-23, 2000.
8. Knutson, K. The Swedish Knee Arthroplasty Register. *ActaOrthopaedica Scandinavia*. 65(4): 375-86, 1994.
9. Engh, G.A. What is the Clinical Scope of Implant Wear in the Knee and How Has it Changed Since 1995? Wright, T.M. and Goodman, S.B. (eds). *Implant Wear in Total Joint Replacement*. Rosemont, IL, AAOS 8-12, 2001.
10. Furman, B.D. et al. Effect of Resin Type and Manufacturing Method on UHMWPE Oxidation and Quality at Long Aging and Implant Times. 43rd Annual Meeting, Orthopaedic Research Society, San Francisco, CA, Feb. 9-13, 2001.
11. Beading, L. Direct Molded Components Shown to Resist Oxidation. *Orthopedics Today*. 17(4): 1997.
12. Beading L. Polyethylene-Related Failure: A Challenge to TKA. *Orthopedics Today*. 16-21, July, 1996.
13. Clark I.C. et al. Tribology Laboratory, Dept of Orthopaedics, Loma Linda University Medical Centre. Abstract presented at 7th annual conference on techniques and science for successful joint arthroplasty, Burlington, Vermont, Oct 5-6, 1995.



Vanguard Monobloc
System Overview



Taking advantage of a successful clinical heritage

Introduction

Together with Dr. Merrill Ritter, Biomet introduced the AGC in 1983. The AGC continues to be implanted today with a clinical survivorship at twenty years of 97.8%¹. Dr. Ritter has in part attributed this success both to the Monobloc tibial design and the manufacturing process of Biomet's polyethylene - ArCom[®].

Building upon this success, Biomet launched the Vanguard complete knee system in 2003. The aim was to provide the single most comprehensive integrated knee system to date. Naturally this system includes the Monobloc tibia, a design which has demonstrated its ability to significantly reduce micromotion, and the potential for particle generation between the tibial insert and the metal base plate in comparison to modular total knee replacements^{1,3}.

Design Advantages

- Successful long term clinical history with the AGC - 97.8% at 20 years¹.
- The Monobloc design provides resistance against micromotion between the tray and the polyethylene³.
- Clinically proven direct compression moulded polyethylene^{1,2,4,5,7}.



ArCom[®] Timeline

1992

Argon packaging for gamma irradiated sterilisation introduced.

1993

1994

Tibial Design Features

- Standard cruciate retaining bearing utilises a 3° posterior slope

- Prominent anterior lip provides rotational stability and controls anterior femoral slide

- Full interchangeability of femoral and tibial component allows optimal independent component sizing



- 7 sizes of tray from 63mm to 83mm

- Tibial bearing thickness from 8mm to 18mm

- Patella tendon relief facilitates increased range of motion

- Tibial stem available in both I-Beam and Finned variants

1995

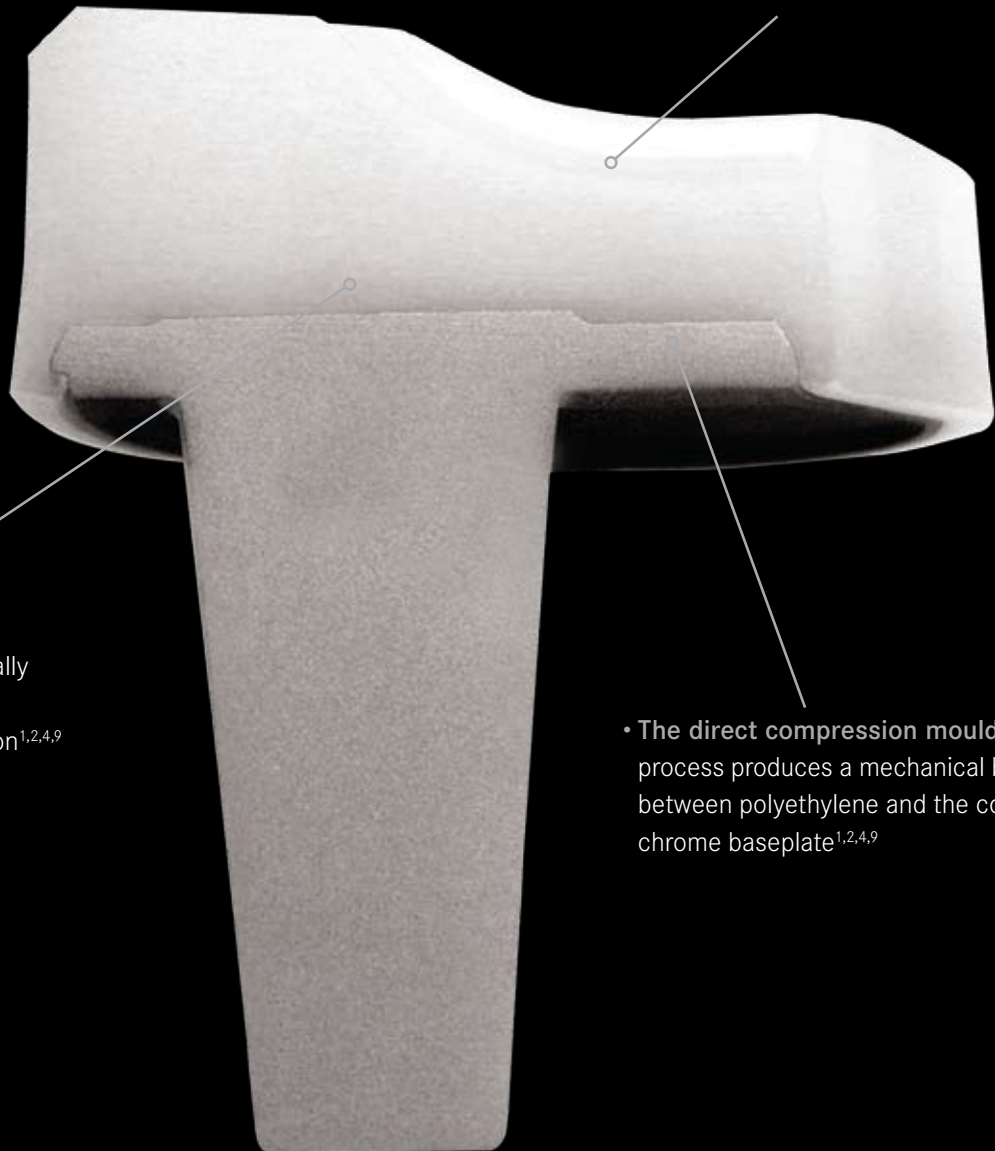
1998

2001

Proven Clinical Heritage^{1,2}

The Monobloc tibia, as found in the AGC Total Knee System, has demonstrated excellent clinical and radiological results, with less wear and increased resistance to micromotion¹⁻³.

- Moulded articular geometry eliminates machine lines on the polyethylene articular surface and the potential for debris generation caused by machine line cold flow



- The Monobloc design clinically reduces micromotion and the potential for particle generation^{1,2,4,9}

- The direct compression moulding process produces a mechanical bond between polyethylene and the cobalt chrome baseplate^{1,2,4,9}

2003

2008

Between 1983-2004, 7,760 AGC total knee replacements were implanted. The 20 year survivorship was 97.8%¹.