

High-Performance Hip System

Stryker's Leading Primary Hip Innovations

The OmniFit® EON® Cemented Stem, implanted with a BioloX® *delta* C-Taper Ceramic Head and an X3™ Polyethylene Insert, provides increased strength and wear performance over standard polyethylene and CoCr heads.^{1,2,3,4,5}



BioloX *delta* ceramic heads are compatible with Stryker® CoCr femoral stems due to the additional mechanical strength of the new ceramic material.^{3,4,5} This provides OmniFit® EON® users with an option to use ceramic heads.

OmniFit® Eon®

- Forged CoCr alloy provides superior strength that allows for a reduced neck geometry.
- Standard (132°) and extended (127°) neck angle options optimize joint stability.
- A/P Normalizations convert shear stresses to compressive forces for potentially optimal proximal loading. Normalizations also help to reduce the development of hoop stresses.
- Tapered Distal Stem Geometry uniformly distributes axial forces across the cement mantle.
- Polished Neck reduces the potential of abrasive polyethylene wear debris caused by stem impingement against the insert at extreme ranges of motion.

BioloX® *delta* Ceramic Femoral Heads

- BioloX® *delta* is a combination of nearly 75% alumina and 25% zirconia, providing the potential for extremely low wear, superior mechanical strength and improved fracture toughness.^{3,4,5}
- In laboratory testing, BioloX® *delta* ceramic is up to 50% stronger than BioloX® forte alumina ceramic, which allows for additional head offset sizes and the use of BioloX® *delta* ceramic with Stryker® CoCr femoral stems.⁶

Hips

- OmniFit® EON®
- BioloX® *delta*
- X3™

- Additional intermediate head offsets are available allowing for more implant options that provide a greater ability to recreate proper leg length.
- In addition to cobalt chrome, BioloX® *delta* ceramic material is compatible with titanium and stainless steel tapers.

X3™ Sequentially Irradiated Annealed Polyethylene

X3™ is the next generation in bearing performance improvements. It is the first highly crosslinked polyethylene to offer:

- Increased Structural Fatigue Strength^{1,2}
- 96% Wear Reduction over conventional polyethylene when tested with BioloX® *delta* heads⁷
- High oxidation resistance – similar to virgin polyethylene^{8,9}



X3™ The Power of Technology

Preserving
Strength

Reducing
Wear

Resisting
Oxidation

High-Performance Hip System



C-Taper BIOLOX® delta Ceramic Femoral Heads			
Implant Catalog #	Diameter (mm)	Offset (mm)	Trial Catalog #
18-28-3	28	-2.5	1100-2897A
18-2800	28	0	1100-2800A
18-2825	28	+2.5	1100-2825A
18-2805	28	+5	1100-2805A
18-32-3	32	-2.5	1100-3297A
18-3200	32	0	1100-3200A
18-3225	32	+2.5	1100-3225A
18-3205	32	+5	1100-3205A
18-36-5	36	-5	1100-3699A
18-36-3	36	-2.5	1100-3697A
18-3600	36	0	1100-3600A
18-3625	36	+2.5	1100-3625A
18-3605	36	+5	1100-3605A
18-3675	36	+7.5	1100-3675A

Catalog Information – OmniFit® EON® Hip Stems

127° Neck Angle					
Catalog Number	Stem Size	EON® Neck Length (mm)	Base Offset (mm)	Stem Length (mm)	Distal Tip Diameter (mm)
6097-0425	#4	25	33	100	8.1
6097-0530	#5	30	39	110	8.9
6097-0630	#6	30	40	120	9.6
6097-0735	#7	35	45	130	10.4
6097-0835	#8	35	46	135	11.3
6097-0940	#9	40	51	140	12.6
6097-1040	#10	40	52	145	13.8
6097-1140	#11	40	53	150	14.8

132° Neck Angle					
Catalog Number	Stem Size	EON® Neck Length (mm)	Base Offset (mm)	Stem Length (mm)	Distal Tip Diameter (mm)
6098-0425	#4	25	29	100	8.1
6098-0530	#5	30	35	110	8.9
6098-0630	#6	30	36	120	9.6
6098-0735	#7	35	41	130	10.4
6098-0835	#8	35	42	135	11.3
6098-0940	#9	40	46	140	12.6
6098-1040	#10	40	47	145	13.8
6098-1140	#11	40	48	150	14.8

For X3™ product information, refer to literature number LX3P.

References

1. Wang, A., Manley, M., Serekian, P., "Wear and Structural Fatigue Simulation of Crosslinked Ultra-High Molecular Weight Polyethylene for Hip and Knee Bearing Applications," Crosslinked and Thermally Treated Ultra-High Molecular Weight Polyethylene for Joint Replacements, ASTM STP1445, Kurtz, S.M., Gsell, R., and Martell, J., Eds., ASTM International, West Conshohocken, PA, 2003, pp. 151-168.
2. Essner, A., et al., "Acetabular Liner Function Fatigue Performance of Crosslinked UHMWPE," 51st Annual ORS paper No. 0245, Washington, DC, 2005.
3. Stryker Orthopaedics Technical Report RD-04-056B.
4. Stryker Orthopaedics Technical Report RD-05-011.
5. Stryker Orthopaedics Technical Report RD-05-013.
6. Stryker Orthopaedics Technical Report 01L/MC006, Applied Research Group Limerick, Stryker 2001.

7. Stryker Orthopaedics Trident® Acetabular Inserts made of X3™ UHMWPE, 721-00-32E, show a 97% reduction in volumetric wear rate versus the same insert fabricated from N2|Vac™ gamma sterilized UHMWPE, 620-00-32E. The insert tested was 7.5mm thick with an inner diameter of 32mm. Testing was conducted under multi-axial hip joint simulation for 5 million cycles using a 32mm CoCr articulating counterface and calf serum lubricant. X3™ UHMWPE Trident Acetabular Inserts showed a net weight gain due to fluid.
8. X3™ UHMWPE maintains mechanical properties after accelerated oxidative aging. No statistical difference was found for Tensile Yield Strength, Ultimate Tensile Strength and Elongation as measured per ASTM D638 before and after exposure to ASTM F2003 accelerated aging (5 Atmospheres (ATM) of

oxygen at 70°C for 14 days). Tensile Yield Strength was 23.5 ± 0.3 MPa and 23.6 ± 0.2 MPa, Ultimate Tensile Strength was 56.7 ± 2.1 MPa and 56.3 ± 2.3 MPa and Elongation was 267 ± 7% and 266 ± 9% before and after accelerated oxidative aging, respectively.

9. X3™ UHMWPE resists the effects of oxidation. No statistical difference was found for Tensile Yield Strength, Ultimate Tensile Strength, Elongation, Crystallinity and Density as measured per ASTM D638, D3417 and D1505 before and after ASTM F2003 accelerated aging (5 ATM of oxygen at 70°C for 14 days). Tensile Yield Strength was 23.5 ± 0.3 MPa and 23.6 ± 0.2 MPa, Ultimate Tensile Strength was 56.7 ± 2.1 MPa and 56.3 ± 2.3 MPa, Elongation was 267 ± 7% and 266 ± 9%, Crystallinity was 61.7 ± 0.6 % and 61.0 ± 0.5 % and Density was 939.2 ± 0.1 kg/m³ before and after accelerated oxidative aging, respectively.

The information presented in this brochure is intended to demonstrate the breadth of Stryker product offerings. Always refer to the package insert, product label and/or user instructions before using any Stryker product. Surgeons must always rely on their own clinical judgment when deciding which treatments and procedures to use with patients. Products may not be available in all markets. Product availability is subject to the regulatory or medical practices that govern individual markets. Please contact your Stryker representative if you have questions about the availability of Stryker products in your area. Copyright © 2005 Stryker

325 Corporate Drive
Mahwah, NJ 07430
t: 201 831 5000

www.stryker.com

The marks bearing the symbol ™ are trademarks of Stryker.
The marks bearing the symbol ® are registered trademarks of Stryker.

Literature Number: LX3BHSS
MS/GS 2m 11/05

Copyright © 2005 Stryker
Printed in USA