



Food and Drug Administration  
10903 New Hampshire Avenue  
Document Control Center – WO66-G609  
Silver Spring, MD 20993-0002

November 2, 2016

Biomet Manufacturing Corporation  
Ms. Patricia Beres  
Senior Regulatory Specialist  
56 East Bell Drive, P.O. Box 587  
Warsaw, Indiana 46581-0587

Re: K113121

Trade/Device Name: Comprehensive<sup>®</sup> Reverse Shoulder- E1<sup>®</sup> Humeral Bearings  
Regulation Number: 21 CFR 888.3660  
Regulation Name: Shoulder joint metal/polymer semi-constrained cemented prosthesis  
Regulatory Class: Class II  
Product Code: PHX, KWS  
Dated: December 7, 2011  
Received: December 9, 2011

Dear Ms. Beres:

This letter corrects our substantially equivalent letter of December 16, 2011.

We have reviewed your Section 510(k) premarket notification of intent to market the device referenced above and have determined the device is substantially equivalent (for the indications for use stated in the enclosure) to legally marketed predicate devices marketed in interstate commerce prior to May 28, 1976, the enactment date of the Medical Device Amendments or to devices that have been reclassified in accordance with the provisions of the Federal Food, Drug, and Cosmetic Act (Act) that do not require approval of a premarket approval application (PMA). You may, therefore, market the device, subject to the general controls provisions of the Act. The general controls provisions of the Act include requirements for annual registration, listing of devices, good manufacturing practice, labeling, and prohibitions against misbranding and adulteration. Please note: CDRH does not evaluate information related to contract liability warranties. We remind you, however, that device labeling must be truthful and not misleading.

If your device is classified (see above) into either class II (Special Controls) or class III (PMA), it may be subject to additional controls. Existing major regulations affecting your device can be found in the Code of Federal Regulations, Title 21, Parts 800 to 898. In addition, FDA may publish further announcements concerning your device in the Federal Register.

Please be advised that FDA's issuance of a substantial equivalence determination does not mean that FDA has made a determination that your device complies with other requirements of the Act or any Federal statutes and regulations administered by other Federal agencies. You must comply with all the Act's requirements, including, but not limited to: registration and listing (21 CFR Part 807); labeling (21 CFR Part 801); medical device reporting (reporting of medical

device-related adverse events) (21 CFR 803); good manufacturing practice requirements as set forth in the quality systems (QS) regulation (21 CFR Part 820); and if applicable, the electronic product radiation control provisions (Sections 531-542 of the Act); 21 CFR 1000-1050.

If you desire specific advice for your device on our labeling regulation (21 CFR Part 801), please contact the Division of Industry and Consumer Education at its toll-free number (800) 638-2041 or (301) 796-7100 or at its Internet address

<http://www.fda.gov/MedicalDevices/ResourcesforYou/Industry/default.htm>. Also, please note the regulation entitled, "Misbranding by reference to premarket notification" (21 CFR Part 807.97). For questions regarding the reporting of adverse events under the MDR regulation (21 CFR Part 803), please go to <http://www.fda.gov/MedicalDevices/Safety/ReportaProblem/default.htm> for the CDRH's Office of Surveillance and Biometrics/Division of Postmarket Surveillance.

You may obtain other general information on your responsibilities under the Act from the Division of Industry and Consumer Education at its toll-free number (800) 638-2041 or (301) 796-7100 or at its Internet address

<http://www.fda.gov/MedicalDevices/ResourcesforYou/Industry/default.htm>.

Sincerely yours,

**Lori A. Wiggins -S**

for  
Mark N. Melkerson  
Director  
Division of Orthopedic Devices  
Office of Device Evaluation  
Center for Devices and  
Radiological Health

Enclosure

## Indications for Use

510(k) Number (if known): K113121

Device Name: Comprehensive® Reverse Shoulder – E1® Humeral Bearings

### Indications For Use:

The Comprehensive® Reverse Shoulder is indicated for use in patients whose shoulder joint has a grossly deficient rotator cuff with severe arthropathy and/or previously failed shoulder joint replacement with a grossly deficient rotator cuff. The patient must be anatomically and structurally suited to receive the implants and a functional deltoid muscle is necessary.

The Comprehensive® Reverse Shoulder is indicated for primary, fracture, or revision total shoulder replacement for the relief of pain and significant disability due to gross rotator cuff deficiency.

Glenoid components with Hydroxyapatite (HA) coating applied over the porous coating are indicated only for uncemented biological fixation applications. The Glenoid Baseplate components are intended for cementless application with the addition of screw fixation.

Interlok® finish humeral stems are intended for cemented use and the MacroBond® coated humeral stems are intended for press-fit or cemented applications. Humeral components with porous coated surface coating are indicated for either cemented or uncemented biological fixation applications.

Prescription Use  X  AND/OR Over-The-Counter Use  NO   
(Part 21 CFR 801 Subpart D) (21 CFR 807 Subpart C)

(PLEASE DO NOT WRITE BELOW THIS LINE-CONTINUE ON ANOTHER PAGE IF NEEDED)

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Concurrence of CDRH, Office of Device Evaluation (ODE)

  
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(Division Sign-Off)  
Division of Surgical, Orthopedic,  
and Restorative Devices

510(k) Number  K113121

K/13/21

DEC 16 2011

**BIOMET**  
MANUFACTURING CORP.

**510(k) SUMMARY**

A summary of 510(k) safety and effectiveness information in accordance with the requirements of 21 CFR 807.92

<b>SUBMITTER INFORMATION</b>	
<b>Name</b>	Biomet Manufacturing Corp.
<b>Address</b>	56 East Bell Drive Warsaw, IN 46582
<b>Phone number</b>	(574) 267-6639
<b>Fax number</b>	(574) 371-1027
<b>Establishment Registration Number</b>	1825034
<b>Name of contact person</b>	Patricia Sandborn Beres Senior Regulatory Specialist Biomet Manufacturing Corp.
<b>Date prepared</b>	December 15, 2011
<b>NAME OF DEVICE</b>	
<b>Trade or proprietary name</b>	Comprehensive <sup>®</sup> Reverse Shoulder - E1 <sup>®</sup> Humeral Bearings
<b>Common or usual name</b>	Shoulder Prosthesis
<b>Classification name</b>	Shoulder joint, metal/polymer, semi-constrained, cemented prosthesis
<b>Classification panel</b>	Orthopedics
<b>Regulation</b>	21 CFR 888.3660
<b>Product Code(s)</b>	KWS
<b>Legally marketed device(s) to which equivalence is claimed</b>	Comprehensive <sup>®</sup> Reverse Shoulder 510(k) K080642
<b>Reason for 510(k) submission</b>	Line Extension
<b>Device description</b>	The Comprehensive <sup>®</sup> Reverse Shoulder is intended for total shoulder replacement in a reverse shoulder configuration. Unlike traditional total shoulder replacement, a reverse shoulder employs a ball for articulation on the glenoid side of the joint and a polyethylene bearing surface on the humeral side of the joint. This device configuration increases the lever arm of the deltoid muscle bundle to provide stability and the ability to raise the arm. This is especially useful in cases where a patient has a non-functioning rotator cuff which severely limits traditional joint replacement options.
<b>Intended use of the device</b>	Shoulder Replacement

Mailing Address:  
P.O. Box 587  
Warsaw, IN 46581-0587  
Toll Free: 800.348.9500  
Office: 574.267.6639  
Main Fax: 574.267.6137  
www.biomet.com

Shipping Address:  
56 East Bell Drive  
Warsaw, IN 46582

K113/21

<p><b>Indications for use</b></p>	<p>The Comprehensive® Reverse Shoulder is indicated for use in patients whose shoulder joint has a grossly deficient rotator cuff with severe arthropathy and/or previously failed shoulder joint replacement with a grossly deficient rotator cuff. The patient must be anatomically and structurally suited to receive the implants and a functional deltoid muscle is necessary.</p> <p>The Comprehensive® Reverse Shoulder is indicated for primary, fracture, or revision total shoulder replacement for the relief of pain and significant disability due to gross rotator cuff deficiency.</p> <p>Glenoid components with Hydroxyapatite (HA) coating applied over the porous coating are indicated only for uncemented biological fixation applications. The Glenoid Baseplate components are intended for cementless application with the addition of screw fixation.</p> <p>Interlok® finish humeral stems are intended for cemented use and the MacroBond® coated humeral stems are intended for press-fit or cemented applications. Humeral components with porous coated surface coating are indicated for either cemented or uncemented biological fixation applications.</p>
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**SUMMARY OF THE TECHNOLOGICAL CHARACTERISTICS OF THE HUMERAL BEARING COMPARED TO THE PREDICATE**

Characteristic	Modified Device	Comprehensive® Reverse Shoulder - 510(k) K080642
Material	UHMWPE (E1®) 1050 Resin	UHMWPE (E-Poly™) 1020 Resin
Internal Diameter	31, 36, 41mm	31, 36, 41mm
Height	Standard, Standard +3mm, Retentive +3mm	Standard, Standard +3mm, Retentive +3mm
Attachment to Humeral Tray	Ringloc® snap ring	Ringloc® snap ring

**PERFORMANCE DATA**

**Summary Of Non-Clinical Tests Conducted For Determination Of Substantial Equivalence**

<b>Performance Test Summary-New Device</b>
Tensile Testing per ASTM D-638
IZOD Impact Strength testing in accordance with ASTM F-648
Humeral Bearing Pull-out testing
Humeral Bearing Lever-out testing
Humeral Bearing Torque-out testing

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**Summary of Clinical Tests Conducted for Determination of Substantial Equivalence and/or of Clinical Information**

No clinical data submitted

**CONCLUSIONS DRAWN FROM NON-CLINICAL AND CLINICAL DATA**

No clinical data was necessary for a determination of substantial equivalence.

The results of testing indicated the material performed within the intended use, did not raise any new safety and efficacy issues and were found to be substantially equivalent to the predicate devices.