

## 510(k) Summary

**Applicant/Sponsor:** NovoSource, Inc.  
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**Contact Person:** David Letteri  
Vice President of Quality and Regulatory  
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937-531-6591

SEP 16 2013

### DEVICE INFORMATION

**Proposed Trade Name:** NovoKnee Total Knee System

**Common Name:** Semi-constrained total knee prosthesis

**Classification Name:** Knee joint patellofemorotibial polymer/metal/polymer semi-constrained cemented prosthesis per 21CFR 888.3560. This falls under the Orthopedics panel/87 as a Class II device.

**Device Product Code:** JWH

**Predicate Device:** NovoKnee Total Knee System (K123339)  
United Orthopedic U2 Total Knee (K051640)

### **Device Description:**

The present 510k submission is for a cruciate retaining (CR) version of the NovoKnee Total Knee System. The main predicate device (K123339) is a posterior stabilized (PS) version of the NovoKnee Total Knee System. All implant components are the same between the two versions, except for the tibial inserts and the femoral components. The posterior stabilized version has tibial inserts with posts and femoral components with cams that interact with the posts to help stabilize the knee after the posterior cruciate ligament is removed. The cruciate retaining version of the NovoKnee Total Knee System has tibial inserts and femoral components without posts or cams, allowing the posterior cruciate ligament to be "retained" and provide stability to the knee joint.

The NovoKnee Total Knee System is a Patellofemorotibia, polymer/metal/polymer, semi-constrained, cemented knee prosthesis, that consists of a femoral component, tibial insert, tibial tray and patellar component. The femoral component articulates with the tibial insert component. The underside of the

tibial insert component is flat and "snaps" into the tibial baseplate component. Each femoral component has the same intercondylar distance and radius of curvature. Each tibial insert component is complementarily shaped to conform to the femoral components. This allows any size femoral component to be matched with any size tibial component. The dome shape of each UHMWPE patellar component provides excellent contact with the femoral component and evenly distributes stresses. The dome and sombrero shape of each UHMWPE patellar component provides contact with the femoral component.

**Intended Use:**

Total knee arthroplasty

**Indications for Use:**

The NovoKnee Total Knee System is indicated in knee arthroplasty for reduction or relief of pain and/or improved knee function in skeletally mature patients with severe knee pain and disability due to rheumatoid arthritis, osteoarthritis, primary and secondary traumatic arthritis, polyarthritis, collagen disorders, avascular necrosis of the femoral condyle or pseudogout, posttraumatic loss of joint configuration, particularly when there is patellofemoral erosion, dysfunction or prior patellectomy, moderate valgus, varus, or flexion deformities. The NovoKnee Total Knee System may also be indicated in the salvage of previously failed surgical attempts if the knee can be satisfactorily balanced and stabilized at the time of surgery. The NovoKnee Total Knee System is designed for cemented use only.

**Summary of Technological Characteristics**

The CR version of the NovoKnee Total Knee System has the same intended use and indications as the PS version of the NovoKnee Total Knee System. The CR version is manufactured from the same materials as the PS version. The range of sizes available for the CR version is the same as the range of sizes of the PS version. The CR version design is substantially similar to the PS version system design. Based on these similarities, NovoSource believes that the CR version of the NovoKnee Total Knee System is substantially equivalent to the PS version of the NovoKnee Total Knee System.

**Performance Testing**

The following tests were performed in this submission:

1. Femoral/Tibial Insert Contact Area Test;
2. Anterior Shear Test of Insert/Tray Interlocking Mechanism;
3. Posterior Shear Test of Insert/Tray Interlocking Mechanism; and
4. Medial/Lateral Shear Test of Insert/Tray Interlocking Mechanism.

Test results indicate that the CR version of the NovoKnee Total Knee System is substantially equivalent to the PS version of the NovoKnee Total Knee System.



DEPARTMENT OF HEALTH & HUMAN SERVICES

Public Health Service

Food and Drug Administration  
10903 New Hampshire Avenue  
Document Control Center - W066-G609  
Silver Spring, MD 20993-0002

September 16, 2013

NovoSource, Incorporated  
% Mr. James Pinkston  
IMDS Corporation  
560 West Golf Course Road  
Providence, Utah 84332

Re: K131398

Trade/Device Name: NovoKnee Total Knee System

Regulation Number: 21 CFR 888.3560

Regulation Name: Knee joint patellofemoral tibial polymer/metal/polymer semi-constrained  
cemented prosthesis

Regulatory Class: Class II

Product Code: JWH

Dated: August 1, 2013

Received: August 2, 2013

Dear Mr. Pinkston:

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

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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 Small Manufacturers, International and Consumer Assistance 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 Small Manufacturers, International and Consumer Assistance 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,

**Elizabeth L. Frank -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): K131398

Device Name: **NovoKnee Total Knee System**

Indications for Use:

The NovoKnee Total Knee System is indicated in knee arthroplasty for reduction or relief of pain and/or improved knee function in skeletally mature patients with severe knee pain and disability due to rheumatoid arthritis, osteoarthritis, primary and secondary traumatic arthritis, polyarthritis, collagen disorders, avascular necrosis of the femoral condyle or pseudogout, posttraumatic loss of joint configuration, particularly when there is patellofemoral erosion, dysfunction or prior patellectomy, moderate valgus, varus, or flexion deformities.

The NovoKnee Total Knee System may also be indicated in the salvage of previously failed surgical attempts if the knee can be satisfactorily balanced and stabilized at the time of surgery. The NovoKnee Total Knee System is designed for cemented use only.

Prescription Use  X   
(Part 21 CFR 801 Subpart D)

AND/OR

Over-The-Counter Use \_\_\_\_\_  
(21 CFR 801 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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Casey L. Hanley, Ph.D.  
Division of Orthopedic Devices