



July 29, 2016

Medicrea® International S.A.
Mr. David Ryan
VP Product Development and Marketing
14 Porte du Grand Lyon
01700 Neyron
FRANCE

Re: K161627
Trade/Device Name: PASS LP Spinal System
Regulation Number: 21 CFR 888.3070
Regulation Name: Pedicle screw spinal system
Regulatory Class: Class III
Product Code: NKB, OSH, MNH, MNI, KWP
Dated: June 8, 2016
Received: June 13, 2016

Dear Mr. Ryan:

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 Parts 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,

Vincent J. Devlin -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)
K161627

Device Name
PASS LP Spinal System

Indications for Use (Describe)

The PASS LP Spinal System is a pedicle screw fixation system intended for immobilization and stabilization of spinal segments in skeletally mature patients as an adjunct to fusion in the treatment of the following acute and chronic instabilities or deformities of the thoracic, lumbar, and sacral spine: degenerative disc disease (defined as discogenic back pain with degeneration of the disc confirmed by history and radiographic studies), spondylolisthesis, trauma (e.g., fracture or dislocation), deformity or curvature (e.g., scoliosis, kyphosis, and/or lordosis), tumor, spinal stenosis, pseudarthrosis, or failed previous fusion.

Except for rod plates, when used for posterior non-cervical pedicle screw fixation in pediatric patients, the PASS LP Spinal System implants are indicated as an adjunct to fusion to treat adolescent idiopathic scoliosis. Additionally, the system is intended to treat pediatric patients diagnosed with the following conditions: spondylolisthesis/spondylolysis and fracture caused by tumor and/or trauma. The PASS LP Spinal System is intended to be used with autograft and/or allograft. Pediatric pedicle screw fixation is limited to a posterior approach.

Type of Use (Select one or both, as applicable)

Prescription Use (Part 21 CFR 801 Subpart D)

Over-The-Counter Use (21 CFR 801 Subpart C)

CONTINUE ON A SEPARATE PAGE IF NEEDED.

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510(K) SUMMARY

1. DEVICE SUBMITTER

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VP Product Development and Marketing

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Date Prepared: 07/27/2016

2. DEVICE

Name of Device: PASS LP Spinal System

Common or Usual Name: Pedicle Screw Spinal Lumbar System

Classification Name:

Pedicle Screw Spinal System, 21 CFR 888.3070

Regulatory Class: III

Classification Product Code: NKB,

Subsequent Product Code: KWP, MNH, MNI, and OSH

3. PREDICATE DEVICE

Primary Predicate:

- ✓ PASS LP Spinal System, MEDICREA INTERNATIONAL, K141398
This predicate has not-been subject to a design-related recall.

Additional Predicates:

- ✓ MOSS Miami Spinal System, DEPUY, K964024
 - ✓ CD HORIZON Spinal System, MEDTRONIC SOFAMOR DANEK, K141494
-

4. DEVICE DESCRIPTION

The PASS LP Spinal System is designed to contribute to correction and surgical stabilization of the thoracic, lumbar and sacral spine.

The system consists of pedicle screws, hooks, sacral plates, iliac screws, connectors, clamps, rods, nuts, rod plates and crosslink components. It can be used for single or multiple level fixations. Components are manufactured from titanium alloy (Ti-6Al-4V ELI) that conforms to ISO 5832-3 ASTM F136 and cobalt-chromium molybdenum alloy Co-Cr28Mo6 that conforms to ISO 5832-12 and ASTM F1537.

A subset of PASS LP Spinal System components may be used for posterior pedicle screw fixation in pediatrics cases. These constructs may be comprised of a variety of shapes and sizes of rods, hooks, sacral plates, iliac screws, connectors, clamps, nuts and crosslink components. The PASS LP components can be rigidly locked into a variety of configurations, with each construct being tailored made for the individual case.

The purpose of this submission is to extend the PASS LP Spinal System, with the addition of new components:

- 'Top loading, cannulated pedicle screws'
- 'Top loading, non-cannulated pedicle screws'
- 'Top loading, cannulated iliac screws'
- 'Top loading, non-cannulated iliac screws'
- 'Closed, cannulated iliac screws'
- 'Closed, non-cannulated iliac screws'

5. INDICATIONS FOR USE

The PASS LP Spinal System is a pedicle screw fixation system intended for immobilization and stabilization of spinal segments in skeletally mature patients as an adjunct to fusion in the treatment of the following acute and chronic instabilities or deformities of the thoracic, lumbar, and sacral spine: degenerative disc disease (defined as discogenic back pain with degeneration of the disc confirmed by history and radiographic studies), spondylolisthesis, trauma (e.g., fracture or dislocation), deformity or curvature (e.g., scoliosis, kyphosis, and/or lordosis), tumor, spinal stenosis, pseudarthrosis, or failed previous fusion.

Except for rod plates, when used for posterior non-cervical pedicle screw fixation in pediatric patients, the PASS LP Spinal System implants are indicated as an adjunct to fusion to treat adolescent idiopathic scoliosis. Additionally, the system is intended to treat pediatric patients diagnosed with the following conditions: spondylolisthesis/spondylolysis and fracture caused by tumor and/or trauma. The PASS LP Spinal System is intended to be used with autograft and/or allograft. Pediatric pedicle screw fixation is limited to a posterior approach.

**6. COMPARISON OF TECHNOLOGICAL CHARACTERISTICS AND INDICATIONS
WITH THE PREDICATE DEVICE**

The table below compares the features and characteristics of the PASS LP Spinal System to its predicate device. The design features, materials and dimensions were found to be substantially equivalent to these systems. The Indications for Use statement is identical to the predicate device.

Table 1 Comparison Of Technological Characteristics

Device	PASS LP Spinal System, Medicea – New Components	PASS LP Spinal System, Medicea	CD Horizon / Solera Spinal System, Medtronic	MOSS Miami Spinal System, Depuy
510(k) number	NA	K141398	K141494	K964024
Intended use				
Thoracic, Lumbar spine	Yes	Yes	Yes	Yes
Posterior Approach	Yes	Yes	Yes	Yes
Design				
Polyaxial Pedicle Screws				
Screw Diameters	Ø4.5mm to Ø10.5mm	Ø4.5mm to Ø10.5mm	Ø4.0mm to Ø9.5mm	Ø5.0mm to Ø7.0mm
Screw Lengths	From 25mm to 60mm with a 5mm increment	From 25mm to 60mm with a 5mm increment	From 20mm to 100mm with a 5mm increment	From 30mm to 60mm
Cannulated screws	Yes	Yes	Yes	No
Color Coded	Color-code on the screw shank. Identical to existing PASS LP pedicle screws	Color code on the threaded extension	Color code on the tulip saddle.	No
Shape of the screw shank	Conical outline. Dual lead thread with two segments (proximal and distal) having variable thread pitch.	Conical thread outline. Spherical head for connection with other PASS LP components. Breakable threaded part after Nut tightening	Conical outline. Dual lead thread with two segments (proximal and distal) having variable thread pitch.	Cylindrical outline. Single lead thread.
Polyaxial Range of Motion	+/-26° (+/-1°)	+/-13°	+/-25°	+/-25°
(*) Range Of Motion (ROM) was considered substantially equivalent due to that of predicate devices (K141494 and K964024), due to the (+/-1°) precision of the ROM measurement.				
Compatibility with rods	Ø5.5 mm and Ø6.0 mm	Ø5.5 mm and Ø6.0 mm	Ø4.75 mm Ø5.5 mm and Ø6.35 mm	Ø5.0mm or Ø5.5 mm
Threaded extension	No	Yes	No	No
Torque-calibrated breakable set-screw	Yes	Yes	Yes	No

Device	PASS LP Spinal System, Medicea – New Components	PASS LP Spinal System, Medicea	CD Horizon / Solera Spinal System, Medtronic	MOSS Miami Spinal System, Depuy
Polyaxial Iliac Screws				
Screw Diameters	Ø4.5mm to Ø10.5mm	Ø4.5mm to Ø10.5mm	Ø5.5mm to Ø8.5mm	Ø5.0mm to Ø7.0mm
Screw Lengths	From 25mm to 100mm with a 5mm increment	From 25mm to 100mm with a 5mm increment	From 40mm to 90mm with a 5mm increment	From 30mm to 60mm
Cannulated screws	Yes	No	No	No
Color Coded	Color-code on the screw shank. Identical to existing PASS LP pedicle and iliac screws	Color code on the threaded extension	Color code on the tulip saddle.	No
Shape of the screw shank	Conical outline. Single lead thread.	Cylindrical thread outline. Spherical head for connection with other PASS LP components. Breakable threaded part after Nut tightening	Cylindrical outline. Single lead thread.	Cylindrical outline. Single lead thread.
Polyaxial Range of Motion	+/-26°	+/-13°	+/-25°	+/-25°
(*) Range Of Motion (ROM) was considered substantially equivalent due to that of predicate devices (K141494 and K964024), due to the (+/-1°) precision of the ROM measurement.				
Compatibility with rods	Ø5.5 mm and Ø6.0 mm	Ø5.5 mm and Ø6.0 mm	Ø4.75 mm Ø5.5 mm and-Ø6.35 mm	Ø5.0mm or Ø5.5 mm
Threaded extension	No	Yes	No	No
Torque-calibrated breakable set-screw	Yes	Yes	Yes	No
Materials				
Components	Titanium alloy (Ti-6Al-4V ELI, following standards ASTM F136 and ISO 5832-3). Cobalt Chrome alloy (CoCr28Mo, following standards ASTM F1537 and ISO 5832-12)	Titanium alloy (Ti-6Al-4V ELI, following standards ASTM F136 and ISO 5832-3). Cobalt Chrome alloy (CoCr28Mo, following standards ASTM F1537 and ISO 5832-12)	Manufactured from biocompatible: Titanium alloy (Ti-6Al-4V ELI, following standards ASTM F136 and Cobalt Chrome alloy (CoCr28Mo, following standards ASTM F1537 and	Manufactured from biocompatible: Titanium alloy (Ti-6Al-4V ELI, following standards ASTM F136 and Stainless steel conforming to ASTM F-138

Material composition is identical to other MEDICREA® INTERNATIONAL products, MEDTRONIC CD HORIZON or DEPUY MOSS Miami system that have been cleared via the 510(k) process.

7. PERFORMANCE DATA

Biocompatibility Testing

The biocompatibility evaluation for the PASS LP system was conducted in accordance with the FDA blue book Memorandum #G95-1 "Use of International Standard ISO-10993, 'Biological Evaluation of Medical Devices Part 1: Evaluation and Testing,'" May 1, 1995, and International Standard ISO 10993-1 "Biological Evaluation of Medical Devices – Part 1: Evaluation and Testing Within a Risk Management Process," as recognized by FDA. The battery of testing included the following tests:

- ✓ Cytotoxicity
- ✓ Sensitization
- ✓ Irritation
- ✓ Systemic toxicity
- ✓ Pyrogen Testing

According to the standard **ISO 10993-1**, the PASS LP Spinal System is defined as implantable device in contact with tissue and bone and as a permanent contact with the patient.

For chemical composition, the material conform to Ti-6Al-4V ELI, following standards ASTM F136 and ISO 5832-3.

Mechanical testing

When applicable, the tests performed on the additional components (static bending, static torsion, dynamic compression bending (according to ASTM F1717), indicate that the products are as mechanically sound as other devices commercially available.

Finite Element Analysis

No Finite Element Analysis were performed.

Clinical study

No clinical studies were performed.

Animal study

No animal studies were performed.

8. CONCLUSION

MEDICREA® INTERNATIONAL S.A. PASS LP Spinal System is substantially equivalent to its predicate device in terms of indications for use, design, material and function.
