

**510(k) Summary**

**SUBMITTER:** DePuy Spine, Inc.  
325 Paramount Drive  
Raynham, MA 02780

**CONTACT PERSON:** Liz Lavelle

**DATE PREPARED:** August 4, 2005

**CLASSIFICATION NAME:** Appliance, Fixation, Spinal Interlaminar  
Orthosis, Spinal Pedicle Fixation

**PROPRIETARY NAME:** EXPEDIUM™ Spine System 5.5mm Commercially Pure  
Titanium Spinal Rods

**PREDICATE DEVICES:** EXPEDIUM™ Spine System (Merlin Spine System) -  
K033901  
MOSS MIAMI™ Spinal System - K955348  
MONARCH™ Spine System - K024348, K021148

**DEVICE DESCRIPTION:** The EXPEDIUM™ Spine System Commercially Pure  
Titanium Spinal Rods are 5.5mm diameter rods available  
in various lengths. The rods are designed for use with  
previously cleared titanium alloy components of the  
EXPEDIUM™ Spine System, MOSS MIAMI™ Spinal  
System, and MONARCH™ Spine System which can  
accept a 5.5mm spinal rod, including monoaxial and  
polyaxial screws, hooks, and connectors. The rods will be  
labeled as components of the EXPEDIUM™ Spine  
System.

**INTENDED USE:** **The EXPEDIUM™ Spine System is intended for noncervical  
pedicle fixation and nonpedicle fixation for the following  
indications: degenerative disc disease (defined as back pain  
of discogenic origin with degeneration of the disc confirmed  
by history and radiographic studies); spondylolisthesis;  
trauma (i.e., fracture or dislocation); spinal stenosis;  
curvatures (i.e., scoliosis, kyphosis, and/or lordosis); tumor;  
pseudoarthrosis; and failed previous fusion in skeletally  
mature patients.**

**MATERIALS:** Manufactured from Grade 3 commercially pure titanium  
conforming to ASTM F-67.

**PERFORMANCE  
DATA:** Biomechanical test data were submitted to characterize the  
EXPEDIUM™ Spine System 5.5mm Commercially Pure  
Titanium Spinal Rod.

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#### IX. 510(k) Summary

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**DATE PREPARED:** August 4, 2005

**CLASSIFICATION NAME:** Appliance, Fixation, Spinal Interlaminar  
Orthosis, Spinal Pedicle Fixation

**PROPRIETARY NAME:** 5.5mm Commercially Pure Titanium Spinal Rods

**PREDICATE DEVICES:** EXPEDIUM™ Spine System (Merlin Spine System) -  
K033901  
MOSS MIAMI™ Spinal System - K955348  
MONARCH™ Spine System - K024348, K021148

**DEVICE DESCRIPTION:** The Commercially Pure Titanium Rods are 5.5mm diameter spinal rods available in various lengths. The rods are designed for use with previously cleared titanium alloy components of the MOSS MIAMI™ Spinal System which can accept a 5.5mm spinal rod, including screws, hooks, and connectors.

**INTENDED USE:** The MOSS MIAMI™ Spine System is a pedicle screw system intended to provide 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 spondylolisthesis with objective evidence of neurological impairment, fracture, dislocation, scoliosis, kyphosis, spinal tumor, and failed previous fusion (pseudarthrosis).

The MOSS MIAMI™ Spine Systems is also indicated for pedicle screw fixation for the treatment of severe spondylolisthesis (Grades 3 and 4) of the L5-S1 vertebra in skeletally mature patients receiving fusion by autogenous bone graft having implants attached to the lumbar and sacral spine (L3 to sacrum) with removal of the implants after the attainment of a solid fusion.

The MOSS MIAMI™ Spine System is also a hook and sacral/ilic screw fixation system of the noncervical spine indicated for degenerative disc disease (defined as discogenic back pain with degeneration of the disc confirmed by history and radiographic studies), spondylolisthesis, trauma (fracture and/or dislocation), spinal stenosis, deformities (scoliosis, lordosis and/or kyphosis), tumor, and previous failed fusion (pseudarthrosis).

The EXPEDIUM™ Spine System 5.5mm Commercially Pure Titanium Rods may be used with mating titanium alloy components of the MOSS MIAMI™ Spine System which can accept a 5.5 mm diameter rod.

**MATERIALS:**

Manufactured from Grade 3 commercially pure titanium conforming to ASTM F-67.

**PERFORMANCE**

**DATA:**

Biomechanical test data were submitted to characterize the 5.5mm Commercially Pure Titanium Spinal Rods.

**510(k) Summary**

**SUBMITTER:** DePuy Spine, Inc.  
325 Paramount Drive  
Raynham, MA 02780

**CONTACT PERSON:** Liz Lavelle

**DATE PREPARED:** August 4, 2005

**CLASSIFICATION NAME:** Appliance, Fixation, Spinal Interlaminar Orthosis, Spinal Pedicle Fixation

**PROPRIETARY NAME:** 5.5mm Commercially Pure Titanium Spinal Rods

**PREDICATE DEVICES:** EXPEDIUM™ Spine System (Merlin Spine System) - K033901  
MOSS MIAMI™ Spinal System - K955348  
MONARCH™ Spine System - K024348, K021148

**DEVICE DESCRIPTION:** The Commercially Pure Titanium Rods are 5.5mm diameter spinal rods available in various lengths. The rods are designed for use with previously cleared titanium alloy components of the MONARCH™ Spinal System which can accept a 5.5mm spinal rod, including screws, hooks, and connectors.

**INTENDED USE:** The MONARCH™ Spine System is a pedicle screw system intended to provide 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 spondylolisthesis with objective evidence of neurological impairment, fracture, dislocation, scoliosis, kyphosis, spinal tumor, and failed previous fusion (pseudarthrosis).

The MONARCH™ Spine System is also indicated for pedicle screw fixation for the treatment of severe spondylolisthesis (Grades 3 and 4) of the L5-S1 vertebra in skeletally mature patients receiving fusion by autogenous bone graft having implants attached to the lumbar and sacral spine (L3 to sacrum) with removal of the implants after the attainment of a solid fusion.

The MONARCH™ Spine System is also a hook and sacral/ilic screw fixation system of the noncervical spine indicated for degenerative disc disease (defined as discogenic back pain with degeneration of the disc confirmed by history and radiographic studies), spondylolisthesis, trauma (fracture and/or dislocation), spinal stenosis, deformities (scoliosis, lordosis and/or kyphosis), tumor, and previous failed fusion (pseudarthrosis).

The MONARCH™ Spine System when used with pedicle screws are indicated for degenerative disc disease (defined as discogenic back pain with degeneration of the disc confirmed by history and radiographic studies). Levels of fixation are for the thoracic, lumbar and sacral spine.

The MONARCH™ Spine System Dual Rod Connectors can be used to connect MONARCH™ Spine System Rods to rods of other DePuy Spine 4.75mm, 5.5mm, and 6.35mm diameter rod systems.

The EXPEDIUM™ Spine System 5.5mm Commercially Pure Titanium Rods may be used with mating titanium alloy components of the MONARCH™ Spine System which can accept a 5.5 mm diameter rod.

**MATERIALS:**

Manufactured from Grade 3 commercially pure titanium conforming to ASTM F-67.

**PERFORMANCE  
DATA:**

Biomechanical test data were submitted to characterize the 5.5mm Commercially Pure Titanium Spinal Rods.



SEP 28 2005

Food and Drug Administration  
9200 Corporate Boulevard  
Rockville MD 20850

Ms. Liz Lavelle  
Senior Regulatory Affairs Associate  
Depuy Spine  
325 Paramount Drive  
Raynham, Massachusetts 02767

Re: K052131

Trade Name: Expedium™ Spine System, Moss Miami™ Spine System and  
Monarch™ Spine System (Addition of 5.5 CP Ti Rods)  
Regulation Number: 21 CFR 888.3070  
Regulation Name: Pedicle Screw Spinal System  
Regulatory Class: III  
Product Code: NKB, MNI, MNH, KWP, KWQ  
Dated: September 2, 2005  
Received: September 6, 2005

Dear Ms. Lavelle:

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.

If your device is classified (see above) into either class II (Special Controls) or class III (PMA), it may be subject to such 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); 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.

Page 2 – Ms. Liz Lavelle

This letter will allow you to begin marketing your device as described in your Section 510(k) premarket notification. The FDA finding of substantial equivalence of your device to a legally marketed predicate device results in a classification for your device and thus, permits your device to proceed to the market.

If you desire specific advice for your device on our labeling regulation (21 CFR Part 801), please contact the Office of Compliance at (240) 276-0120. Also, please note the regulation entitled, "Misbranding by reference to premarket notification" (21CFR Part 807.97). 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) 443-6597 or at its Internet address <http://www.fda.gov/cdrh/industry/support/index.html>.

Sincerely yours,

A handwritten signature in black ink, appearing to read "Mark N. Melkerson". The signature is fluid and cursive, with a long horizontal stroke at the end.

Mark N. Melkerson  
Acting Director  
Division of General, Restorative and  
Neurological Devices  
Office of Device Evaluation  
Center for Devices and Radiological Health

Enclosures

**III. Indications for Use**

510(k) Number (if known): K052131

Device Name: EXPEDIUM™ Spine System 5.5mm Commercially Pure Titanium Rods

Indications For Use:

The EXPEDIUM™ Spine System is intended for noncervical pedicle fixation and nonpedicle fixation for the following indications: degenerative disc disease (defined as back pain of discogenic origin with degeneration of the disc confirmed by history and radiographic studies); spondylolisthesis; trauma (i.e., fracture or dislocation); spinal stenosis; curvatures (i.e., scoliosis, kyphosis, and/or lordosis); tumor; pseudoarthrosis; and failed previous fusion in skeletally mature patients.

Prescription Use   X    
(Part 21 CFR 801 Subpart D)

AND/OR

Over-The-Counter Use \_\_\_\_\_  
(21 CFR 807 Subpart C)

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Concurrence of CDRH, Office of Device Evaluation (ODE)



(Division Sign-Off)  
Division of General, Restorative,  
and Neurological Devices

510(k) Number           K052131

**III. Indications for Use**

510(k) Number (if known): K052131

Device Name: 5.5mm Commercially Pure Titanium Rods to MONARCH™ Spine System

Indications For Use:

The MONARCH™ Spine System is a pedicle screw system intended to provide 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 spondylolisthesis with objective evidence of neurological impairment, fracture, dislocation, scoliosis, kyphosis, spinal tumor, and failed previous fusion (pseudarthrosis).

The MONARCH™ Spine System is also indicated for pedicle screw fixation for the treatment of severe spondylolisthesis (Grades 3 and 4) of the L5-S1 vertebra in skeletally mature patients receiving fusion by autogenous bone graft having implants attached to the lumbar and sacral spine (L3 to sacrum) with removal of the implants after the attainment of a solid fusion.

The MONARCH™ Spine System is also a hook and sacral/iliac screw fixation system of the noncervical spine indicated for degenerative disc disease (defined as discogenic back pain with degeneration of the disc confirmed by history and radiographic studies), spondylolisthesis, trauma (fracture and/or dislocation), spinal stenosis, deformities (scoliosis, lordosis and/or kyphosis), tumor, and previous failed fusion (pseudarthrosis).

The MONARCH™ Spine System when used with pedicle screws are indicated for degenerative disc disease (defined as discogenic back pain with degeneration of the disc confirmed by history and radiographic studies). Levels of fixation are for the thoracic, lumbar and sacral spine.

The MONARCH™ Spine System Dual Rod Connectors can be used to connect MONARCH Spine System Rods to rods of other DePuy Spine 4.75mm, 5.5mm, and 6.35mm diameter rod systems.

The EXPEDIUM™ Spine System 5.5mm Commercially Pure Titanium Rods may be used with mating titanium alloy components of the MONARCH™ Spine System which can accept a 5.5 mm diameter rod.

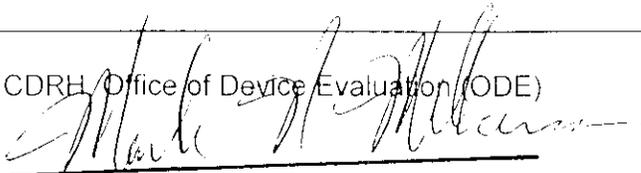
Prescription Use   X    
(Part 21 CFR 801 Subpart D)

AND/OR

Over-The-Counter Use \_\_\_\_\_  
(21 CFR 807 Subpart C)

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Concurrence of CDRH/Office of Device Evaluation (ODE)



**(Division Sign-Off)**  
**Division of General, Restorative,**  
**and Neurological Devices**

**510(k) Number** \_\_\_\_\_

K052131

**III. Indications for Use**

510(k) Number (if known): K052131

Device Name: 5.5mm Commercially Pure Titanium Rods to MOSS MIAMI™ Spine System

Indications For Use:

The MOSS MIAMI™ Spine System is a pedicle screw system intended to provide 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 spondylolisthesis with objective evidence of neurological impairment, fracture, dislocation, scoliosis, kyphosis, spinal tumor, and failed previous fusion (pseudarthrosis).

The MOSS MIAMI™ Spine Systems is also indicated for pedicle screw fixation for the treatment of severe spondylolisthesis (Grades 3 and 4) of the L5-S1 vertebra in skeletally mature patients receiving fusion by autogenous bone graft having implants attached to the lumbar and sacral spine (L3 to sacrum) with removal of the implants after the attainment of a solid fusion.

The MOSS MIAMI™ Spine System is also a hook and sacral/iliac screw fixation system of the noncervical spine indicated for degenerative disc disease (defined as discogenic back pain with degeneration of the disc confirmed by history and radiographic studies), spondylolisthesis, trauma (fracture and/or dislocation), spinal stenosis, deformities (scoliosis, lordosis and/or kyphosis), tumor, and previous failed fusion (pseudarthrosis).

The EXPEDIUM™ Spine System 5.5mm Commercially Pure Titanium Rods may be used with mating titanium alloy components of the MOSS MIAMI™ Spine System which can accept a 5.5 mm diameter rod.

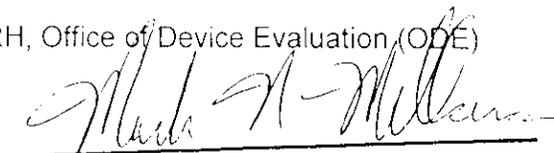
Prescription Use  X   
(Part 21 CFR 801 Subpart D)

AND/OR

Over-The-Counter Use \_\_\_\_\_  
(21 CFR 807 Subpart C)

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Concurrence of CDRH, Office of Device Evaluation (ODE)



**(Division Sign-Off)**  
**Division of General, Restorative,**  
**and Neurological Devices**

**510(k) Number** \_\_\_\_\_

K052131