

**510(k) SUMMARY**

K020048

2/6/02

**SUBMITTED BY**

Lynn Rodarti  
Manager, Regulatory and Clinical Affairs  
Interpore Cross International  
181 Technology Drive  
Irvine, California 92618

(949) 453-3200

January 4, 2002

This summary of 510(k) substantial equivalence information is being submitted in accordance with the requirements of 21 CFR §807.92.

**CLASSIFICATION, COMMON OR USUAL NAME, DEVICE NAME**

Classification Name: Vertebral Body Replacement  
Common/Usual Name: Vertebral Body Replacement  
Product Classification: Class II  
Proprietary Name: GEO™ Structure

**PREDICATE DEVICE**

The predicate device is the GEO™ Structure (K010530).

**INDICATIONS-FOR-USE**

The GEO Structure is indicated for use in the thoracolumbar spine (i.e., T1 to L5) to replace a diseased vertebral body resected or excised for the treatment of tumors in order to achieve anterior decompression of the spinal cord and neural tissues, and to restore the height of a collapsed vertebral body. The GEO structure is also indicated for treating fractures of the thoracic and lumbar spine. The GEO Structure is designed to restore the biomechanical integrity of the anterior, middle and posterior spinal column even in the absence of fusion for a prolonged period.

**DEVICE DESCRIPTION**

The GEO Structure is a vertebral body replacement device manufactured from surgical implant grade titanium alloy as described by ASTM F-1108 (Ti 6Al 4V). The implant has a satin finish surface and is available in various shapes and sizes. The GEO Structure is provided either sterile or nonsterile.

**DISCUSSION OF NONCLINICAL TESTS**

Data regarding the functional performance of the proposed GEO Structure has been generated and indicates that the proposed GEO Structure meets or exceeds all functional requirements and supports its suitability for use.



Food and Drug Administration  
9200 Corporate Boulevard  
Rockville MD 20850

FEB 06 2002

Ms. Lynn M. Rodarti  
Manager, Clinical and Regulatory Affairs  
Interpore Cross International  
181 Technology Drive  
Irvine, California 92618-2402

Re: K020048

Trade/Device Name: GEO™ Structure  
Regulation Number: 21 CFR §888.3060  
Regulation Name: Spinal intervertebral body fixation orthosis  
Regulatory Class: Class II  
Product Code: MQP  
Dated: January 4, 2002  
Received: January 7, 2001

Dear Ms. Rodarti:

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.

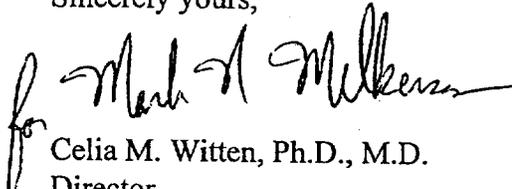
If your device is classified (see above) into either class II (Special Controls) or class III (PMA), it may be subject to such additional controls. Existing major regulations affecting your device can be found in the Code of Federal Regulations, Title 21, Parts 800 to 898. In addition, FDA may publish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

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 and additionally 21 CFR Part 809.10 for in vitro diagnostic devices), please contact the Office of Compliance at (301) 594-4659. Additionally, for questions on the promotion and advertising of your device, please contact the Office of Compliance at (301) 594-4639. Also, please note the regulation entitled, "Misbranding by reference to premarket notification" (21CFR Part 807.97). Other general information on your responsibilities under the Act may be obtained 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/dsma/dsmamain.html>

Sincerely yours,

  
for Celia M. Witten, Ph.D., M.D.

Director  
Division of General, Restorative  
and Neurological Devices  
Office of Device Evaluation  
Center for Devices and  
Radiological Health

510(k) Number (if known):

K020048

Device Name: GEO Structure

Indications-For-Use:

The GEO Structure is indicated for use in the thoracolumbar spine (i.e., T1 to L5) to replace a diseased vertebral body resected or excised for the treatment of tumors in order to achieve anterior decompression of the spinal cord and neural tissues, and to restore the height of a collapsed vertebral body. The GEO Structure is also indicated for treating fractures of the thoracic and lumbar spine. The GEO Structure is designed to restore the biomechanical integrity of the anterior middle and posterior spinal column even in the absence of fusion for a prolonged period.

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

Concurrence of CDRH, Office of Device Evaluation (ODE)

*for Mark A. Williams*

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

510(k) Number K020048

Prescription Use  (PER 21 CFR 801.109)

OR

Over-The-Counter Use

(Optional Format 1-2-