



Food and Drug Administration  
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Silver Spring, MD 20993-0002

Jiangsu Ideal Medical Science & Technology Co., Ltd  
% Ms. Alice Gong  
Shanghai Yarui Consultant Co., Ltd.  
503 Room, 8 Building, 600 Liu Zhou Road  
Shanghai 200233  
China

March 3, 2015

Re: K141825  
Trade/Device Name: Ideal® Locking Plate System  
Regulation Number: 21 CFR 888.3030  
Regulation Name: Single/Multiple Component Metallic Bone Fixation Appliances and  
Accessories  
Regulatory Class: Class II  
Product Code: HRS, HWC  
Dated: November 18, 2014  
Received: January 2, 2015

Dear Ms. Alice Gong,

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,

**Mark N. Melkerson -S**

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

Enclosure

DEPARTMENT OF HEALTH AND HUMAN SERVICES  
Food and Drug Administration

## Indications for Use

Form Approved: OMB No. 0910-0120  
Expiration Date: January 31, 2017  
See PRA Statement below.

510(k) Number (if known)

K141825

Device Name

Ideal® Locking Plate System

Indications for Use (Describe)

Ideal® locking plate system is indicated for buttressing multifragmentary distal femur fractures including: supra-condylar; intra-articular and extra-articular condylar fractures, periprosthetic fractures, fractures in normal or osteopenic bone, nonunions and malunions.

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)

**PLEASE DO NOT WRITE BELOW THIS LINE – CONTINUE ON A SEPARATE PAGE IF NEEDED.**

### FOR FDA USE ONLY

Concurrence of Center for Devices and Radiological Health (CDRH) (Signature)

This section applies only to requirements of the Paperwork Reduction Act of 1995.

**\*DO NOT SEND YOUR COMPLETED FORM TO THE PRA STAFF EMAIL ADDRESS BELOW.\***

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## 510 (K) Summary

**This 510(K) Summary of safety and effectiveness information is being submitted in accordance with requirement of 21 CFR807.92**

1. Date of Submission: Feb. 23, 2015
2. Submitter / 510(K) Holder

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### 3. Proposed Device Name

Trade name: Ideal<sup>®</sup>  
Common name: Locking Plate System

Classification Name: Plate, Fixation, Bone  
Device Class: Class II  
Classification Panel: Orthopedic Panel  
Product Code: HRS  
Regulation Number: 21 CFR 888.3030

Classification Name: Screw, Fixation, Bone  
Device Class: Class II  
Classification Panel: Orthopedic Panel  
Product Code: HWC  
Regulation Number: 21 CFR 888.3040

#### 4. Predicate Devices

**Predicate Device #1:**

510 (k) Number: K130340

Product Name: Locking Bone Plates and Screws

Submitter: Weigao Orthopaedic Device Co., Ltd.

**Predicate Device #2:**

510 (k) Number: K110354

Product Name: Synthes 4.5mm VA-LCP Curved Condylar Plate System

Submitter: Synthes

**Predicate Device #3:**

510 (k) Number: K130108

Product Name: Double Engine Bone Plate and Bone Screw Systems

Submitter: Xiamen Double Engine Medical Material Co., Ltd.

#### 5. Device Description

Ideal<sup>®</sup> locking plate system contains locking plates with various specifications, cortical and locking screws with various specifications, and various specific instruments. The bone plates are used for fixation of bones. The screws are used for fix the plates on the bones and the instruments are used for completing the surgery.

The bone plates are manufactured from unalloyed titanium that conforms to ASTM F67. The cortical and locking screws are made of Ti6Al4V ELI that meets to ASTM F136. The materials of titanium and Ti6Al4V ELI are widely used in the industry with well-known biocompatibility. No new materials are used in the development of this implant.

#### 6. Indication for Use/Intended Use

Ideal<sup>®</sup> locking plate system is indicated for buttressing multifragmentary distal femur fractures including: supra-condylar; intra-articular and extra-articular condylar fractures, periprosthetic fractures, fractures in normal or osteopenic bone, nonunions and malunions.

#### 7. Non-Clinical Testing

Bench tests were conducted to verify that proposed device meet all design specifications as was Substantially Equivalent (SE) to the predicate device. The test results demonstrated that proposed device complies with the following standards:

ASTM F 382-99 (Reapproved 2008), Standard Specification and Test Method for Metallic Bone Plates, including the following items:

- \* Static four point bending
- \* Dynamic four point bending

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ASTM F 543-07, Standard Specification and Test Methods for Metallic Medical Bone Screws including the following item:

- \* Torsional properties
- \* Driving torque
- \* Pull out test

## **8. Substantially Equivalent Conclusion**

The intended use of Ideal® locking plate system is same as that of the predicate device #2 and The intended use of Ideal® locking plate system is less than that of the predicate device #1 and #3.

Ideal® locking plate system has similar technological characteristics as all predicate devices.

The proposed device, the Ideal® locking plate system, is determined to be Substantially Equivalent (SE) to the predicate device, K130340 locking bone plates and screws, K110354 Synthes 4.5mm VA-LCP Curved Condylar Plate System and K130108 Double Engine Bone Plate and Bone Screw Systems, in respect of safety and effectiveness.