

AUG 30 2012

## 510(k) Summary of Safety and Effectiveness

CAO Group, Inc.  
4628 West Skyhawk Drive  
West Jordan, UT 84084  
Tel: 801-256-9282 Fax: 801-256-9287

K113472

Prepared By: Robert K. Larsen,  
Preparation Date: November 15, 2011

---

### Device Name:

Trade Name: Precise SHP Diode Laser  
Common Name: Soft Tissue Diode Laser  
Product Classification: Powered Laser Surgical Instrument

---

### Legally Marketed Predicate Devices for Substantial Equivalence:

Odyssey Navigator Diode Laser, manufactured by Ivoclar Vivadent, Inc. (K062258)

DenLaser 800 Plus, manufactured by CAO Group, Inc. (K062619)

### Rationale for Substantial Equivalence:

---

The aforementioned devices share similar indications for use with the present device for excision, incision, ablation, and photocoagulation on soft tissue for a variety of procedures in dentistry. The predicate devices and submitted device share similar design features including wavelength, operating controls, and laser delivery method. The devices share similar methods of control systems, safety features, and performance monitoring. The devices share similar performance specifications including power output and energy type.

---

### Description of Submitted Device:

The Precise SHP Diode Laser is a device for delivering laser energy to human soft tissue for a variety of surgical procedures and treatments. This energy is generated by solid-state diodes, which provide a consistent and reliable generation of laser energy at  $810 \pm 20\text{nm}$  for a maximum of 3 watts of energy output. The laser energy is delivered to surgical site by means of an optical fiber system, which allows for the safe transmission of laser energy to the site without creating undue risk to the patient or operatory staff by errant or collateral laser emissions. The device features some user definable settings, including a switchable 630nm aiming beam,

adjustable power output for both the working beam and aiming beam, and continuous delivery or pulse delivery options.

The working end of the delivery fiber is contained within a metal handpiece with a disposable single-use tip. This handpiece system is provided with the device. The activation of the working beam diodes is completed by use of a foot-actuated switch.

---

#### **Intended Uses of the Submitted Device:**

The Precise SHP Diode Laser is indicated for the removal of lesions, excision, incision, vaporization, ablation, hemostasis, and photocoagulation on oral soft tissue for the specific dental and oral surgery procedures of gingivectomy, frenectomy, operculectomy, contouring, biopsy, troughing, ulcer care, abscess care, sulcular debridement, soft tissue curettage, and removal of inflamed edematous tissue.

---

#### **Technological Characteristics and Substantial Equivalence:**

The Odyssey Navigator Diode Lasers uses solid state diodes to generate laser energy in the 810nm range. This system uses a fiber delivery system to transmit laser energy to the surgical site. The system also features a 630nm aiming beam and features controls that allow for adjusting the output of the working beam, and switching between a continuous or pulsed-mode laser emissions. The maximum output of the working beam is 3 watts.

The DenLaser 800 Plus uses solid state diodes to generate laser energy in the 810nm range. This system uses a fiber delivery system to transmit laser energy to the surgical site. The system also features a 630nm aiming beam and features controls that allow for adjusting the output of the working beam, and switching between a continuous or pulsed-mode laser emissions. The maximum output of the working beam is 5 watts.

---

#### **Conformity to Standards:**

The Precise SHP Diode Laser is designed to comply with the performance requirements of 21 CFR 1040.10 and 1040.11, with permissible deviations relative to Laser Notice 50, dated June 24, 2007. The device also complies with the recognized standards of IEC 60601-2-22 Edition 3 and IEC 60825-1 Edition 2. The device also designed in compliance to the entirety of IEC 60601-1: 3<sup>rd</sup> Edition, IEC 60601-1-2, IEC 60601-1-4, and IEC 60601-1-6.

#### **Performance Data**

Bench testing on an evaluation sample of the current device revealed that the device met the design criteria for essential performance, and satisfied the performance requirements

indicated in 21 CFR 1010 and 21 CFR 1040. Device outputs were within performance requirements and all safety features and functions were operating correctly.

---

## **Conclusion**

The Precise SHP Diode Laser is substantially equivalent to the listed predicate devices without raising any new issues of safety or effectiveness. This device shares similar intended uses, operating principles, design features, and similar functional and performance characteristics. The device is designed to comply with relevant federal and international safety and performance standards.



Food and Drug Administration  
10903 New Hampshire Avenue  
Document Control Room - WO66-G609  
Silver Spring, MD 20993-0002

AUG 30 2012

CAO Group, Incorporated  
% Mr. Robert K. Larsen  
Regulatory Affairs Manager  
4628 West Skyhawk Drive  
West Jordan, Utah 84084

Re: K113472

Trade/Device Name: Precise SHP Diode Laser

Regulation Number: 21 CFR 878.4810

Regulation Name: Laser surgical instrument for use in general and plastic surgery and in dermatology

Regulatory Class: Class II

Product Code: GEX

Dated: August 20, 2012

Received: August 22, 2012

Dear Mr. Larsen:

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.

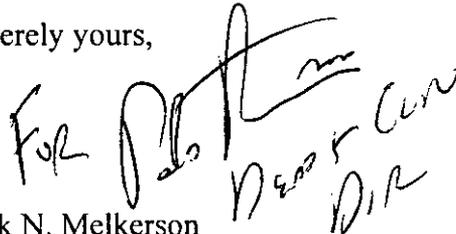
Please be advised that FDA's issuance of a substantial equivalence determination does not mean that FDA has made a determination that your device complies with other requirements of the Act or any Federal statutes and regulations administered by other Federal agencies. You must

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 go to <http://www.fda.gov/AboutFDA/CentersOffices/CDRH/CDRHOffices/ucm115809.htm> for the Center for Devices and Radiological Health's (CDRH's) Office of Compliance. 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,

Handwritten signature of Mark N. Melkerson in black ink. The signature is stylized and includes the initials "M.N.M." and "D.R." written below it.

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

Enclosure

## Indications for Use

510(k) Number (if known): K113472

Device Name: Precise SHP Diode Laser

### Indications For Use:

The Precise SHP Diode Laser is indicated for the removal of lesions, excision, incision, vaporization, ablation, hemostasis, and photocoagulation on oral soft tissue for the specific dental and oral surgery procedures of gingivectomy, frenectomy, operculectomy, contouring, biopsy, troughing, ulcer care, abscess care, sulcular debridement, soft tissue curettage, and removal of inflamed edematous tissue.

Prescription Use  AND/OR Over-The-Counter Use \_\_\_\_\_  
(Per 21 CFR 801 Subpart D) (21 CFR 801 Subpart C)

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

### Concurrence of CDRH, Office of Device Evaluation (ODE)

  
(Division Sign-Off)  
Division of Surgical, Orthopedic,  
and Restorative Devices

510(k) Number K113472  
Page 1 of 1