



June 20, 2018

EMS Electro Medical Systems SA
% Sheila Hemeon-Heyer
President
Heyer Regulatory Solutions LLC
125 Cherry Lane
Amherst, MA 01002

Re: K181364
Trade/Device Name: Swiss LithoClast Trilogy
Regulation Number: 21 CFR§ 876.4480
Regulation Name: Electrohydraulic Lithotripter
Regulatory Class: II
Product Code: FEO, FFK
Dated: May 22, 2018
Received: May 23, 2018

Dear Sheila Hemeon-Heyer:

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.

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 comprehensive regulatory information about medical devices and radiation-emitting products, including information about labeling regulations, please see Device Advice (<https://www.fda.gov/MedicalDevices/DeviceRegulationandGuidance/>) and CDRH Learn (<http://www.fda.gov/Training/CDRHLearn>). Additionally, you may contact the Division of Industry and Consumer Education (DICE) to ask a question about a specific regulatory topic. See the DICE website (<http://www.fda.gov/DICE>) for more information or contact DICE by email (DICE@fda.hhs.gov) or phone (1-800-638-2041 or 301-796-7100).

Sincerely,

Timothy Martin -S
2018.06.20 19:26:41 -04'00'

Benjamin R. Fisher, Ph.D.
Director
Division of Reproductive, Gastro-Renal,
and Urological Devices
Office of Device Evaluation
Center for Devices and Radiological Health

Enclosure

Indications for Use

510(k) Number (if known)

K181364

Device Name

Swiss LithoClast Trilogy

Indications for Use (Describe)

The Swiss LithoClast Trilogy is indicated for fragmentation and removal of urinary tract calculi in the kidney, ureter and bladder.

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.

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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Special 510(k) Summary

This summary of 510(k) safety and effectiveness information is being submitted per the requirements of 21 CFR 807.92.

A. 510(k) Applicant: EMS Electro Medical Systems SA
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B. Date Prepared: May 22, 2018

D. Device Name and Classification Information:

Trade Name:	Swiss LithoClast® Trilogy
Common Name:	Intracorporeal lithotripter
Classification Name:	Electrohydraulic lithotripter
Regulation:	21 CFR 876.4480
Product Code:	FEO, FFK
Review Panel:	78 Gastroenterology / Urology
Class:	II

E. Predicate Device(s): K173234, Swiss LithoClast® Trilogy

F. Summary Device Description:

The Swiss LithoClast® Trilogy has three possible modes of operation: 1) pneumatic lithotripsy alone; 2) ultrasound lithotripsy alone; and 3) and combined pneumatic and ultrasound lithotripsy.

The LithoClast Trilogy system consists of the console used to set the treatment parameters and generate the treatment energy, a reusable handpiece, and a variety of probe sizes to enable use of the system with a wide range of commercially available endoscopes. Delivery of energy is controlled using a two-step foot pedal.

Two models of the LithoClast Trilogy are available: one with a peristaltic pump and one with a pinch valve. Both versions can be used to suction stone fragments into the optional Stone Catcher. An external vacuum system is required to enable suction with the pinch valve model of the console.

510(k) Summary

G. Intended Use / Indication for Use:

The Swiss LithoClast® Trilogy is indicated for fragmentation and removal of urinary tract calculi in the kidney, ureter, and bladder.

H. Technical Comparison with Predicate Device

The Swiss LithoClast® Trilogy described in this 510(k) has the same indications for use and technological specifications as previously described in K173234 (see below). The purpose of this Special 510(k) is to add the option of hydrogen peroxide (H₂O₂) sterilization using the Standard Cycle of the STERRAD 100NX sterilizer to the instructions for reprocessing the reusable handpiece.

Characteristic	Swiss Lithoclast Trilogy (K173234)	Swiss Lithoclast Trilogy Proposed	Basis for SE
Indications for use	Fragmentation and removal of urinary tract calculi in the kidney, ureter and bladder	Fragmentation and removal of urinary tract calculi in the kidney, ureter and bladder	Same
DEVICE COMPONENTS			
CONSOLE			
Microprocessor control	Yes	Yes	Same
I/O	Touchscreen input LCD display	Touchscreen input LCD display	Same
Dimensions	172 mm (H) x 402 mm (W) x 451 mm (D)	172 mm (H) x 402 mm (W) x 451 mm (D)	Same
Weight	13.5 kg	13.5 kg	Same
Power supply	100-240 VAC, 50-60 Hz	100-240 VAC, 50-60 Hz	Same
HANDPIECE			
Handpiece types	Single handpiece	Single handpiece	Same
Handpiece housing material	PEEK	PEEK	Same
Sterilization	Re-usable, pre-vacuum, steam	Re-usable, pre-vacuum, steam or H ₂ O ₂	Substantially equivalent
PROBES			
Probe types	Single probe provides both ultrasound (vibration) and ballistic (shock wave)	Single probe provides both ultrasound (vibration) and ballistic (shock wave)	Same
Probe material	Ultrasound: 316L stainless steel	Ultrasound: 316L stainless steel	Same

510(k) Summary

Characteristic	Swiss Lithoclast Trilogy (K173234)	Swiss Lithoclast Trilogy Proposed	Basis for SE
Probe diameters	1.1, 1.5, 1.9, 3.4 and 3.9 mm	1.1, 1.5, 1.9, 3.4 and 3.9 mm	Same
RFID tag	Yes	Yes	Same
Sterilization	Provided EtO sterilized, Multiple-use probes validated for 4x steam sterilization after first use	Provided EtO sterilized, Multiple-use probes validated for 4x steam sterilization after first use	Same
FOOT PEDAL	Single pedal Two-step for suction and energy	Single pedal Two-step for suction and energy	Same
SUCTION	Options of pinch valve or peristaltic pump on console	Options of pinch valve or peristaltic pump on console	Same
STONE CATCHER	Optional component	Optional component	Same
OPERATING MODES			
ULTRASOUND MODE	Yes	Yes	Same
Transducer frequency	24 kHz	24 kHz	Same
Max. amplitude Peak to peak	60 µm	60 µm	Same
Output power adjustment	Adjustable from 10%-100% (10% increments)	Adjustable from 10%-100% (10% increments)	Same
BALLISTIC MODE	Yes	Yes	Same
Energy Type	Ballistic, generated by electromagnetic field	Ballistic, generated by electromagnetic field	Same
Output power adjustment	Adjustable from 10%-100% (10% increments)	Adjustable from 10%-100% (10% increments)	Same
Operating modes	Multiple shot mode only	Multiple shot mode only	Same
Multiple shot repetition rate	1 to 12 Hz in 1 Hz increments	1 to 12 Hz in 1 Hz increments	Same

I. Basis for Substantial Equivalence

Substantial equivalence of the Trilogy handpiece when sterilized using H₂O₂ was demonstrated by validation in accordance with ISO 14937:2009 Sterilization of health care products. General requirements for characterization of a sterilizing agent and the development, validation and routine control of a sterilization process for medical devices. Sterilization validation was conducted using the STERRAD 100NX sterilizer on the Standard cycle and demonstrated the achievement of sterility assurance level (SAL) 10⁻⁶.

510(k) Summary

J. Conclusion

The information and testing presented in this 510(k) demonstrate that the Swiss Lithoclast® Trilogy reusable handpiece, when sterilized using the STERRAD 100NX H2O2 sterilizer, is substantially equivalent to the handpiece when sterilized using steam.