September 30, 2024

RecensMedical, Inc.
Allison Komiyama, Ph.D.
VP MedTech Innovation
RQM+
1820 Medical Arts Building
825 Nicollet Mall
Minneapolis, MN 55402

Re: DEN230011
Trade/Device Name: OcuCool
Regulation Number: 21 CFR 886.4190
Regulation Name: Ophthalmic cooling anesthesia device
Regulatory Class: Class II
Product Code: QZQ
Dated: February 15, 2023
Received: February 16, 2023

Dear Allison Komiyama, Ph.D.:

The Center for Devices and Radiological Health (CDRH) of the Food and Drug Administration (FDA) has completed its review of your De Novo request for classification of the OcuCool, a prescription device under 21 CFR Part 801.109 with the following indications for use:

> OcuCool is a cooling anesthesia device intended for topical application to the conjunctiva and sclera. OcuCool is intended for the temporary reduction of pain associated with intravitreal injections.
>
> OcuCool is indicated for patients who are allergic to deep penetrating pharmaceutical based anesthetics used for temporarily reducing pain during and following intravitreal injections.

FDA concludes that this device should be classified into Class II. This order, therefore, classifies the OcuCool, and substantially equivalent devices of this generic type, into Class II under the generic name ophthalmic cooling anesthesia device.

FDA identifies this generic type of device as:

> Ophthalmic cooling anesthesia device. An ophthalmic cooling anesthesia device is a device that performs rapid, controlled cooling of the conjunctiva and sclera to provide temporary pain relief during ophthalmic procedures.

Section 513(f)(2) of the Food, Drug and Cosmetic Act (the FD&C Act) was amended by section 607 of the Food and Drug Administration Safety and Innovation Act (FDASIA) on July 9, 2012. This law provides two options for De Novo classification. First, any person who receives a "not substantially equivalent" (NSE) determination in response to a 510(k) for a device that has not been previously classified under the Act may request FDA to make a risk-based classification of the device under section 513(a)(1) of the Act. On December 13, 2016, the 21st Century Cures Act removed a requirement that a De Novo request be submitted within 30 days of receiving an NSE determination. Alternatively, any person who determines that there is no legally marketed device upon which to base a determination of substantial equivalence may request FDA to make a risk-based classification of the device under section 513(a)(1) of the Act without first submitting a 510(k). FDA shall, within 120 days of receiving such a request, classify the device. This classification shall be the initial classification of the device. Within 30 days after the issuance of an order classifying the device, FDA must publish a notice in the Federal Register announcing the classification.

On February 16, 2023, FDA received your De Novo requesting classification of the OcuCool. The request was submitted under section 513(f)(2) of the FD&C Act. In order to classify the OcuCool into class I or II, it is necessary that the proposed class have sufficient regulatory controls to provide reasonable assurance of the safety and effectiveness of the device for its intended use. After review of the information submitted in the De Novo request, FDA has determined that, for the previously stated indications for use, the OcuCool can be classified in class II with the establishment of special controls for class II. FDA believes that class II (special) controls provide reasonable assurance of the safety and effectiveness of the device type. The identified risks and mitigation measures associated with the device type are summarized in the following table:

Risks to Health	**Mitigation Measures**
Infection	Sterilization validation
Adverse tissue reaction	Biocompatibility evaluation
Failure of software or system components resulting in inadequate pain relief or patient harm, including pain and tissue damage	Software verification, validation, and hazard analysis Non-clinical performance testing Shelf life testing
Equipment malfunction leading to user or patient injury (e.g., shock, burn, interference)	Electromagnetic compatibility (EMC) testing Electrical safety testing Labeling
User error leading to adverse patient events including pain and tissue damage or inadequate pain relief	Human factors validation testing Labeling
Damage to the eye from treatment	Animal performance testing Clinical performance testing Postmarket surveillance Labeling
Ineffective treatment leading to patient discomfort	Clinical performance testing Postmarket surveillance Labeling

In combination with the general controls of the FD&C Act, the ophthalmic cooling anesthesia device is subject to the following special controls:

(1) Data obtained from premarket clinical performance testing, and from postmarket surveillance conducted per a protocol approved by FDA and acquired under the anticipated conditions of use, must demonstrate that the device performs as intended in the real-world population defined by the indications for use and per the instructions for use, unless FDA determines based on the totality of the information provided for premarket review that data from postmarket surveillance is not required. All premarket and postmarket clinical performance testing must evaluate the following:

(i) Pain intensity and tolerability associated with the ocular procedure of interest as assessed by instruments that are fit-for-purpose; and
(ii) Ocular adverse events.

(2) Non-clinical performance testing must demonstrate that the device performs as intended under anticipated conditions of use. Testing must include:

(i) Validation of the intended temperature profile; and
(ii) Validation of all safety features to prevent use outside the intended temperature range and intended treatment duration.

(3) Animal performance testing must evaluate the safety profile of the device over the intended cooling temperature and treatment duration, including a detailed evaluation of all ocular adverse events.

(4) Software verification, validation and hazard analysis must be performed. Software documentation must include the following:

(i) A description of cooling temperature, contact verification to ocular surface, and contact timing alerts to limit any excessive cooling of the ocular surface; and
(ii) A description of all timing alerts to inform the user of safe detachment from ocular surface at a safe detachment temperature and appropriate time duration of anesthetic effect.

(5) The patient-contacting components of the device must be demonstrated to be biocompatible.

(6) Performance data must support the shelf life of the device by demonstrating continued sterility, package integrity, and device functionality over the identified shelf life.

(7) Performance testing must demonstrate the sterility of the patient contacting components of the device.

(8) Performance testing must demonstrate the electrical safety and electromagnetic compatibility (EMC) of the device in the intended use environment.

(9) Human factors validation testing must demonstrate that the intended users can correctly use the device, based solely on the instructions for use.

(10) Labeling must include:

(i) Summaries of treatment parameters;
(ii) A summary of clinical performance testing with the device, including a description of the patient population studied; and
(iii) A detailed summary of all postmarket surveillance data collected, including updated labeling to accurately reflect outcomes observed in postmarket surveillance.

In order to satisfy special control (1) above, FDA has determined that you must conduct and report postmarket surveillance data acquired under anticipated conditions of use to demonstrate the performance of your device in the intended patient population. Specifically, you must conduct postmarket clinical validation performance testing of the OcuCool device in the intended patient population to examine the performance of the device.

The postmarket study will assess and characterize the pain experienced by subjects after treatment with the device and all observed ocular adverse events. The study will recruit subjects based on a statistically justified sample size.

The primary effectiveness endpoint will be pain intensity reported by the intended patient population using a valid Patient-Reported Outcome (PRO) instrument to characterize their pain experience associated with the Intravitreal Injection under the anticipated conditions of use of your device. Specifically, the PRO instrument, including its instructions, scale of measurement, response options, its administration, and its use as the primary effectiveness endpoint, must be fit-for-purpose for the real-world population defined by the indications for use and per the instructions for use. You must also evaluate the tolerability of the pain intensity reported by the intended patient population using a valid PRO instrument that is fit-for-purpose. The tolerability information is needed to understand the meaningfulness of the primary effectiveness endpoint results in the real-world population defined by the indications for use and per the instructions for use. Additionally, sample size justification must be provided to characterize the effectiveness of the device in the real-world population defined by the indications for use and per the instructions for use.

Within 30 days of receipt of this order, you must submit a complete study protocol for your study as described above. FDA expects to work with you to approve your study protocol within 60 days of this order. Your submission should be clearly labeled as a “De Novo Postmarket Study Protocol” and submitted to the Agency as specified below. Please reference the De Novo number above to facilitate processing.

From the date of postmarket study protocol approval, you must meet the following timelines:

- First subject enrolled within 6 months
- 20% of subjects enrolled within 12 months
- 50% of subjects enrolled within 18 months
- 100% of subjects enrolled within 24 months

In addition, you must submit separate periodic reports on the progress of the new enrollment postmarket study as follows:

- Postmarket surveillance progress reports every six (6) months until subject enrollment has been completed, and annually thereafter, from the date of the protocol approval letter, unless otherwise specified by FDA.

- If any enrollment milestones are not met, you must begin submitting quarterly enrollment status reports every three (3) months in addition to your periodic postmarket surveillance progress reports, until enrollment has been completed or FDA notifies you otherwise.

- Submit the final postmarket surveillance report three (3) months from study completion (i.e., last subject's last follow-up date).

Each postmarket surveillance report should be submitted to the Agency as specified below, identified as a "De Novo Postmarket Surveillance Report" in accordance with how the study is identified above, and bearing the applicable De Novo reference number.

Be advised that failure to comply with any special control requirement, including the initiation, enrollment, completion, and reporting per the postmarket surveillance data requirements outlined above, may result in the adulteration and misbranding of your device.

In addition, this is a prescription device and must comply with 21 CFR 801.109.

Although this letter refers to your product as a device, please be aware that some granted products may instead be combination products. If you have questions on whether your product is a combination product, contact CDRHProductJurisdiction@fda.hhs.gov.

Section 510(m) of the FD&C Act provides that FDA may exempt a class II device from the premarket notification requirements under section 510(k) of the FD&C Act, if FDA determines that premarket notification is not necessary to provide reasonable assurance of the safety and effectiveness of the device type. FDA has determined premarket notification is necessary to provide reasonable assurance of the safety and effectiveness of the device type and, therefore, the device is not exempt from the premarket notification requirements of the FD&C Act. Thus, persons who intend to market this device type must submit a premarket notification containing information on the ophthalmic cooling anesthesia device they intend to market prior to marketing the device.

Please be advised that FDA's decision to grant this De Novo request does not mean that FDA has made a determination that your device complies with other requirements of the FD&C Act or any Federal statutes and regulations administered by other Federal agencies. You must comply with all the FD&C 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) for devices or postmarketing safety reporting (21 CFR 4, Subpart B) for combination products (see https://www.fda.gov/combination-products/guidance-regulatory-information/postmarketing-safety-reporting-combination-products); good manufacturing practice requirements as set forth in the quality systems (QS) regulation (21 CFR Part 820) for devices or current good manufacturing practices (21 CFR 4, Subpart A) for

combination products; and if applicable, the electronic product radiation control provisions (Sections 531-542 of the FD&C Act; 21 CFR 1000-1050).

A notice announcing this classification order will be published in the Federal Register. A copy of this order and supporting documentation are on file in the Dockets Management Branch (HFA-305), Food and Drug Administration, 5630 Fishers Lane, Room 1061, Rockville, MD 20852 and are available for inspection between 9 a.m. and 4 p.m., Monday through Friday.

As a result of this order, you may immediately market your device as described in the De Novo request, subject to the general control provisions of the FD&C Act and the special controls identified in this order.

For comprehensive regulatory information about medical devices and radiation-emitting products, please see Device Advice (https://www.fda.gov/medical-devices/device-advice-comprehensive-regulatory-assistance) and CDRH Learn (https://www.fda.gov/training-and-continuing-education/cdrh-learn). 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 (https://www.fda.gov/medical-devices/device-advice-comprehensive-regulatory-assistance/contact-us-division-industry-and-consumer-education-dice) for more information or contact DICE by email (DICE@fda.hhs.gov) or phone (1-800-638-2041 or 301-796-7100).

All required documents should be submitted, unless otherwise specified, to the address below and should reference the above De Novo number to facilitate processing.

De Novo Postmarket Surveillance
U.S. Food and Drug Administration
Center for Devices and Radiological Health
Document Control Center - WO66-G609
10903 New Hampshire Avenue
Silver Spring, MD 20993-0002

Alternatively, documents can be submitted electronically through the CDRH Portal. For more information on the CDRH Portal, please visit https://www.fda.gov/medical-devices/industry-medical-devices/send-and-track-medical-device-premarket-submissions-online-cdrh-portal.

If you have any questions concerning the contents of the letter, please contact Oliver Flynn at 301-837-7437.

Sincerely,

Denise L. Hampton -S

for Malvina B. Eydelman, M.D.
Director
OHT1: Office of Ophthalmic, Anesthesia,
Respiratory, ENT, and Dental Devices
Office of Product Evaluation and Quality
Center for Devices and Radiological Health