



U.S. FOOD & DRUG
ADMINISTRATION

August 15, 2024

Guard Medical, Inc.
% Eric Bannon
Vice President of Regulatory and Clinical Affairs
AlvaMed, Inc.
935 Great Plain Avenue
Suite 166
Needham, Massachusetts 02492

Re: K241522

Trade/Device Name: NPseal (20 and 25)

Regulation Number: 21 CFR 878.4683

Regulation Name: Non-Powered Suction Apparatus Device Intended For Negative Pressure Wound
Therapy

Regulatory Class: Class II

Product Code: OKO

Dated: May 29, 2024

Received: July 18, 2024

Dear Eric Bannon:

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 (the 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. Although this letter refers to your product as a device, please be aware that some cleared products may instead be combination products. The 510(k) Premarket Notification Database available at <https://www.accessdata.fda.gov/scripts/cdrh/cfdocs/cfpmn/pmn.cfm> identifies combination product submissions. 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.

Additional information about changes that may require a new premarket notification are provided in the FDA guidance documents entitled "Deciding When to Submit a 510(k) for a Change to an Existing Device" (<https://www.fda.gov/media/99812/download>) and "Deciding When to Submit a 510(k) for a Software Change to an Existing Device" (<https://www.fda.gov/media/99785/download>).

Your device is also subject to, among other requirements, the Quality System (QS) regulation (21 CFR Part 820), which includes, but is not limited to, 21 CFR 820.30, Design controls; 21 CFR 820.90, Nonconforming product; and 21 CFR 820.100, Corrective and preventive action. Please note that regardless of whether a change requires premarket review, the QS regulation requires device manufacturers to review and approve changes to device design and production (21 CFR 820.30 and 21 CFR 820.70) and document changes and approvals in the device master record (21 CFR 820.181).

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 Part 803) for devices or postmarketing safety reporting (21 CFR Part 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 Part 4, Subpart A) for combination products; and, if applicable, the electronic product radiation control provisions (Sections 531-542 of the Act); 21 CFR Parts 1000-1050.

Also, please note the regulation entitled, "Misbranding by reference to premarket notification" (21 CFR 807.97). For questions regarding the reporting of adverse events under the MDR regulation (21 CFR Part 803), please go to <https://www.fda.gov/medical-devices/medical-device-safety/medical-device-reporting-mdr-how-report-medical-device-problems>.

For comprehensive regulatory information about medical devices and radiation-emitting products, including information about labeling regulations, 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).

Sincerely,

Yu-chieh Chiu -S

Yu-Chieh Chiu, Ph.D.

Assistant Director

DHT4B: Division of Plastic and Reconstructive Surgery
Devices

OHT4: Office of Surgical and
Infection Control Devices

Office of Product Evaluation and Quality
Center for Devices and Radiological Health

Enclosure

Indications for Use

510(k) Number (if known)

K241522

Device Name

NPseal (20 and 25)

Indications for Use (Describe)

The NPseal is indicated for patients who would benefit from wound management via application of negative pressure, particularly as the device may promote wound healing through the removal of small amounts of exudates from closed surgical incisions.

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.

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SPECIAL 510(K) SUMMARY

This Special 510(k) for the NPseal is submitted based on the FDA Guidance document “The Special 510(k) Program: Guidance for Industry and Food and Drug Administration Staff” (issued September 13, 2019).

1. Name and Address of Sponsor

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3. Submission Information

Date Summary Prepared:	August 15, 2024
Name of Device:	NPseal
Common or Usual Name:	Negative Pressure Wound Therapy Non-Powered Suction Apparatus
Classification:	Class II
Product Code:	OKO (21 CFR 878.4683)
Predicate Device:	NPseal (K240244)

4. Device Description

The NPseal Negative Pressure Advanced System is a single-use device that includes an integrated, mechanical pump system. The NPseal maintains Negative Pressure Wound Therapy (NPWT) in the -75 mmHg to -125 mmHg nominal range.

The NPseal is intended for 7 days of use. Therapy duration of the system may be less than indicated if clinical practice or other factors such as time to wound closure and rate of exudate, result in earlier removal or need for system change.

The NPseal 20 is intended for surgically closed incisions up to 20 cm x 0.5 cm.

The NPseal 25 is intended for surgically closed incisions up to 25 cm x 0.5 cm.

5. Indications for Use

The NPseal is indicated for patients who would benefit from wound management via application of negative pressure, particularly as the device may promote wound healing through the removal of small amounts of exudates from closed surgical incisions.

6. Comparison of Manufacturer's Cleared Device and Modified Device

Table 1. Comparison of Modified Device to Cleared Device

	<u>Subject</u> NPseal 20, NPseal 25	<u>Predicate Device</u> NPseal 5, NPseal 10, NPseal 15
510(k) Number	K241522	K240244
510k Submitter/Holder	Same as predicate	Guard Medical
Product Code	Same as predicate	OKO
Regulation No.	Same as predicate	878.4683
Regulation Description	Same as predicate	Non-Powered suction apparatus device intended for negative pressure wound therapy.
Common Name	Same as predicate	Negative Pressure Wound Therapy non-powered suction apparatus

	<u>Subject</u> NPseal 20, NPseal 25	<u>Predicate Device</u> NPseal 5, NPseal 10, NPseal 15
Indications for Use	Same as predicate	The NPseal is indicated for patients who would benefit from wound management via application of a negative pressure, particularly as the device may promote wound healing through the removal of small amounts of exudates from closed surgical incisions.
Wound types	Closed surgical incisions, NPseal 20: Up to 20 cm x 0.5 cm NPseal 25: Up to 25 cm x 0.5 cm	Closed surgical incisions, NPseal 5: Up to 5 cm x 0.5 cm NPseal 10: Up to 10 cm x 0.5 cm NPseal 15: Up to 15 cm x 0.5 cm
Single Use	Same as predicate	Yes
Negative Pressure Range	Same as predicate	-75 to -125 mmHg ($\pm$ 17.5 mmHg)
Device Technology	Same as predicate	Nonpowered, integrated mechanical pump to generate negative pressure. Multilayer pad composed of hydrophilic foam with high fluid absorbency and top breathable film designed to collect and move exudate away from the wound bed.
Management of Exudates	Same as predicate	Managed by the dressing itself – via combination of absorption into the foam pad and evaporation through the breathable upper film.
Materials	Same as predicate	Film: Polyurethane coated with adhesive acrylic, Pad: Hydrophilic polyurethane, Pump: Thermoplastic elastomer
Wear Time	Same as predicate	Up to 7 days
Sterility	Same as predicate	Sterile – Gamma irradiation
Biocompatibility	Same as predicate	Complies with ISO 10993-1

7. Summary of Modification

The dimensions of the current NPseal devices cleared initially in K212971 and most recently in K240244 are:

- NPseal 5 (Small) is 11 x 8 cm with a 7.5 x 4.5 cm foam pad for use on closed surgical incisions up to 5 cm in length and 0.5 cm in width.
- NPseal 10 (Medium) is 16 x 8 cm with a 12.7 x 4.7 cm foam pad for use on closed surgical incisions up to 10 cm in length and 0.5 cm in width.
- NPseal 15 (Large) is 21 x 8 cm with a 17.7 x 4.7 cm foam pad for use on closed surgical incisions up to 15 cm in length and 0.5 cm in width.

The subject devices are two longer versions:

- NPseal 20 is 26 x 8 cm with a 22.7 x 4.7 cm foam pad for use on closed surgical incisions up to 20cm in length and 0.5 cm in width.
- NPseal 25 is 31 x 8 cm with a 27.7 x 4.7 cm foam pad for use on closed surgical incisions up to 25cm in length and 0.5 cm in width.

All other dimensions including the foam thickness, as well as the pump system and device materials remain identical to the NPseal Small predicate.

8. Summary of Functional and Performance Testing

The NPseal dressing length increase for the NPseal 20 and NPseal 25 was assessed based on risk and the Design Controls in 21 CFR 820.

The following verification and validation testing was performed exclusively on the NPseal 25 as it represents the most challenging device size:

- Pressure and Exudate Handling Over Time
- Pull testing
- Benchtop Usability Testing
- Packaging Validation

9. Summary of Clinical Testing

No clinical testing was applicable to this submission.

10. Conclusion

Like the three sizes (NPseal 5, NPseal 10, and NPseal 15) of the predicate device cleared by the FDA in K212971 and updated in K240244, the longer NPseal 20 and NPseal 25 have been shown to be safe through bench testing. Size increases made to the device do not raise any unanswered questions of safety or effectiveness. Verification and validation data support substantial equivalence of the NPseal 20 and NPseal 25 to the legally marketed predicate device.