# Robotic Surgical Procedure to Address Alzheimer's

February 9, 2026

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## Introduction

**Mark Toland**

MMI — President & CEO

BIOSTAR CAPITAL — Managing Director

Corindus Vascular Robotics — President & CEO

Boston Scientific — Senior Vice President

MOON SURGICAL

AVS

HORIZON SURGICAL SYSTEMS

HYPERION



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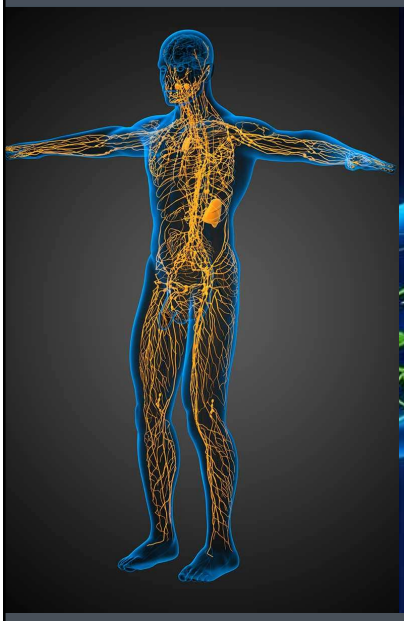
## Lymphatic System: The Body's Hidden Network for Drainage, Filtration, and Recovery





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## Lymphatic System: The Body's Hidden Network for Drainage, Filtration, and Recovery




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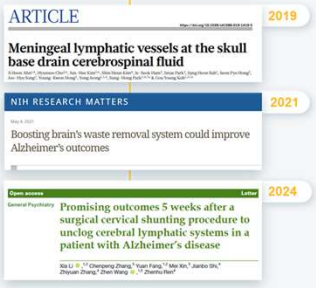
## Discovering the Brain Lymphatic System

### Discovery (2015)


Lymphatic vessels discovered in CNS

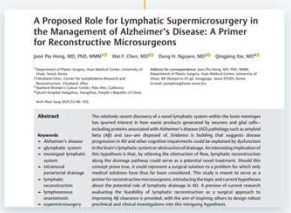
### Functionality




Improving lymphatic drainage in people with Alzheimer's could lead to better outcomes


Recognizing the Lymphatic - Neurodegenerative Diseases Link

### Treatment Proposal (2025)




Sponsored by MMI

JP Hong, MD, PhD
Professor and Chief
Department of Plastic and Reconstructive Surgery
Asan Medical Center, Seoul South Korea



Lymphatic Vessels Discovered in Central Nervous System | Nation
Meningeal lymphatic vessels at the skull base drain cerebrospinal fluid | Nature
Boosting brain's waste removal system could improve Alzheimer's outcomes | National Institutes of Health (NIH)
Promising outcomes 5 weeks after a surgical cervical shunting procedure to unclog cerebral lymphatic systems in a patient with Alzheimer's disease | General Psychiatry
Thieme E-Journals - Archives of Plastic Surgery / Abstract



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## Patient-Driven Demand Accelerating Science

**>5,000 Lymphatic Surgeries completed with promising results**

**Patients exhibiting cognitive and motor function improvements shortly after procedure[1]**



1. Jianping Ye et al. A Surgical Therapy for Alzheimer's disease with lymphaticovenular anastomosis. Sage. Journal of Alzheimer's Disease Reports. September 2025.



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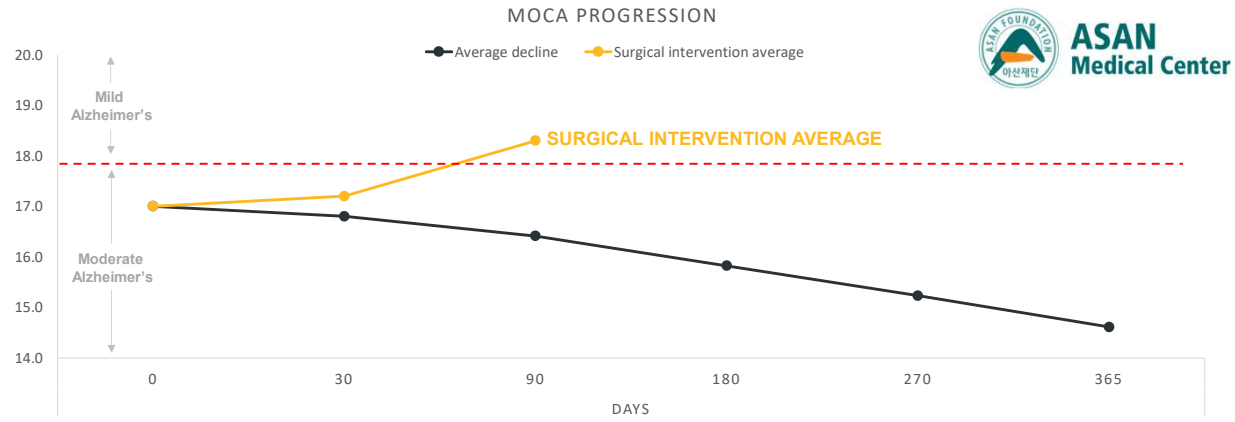
## Patient-Driven Demand Accelerating Science | Early Single Center Signals




**Early surgical signal (<3 months)**:

- **Stabilization** relative to average decline of -2.4 points[1] on the MoCA scale for no intervention
- Patients 3 & 4 saw **improvements of +5 and +6** MoCA points over 3 months

**JP Hong, MD, PhD**
Professor and Chief
Department of Plastic and Reconstructive Surgery
Asan Medical Center, Seoul South Korea

*This data is not affiliated or connected with MMI or Symani Surgical System use



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## Bridging Science with Clinical Data

**Early Clinical Publications**
(Feasibility, Outcomes, etc.)

**Multi-Center Randomized Clinical Study**

**Estimated growth in number of people with dementia, 2019-2050**




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## Industry-Driven Research

September 5, 2025

MMI North America, Inc.
℅ Zainab Amini
US, Regulatory Affairs Specialist
Medical Microinstruments, Inc.
Via Egidio Giannessi 54
Pisa, 56121
Italy

Re: G250205
Trade/Device Name: Symani Surgical System
Dated: August 6, 2025
Received: August 7, 2025
CMS Category: A
Annual Report Due: One Year from the Date of This Letter

Dear Zainab Amini:

The Food and Drug Administration (FDA) has reviewed your Investigational Device Exemption (IDE) application regarding your feasibility study ["REMIND: Robotic-Enabled Microsurgical Intervention for Neurodegenerative Disease – A Global, Prospective, Early Feasibility Study in Alzheimer's Patients"] for a significant risk device. Your submission was amended via emails dated:

- September 4, 2025, to revise the clinical study protocol to clarify the credential requirements of each investigator included in your study, to exclude patients with intracranial/neurological conditions, and add study stopping rules.
- September 5, 2025, to revise the clinical study protocol to clarify the study stopping rules language, provide a revised draft of the data and safety monitoring board (DSMB) charter with clarification on the safety events that may trigger an ad-hoc DSMB meeting, and revisions to the informed consent document (ICD) to clarify the study risks.

FDA has determined you have provided sufficient data to support initiation of a human clinical study; this means that there are no subject protection concerns that preclude initiation of the investigation. Your application is therefore approved, and you may begin your investigation after you have obtained institutional review board (IRB) approval. Your investigation is limited to 3 United States (U.S.) institutions and 5 U.S. subjects.

Your IDE application has been approved as a staged study. You may request approval to expand enrollment in your study to the full cohort of 15 subjects when you have submitted an IDE supplement which provides the procedural and 30-day follow-up safety data for the first 4 subjects treated in the study and any completed DSMB meeting minutes.

U.S. Food & Drug Administration
10903 New Hampshire Avenue
Silver Spring, MD 20993
www.fda.gov

REMIND
Robot Enabled
MICROSURGICAL INTERVENTION
FOR NEURODEGENERATIVE DISEASE

| Clinical Application | Study Design | 2026 Q1 | 2026 Q2 | 2026 Q3 | 2026 Q4 | 2027 Q1 | 2027 Q2 | 2027 Q3 | 2027 Q4 | 2028 Q1 |
|---|---|---|---|---|---|---|---|---|---|---|
| Alzheimer's Lymphatic Repair | **Multi center, early feasibility safety study** (15 patients, 3 sites) | Enrollment | | | | | | | | |
| Alzheimer's Lymphatic Repair | **Multi center, pivotal safety and efficacy study** (300 patients, 30 sites) | | | | | Enrollment | | | | |

**24-30 Month Sprint:** Generating clinical data and securing regulatory approval, alongside strong interest from providers, payers, investors and government agencies



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## REMIND EFS Site Update

### Sites In Progress
(up to 3 sites FDA approved)

- Baptist Health
- Stanford Medicine
- Jacobs Institute
- Yale New Haven Health

### Staged Study Design

- Patients Enrolled – **5**
- **FDA review**
- Patients Enrolled- **10**



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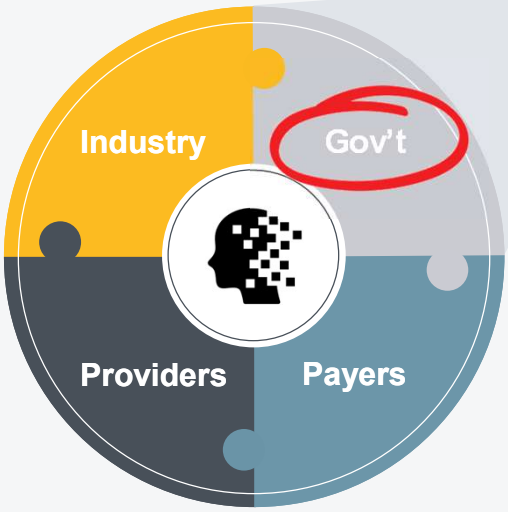
## Next 24 Months: Essential Government Levers for Surgical Alzheimer's Innovation




### Essential Government Levers

- [x] **Clinical Study Approval**
  September 2025
- [ ] **Funding to Accelerate Clinical Data**
  2026
  NIH
- [ ] **Scalability with Pre Market Clearance**
  2027 / 2028
  FDA | NIH | CMS