



SWI focuses on innovative sound therapies (LIPUS, SWCS) for the unmet medical needs (severe angina, dementia, and arrhythmias, etc.) in the super-aging society

We are looking for collaborative research and licensing partners



Sound Wave Innovation

We are a startup from Tohoku University

November, 2020

Outlines

As of Nov. 2020

Company Name	Sound Wave Innovation CO., LTD. (SWI)
address	Ueno Building 6F (C-5), 1-9-10, Horidome-cho Nihonbashi, Chuo-ku, Tokyo, 103-0012, Japan
Establishment	1 st April 2020
Capital	60,000,000 yen
Business	Research / development / license / manufacturing / sales of therapeutic medical devices
Number of officers and employees	6
Officer	President & CEO Kentaro Shiratsuchi Director Hiroaki Shimokawa MD, PhD Director Tetsuro Higuchi Auditor Naoya Onaka

SWI is a therapeutic medical device startup having strong relationship with Tohoku University. Making progress on Clinical Studies of both LIPUS and SWCS (less invasive treatment platform technology) that have been developed by Professor Emeritus Hiroaki Shimokawa group, we are eager to make our innovative device popular in aging society together with Medical Device Company.



Sound Wave Innovation (SWI)

□ We are a biotech startup focusing on the development of less invasive therapeutic medical devices using sound waves (ultrasound, shock wave).

LIPUS (Low Intensity Pulsed Ultrasound) is a medical device to induce spontaneous improvement of microcirculatory disorder based on the molecular mechanisms including mechano-transduction that results in upregulation of endothelial NO synthase (**eNOS**) and vascular endothelial growth factor (**VEGF**).

- Clinical trials of LIPUS therapy for **severe angina** and **mild dementia** are on going.
- Severe angina: Proof of concept (POC) for humans will be examined until 4th quarter of 2021.
- Mild Alzheimer disease: POC for humans will be examined in 2022.
- Considering the huge number of patients with those unmet medical needs (angina, Alzheimer disease) in the world, there are huge market opportunities

SWCS (Shock Wave Ablation Catheter System) is a medical device that has the potential to overcome the issues of high frequency ablation catheter in lesion depth, endocardial injury, chronic inflammation etc. Regarding **arrhythmias**, FIH is planned to be conducted in the 3rd-4th quarter of 2021.

Platform technology

LIPUS is a less invasive therapeutic medical devices that could treat severe angina (ischemic heart disease) and mild dementia as microcirculatory disorder. LIPUS acts on Caveolae of vascular endothelial cells and based on molecular mechanism including mechano-transduction upregulates both eNOS(nitric oxide synthase) and VEGF(vascular endothelial growth factor). SWCS is a treatment technology for arrhythmia (ventricular tachycardia) that could treat deeper lesion(arrhythmia source) and be safer than radio waves catheter system(RFCA).

Background

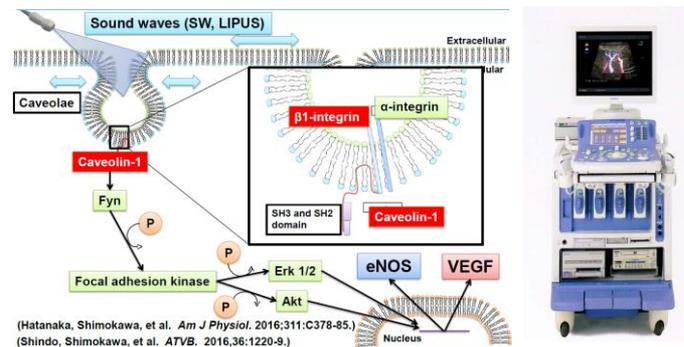


Low-power extracorporeal shock wave therapy device dedicated to heart disease

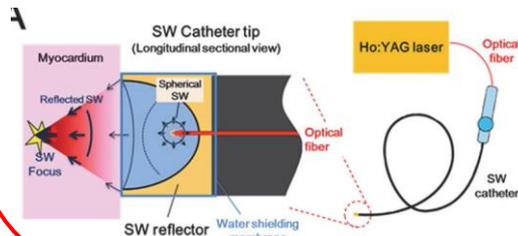
It was co-Developed in 2006 by both Tohoku University Hospital and Storz medical.

Platform technology

LIPUS (Low Intensity Pulsed Ultrasound)

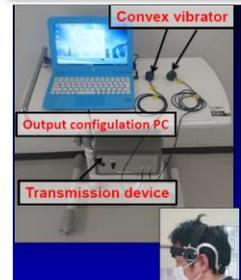


SWCS(Shock Wave Ablation Catheter System)



SW01
Angina

SW02
Dementia



SW03
Arrhythmia



1. Angina :

- The number of deaths due to coronary artery disease is estimated to be 370,000 worldwide annually.
(Source: Centers of Disease Control and Prevention; CDC)
- Existing treatments: drug treatment such as nitroglycerin, percutaneous coronary intervention (PCI), coronary artery bypass grafting (CABG)

2. Dementia :

- Currently, the number of dementia patients is increasing rapidly and is estimated to be about 2.6 million in Japan, and about 35 million in the world.
- Existing treatment: Drug treatment (symptom-improving drugs such as donepezil, memantine, galatamine, and rivastigmine)

3. Arrhythmia :

- The total number of patients with arrhythmias (ventricular tachycardia (VT) and ventricular fibrillation (Vf)) per year in Japan is estimated to be 5,000 to 11,000.
(Source: https://www.pmda.go.jp/drugs/2019/P20190322007/180188000_22600AMX00879_D100_1.pdf)
- Existing treatment: High frequency catheter ablation



**If you have interests in our products,
please contact us!**

Contact

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