

# Next-Generation Supermicrosurgery Consortium

## 16th Virtual Conference

### **The Future of Surgery : The Forefront of Domestic Microsurgical Robot Development**

- A future in which many patients can easily undergo microsurgery -

**TUE, Jul 16, 2024, 18:00 - 20:00 (JST)**

When humans perform delicate tasks, their hands naturally tremble. Surgeons who specialize in microsurgery have spent considerable time mastering the high level of skill required to control this tremor and manipulate fine needles and threads using a microscope.

In 2016, Professor Kadota and his team at Kyushu University initiated a project to develop a "robotic system to support microsurgery for facilitating the anastomosis of 1mm diameter blood vessels" and began its development. Aiming to eliminate hand tremors to the greatest extent possible while replicating the surgeon's movements, their development efforts led to the successful anastomosis of a 2mm artificial blood vessel with the first prototype in 2019. In October of last year, they succeeded in anastomosing a 0.5mm artificial blood vessel, and eight years after the initial project began, they are now developing the third prototype, which is expected to be completed by the end of this year. In this lecture, I will discuss the global situation surrounding the dedicated vascular anastomosis robot.



Opening speech

### **The latest insights on super microsurgery**

**Isao Koshima, MD, PhD**

Professor and Center Chief,  
Department of Plastic and Reconstructive Surgery,  
International Center for Lymphedema,  
Hiroshima University Hospital

### **Next Generation Microsurgery Created by a Robot Dedicated to Anastomosis of Blood Vessels**

**Hideki Kadota, MD, PhD**

Associate Professor  
Plastic and Reconstructive Surgery,  
Kyushu University Hospital



■ **Registration and Fees : <https://cpk.jp/reg/2>**

Participation fees for organizations such as companies and public institutions are as follows:  
15,000 yen per person, 28,000 yen for two people, and 40,000 yen for three people.

\*Special discount tickets for 6 or 12 sessions are also available.

\*Free for healthcare professionals, academia, and students (excluding adult students).

Seminar venue URL: <https://cpk.jp/s/2135>

Registration



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### Outline

The number of breast cancer patients in Japan was about 45,000 in 2003 and will more than double to 97,000 in 2019\*, 16 years later, and the number of breast cancer patients is steadily increasing. The number of patients requesting breast reconstruction surgery is also increasing, and while breast reconstruction surgery using autologous fat grafts instead of conventional silicone is a technique that has received high patient satisfaction, the number of physicians with microsurgical skills is currently limited.

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In Professor Isao Koshima's opening lecture, the focus will be on topics such as lymphatic vessel transplantation, photoacoustic imaging lymphatic perforator mapping, lymphedema, and objective evaluation using bioimpedance. The latest research findings and clinical applications in these areas will be presented.

\* Source: Excerpt from "Cancer Statistics" published by the Foundation for Cancer Research, Number of Incidents by Site

### Supplementary Information [Carrer & Qualifications]



#### Hideki Kadota, MD, PhD

Associate Professor  
Plastic and Reconstructive Surgery,  
Kyushu University Hospital

1998 Graduated from Kyushu University School of Medicine  
1998 Department of Otorhinolaryngology, Kyushu University Hospital  
1999 Department of Otorhinolaryngology, Kitakyushu Municipal Medical Center  
2000 Department of Head and Neck Surgery, National Hospital Organization Kyushu Cancer Center  
2002 Department of Head and Neck Surgery, National Cancer Center Hospital East  
2005 Department of Otorhinolaryngology, Kyushu University Hospital  
2005 Hamanomachi Hospital, Otorhinolaryngology  
2006 Kyushu University Hospital, Otorhinolaryngology  
2009 Sasebo Kyosai Hospital, Otorhinolaryngology  
2011 Okinawa Chubu Hospital, Plastic Surgery  
2014 Associate Professor, Department of Plastic and Reconstructive, Kyushu University Hospital

#### Qualifications :

- Japan Society of Plastic and Reconstructive Surgery: Board Certified Specialist, Councilor
- Japanese Society of Otorhinolaryngology-Head and Neck Surgery: Board Certified Otorhinolaryngologist
- Japanese Society for Surgery of the Hand: Qualified Hand Surgeon certificated
- Japan Society of Cranio-Maxillo-Facial Surgery: Board Certified Surgeon, Representative
- Japan Society for Surgical Wound Care Board Certified Surgeon, Councilor
- Board Certified Trainer in Reconstructive and Microsurgery
- Board Certified Trainer in Pediatric Plastic Surgery

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