

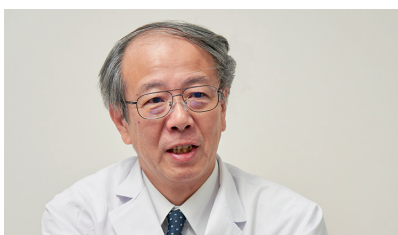
Professor  
Head, Department of Neurosurgery, TMDU Medical Hospital

## Taketoshi Maehara

**Practicing neurosurgeon Professor Taketoshi Maehara using a microscope. As a specialist in epilepsy, his skills are regularly tested in the operating theater.**



“Mental as well as manual dexterity required for surgery”



**“ON THE DAYS** I operate, I can focus totally when in theater because I have already envisaged the surgery on the way to work. The operating theater is the place where I can focus best.”

The speaker is neurosurgeon Professor Taketoshi Maehara. Within TMDU’s Department of Neurosurgery, his area of expertise is surgical intervention for cerebrovascular conditions such as brain tumors and aneurysms. He has built his career as a surgeon specializing in epilepsy.

“As a student, my interest in the functions of the brain and spine led me to venture into neurosurgery. The image of this field is that it requires physical endurance, and, as an assistant surgeon, I have taken part in operations that lasted up to 30 hours. Surgery has become more advanced since then, however, and these days the technology allows us to conduct shorter operations. We can operate on epileptic patients to eliminate or reduce the incidence of seizures in cases where drug therapies have not controlled the condition. Many new therapies for epilepsy have been developed. This includes seizure detection using electrodes embedded in the brain, with treatment through electrostimulation.”

### Skills needed as physician acquired on the soccer field

In his early years as a neurosurgeon, the youthful Professor Maehara did not have access to the training aids available today such as artificial blood vessels and simulation technology. Instead, he would often do suture training in the operating theater at night while using a microscope to look at gauze on the bottom of a milk bottle.

“Surgery requires more than just manual dexterity. It is vital to cultivate the mental dexterity needed to decide surgical tactics based on your own ability and to recover any situation.”

Teamwork is also cited as a critical factor in surgery. Professor Maehara played soccer from his junior high school days through university, and he still acts as an advisor to TMDU’s soccer team today. He says that soccer taught him about playing on a team.

“I was not such a conscientious student at university, but on the soccer field I learnt things that are indispensable for a physician, such as the importance of teamwork, and the way one’s role and function within the team varies from match to match.”

### Focus on clinical research to elucidate brain functions

Besides the teamwork between Professor Maehara’s Department of Neurosurgery and other hospital departments, there are many cooperative links with fields such as neurology, psychiatry, and pediatrics. There is also extensive collaboration between his department and other researchers and physicians outside TMDU, including specialized centers for treating epilepsy around Japan. Improving the quality of medical care for epilepsy patients is the common goal.

As well as being in surgery most weeks, Professor Maehara is also active as a researcher. Recently, developing the next generation has been a major challenge.

“We want students who are interested in how the brain functions to be clinical physicians who can also undertake research. I continue to do research because my goal is to elucidate how the brain works. I want to apply the findings from our research to clinical practice so that we can actively develop cutting-edge therapies.”



### Taketoshi Maehara

Graduated from TMDU in 1985. Received medical PhD in 1995. Worked as a neurosurgeon at Tokyo Metropolitan Neurological Hospital. After serving as an assistant surgeon and lecturer, Department of Neurosurgery at TMDU Medical Hospital, became Professor in 2012. Concurrently serves as Professor, Department of Neurosurgery, TMDU Certified by The Japan Neurosurgical Society, the Japan Stroke Society and the Japan Epilepsy Society. Specialist in surgical treatments for epilepsy.

Maehara the soccer-playing student (front row, third from right). He still applies clinically what he learnt about the importance of teamwork and individual roles.