



Cover Story

Be Fearless, for the Future of Medicine

The Advanced Simulation Surgery Courses,
Show Gratitude to Tzu Chi Silent Mentors

模擬醫學中心

Medical Simulation Center



2016
台灣整形外科醫學會
台灣胸腔及心臟血管外科醫學會
慈濟大學模擬手術聯合課程

2016.11.03 三 - 11.06 三
慈濟大學模擬醫學中心

- 台灣胸腔及心臟血管外科醫學會
Taiwan Society of Thoracic and Cardiovascular Surgeons
- 台灣整形外科醫學會
Taiwan Society of Plastic Surgeons
- 台灣胸腔及心臟血管外科醫學會
Taiwan Society of Thoracic and Cardiovascular Surgeons
- 台灣美容外科醫學會
Taiwan Society of Aesthetic Plastic Surgery

Tzu Chi
Silent Mentor Program

**By Li Chia-Yi, You Shou-Hua, Huang Szu-Chi
Translated by Alison Tsai**

“My father will become more handsome after plastic surgery; he would have no sagging skins. I think that it is great,” said Lu Yi-Hua to the doctors who will be practicing surgery on the cadaver.

Lu Wen-Yi, Lu Yi-Hua's father, dies in June of 2016 at the age of 66. In November the same year, he became one of the cadavers in a simulation surgery for the Taiwan's Plastic Surgery and Cardiovascular Surgery Society. Dharma Master Cheng Yen praised the cadaver with respect as a “silent mentor” – one who exerts the extremity of life, converts useless to great use; one who gives his/her useless body after death for medical education, as a teacher to medical students and even skilled external doctors, but with no sounds.

Before the simulation surgery courses, surgery instructors and students would pay their silent mentor a home visit. During the visit, Chang Gung Hospital Dr. Hsiao and Dr. Yen explained to Lu's families that the class would include facial plastic surgery, limb grafting and surgery. Lu Wen-Yi's family said Lu always enjoyed exploration and challenge, and had keen interest in new things so he should be happy to accept all the surgical curriculums.

From November 2nd to the 7th of 2016, Tzu Chi University Medical Simulation Center hosted a joint program with the Taiwan Plastic Surgery and

Cardiovascular Surgical Association. At the same time, it's the 6th Tzu Chi Medical Education Day which as an academic seminar consists of two main features of the Tzu Chi Medical Education – the silent mentor versus the patient-performing mentor (a standardized patient).

Doctors Making Home Visits to Get to Know the Cadavers on the Operating Tables

For this simulation program, a total of 184 plastic surgeons and cardiovascular surgeons from 37 hospitals throughout Taiwan participated in 57 mocked operations.

Before the commencement of the program, enrolled physicians and teaching physicians would visit the families of those silent mentors and learn about their life stories. In September 2016, Linkou ChangGung Hospital Yen Cheng-I, Hsiao Jo-Chun, Director Liao Han-Tsung, and Hualien Tzu Chi Hospital Dr. Weng Jih-Sheng visited Lu Wen-Yi's house. Dr. Yen said that during her residency, there were also cadavers, but students only knew their names but not their stories. This time they visited the home of their silent mentor to learn about his spiritual world. She thought the experiences would bring students not only medical knowledge but also learn to respect and be grateful.

Silent mentor Lu graduated from

the Department of Law of Chung Hsing University. If there was a phrase to describe him, that would be a diligent worker who was admired by colleagues and appreciated by many large companies. Lu became familiar with Tzu Chi from early on. When Tzu Chi was short on funds to build a hospital in Hualien, during the very first large scale fundraising event held in Taipei in 1983, Lu was one of the promoting participants. Because of his Buddhist background, Lu saw life

and death plainly. When diagnosed with gastric cancer in 2014, Lu said, “Waking up daily, if I can still walk, if I can still eat, I’ve gained another day and thus I should be grateful and seize the moment of life.”

Lu was diagnosed with diabetes when he was about twenty. At the time, he had the idea of donating his body for medical research. A month prior his death when he was almost paralyzed and in and out of coma, his family asked him if he would like to donate his body,



Family of Lu Wen-Yi respected his last wish to allow him to become a silent mentor. Photo depicts Lu Wen-Yi’s participation with Tzu Chi activities.

his eyes became wide and clear and he nodded his head forcefully. On June 17, 2016, after the family signed the Body Donation Agreement at 8 am in the morning, Lu passed away peacefully at 10 am thereafter. Lu Yi-Hua rationally explained her father's decision, "It was his body. He made the decision. From the legal perspective, we can only accept his choice." They also agreed that cremation yields no closure whereas donating his body will serve a meaningful purpose.

Plastic Surgery Challenge – Hand & Foot Transplantation

Chiayi Chang Gung Hospital Vice Supt. Lin Chih-Hung and Academia Sinica academician Dr. Wei Fu-Chan, one of the world's well-known reconstructive microsurgery experts, led a team of twenty doctors from various hospitals, including Keelung, Linkou, Chiayi, and Kaohsiung Chang Gung hospitals for this surgery program, which included a 3-day course from November 3rd to 5th on facial, hand, abdominal, and foot operations. They also wore GoPro cameras to record the entire surgical procedures. Vice Supt. Lin Chih-Hung expressed that currently in Taiwan, there is only one successful case of hand transplant; however, there are more than 10 patients waiting in line for muscular, nerve, skin, and tendon operations, which are very complex. However, just



At the 6th Tzu Chi Medical Education Day on Nov. 3 2016, Chen Peir-Rong (right), Vice Supt. of Hualien Tzu Chi Hospital, introduced "Tzu Chi advanced surgery simulation program." The left one is Dr. Chao Sheng-Feng, Cardiothoracic surgeon.

like the early kidney transplants, through experience and learning, current kidney and other organs transplant operations have become more common. They hope in the future, hand and facial reconstruction can help patients to restore functions.

Since Vice Supt. Lin Chih-Hung participated in the Tzu Chi simulation surgery course in 2010, he often talked about the “silent mentor” with his families. In 2014, his father suddenly told him that he would also like to donate his body

since his son had benefited greatly from silent mentors. As a result, Lin asked for a blank piece of Body Donation Agreement and yet put it in his drawer. Lin’s father is now 88 years old, but the agreement paper still remains in his office. Lin said it is a difficult decision for a son to agree to his father’s donation. Therefore, he is greatly appreciative of all the silent mentors and their families. Donation program not only promotes medical development but also helps many real patients. He is grateful to have the opportunities to learn at Tzu Chi.



Ma Hsu, director-general of Taiwan Society of Plastic Surgery emphasized that learning advanced surgery is to be prepared and ready; thanks to the “silent mentors”, doctors were able to practice.

Tribute to Silent Mentors on the Tzu Chi Medical Education Day

The 6th annual Tzu Chi Medical Education Day commenced on November 5th at 1 pm. Hualien Tzu Chi Hospital Supt. Lin Shinn-Zong recalled his early medical education, cadavers for surgical

practice came from abroad; and to practice a neurosurgery, a cadaver head was imported from the US. However, at Tzu Chi, under the guidance of Dharma Master, there are body donations to provide medical students to use at various surgical classes. In addition to develop such realistic simulation surgery, we are really grateful for the silent mentors and



Gratitude toward Silent Mentor prior to surgery. At the beginning of the simulation surgery, all participants prayed to the silent mentors accordingly to their religious beliefs.



their family's great love.

Hualien Tzu Chi Hospital Vice Supt. Dr. Chen Peir-Rong introduced “Tzu Chi Advanced Simulation Surgical Course” in a kick-off during the 5th day lecture conference. Tzu Chi University Vice Principal and anatomy professor, Dr. Tseng Guo-Fang was the keynote speaker. This day's course focused mainly on leading the trainees to become familiar with “silent mentor” and “body simulation operation.”

Dr. Chen Peir-Rong stressed that in addition to traditional teaching, Tzu Chi Medical education also emphasizes the

“human-centered” education. Regardless of the home visits, procession ceremony of after-simulation cremation, gratitude memorial services are held to pay tribute to the silent mentors and their families. Thus, at the end of the course, not only will students learn bedside medical techniques but also ethics and responsibilities of physicians. He also pointed out that 70% of the current source of the body donation came from Tzu Chi members and their families. The rest had no affiliation with Tzu Chi.

Micro Transplant Reconstruction - Advanced Surgery Trial

In the Tzu Chi Medical Education Day seminar, the “silent mentor” forum section, Dr. Ma Hsu, Director-general of Taiwan Plastic Surgery Association, Dr. Tai Hao-Chih, Dir. of Plastic Surgery of Taiwan University Hospital, and Chen Yih-Sharng, Director-general of Taiwan Association of Thoracic & Cardiovascular Surgery, were guest speakers. Vice Supt. Chen Peir-Rong and Dr. Chao Sheng-Feng, Dir. of Cardiothoracic Dept. of Hualien Tzu Chi Hospital presided over the forum.

Director-general Ma Hsu pointed out, “Doctors who know how to conduct micro-surgery in a hospital, that hospital would lose money.” He stressed that general population had misconception about medical plastic surgery the same

as cosmetic surgery. The truth is cosmetic surgery is only a small part of plastic surgery. For the patient's mental health, multiple surgeries not only reconstruct the wounds on the body but also in the heart. Multiple advanced surgery practices learning prepare doctors to "be ready."

Ma Hsu also used facial's allogenic tissue transplantation reconstruction, liver transplantation, and hand transplantation to emphasize the function of microsurgery. He believes that a medical center that does not do micro-surgery will lose its last line of defense. He is grateful to Tzu Chi's silent mentor program; the teaching allows plastic surgeons to learn from their bodies. This is great education! Doctors often are limited with their own life experience and when facing with patients and suffering, it is difficult for them to emulate empathy with compassion. However, through the silent mentors, every doctor strives to do the best at the very moment; and that is similar to their initial resolve to become doctors.

Limb transplant is extremely difficult because of the complexity of arteries, veins, nerves, muscles, and tendons interlocking with one another. In normal condition, one cannot practice on live individual. As Notional Taiwan University Hospital (NTUH) limb transplant spokesperson, plastic surgeon Tai Hao-Chih pointed out that the world's first limb transplant operation occurred in 1998 in



For better surgical angles, surgeons kneeled on the floor to perform operation.

Lyon, Paris. Since then there were only 72 patients accepting 107 limb transplant operations in the entire world, of which 35 cases were bilateral limb transplants. Related studies have shown that patients receiving limb transplant can restore some movement and sensory function. In comparison to the use of prosthesis, transplant result has better appearance and sensitivity.

Tai said that in 2014, NTU Hospital proposed a plan and sent Plastic surgeon Dr. Hsieh Jung-Hsien to the United States Limb Transplant Center to learn about two cases of clinical hand transplant surgery. Tai continued, "Since June 2015, doctors



Experienced surgeons, through advanced surgery simulation classes, explore new surgical procedures for the benefit of future patients. The picture shows the cardiac simulation surgery.



Before the start of the simulation surgery, teaching physicians and student physicians visited the cadaver family members to understand the teacher's life and expectation of the physicians, and to express gratitude. 2nd to the right is Hualien Tzu Chi Hospital Orthopedic Chen Ing-Ho, Honorary Superintendent.

have been learning from the cadavers at the Medical Simulation Center of Tzu Chi University, and for the fifth time, we received approval from the Ministry of Health and Welfare Department in 2016 to carry out clinical trials.”

Tai expressed that with the limb transplant simulation operation, physicians were able to unlock the difficulty of recipient's arm tendon dissemination so they can formulate selection criteria and

donor standards. In this pilot program, starting from the transplant operation to the follow-up of a decade of medical expenses, it is estimated that each hand transplant operation costs approximately NTD 7 million(USD 234,000). Currently, the Ministry of Health and Welfare Department had only allowed one such case, with the condition to be successful. As a result, practice and learning from the cadavers are increasingly more important!

Microscopic Heart Surgery - Make Mistakes Only on the Teachers

On November 6th, 13 hospitals, more than 20 cardiothoracic surgery specialists participated in a silent mentor simulation surgery. "I would like to thank the silent mentors for the opportunity to practice,

they gave us more confidence in the health of the patients," said Chen Yih-Shang, Director-general of Taiwan Association of Thoracic & Cardiovascular Surgery. "This is the first time that I have participated with the Tzu Chi University and Hualien Tzu Chi Hospital. This opportunity, with the environment and equipment, allowed physicians to have the chance to practice



Dalin Tzu Chi Hospital ENT doctor, Ho Hsu-Chieh delivered a piece of testimonial to the silent mentor's family.

every technique!”

One of the focuses of this Thoracic & Cardiovascular Surgery simulation was the “minimally invasive” approach, most commonly found in heart valve repair and replacement surgery, and minimally invasive coronary artery bypass surgery. Hualien Tzu Chi Hospital Dr. Chang Jui-Chih said that the current trend of surgery is to make the wound smaller, which means less bleeding and shorter recovery time.

“Doctors will get old and sick, so I hope that through this efficient and humanistic way of teaching, new doctors will acquire the experience.” Chen Yih-Sharnq pointed out from statistics gathered between 2000-2014, with the progression of medical technology and cardiac interventional treatment of cardiac catheterization; the number of traditional open heart surgery is significantly reduced. He stressed that about 10% of the current surgery is through minimally invasive way, with the medical technology and technological progress, the proportion of future minimally invasive surgery will increase. The “open heart surgery” using minimally invasive techniques is creating more pressure on practitioners. With the traditional thoracotomy, wounds are larger so they allow a wider view for doctors to see the problem and to deal with then directly. However, with smaller wound in a microscopic surgery, the view and

operating space is limited. Therefore, the room for errors becomes smaller! With silent mentors and real operating room equipment, doctors are able to fine tune possible mistakes, and thus avoid future mistakes on patients.

Orthopedics Trying the Best Techniques

The orthopedic surgeons also participated in the advanced simulation surgery courses at the Tzu Chi University in 2015 and 2016.

Twenty nine courses were conducted from November 2nd to 7th in 2015; participants were from 157 faculty members in 51 hospitals in Taiwan. “With the progression of science and technology, the improvement on spinal surgery implants and the technology, every physician needs to keep learning. The participants would personally perform each task from seven in the morning to six in the evening. Because of the silent mentor program, physicians reflect on the meaning to help others,” said Dr. Huang Tsung-Jen, director-general of Taiwan Spine Society. The director-general of Taiwan Orthopaedic Trauma Association Lee Pei-Yuan expressed that the simulation surgery courses will remind orthopedic surgeons their core value of being a doctor.

Silent Mentors Benefit Over 120,000 Orthopedic Patients in Taiwan

In the orthopedic surgeon course from October 3 to 7, 2016, the number of students increased. 216 physicians from 55 hospitals in Taiwan were trained for rare surgeries in Taiwan. Elite physicians take part in arm transplant surgeries, minimally invasive arthroscopic surgeries, armpit nerve plexus surgeries and other twenty-eight kinds of surgeries.

After 4 days of the simulated

operations on October 7th, bracing for a storm and typhoon season, Tzu Chi University Principal Wang Pen-Jung, honorary Supt. of Hualien Tzu Chi Hospital Chen Ing-ho, Dir. of Orthopedics Wu Wen-Tien, Taiwan Society for the Surgery of the Hand director-general Lin Yu-Te, Taiwan Orthopaedic Association Foot and Ankle Medicine director Wang Chen-Chie, director-general of the Spine Society Wang Shih-Tein, secretary-general Chou Po-Hsin, Lee Pei-Yuan, and all Orthopedic practitioners participated in a gratitude ceremony to the silent mentors and their families with



At the beginning of November 2015, Orthopedic surgeons from fifty-one hospitals in Taiwan came to the University of Tzu Chi to participate in simulated surgery, the students were well-prepared prior the simulation.

their deepest gratitude.

Dr. Wu Wen-Tien described the four day classes with a daily average of sixty students, even at one point 90 students jammed in the simulation operating room, yet the operating room was always quiet and solemn throughout, everyone was very focused.

Dir. Wang Chen-Chih gave thanks, “This was the very first time in Taiwan where doctors can learn minimally

invasive arthroscopic surgery on cadavers. Five or six years ago, Taiwan had a similar course, but with frozen long limbs, there was no way to get like the sensation of live surgery.” Dr. Lee Pei-Yuan shared that the course had enrolled more than two hundred doctors. Each physician, on average, performs over six hundred operations per year; equivalent to 120,000 patients benefiting indirectly from the silent mentors.



Dr. Chen Ing-Ho(right), honorary supt. of Hualien Tzu Chi Hospital, is happy to pass on surgical experience to new physicians.



Dedicated to Medical Care Through Great Giving

In 2002, Tzu Chi University opened a simulation course for the very first time, and in conjunction with Hualien Tzu Chi Hospital surgical team to teach medical students regarding bedside clinical skills and surgical technique training. It wrote a historic page on Taiwan medical education. In 2008, the Medical Simulation Center of Tzu Chi University was set up four times a year to provide training courses for medical students and residents in March, June, September, and December. Other time will then be open to the various medical science applications. Updated in 2017, the simulation courses are integrated under the Tzu Chi Medical Foundation Academic Development Team.

Principal Wang Pen-Jung shared, “there are more than 40,000 people who signed a body donation agreement to

the Tzu Chi University. The Silent Mentor program enables medical students, resident and even senior doctors to go from understanding of the bodies to enhance their clinical skills through simulation surgeries and also keep their human touch.”

Every silent mentor has their own story, such as: 23-year-old Zhang Guosheng, who suffered from lymphoma when he was 18 years old. He was unable to attend college and thus decided to devote himself as a teacher for the physicians. Wang Junxiong had only elementary education; he was from the Hualien moon tribe of the Amis. He felt that becoming a teacher to the physicians is amazing. In addition, the oldest silent mentor is 96-year-old Li Zuo-lin, who came to Taiwan from Mainland ZheJiang, was married in Taiwan, and final dedication of his body to the medical education ... all the silent mentors, unlimited gratefulness, unlimited blessing ...