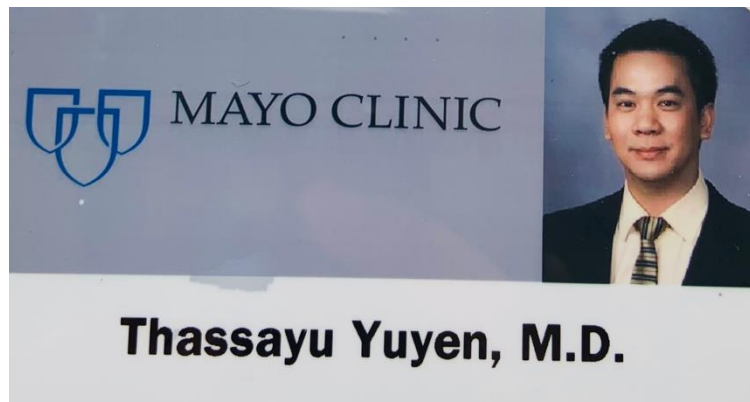




**Faculty of Medicine Siriraj Hospital,
Mahidol University**

Siriraj Resident/Fellow Exchange Program

**To Mayo Clinic, Rochester, Minnesota, USA
From 05/06/19 to 05/31/19**



Thassayu Yuyen

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2nd year of Fellow in Critical Care Medicine

Introduction

My name is Thassayu Yuyen. I graduated MD from Faculty of Medicine, Siriraj Hospital, Mahidol University in 2009. Then I was an intern at Pranungklao Hospital, Nonthaburi. After that I became a teaching assistant at Department of Anatomy, Siriraj Hospital for 2 years. Later I joined an Anesthesia residency program at Department of Anesthesiology, Siriraj Hospital during 2012-2015. After finished training, I was a clinical instructor of Department of Anesthesiology, Siriraj Hospital. In 2017, I studied further in fellowship program of Critical Care Medicine, Siriraj Hospital. Currently, I am the 2nd year fellow in this program. I will work as attending staff at surgical ICU of Siriraj Hospital after finish training next month.

During the past two years, when I was training as ICU physician, I had an opportunity to taking care of critically ill patients who need an intensive care. Some of them needed special treatment modality such as extracorporeal membrane oxygenation (ECMO) which is very useful in various clinical scenarios. To understand the application of ECMO thoroughly is my interest, since this intervention will become more popular in the future. The Mayo clinic is the famous institute for ECMO center in USA. I had a great opportunity to be a visiting fellow at Mayo clinic during May 6-31, 2019. The details of my visit will be demonstrated further in this report.

University review

The mayo clinic has 3 campuses in USA including Minnesota, Florida, and Arizona. The Rochester, Minnesota campus is the oldest original campus. It was founded by Dr. William Worrall Mayo and his sons and Franciscan Sisters after a tornado struck Rochester in 1864. Nowadays, it is one of the largest not-for-profit, academic health systems in the U.S., with \$12 billion in annual revenues and 63,000 employees. With a focus on caring for patients with serious, complex illnesses, Mayo Clinic operates in five states and cares for more than one million people a year, from all 50 states and nearly 140 countries. Mayo Clinic is ranked #1 in the nation by U.S. News and World Report.

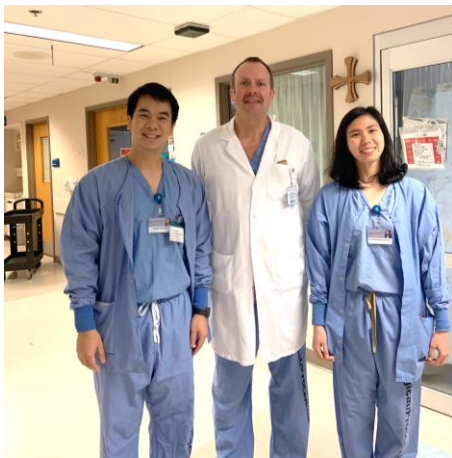
Mayo clinic is the famous institute for ECMO center with a high number of patients with ECMO annually. They also provide an excellent workshop in ECMO symposium every year which gets a lot of attentions from physicians all around the world. Since their reputation in ECMO practice, I was interested in visiting this hospital in order to learn more about ECMO and also to see how the ICU physicians work at Mayo clinic.

Expectation and objective

- To learn about ECMO use in critically ill patients
- To observe the ICU practice at Mayo clinic
- To attend the rounding with ICU team
- To join the academic activities such as journal reading, case conference etc.
- To share the experience of working as ICU physician in Thailand
- To improve English skills especially in speaking and listening
- To get an experience of living with other people from different countries

Knowledge/Experience gained

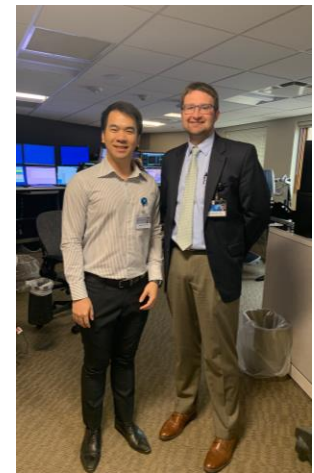
The main supervisor during my visit was **Dr. Daniel R Brown**, who is currently the Chair of Critical Care and Professor of Anesthesiology. I was arranged to attend rounding at many wards including general surgical ICU (7DE), Cardiac surgery ICU (5BG), Transplant unit (6E), eICU, Operating rooms, Respiratory therapist department.



Dr. Daniel R Brown
Chair of Critical Care and
Professor of Anesthesiology



Dr. Gregory J. Schears
Critical Care and
Professor of Anesthesiology



Dr. John K. Bohman
Critical Care Anesthesiology
Director of ECMO program

- **General surgical ICU (7DE)** was the ICU for surgical patients who underwent vascular procedures such as EVAR, thoracic operation (not on CPB) such as lung resection, abdominal surgery such as Colectomy.
- **Cardiac surgery ICU (5BG)** was the ICU for patients who underwent any cardiac operations which required cardiopulmonary bypass machine. Some patients needed

VA-ECMO for post-cardiotomy support which were the majority of ECMO use (80%) at Mayo clinic.

- **Transplant unit (6E)** was the ICU for patients who underwent any kind of solid organ transplantation including liver, kidney, lung, and heart.
- **ICU telemedicine (eICU)** was a special unit which provided consultation for network hospitals that lacked of ICU consultants. All of the hospitals in this system used the same IT program which allowed the ICU consultants at Mayo clinic to examine the patients' progression and give orders directly from Mayo clinic to those hospitals.
- **Operating rooms (OR)** consisted of various type of operations such as orthopedics, plastic surgery, CVT, general surgery. There were many different Anesthesia personnels working in the OR including consultant staffs, nurse anesthetist (CRNA), nurse anesthetist students, residents, and fellows.
- **Respiratory therapists (RTs)** were responsible for taking care all about respiratory system of the patients such as mechanical ventilation, high flow nasal cannula, NIV, chest PT.

From my observation, there were some differences between Siriraj hospital and Mayo clinic. Firstly, the members of ICU team round at Mayo clinic consisted of multidisciplinary personnel including ICU physician, critical care registered nurse (CCRN), pharmacist, dietitian and respiratory therapist which attributed to achieve holistic care of the patients. Secondly, most of the medical recording system were electronic which made it very easy for data management and also very useful in term of research data gathering. Thirdly, the main communication method was using pagers which was very convenient, effective and most importantly kept privacy of the employees. Fourthly, Mayo clinic paid a major concern for benefits of the employees. There were many facilities provided for the employees such as employees' cafeteria which sold food with cheaper price and non-employees were not allowed to enter. The ID card of Mayo employee can be used to get special discount from lots of shops and restaurants in Rochester. For all of consultants, there were free beverages and light meal provided in the staff lounges. Lastly, the great thing that I was really appreciated was the culture that Mayo people treated the others with respectful manner.

However, there were also similar things between Mayo clinic and Siriraj hospital. We set the benefits and safety of the patients as the first priority. We had a very strong organization cultures. We were proud to be a part of our own hospitals. And finally, we kept continue developing to be an excellent center and be a role model in healthcare system of the country.

Benefits

There were lots of benefits gained from my visit. As a clinical fellow, I learned a lot about ICU management and ECMO practice which made me more confident to take care of my patients with more complicate problems. As a clinical instructor, I learned many good things about how to conduct an effective teaching, how to deal with difficult decision makings, how to give feedback appropriately and how to be an impressive leader. An education atmosphere was very impressive at Mayo clinic. I wish to create this kind of atmosphere to happen in my class in the future. My proposal for development of our hospital was to establish the ECMO specialist team which should be consisted of multidisciplinary department including CVT surgeons, perfusionists, anesthesiologists, intensivists, pulmonologists, cardiologists, and pharmacists. This team will be responsible for all of ECMO practices in Siriraj hospital. And we should have the registry of ECMO patients which will be beneficial for quality improvement and research.

Life in abroad

I rented a house owned by Thai people who have been studying in Plastic surgery residency program at Mayo clinic. In this house, there were 5 people living together 3 from Thailand, 1 from India, and 1 from Argentina. We became friends eventually and had a good time together. The house was 2 blocks away from the hospital that allowed me to walk to work every day. In the afternoon, when I came back home around 4-5pm, the sun was still shining until 8pm so I went out for running very often. My friends and I usually cooked Thai food by ourselves at home. On the weekend, we drove to the nearest big city, Minneapolis, which is 1.30 hours away from Rochester. We also visited Chicago, the third biggest city in USA. Both cities were amazing. We really enjoyed our trips. I have learned lots of American cultures such as tips payment for every service, discipline in lining up, eating culture in the restaurant etc. In summary, I had a great memorable moment from my first-time visit to USA.

Future plan

As mentioned earlier, after finishing fellowship program, I will be an attending staff covering for the surgical ICU at Siriraj hospital. If I have a good opportunity, I will definitely go abroad for further study which Mayo clinic is one of the best choices I will try to visit again.

Recommendations

For those who are interested in ECMO practice or Critical Care Medicine, I highly recommend to visit Mayo Clinic. What Mayo clinic provide you is not only the knowledge but also an inspiration to keep improving yourself to become better. This exchange program gives a lot of contributions for residents/fellows who have a good intention to visit international hospital. It is provided for everyone, so I would like to invite everyone who has an interest to join this program.