

# *Surgery in Thailand*

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## ***Special Article***

In 1837, an American doctor by the name of Dr. Dan B. Bradley took nearly a year to travel from Boston to Bangkok via Cape of Good Hope. He worked as a missionary in Thailand. In addition to preparing himself to spread Christianity, Dr. Bradley planned to bring knowledge in the field of modern medicine for the benefit of the Thai people. There is a story about a temple fair at Wat Prayurawongse in Bangkok, where an ancient gun was brought for stuffing gunpowder for fireworks. It so happened that the gun accidentally exploded, causing several casualties. A Buddhist monk was injured in his arm. Dr. Bradley used a hemostat for the first time in Thailand, and was able to remove the tattered arm without using anaesthetic. The monk was cured and survived.<sup>1</sup> The incident was recorded as the very first case of modern surgery in Thailand. The Chronicle also recorded another incident when a co-worker, also a missionary, had a bleeding per vagina. Dr. Bradley performed blood transfusion for the first time in Thailand. It was not specified whether it was direct or indirect blood transfusion. Unfortunately the patient did not survive. Dr. Bradley also brought to Thailand equipment and

supplies for use in dental treatments, and also vaccine against small pox. What should be mentioned here as well, and what is still being referred to often in the journalistic circle in Thailand today, is that Dr. Bradley, who brought in the first printing press to Thailand, published the first newspaper called "Bangkok Recorder".

In 1848 another American surgeon, Dr. Samuel R. House, brought ether to Thailand, two years after Dr. Morton introduced the use of ether to the medical practice in Boston. There is a story about a woman whose leg was pierced by a bamboo rod which could not be removed. Dr. House used ether as anaesthetic, and pulled the bamboo splinter out of the woman's leg. In 1880 chloroform was introduced to Thai medicine by Dr. Canber from the U.K.

Our elders told us that Dr. House travelled to Tern District in Lampang Province in the north of Thailand. In those days elephants were the means of transport in the north, and they were used also as beasts of burden for lifting logs in the forests. In other words, they did the work of tractors of the present day. It was not clear what actually happened, but Dr. Samuel

House was pierced in the abdomen by an elephant's tusk. His intestines came out. Realizing that he was the only doctor around, he plucked up his courage, pushed his intestines into the abdomen, and sewed it all up himself. The self-surgery was a success. Dr. Samuel R. House recovered and survived.

Another story passed on to our generation was about a Thai male of Chinese ancestry by the name of Tien Hee who was very diligent, hard working and intelligent. Nowadays he would be called a young man full of drive. He received support for further medical study at a university in New York, and was the first Thai who was awarded a medical degree from the United States. He returned to work in Thailand in an important position as senior medical doctor in the Royal Thai Army. It may be noted that at that time there was as yet no Ministry of Public Health. Dr. Tien Hee served as a medical doctor attached to the army which was sent to quell the Haw Rebellion in the northeast of Thailand. He then served in the Ministry of Agriculture and Ministry of Interior. He was bestowed upon by King Chulalongkorn the title of Phya Sarasin Sawamipak. He was the father of His Excellency Mr. Pote Sarasin, former Prime Minister of Thailand. His descendants continued to prosper in Thailand and served the country in various prominent positions.

The year 1889 was a significant turning point in the medical history of Thailand. It was the year when King Chulalongkorn, or King Rama V, established Siriraj Hospital, and opened a medical school to teach non-degree physician. An American missionary by the name of Howard Heys was an instructor at Siriraj Hospital. He found it quite difficult to communicate with his students, since he could not study the Thai language like his fellow missionaries. Consequently Dr. Heys held only one position, that of Surgeon General of the Royal Thai Navy, and stayed in Thailand only for a short period. Another person of American ancestry, born into a missionary family in Thailand, was Dr. George Bradley McFarland, who was delivered into this world by Dr. Dan Bradley. He studied medicine in the United States, and after graduation he returned to Thailand. Since he could speak Thai like a Thai, he became very well known in the medical circle in Thailand. He was interested in urology, and he performed numerous surgeries to remove stones from urinary bladders. Later on, King Chulalongkorn bestowed upon Dr. McFarland the

title of Phra Arj Vidyakom. This gentleman had a beautiful daughter who married Dr. McGillvary who was a missionary, but not a medical doctor. He worked in Chiang Mai in the north of Thailand. Although he was not a medical person, he took interest in medical services for the public. He distributed quinine to the people. The medicine given became known among villagers as "A.M." tablet which was an abbreviation of "American Missionary" tablet. He was the main mover behind the establishment of the largest missionary hospital in the north of Thailand, called "McCormick Hospital" in Chiang Mai, which received support from Mrs. Syrus McCormick, a wealthy philanthropist of Chicago. This hospital became closely associated with the father of our present King of Thailand. When McCormick Hospital was completed, another missionary by the name of Dr. Edwin E. Cort was invited to serve as a full-time doctor. He was a famous surgeon who found out that in Thailand at that time people who suffered from appendicitis rarely survived. He was known as the doctor who did the most in preventive appendectomy. He started a medical school in Thailand, but not a degree granting one. Afterwards, when the Rockefeller Foundation, which has played a very important part in the development of modern medicine in Thailand, began providing support to build a medical school in Bangkok, Dr. Cort's medical school automatically closed down, since by then the policy was to produce only physicians with degrees. The period covered so far was the first phase of modern medical service in Thailand.

What followed may be regarded as a first jumping step of medical service in Thailand, spearheaded by a person known as the Father of Modern Medicine of Thailand. Mr. Mahidol was the name he used while he was a medical student at Harvard Medical School in Boston. He was the father of our beloved present King Bhumibol Adulyadej the Great. The short biography of this distinguished personality is as follows. He was one of the royal sons of King Chulalongkorn the Great, and was an elder brother of King Prachathipok, or King Rama VII. King Chulalongkorn's reign was of the same period as that of Emperor Meiji of Japan. King Chulalongkorn began opening Thailand's door to the world by making personal visits to other countries in Europe. He sent his sons to be educated abroad in various fields. Prince Mahidol received his education firstly at a Naval College in Germany. He returned



home to serve in the Royal Thai Navy for a short period. He later sought and was granted permission from his father to study public health at Harvard University. It was there that he met a young nurse, a commoner, whom he later married. They had one daughter and two sons. Both the sons came to the throne successively as King Rama VIII and King Rama IX, the present King Bhumibol Adulyadej the Great.

The aforementioned nurse became the "Princess Mother", Princess Srinakarind, or "Somdej Ya" to all Thai. Her life-long work was devoted to the welfare and health of the Thai people in rural areas throughout the Kingdom. She is now known as "The Mother of Modern Public Health of Thailand".

The only daughter of "The Princess Mother", Princess Galyani Vadhana is now diligently carrying on the work that her mother had started. Moreover, she has expanded support to other areas of medicine such as Nephrology, Diseases of the Breast, etc.

Planning to improve the health service of the country, Prince Mahidol established collaboration with the Rockefeller Foundation for financial, academic and personnel assistance. Moreover, he used and donated personal funds to assist in the development of medical service in Thailand, by setting up "Siriraj Hospital" in 1889. The assistance rendered by the Rockefeller Foundation was in the form of grants for medical studies abroad. The Foundation provided the services of a surgeon who contributed immensely to the evolution of surgery in Thailand. His name was Dr. T.B. Nobel, an Irish surgeon from Edinburgh who was then working at Mayo Clinic. He was sent to Thailand to teach surgery, and considerable progress was made in this area. He taught the principles of antiseptic techniques, the use of surgical gloves and gowns, the technique of sterilization, the technique of intravenous fluid. In addition, he made improvements by dividing surgery into specialized areas such as orthopedics, ophthalmology, otolaryngology, and urology.<sup>2</sup> The foundation laid by Dr. Nobel was carried on by surgeons who received grants to study abroad from the Rockefeller Foundation and returned to work in Thailand. As a result, the medical education teaching by the medical school in Thailand gradually attained an international standard.

After graduating with a Magna Cum Laude from Harvard Medical School, Prince Mahidol came back to Thailand and once again found that his royal rank

restricted him from practising medicine like ordinary doctors. He therefore sought and was granted permission from his father to go to work at McCormick Hospital, an American missionary hospital in Chiang Mai referred to earlier on. He worked with Dr. Cort. After three months there he suffered from amoebic dysentery which later developed into amoebic liver abscess. At that time the most potent medicine to cure amoebic dysentery was Emetine. Most unfortunately, he was allergic to this medication. The Chronicle recorded that after one shot of Emetine, his blood pressure dropped. He finally passed away when he was only 37 years old. It was indeed a great loss to the medical circle in Thailand.

On every 24th of September, the date of the demise of the Father of Modern Medicine of Thailand, people from all walks of life, particularly those of the medical and nursing professions, still continue to pay homage to him at his statue at Siriraj Hospital, Mahidol University.

As for Dr. T.B. Nobel, he left Thailand in 1935. The last news that his students received was that he went to provide medical assistance to a country in Africa<sup>2</sup>. Nothing more was heard of him. His benevolent seeds still remain imprinted in the memories of doctors, particularly of surgeons in Thailand.

The progress of modern medicine in Thailand began to produce results of the co-operation of Rockefeller Foundation and the industriousness of the Royal Father Prince Mahidol. It was unfortunate that, at that time most of the medical equipment had to be purchased from abroad. In 1939, war erupted in Europe and showed signs of becoming more disastrous. There was a shortage of equipment and supplies. Foreign medical instructors started to leave Thailand to return to their home countries. Thai medical students started returning to Thailand. As a result, there were considerable changes at all levels of the medical service in Thailand.

On December 8, 1941, war started in East Asia when the Japanese army invaded Thailand. Surgery began to have a significant role during that war, especially in treating the wounded. Medical personnel were recruited into the Armed Forces. There was real shortage of medical equipment and supplies. Thailand entered into an alliance with Japan, resulting in heavier damages and casualties from air-raids made by Great Britain and the United States. It was the period



when progress in the field of surgery came to an abrupt halt.

On August 6, 1945, World War II was over and the reconstruction period witnessed the revival of surgery in Thailand. Thai doctors who were stranded in Europe and the United States began to return home. It was they who started reviving and spearheading surgery. Clear-cut arrangements were introduced into the medical school, based not only on the needs of the medical service, but also on the requirements of positions and personnel. The outcome was the establishment in 1957 of the second medical school in Chulalongkorn University.

When the world situation became stabilized, the United States opened its door to receive more medical graduates from overseas. These doctors were given assistance from various organizations such as the China Medical Board, a subsidiary of the Rockefeller Foundation, which also provided grants to the Medical Faculty of Siriraj Hospital to set up a medical library, the largest of its kind in Thailand today.

Mention must be made of another American surgeon who played a very important part in the development of surgery in Thailand. He is Dr. Ben Eiseman. In 1954 this young surgeon came to visit Thailand. He was full of enthusiasm, and gave considerable assistance to Thailand. He raised funds for Thai surgeons to take up postgraduate studies at prestigious medical schools in the United States. These surgeons returned home and became the driving force behind the strengthening of the surgical field in Thailand. Dr. Eiseman was awarded an honorary membership of the Royal College of Surgeons of Thailand in 1986.

At the end of World War II, Washington University, with the support of the US Government signed an agreement with the Thai Government to assist the Thai medical services by an exchange of medical personnel. Prof. Eiseman was appointed Director of the project. About 30-40 Thai medical teachers were sent for training at Washington University, and a number of American teachers were invited to our medical schools to work with the Thai counterparts. As Director of the program, Prof. Eiseman spent 3 months in the remote areas of Thailand, visiting many hospitals to study the problems of medical service.

The project made a considerable impact on the progress of Medicine and Surgery of our country.

After the end of the project, Prof. Eiseman continued to give a helping hand to many of our surgeons who wished to further their studies in the U.S.

There was then a gradual increase in the number of surgeons graduated from the United States, Great Britain and Europe, particularly from Germany. On their return they shared the same view that there should be a consolidated body of surgeons who were working in all parts of the country.

In 1975, after its establishment, the Royal College of Surgeons of Thailand (RCST) began its training programs in specialty areas of surgery which had previously been undertaken by the Medical Council. However, being a government organization, this responsibility of RCST comes together with the advice of the Medical Council of Thailand. Post-graduate surgical training was set up to receive three years of training, regardless of the sub-specialty.

There were two main reasons for the three-year time frame; one is that the Medical Council wants the RCST to train specialists for the caring of patients in accordance with local needs, and the second is that the pay scale of all certified specialists who work for the government is related to the number of years of training. Many founding members of the RCST at that time did not agree to the three-year training for all specialties. To get the ball rolling at the beginning, the RCST accepted the mandate. As years passed by graduates from the three-year training program has shown their training inadequacy, especially those who entered academic career.

T. Uttaravichian, President of the RCST published an article "Post-Graduate Education in Surgery in Thailand" in 1993, proposing various categories of training programs in surgery and its related specialties. This article was another stimulus for a change of the surgical training program. The author advises those who are interested to read his article.<sup>3</sup>

In 1998, The Executive Board of the RCST decided and changed the training program starting in May 1999. Surgeons of various specialties will take longer to complete the program. For example, general surgery takes four years, with an obligation to be Chief Resident in the final year. Those in the fields of urology and orthopaedics have to study general surgery for one year, and the other three years in specialized fields. Coloproctology requires four years of general surgery and another one year of subspecialty



training to be qualified in two specialities. Cardio-thoracic surgery requires at least three years of general surgery, then two years in cardiothoracic training. It may be seen that at present, the training program in surgery in Thailand has attained the international standard.

There are three Colleges of Surgeons in Thailand at the present time.

The oldest College in Thailand was the International College of Surgeons, which was set up in Thailand in 1954 under the leadership of Dr. Luang Nij Vejavisit, who was then the Director-General of the Department of Medicine, Ministry of Public Health. He was the first President of the International College of Surgeons, Thailand.

The Fellows of the International College of Surgeons were mostly doctors under the jurisdiction of the Ministry of Public Health. The number of Fellows of the International College of Surgeons is currently quite large, totally about 600.

In 1969, the American College of Surgeons came into existence in Thailand. At that time, Prof. Dr. Udom Poshakrisna was the leader and was the first Governor of the American College of Surgeons, Thailand. Academic activities have continued since then. In the following years, successive Governors were:

1969-1974 Prof. Dr. Udom Poshakrishna

1975-1980 Prof. Dr. Kasarn Chartikavanij

1981-1986 Lieutenant General Dr. Thamrongrat Keokarn

1987-1989 Dr. Thongdee Shaipanich

1990-1995 Dr. Prinya Sakiyalak

1996-1998 Dr. Chinda Suwanraks

Currently (1999-2001) Lieutenant General Dr. Naronk Rodwana is serving his term of Governor for Thailand.

In 1988, while Dr. Thongdee Shaipanich was Governor, it was possible to organize an Overseas Meeting of the ACS in Asia for the first time at the Shangrila Hotel, Bangkok, Thailand. High-level executives of the American College of Surgeons and Fellows attended the meeting in large numbers. Efforts had since been made to raise the status of the ACS Thailand to an ACS Chapter. It was then in 1997 at the 83rd Clinical Congress in Chicago that the ACS Thailand has officially become the Thailand Chapter, being the 28th Chapter outside the USA following the

Israel Chapter.

There is an interesting story that should be made known to surgeons. During the Second World War, an Australian prisoner of war who was then a young physician was captured by the Japanese army, and was forced to join other prisoners to build a bridge across the Kwai River in Kanchanaburi Province. During the ordeal, a young doctor met a Thai young man named Boonpong Vejabhan. The friendship blossomed between the Australian and the Thai, and was long-lasting. After World War II, the Australian, whose name was Edward "Weary" Dunlop, survived the war and returned to Australia. He was trained in General Surgery specializing in liver diseases. As regards Boonpong, he was successful as a businessman (owner of the Boonpong Bus Company), and was financially secure.

This Thai male and his Australian friend set up a Dunlop-Boonpong Exchange Fellowship Program in 1987 in support of Thai surgeons going to study surgery in Australia. Up to now, altogether 36 Thai surgeons have benefited from this program. The activities financed by the Dunlop-Boonpong Fund are still continuing. Dr. Dunlop was later knighted Sir Edward Dunlop. He died in 1993 at the age of 85.

The author of this report recalls that in 1956, Dr. Dunlop visited Thailand and brought along with him an Australian anaesthesiologist. Dr. Dunlop performed an end-to-side portocaval shunt at Siriraj Hospital, assisted by Prof. Dr. Okas Balangura and the author. It was the first portocaval shunt that was done in the Kingdom. The author cannot recall for how long the patient survived.

It may be seen that the history of surgery in Thailand began when Dr. Dan B. Bradley came to Thailand. This has gradually developed and prospered until today. Our readers will observe that it has taken almost 200 years for surgery in Thailand to succeed in attaining the international standard today.

#### ACKNOWLEDGEMENT

*The author wishes to express his gratitude to Professor Sem Pring-Paung-Goe a learned mind who possesses volumes of knowledge on the history of Thai surgery. He kindly spent hours of his precious time with the author, sharing his*

*knowledge and memories for which most of the contents in this article are derived. Special thanks also go to Professor Thira Limsila who kindly supplied information regarding the International College of Surgeons and the Dunlop-Boonpong Fellowship Exchange Program. The author also thanks Professor Vibul Sachakul for providing information regarding the present training program of surgery in our country.*

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