

## **History of Ningen Dock**

(Honorary Director, Ashikaga Red Cross Hospital)

In 2009, we are celebrating the 50<sup>th</sup> anniversary of the founding of Japan Society of Ningen Dock.

On a humid day in August 1959, the Short-term Ningen Dock Study Group (two days Ningen Dock) was inaugurated in a rather small conference room at St. Luke's International Hospital. Apparently it was like being in a steam bath as there were no air-conditioners at the time, and the room only had a ceiling fan. There were around 30 persons at the meeting, who wore open-necked shirts, waved fans in front of themselves and wiped their sweat away. However, Hirotoishi Hashimoto, President of the Japan Hospital Association and Director of St. Luke's International Hospital, who made the opening remarks, was formally dressed in a suit and wearing a necktie. In them, he said that health examinations, i.e. Ningen Dock, would come to occupy an important place in Japanese medical care. Following this, there were discussions on the examination schedule for the two days Ningen Dock, checking of test procedures and accuracy management. Then, there was training in the diagnosis of diabetes by Akira Horiuchi, Director of Saiseikai Central Hospital, and interpretation of electrocardiograms by Shigeaki Hinohara, Head of Internal Medicine at St. Luke's Hospital. This was effectively the 1<sup>st</sup> meeting of Japan Society of Ningen Dock and it was decided to have a meeting in August every year thereafter.

The term Ningen Dock (or human dry dock) saw its beginnings in the early years of the Showa Period (1925 – 1989) when Japan had 2 major political parties – Friends of Constitutional Government and Constitutional Democratic Party. At the time, there were powerful ultra-rightist tendencies in the army and frequent incidences of terrorism. In the May 15 incident of 1932, Prime Minister Tsuyoshi Inukai was assassinated and then Minister of Finance Korekiyo Takahashi in the February 26 incident of 1936 so it was very risky being at politician at the time. Then, in 1938, Yukio Sakurachi and Magoichi Tawara of the Constitutional Democratic Party were admitted to Professor Kozo Sakaguchi's Clinic in the University of Tokyo's Department of Internal Medicine for a week with the purpose of giving them health check-ups, and held a press

conference beforehand to prevent their opponents from spreading rumors that they were seriously ill. Their hospital stays were compared to “a ship returning to its home port and going into dry dock to inspect its bottom and screw for damage, perform maintenance for its engine and other equipment, and give the crew a rest, in preparation for the next voyage”. As a result many prominent persons in the political and business worlds started going to Professor Sakaguchi’s clinic for health check-ups. However, the political situation continued to worsen, bringing about the dissolution of political parties and collapse of party politics. This eventually led to the outbreak of a disastrous war in which Japan suffered defeat and large areas of its cities were destroyed.

In the 10 years after the Second World War, Japan began to see a miraculous economic recovery, on the back of the Korean War in 1950. In 1954, Prof. Sakaguchi left his position at the University of Tokyo and moved to The First Tokyo National Hospital where he set up a Ningen Dock in response to requests from business and political leaders. In the same year, Hiroto Hashimoto, 2<sup>nd</sup> President of the Japan Hospital Association called on association member hospitals to set up Ningen Dock-style health check-up facilities, and they spread all over the country. At the time, it cost ¥12,000 for 6 days which, at 3 – 4 months of a civil servant’s starting salary, was very expensive. Ordinary people apparently called it “bourdock” (short for bourgeois dock).

Then, St. Luke’s International Hospital, the Police Hospital and Saiseikai Central Hospital conducted a pilot study to determine the feasibility of busy businessmen undergoing a two days Ningen Dock. Together with the National Federation of Health Insurance Societies, they determined the tests and charges for a two days dock that was called “Short-term Ningen Dock” and a system under which excellent facilities that passed the Japan Hospital Association’s implementation survey were recommended to the National Federation of Health Insurance Societies was established. Three young men – Toyoaki Suzuki of the Police Hospital (deceased), Tadahisa Ozeki of Kyoto Second Red Cross Hospital and Norio Sasamori of Makita General Hospital - played a central role in achieving the spread of the two days Ningen Dock.

At first, only wealthy people such as company presidents used Ningen Dock but with Japan’s high economic growth, its customers expanded to include company directors

and then department heads. Furthermore, advances in automated blood analyzers and other testing apparatus reduced costs and time, which stimulated rapid growth in the use of Ningen Dock by bringing it within the reach of ordinary company employees and the general public.

In Japan, Ningen Dock came to mean health examinations with the objectives of diagnosing disease and promoting good health, and was listed in encyclopedias as a common term. In the last 50 years, due to the major progress that has been made in medicine, major changes in tests as prevalent diseases have changed and advances in testing equipment, the one day Ningen Dock is now the main type.

In the history of preventive medicine in Japan over the last 50 years, there have been 3 distinct phases. The first one involved Shibasaburo Kitasato and Kanehiro Takaki. In less than 50 years after the Meiji Restoration (1868), medicine in Japan was on a par with that in Europe and the US and many great achievements were made. Young Japanese medical scientists went to study at laboratories in Europe and the US, in particular that of Robert Koch in Germany, and were later prominent players in the field of pathogenic microbiology, among them Shibasuro Kitasato (developed bacterial exotoxins and vaccines for tetanus and diphtheria bacteria, discovered plague bacillus), Sahachiro Hata (discovered salvarsan), and Kiyoshi Shiga (discovered dysentery bacillus). Hideo Noguchi, who died in Africa while researching yellow fever, is much mentioned in elementary schoolbooks, stories and ballads as a great Japanese, and appears on the ¥1,000 bill, but Kitasato and Takaki are much better known than him in medical circles in Europe and the US.

In the Meiji Period the most debilitating disease in Japan was not tuberculosis but beriberi, which was widespread among the wealthy and in the army. In his thesis "Bacterial Theory of Beriberi" published in 1885, Masanori Ogata, a top professor in the University of Tokyo's Department of Medicine, criticized the ideas of Kitasato, who was working at Koch's laboratory, and this gave rise to the so-called "Beriberi Bacterial Theory Controversy". The strong controversy between Prof. Ogata and Rintaro Mori (Ogai), Chief Army Surgeon, who were proponents of the bacterial theory, and Kanehiro Takaki, Chief Naval Surgeon, and Kitasato, who advocated the dietary theory, lasted 30 years. To gather evidence for the dietary theory, Takaki focused on the fact that there was little beriberi in the British Navy and conducted a full-scale comparative

study on 2 battleships on a training voyage. On one of them, the Tsukuba, a British style vegetable rich diet was adopted for the crew and on the other, the Ryujo, they ate the Japanese military diet based largely on white rice. After 100 days, no one on the Tsukuba had beriberi but on the Ryujo, half of the crew had the disease and 20% of them died. Afterwards, the vegetable rich diet proposed by Takaki was introduced by the navy and dramatically reduced the incidence of beriberi.

The experiment marked the beginning of comparative clinical trials and dietary therapy in the world and it is amazing that Takaki had had the foresight to carry it out at the time. To commemorate this great achievement, a peninsula in the world's shared continent of Antarctica was named Takaki Promontory. Takaki is the only Japanese to have a peninsula in Antarctica named after him. However, it is a pity that he is not known as a medical professional. Afterwards, Takaki founded Jikei University School of Medicine where he took the lead in teaching the importance of dietary therapy. We could say that our current specific health examinations and specific health guidance are the fruits of seeds Takaki sowed 100 years ago. The discovery of vitamin B (orizinin) by Professor Umetaro Suzuki of the Faculty of Agriculture of the University of Tokyo in 1911 brought the beriberi controversy to an end. In 1916, Rintaro Mori resigned from his position as Chief Army Surgeon to become the great writer Ogai Mori.

It is largely unknown that Shibasaburo Kitasato was nominated to receive the first Nobel Prize for Medicine in 1901 for his work in vaccine development but was then deemed to be disqualified due to the beriberi controversy, and so his research partner E. Behring received it alone. In 1892, he set up a research institute for infectious diseases at the residence of Yukichi Fukuzawa and in 1917, established Keio University's School of Medicine. Thus, 100 years ago, Japan had already started on the path to become one of the top countries in the world for preventive medicine. Takaki and Kitasato are 2 brilliant figures in preventive medicine that the Japan can be proud of.

The 2<sup>nd</sup> phase in preventive medicine featured the spread of Ningen Dock that began in 1954. Though some academics say that health check-ups started in the US, their purpose was to determine premiums for health insurance and life insurance companies so we could say that they were purely market driven. Examinees were not sufficiently informed of the results and they were thus unlike the Ningen Dock conducted in Japan which are done from the standpoint of the examinee.

The major feature of the 3<sup>rd</sup> phase is the implementation of Specific Health Examinations and Specific Health Guidance which started as a national project. In the 21<sup>st</sup> century, health examinations will play a major role in preventing diseases and promoting health in the Japanese people. As of October 2008, Japan Society of Ningen Dock had 6797 members, there were 2804 Ningen Dock certified doctors and 215 Ningen Dock certified facilities. Their numbers continue to steadily increase. Last year, the scientific meeting of Japan Society of Ningen Dock had over 7000 participants. The Society responds to the needs of the times with regard to constant changes in disease prevalence by introducing new tests and testing methods, and is determined not to lose sight of our principle that health examinations are first and foremost for the benefit of the public.