

# A history of otorhinolaryngology in Japan and China

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## EARLY JAPANESE MEDICINE

In Japan, the earliest form of medicine was ancient magic. Japanese medicine was influenced by that of Korea at the beginning of the 5th century (A.D. 414-562), China in the middle of the 6th century, Portugal in the 16th century and The Netherlands in the middle of the 17th century (from 1664 onwards). To trace the early history of otorhinolaryngology in Japan, we have to start with what Japan learned about otorhinolaryngology from Chinese medicine.

The progress of medicine in ancient Japan can be traced from primitive folk medicine advancing into empirical medical treatment, later shifting to the so-called mystical medicine, which chiefly consisted of prayers and incantation.

## ANCIENT KOREAN MEDICINE

Korean medicine was introduced at the beginning of the 5th century, followed by medicine from China which came to Japan with Buddhism in the 7th century. Thereafter, the influence of Chinese medicine in Japan lasted for over one thousand years (from A.D. 562). Chinese medicine was based on the ideas of natural philosophy and consisted chiefly of internal medicine, employing no surgical techniques. Korea, which bordered the cultural area of ancient China, was influenced by Chinese culture in earlier times and was more advanced than Japan in the field of medicine. In A.D. 414, a physician, Kim Wu, was invited from Silla, Korea to Japan to cure the disease of the emperor. At that time, the term medicine was first introduced to the country. Thereafter, Korean medicine played a substantial role in Japan, ushering in a new phase of traditional medicine. In A.D. 538, Buddhism was introduced from Korea. The medicine progressed further under the influence of Buddhism.

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#### ANCIENT CHINESE MEDICINE

Chinese medicine has a very long history. Since ancient times, many stories about excellent physicians have been handed down. Medical monographs titled "Shinno Honzokyo" (Shinno is a festival) or "Huang-ti Naikyo" (a Chinese emperor) are thought to have been written in ancient times. Numerous medical monographs have been handed down, although they do not necessarily retain their original contents.

The Sui Dynasty lasted only for 37 years. A famous monograph written in this period is the "Ping Yüan Hou Lun" compiled by Jsua Yuan Tan in about A.D. 610. This monograph affected Japanese medicine for many years. In A.D. 608, Japan began to establish embassies in China in the Sui and Tang Dynasties thus acquiring an opportunity to directly learn Chinese medicine on which Korean medicine was based. Through the acquisition of Chinese medicine, Japanese medicine was suddenly enlivened.

There were monthly, seasonal and yearly examinations for all the students. The final examination before graduation was held on a probationary basis. In the third year of the Reign of Zhen-guan of the Tang Dynasty (A.D. 629), districts began to set up "Medical Schools" (Table 1) (Source: Essential Facts of Tang Dynasty, Vol. 82: Art of Healing). In the first year of the Reign of Kaiyuan (A.D. 713) the districts began to assign assistant teachers (Source: History of Tang Dynasty, Vol. 49: Records of Officials). In the 11th year of the Reign of Kaiyuan, the districts began to appoint medical doctors.

Table 1. Departments of the Imperial Academy of Medicine in China

departments	years
medicine:	
physical treatment (internal medicine)	7
children's diseases (pediatrics)	5
boils and ulcers (surgery)	5
ear-eye-mouth-teeth	4
cupping (psychiatrics)	3
acupuncture	

The embassies in China in the Tang Dynasty imported culture and medicine from China Sui and Tan. In A.D. 623, students I-Kei Jitsu and others returned from Tang to Japan, and recommended to the Japanese government to send emissaries to Tang. Emisaries began to be sent to Tang in A.D. 630, and they were sent to China 18 times altogether until A.D. 894.

#### ANCIENT JAPANESE MEDICINE

Let us review the medical monographs, which were written in China in the Sui and Tang Ages. Wen-ti's unification of China in the Sui Age brought about a

renaissance in China. It is said that over one hundred medical monographs were written in the Sui and Tang Ages, but most of them have been lost. A Japanese medical monograph "Ishinpo", written by Tanba Yasuyori in A.D. 984 and currently available, quoted the contents of these Chinese medical monographs. Medicine made substantial progress in the Tang Age.

Of the medical monographs written in the Sui and Tang Ages, the following are currently available:

"*Ping Yüan Hou Lun*": Compiled by Tsau Yuan Tan in the Diago Era of Sui at the instruction of the emperor Yang-ti, consisting of 50 volumes.

"*Chieh ching fang*": Compiled by Sun Szu-Mido (a celebrated physician, 581-682).

"*Gedai Hi Yoho*": Compiled by Wang Hsi and published in the Tenpo Era (742-755) of Tang.

In Japan, the first medical care system was established following the formulation of the Taiho legal code in 702. This legal code, which was based on the Tang code, contained a code of medical treatment that required each province to give medical education. According to this system, the duration of education was seven years for internal medicine, five years for surgery and pediatrics and four years for otology, ophthalmology, oral medicine and dentistry.

#### NARA PERIOD (710-791)

In the Nara Period Chinese medicine was continuously practiced in Japan, and Buddhism spread more widely. Thus, priests having medical knowledge and skills participated actively in medical practice in this period. One person representative of them is Jian Zen who came from China to Japan in 754. He founded a temple, Toshodaiji, in Nara, in 759.

#### HEIAN PERIOD (795-1192)

In the Heian Period also, medical knowledge introduced from Sui and Tang Dynasties was quite widely used in Japan. The book "Tenrei Bansho Meigi" written by Kukai in A.D. 830, can be regarded as the first otorhinological dictionary in Japan, because it contains a chapter on ears. This book was written based on the Chinese book "Gyokuhen" (Laing, A.D. 543). Names of otorhinological diseases are also found in the chapters on ears and on the nose in the first lexicon of classical Chinese explained in Japanese, "Shinsen Jikyo" (Shokei, around A.D. 900). The book "Nihonkoku Kenzaisho Mokuroku" written in about A.D. 900 contains a list of 166 medical books (1309 volumes altogether).

"Ishinpo" (compiled by Yasuyori Tanba in 984) is a voluminous work which summarized the Chinese medical works published in the Sui and Tang Dynasties. The classification adopted by this book is similar to that adopted by "Ping Yüan Hou Lun" (written by Tsau Yuan Tan). Descriptions were given on a

per disease basis. "Ping Yüan Hou Lun" contains the names of otorhinolaryngological diseases together with the names of many other diseases.

Yasuyori Tanba (A.D. 912-995), made very valuable achievements by his book "Ishinpo" in which he described the following diseases: deafness, tinnitus, otorrhoea, ear wax, acne rosacea, nasal congestion, pituita, nasal polyp, nasal haemorrhage, foreign bodies at various sites, laryngopharyngitis, etc. It is noteworthy that he made separate explanations for the diseases seen in children or women. "Ishinpo" refers to the treatment of nasal polyps which chiefly employed the techniques of internal medicine. It seems that Tanba wrote this book after reading numerous Chinese medical works. It is praiseworthy that he did not simply mimic the Chinese works, but modified them so that they might fit the conditions in Japan.

In this way, Chinese medicine was taught and Japanized as much as possible in Japan. In those days, however, many members of royalty and aristocracy still believed that diseases were caused by evil spirits. One example of such a widespread belief is found in a story contained in a book titled "Hyakurensho" (Chapter "Year 1003"). The story says that a foreign body which blocked the nasal cavity of a princess was removed by the prayer of a priest, and that the priest was given a prize. As illustrated in this story, priests generally worked as physicians, and prayer played a major role in the medical practice in those days.

Masatada Tanba (1021-1088) selected the descriptions about emergency care from Chinese books and made them into a book titled "Iryakusho" in 1081. This book owes much to "Ishinpo". Methods of treatment for otorhinolaryngological diseases (nasal haemorrhage, foreign-body-caused diseases, etc.) described in this book are nothing more than temporizing treatments.

The Imperial Medical College had nine departments. A list of departments and the number of students during the Reign of Yuanfen (A.D. 1078-1085) is given in Table 2. Around the mid-Heian Period, the Sung Dynasty began in China. At that time,

Table 2. Departments and number of students during the Reign of Yuanfen (A.D. 1078-1085)

departments	number of students
internal medicine for adults	120
wind diseases	80
internal medicine for children	20
ophthalmology	20
ulcers, swellings, and fractures	20
obstetrics	10
oral, dental and throat infections	10
acupuncture	10
incised wounds and incantations	10
total	300

Chinese medicine of the Sung Dynasty began to be introduced into Japan. The medicine in those days consisted of a mixture of the medical concepts of the Sung Dynasty (five fates and six spirits) and the medical concepts of Buddhism (four major causes of diseases).

Toward the end of the Heian Period, the medical care system, stipulated by the Taiho legal code, fell into decay. In the Yuan Dynasty China, there were two famous physicians Li Kao (1180-1251) and Chu Cheng-heng.

Li-Chu was a physician in the Ming Dynasty and the medicine established by him and Li Tung Yuan (1180-1251), greatly affected Japanese medicine.

Li Kao proposed a new approach to medical treatment, improving the disadvantages of the conventional medicine with emphasis laid on the offensive methods of medical treatment. Chu Cheng-heng proposed his own theory after studying the ways of various schools including that of Liu, Chang and Liu's followers. He said that the essence of therapy is to suppress the positive and potentiate the negative. His medicine was called the "Yang-Yuan School".

Medicine, represented by the above-mentioned schools, was collectively called "Chin-Yuan medicine".

#### KAMAKURA PERIOD (1193-1333)

With the advent of the Kamakura Period, medicine began to be applied not only to aristocrats but also to common people. Physicians of non-aristocratic origin, appeared in this era. Medicine was still under the influence of the Chinese medicine of the Sung Dynasty. Jung Hsi (1141-1215), a priest and physician, wrote a book titled "Kisso Yojoki" in which he indicated the importance of tea drinking for the preservation of health and also discussed about the causes of diseases and their therapy.

In those days, the Kamakura Period, Shozen Kajiwara (1266-1337), a priest and physician, wrote "Ton-isho" (50 volumes, published in 1303) and "Man-anpo" (62 volumes, published in 1351). The former is the first medical book written in Japanese, which for the first time described the internal organs of the human body. At the same time, this book described the relationship of the diseases of the ears with the kidneys as well as the cautery therapy for nasal polyps. Originals of these two books have been found.

#### MUROMACHI (1334-1572) AND AZUCHI-MOMOYAMA (1573-1602) PERIODS

In the Muromachi and Azuchi-Momoyama Periods, the medicine of the Kamakura Period further advanced. Following the Onin War, surgery began to be practiced and empirical medicine gradually spread among common people, through the Li-Chu medicine, which was established by Chu Tan Hsi (1218-1258) (Figure 1). Li Tung Yuan (1180-1251) and his followers in Ming Dynasty China also greatly affected the Japanese medicine.



Figure 1. Chu Tan Hsi (1218–1258)

Sanki Tashiro (1465–1537) who studied in Ming for many years introduced the Li-Chu medicine (Chin-Yuan medicine) to Japan. His pupil Dosan Manase (1508–1595) revised the theoretically complicated Li-Chu medicine, thereby removing Buddhism-related medical concepts. In this way, he modified it into more practical medicine. He won a reputation for such medicine. He published a book “Keitekishu” and founded a private medical school “Keitekiin”.

Gensaku Manase (1549–1631), who succeeded Dosan Manabe, wrote “Igaku Tenshoki” (1608). This book described the symptoms of patients in detail. This is regarded to be the first medical record in the world.

#### EDO PERIOD (1603–1867)

In the Edo Period the Li-Chu medicine was the leading school in the field of internal medicine. However, Li-Chu medicine was later criticized as being too speculative and impracticable. In those days, the Tokugawa government began to adopt Confucianism and Confucianists began to espouse the importance of classical studies. This school was called “Kohoha”, while the conventional school was called “Goseiha”.

In the field of rhinology, a therapy for nasal polyps by which the polyp is removed using a cooled snare, was originally proposed by a Chinese physician Chen Shi Gun in his book “Wai ko cheng tung” (1615).

In the mid Edo Period Toyo Yamagata, a scholar of the Kohoha school which attached importance to empirical medicine, performed for the first time an autopsy of a human body in Japan. This was the start of modern anatomy in this country. Until that time, Japanese believed in the old anatomical ideas of Chinese origin. In this sense, Yamagata is initiative epoch-making. It was highly valuable that he unveiled the anatomical relationship between the trachea and the esophagus through autopsy. Under the influence of Yamagata, autopsies began to be carried out by various physicians. Shinto Kawaguchi did autopsies chiefly for the purpose of observing internal organs (particularly the relationship

between the mouth and the throat and between the nose and the throat). Through this study, Kawaguchi concluded that the trachea is located in front of the esophagus.

In China, otology and rhinology were unified with internal medicine or surgery (Sung Dynasty) while an independent department dealing with the mouth, teeth, throat and pharynx was started. In the Ming and Ch'ing Dynasties, pharyngology made a marked advancement. Chang Sung Liang wrote "Koka Shisho" in 1757 in the Ch'ing Dynasty, which was the first book solely discussing the medicine of this field. This work was introduced to Japan at the end of the mid Edo Period.

#### DUTCH INFLUENCE (1644-1861)

However, with the influence of European, especially Dutch culture, Japanese doctors had opportunities to gain European knowledge from Dutch doctors visiting Edo. Also the Japanese interpreters in Dejima could gain new knowledge from the doctors of Dutch factories. Thus new European knowledge spread in Japan. In 1695, Chinzan Narabayashi (1648-1711), an interpreter, published *Koigeka Soden*, which means "Dutch Surgery". From this time Dutch medical books were sometimes published in Japan. From 1720, Shogun Yoshimune permitted the import of European books. Thus, Rangaku or Dutch medicine gradually rose to prominence from this time.

Textbook of Anatomy in 1744 was a translation from "Ontleedkundige Tafelen" (1734), the original edition being "Anatomische Tafelen" written by John Adams Kulmus. One group of Japanese wanted this book to be published. When the *Kaitaishinsho* was published, the Japanese physicians began to adopt a logical way of thinking. Gentaku Otsuki (1757-1827) wrote *Rangaku Kaitei* which gave easy steps to Dutch studies. He was a disciple of Genpaku Sugita (1733-1817) and Ryotaku Maeno (1723-1803) (Figure 2). He completed the translation of the book on surgery written by Lorenz Heister (1683-1758), which Sugita had started to translate. Also in the field of otorhinolaryngology, many of the currently used anatomical terms in Japan originate from this book. This book contained very detailed descriptions of the history of surgery, referring to famous physicians such as Hippocrates, Galen and Vesalius. This was the first textbook of the European history of surgery published in Japan.

In 1794, Genshu Katakura succeeded in using a snare (a shaft of a writing brush threaded with the wire of a musical instrument "Samisen") for surgical treatment. This success was made prior to the report of successful nasal polyp surgery using a snare by Robertson (1805).

In 1823, Von Siebold, a physician, came to the Dutch House in Nagasaki. He founded a school named "Narutaki Gakusha" in 1824 where he gave lectures and medical treatment including surgery. Thus, he greatly contributed to advancement of practical medicine in Japan. There were many Japanese who gathered here to learn from him.

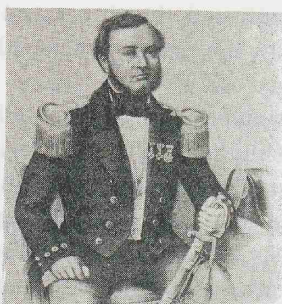


Figure 2. Ryotaku Maeno (1723–1803) Figure 3. Pompe van Meerdervoort (1829–1908)

One of them later founded a school named “Seitokukan” (renamed from “Nagasaki Yoseisho”) where teachers (Pompe van Meerdervoort, Boudouin and Mansfield) were invited from The Netherlands for medical education. In 1825, Itaru Nakagawa of Kyoto reprinted it under the title of “Koka Shido”. This book contained descriptions about causes and therapies for diseases of the throat and pharynx and promoted advancement in this field.

In May, 1857, Pompe van Meerdervoort (a Dutch naval surgeon; 1829–1908) came to Japan and taught medicine and science at the Nagasaki Naval Academy at the request of the Tokugawa Government until 1861. He was the first officially invited foreign physician (Figure 3).

#### MEIJI ERA (1868–1911); ADVANCEMENT IN OTORHINOLARYNGOLOGY

In March of the first year of the Meiji Era, the ban on Western medicine was lifted. Thus, Western medicine began to become openly adopted in Japan. In addition to Dutch medicine (since 1644) British and American medicine (since 1945) were introduced by Hepburn (U.S.A.) and Willis (U.K.). Thus, Japanese medicine became diversified.

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