Tidsskriftet Tidsskrift for Den norske legeforening

What does a Japanese gastrointestinal surgeon in Norway think?

ESSAY

KOSHI KUMAGAI

kumagai.koshi@kitasato-u.ac.jp
Koshi Kumagai, specialist in gastrointestinal surgery at Kitasato University School of Medicine, Kanagawa, Japan, and special adviser at the Department of Gastrointestinal Surgery at Haukeland University Hospital, Bergen from July 2022 to July 2023.
The author has completed the ICMJE form and declares no conflicts of interest.

The Japanese health service relies heavily on doctors, especially surgeons, working long hours. In Norway, there are challenges in developing and maintaining expertise in minimally invasive surgery due to the limited patient population and shorter working hours. Is there a golden middle ground for surgeons somewhere between Scandinavia and Japan?

I studied surgery and specialised in gastric cancer surgery at the Cancer Institute Hospital of the Japanese Foundation for Cancer Research in Tokyo, which has the highest volume of cancer treatment for most organs in Japan. I have performed about 100 gastrectomies every year. Due to my experience in minimally invasive gastrointestinal cancer surgery and robotic surgery, I was invited to serve as a special adviser to the Department of Gastrointestinal Surgery at Haukeland University Hospital in Bergen for one year starting in July 2022. In this essay, I will describe the current situation for surgeons in Japan and my thoughts about the future of minimally invasive gastrointestinal surgery in Norway.

Surgical training in Japan

Japan currently has 82 medical universities, and approximately 9000 new doctors graduate each year (1). Previously, students could start a surgical specialisation immediately after completing the medical licensing exam. However, in 2004, mandatory two-year training was introduced for doctors, who now rotate their way through departments for internal medicine, emergency medicine, surgery, paediatrics, obstetrics and gynaecology, psychiatry and public health, before starting specialist training.

Japan's system for specialising in surgery has three levels. General surgery constitutes the first level and requires at least three years at an educational institution, participation in at least 350 surgical procedures and passing a written exam. The second level entails organ-specific training in gastrointestinal surgery, thoracic surgery or cardiovascular surgery. To become a specialist in gastroenterological surgery, the applicant must have worked for at least four years at a dedicated educational institution and passed a further written exam. The third level involves further specialisation in oesophageal surgery or liver, gallbladder and pancreatic surgery after completing the first two levels. It takes 15–20 years to complete all three levels (2–4).

It is entirely possible to work as a surgeon without being a specialist, but specialist qualifications are required to hold a management position. A hospital without a licensed surgeon is not accredited as an educational institution and cannot recruit young doctors or students in training. Certification of doctors as specialists and hospitals as educational institutions is therefore vital.

Working conditions

In 2012, a survey was conducted among members of the Japan Surgical Society (8316 responses received from 28,000 members). The average weekly working hours were reported to be 78.5 hours (median 73.2 hours) (5). Since 40 is the statutory maximum working hours per week in Japan, this amounts to an average of 38.5 hours of overtime per week, or approximately 154 hours per month. In April 2019, the law regulating working hours was revised to limit overtime work in the private sector to 45 hours per month or up to 360 hours per year (6). This is a far cry from the reality of hospital doctors. A new overtime limit for hospital doctors came into effect in April 2024, with a new upper limit of 960 hours per year, or an average of 80 hours per month (7). My impression is that most hospitals are trying to establish logistics that allow doctors to adhere to this limit.

«Japan's surgical history has been shaped by men who honed their surgical skills by leaving family responsibilities, like child care, to women, while spending long hours in hospitals and away from home»

Why are the working days so long?

The long working hours of surgeons in Japan are not only due to professional requirements but also to Japanese culture. The employment rate in Japan is still lower for women than men, and men work extremely long hours. There is a major gender gap in terms of surgeons in Japan. Only 6.6 % of the surgeons who responded in the 2012 survey were women (5). In other words, it is no exaggeration to say that a large part of Japan's surgical history has been shaped by men who honed their surgical skills by leaving family responsibilities, like child care, to women, while spending long hours in hospitals and away from home. Unfortunately, this is not only true for surgeons but also for many other occupations. The employment rate for Japanese women is now on an upward trajectory at 70.6 %, but it is still lower than that of men (8). The proportion of female managers is also remarkably low (13.3 %). These figures suggest that Japanese society has yet to fully mature.

In Japan, long working hours are the norm in many industries. A common belief is that spending more time at work improves the quality of the service provided and satisfies customer expectations. The same applies in surgery. We doctors have been taught that sustained dedication over a prolonged period at the hospital improves knowledge and skills, and meets patient needs. Less overtime working at hospitals in the future may lead to challenges in transferring the surgical skills that each doctor has spent a long time mastering.

A new work style

In August 2022, prior to the 'Regulation on Overtime Work for Doctors' coming into effect in April 2024, four academic associations affiliated with Japanese thoracic surgeons sent a request to the Japanese Ministry of Health, Labour and Welfare regarding the improvement of working conditions for surgeons (9). It referred to the large increase in the number of operations between 1996 and 2018 in the fields of cardiovascular surgery (2.09 times higher), thoracic surgery (2.71 times higher), and oesophageal surgery (1.51 times higher), while the number of surgeons had decreased. Meanwhile, postoperative follow-up in intensive care units was entirely managed by surgeons in more than half of the facilities. The request also claimed that surgical outcomes in Japan are better than those in other countries (10–14).

The letter also included the results of a survey of 9622 members (response rate 16.1 %) conducted by the Japanese Society for Thoracic Surgery in 2021. According to the new overtime regulation for doctors, the upper limit for overtime work will be 80 hours per month, but 72 % of surgeons responded that their overtime exceeded this by 20 hours per week. Many believed the new overtime rules would lead to less time for research, academic activities, self-development in surgical skills and education. Many were also concerned that the level of medical research in Japan would decline. It would also become difficult to improve their own surgical skills and train young surgeons, and would be impossible to maintain current surgical and general care standards.

«Norway has the shortest working hours for doctors in the world»

My views on the Norwegian system

Norway has the shortest working hours for doctors in the world (15). The employment rate among women is high, parental leave is long and men work fewer hours than in many other countries. The conflict between the desire and expectation to spend time with family and the need for time to complete surgical training is a concern for many surgeons. How is it possible to train surgeons in complex procedures and rare diseases within the short working hours at Norwegian hospitals?

A technical perspective on minimally invasive surgery

In Japan, laparoscopic gastrointestinal cancer surgery is usually carried out by a team of three surgeons: a primary surgeon, a first assistant who assists the primary surgeon, and a second assistant who holds the camera with both hands. In this set-up, a triangular plane can be formed in the surgical field with three pairs of forceps, one held by the primary surgeon and two held by the first assistant.

In Norway, the number of surgeons in these operations is usually limited to two, which is the minimum number required to perform them. The presence of an extra assistant (the second assistant) is believed to increase both safety and speed during the procedure. The second assistant also has a valuable learning opportunity. When laparoscopic surgery is performed with only one assistant, the assistant holds one pair of forceps in one hand and a laparoscope in the other. In this set-up, the surgical field is formed using only *lines*, rather than *planes*. This difference significantly impacts the quality of the surgery, particularly in cancer operations that require precise lymph node dissection (16–18). To form the optimal *plane* with only two surgeons, a so-called *internal organ retractor* is needed (19). By attaching a thread or rubber band with a hook to a retractor and applying tension to the target organ, it is possible to reproduce an almost ideal surgical field without the help of an assistant.

Is it possible to achieve the same quality of laparoscopic cancer surgery in Norway as in Asian countries with only one assistant? If the priority is surgery with only one assistant, robotic surgery seems to be a more realistic option than laparoscopic surgery. Another challenge is the low patient volume. In 2021, a total of 37,552 gastrectomies were performed in Japan (20), compared to just 215 in Norway in 2022 (21).

Robotic surgery

In Japan, robot-assisted esophagectomy and gastrectomy have been covered by universal health insurance since 2018, and the proportion of robot-assisted operations is increasing (22, 23).

In robotic surgery, the surgeon can control the camera and three pairs of forceps. The assistant, positioned beside the patient, changes instruments as requested by the surgeon and suctions fluids through an auxiliary port that is supplemental to the robotic ports. It is also possible to use forceps through the auxiliary port to help form the surgical field, but this often interferes with the robotic arms. Compared to laparoscopic surgery, the assistant's role in robotic surgery is more passive. From an educational perspective, its value for skill development is low. To provide adequate training for robotic surgery trainees, two surgeon consoles are necessary. An experienced surgeon (proctor) and a trainee can then take turns leading the procedure depending on their skills and needs (Figure 1). Alternatively, three surgeons can be involved: a proctor and a trainee at the console, with another assistant positioned beside the patient. This requires training institutions to employ more surgeons than the minimum required to deal with daily clinical tasks and training commitments.

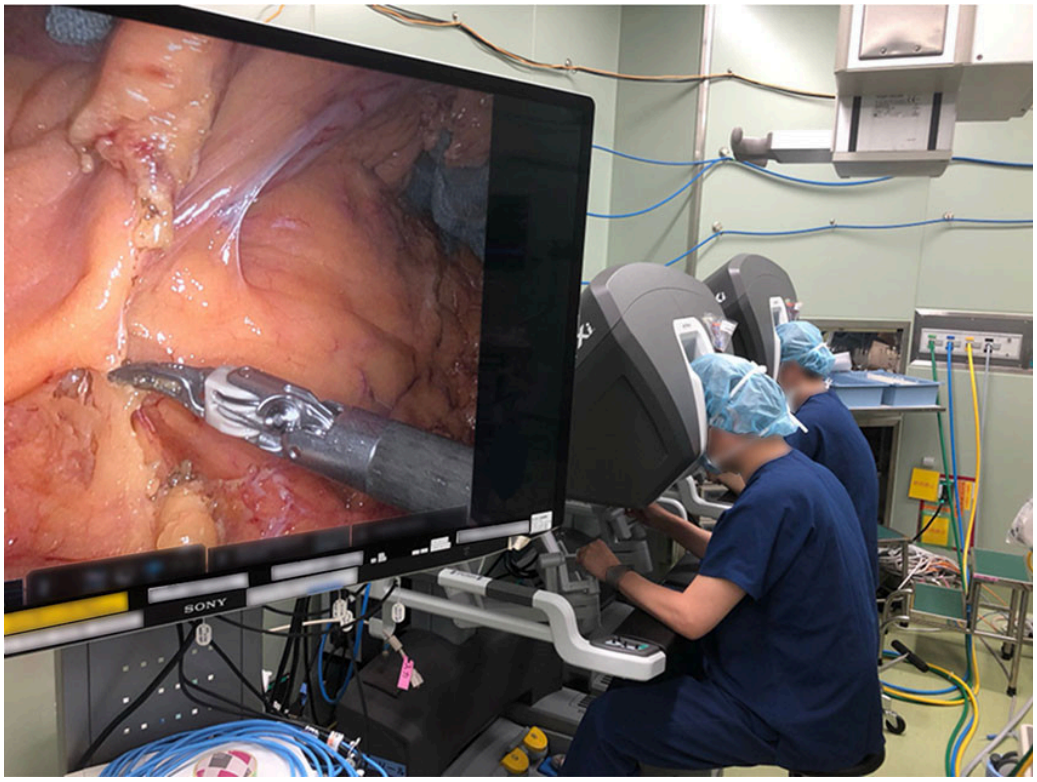

Figure 1 Robotic surgery with two consoles at the Cancer Institute Hospital in Tokyo. An experienced surgeon (proctor) trains a colleague in the da Vinci robotic surgical system (Intuitive Surgical Inc., Sunnyvale, CA). The dual console set-up enables controlled and detailed training. Photo: Koshi Kumagai

Future visions

Japanese society has not matured to the same extent as Norway, and the Japanese have much to learn. The working style of Japanese surgeons must change. However, preserving Japan's high surgical standards while ensuring the safety of surgical procedures remains crucial. If Norway manages to establish a structure that allows young surgeons to receive adequate training without compromising the work-life balance, it could serve as a source of inspiration for young Japanese surgeons.

I would like to thank Dr Kjell Øvrebø for his contribution to the Norwegian manuscript, which I originally wrote in English, and for the opportunity to work with all my colleagues at Haukeland University Hospital.

REFERENCES

1. Ministry of Health. Labour and Welfare. Kunngjøring av resultatene fra den 117. nasjonale eksamen for leger (japansk). https://www.mhlw.go.jp/general/sikaku/successlist/2023/siken01/about.html Accessed 14.7.2023.

2. Japan Surgical Society. Regelverk for kirurgisk spesialistsystem (japansk). https://jp.jssoc.or.jp/modules/specialist/index.php?content_id=2 Accessed 14.7.2023.

3. The Japanese Society of Gastroenterological Surgery. Regelverk for spesialistsystem for gastroenterologisk kirurgi (japansk). https://www.jsgs.or.jp/modules/gaiyo/index.php?content_id=50 Accessed 14.7.2023.

4. Japanese Society of Hepato-Biliary-Pancreatic Surgery. Regelverk for lever- og bukspyttkjertelkirurgi Høyt kvalifisert spesialistsystem (japansk). https://www.jshbps.jp/modules/hightec/index.php?content_id=36 Accessed 14.7.2023.

5. Japan kirurgiske samfunn. En rapport om spørreskjemaundersøkelsen om arbeidsmiljø blant medlemmene av Japan Surgical Society (japansk). https://jp.jssoc.or.jp/uploads/files/info/info20111221-2_1.pdf Accessed 14.7.2023.

6. Oversikt over lover om reform av arbeidsstil (japansk). https://www.mhlw.go.jp/content/000611834.pdf Accessed 14.7.2023.

7. The Japan Times. Japan starts work style reform to cap doctors' overtime. https://www.japantimes.co.jp/news/2024/04/01/japan/society/reform-to-cap-doctors-overtime/ Accessed 14.7.2023.

8. Japans institutt for arbeidslivspolitikk og opplæring. Databok for internasjonal arbeidsstatistikk 2022. https://www.jil.go.jp/kokunai/statistics/databook/2022/documents/Databook2022.pdf Accessed 14.7.2023.

9. Anmodning fra fire fagmiljøer knyttet til thoraxkirurgi om "arbeidsstilreform for leger" (japansk). https://dx-mice.jp/jpats_cms/files/info/1203/HP_Final.pdf Accessed 14.7.2023.

10. Kumar SR, Mayer JE, Overman DM et al. The Society of Thoracic Surgeons Congenital Heart Surgery Database: 2021 Update on Outcomes and Research. Ann Thorac Surg 2021; 112: 1753–62. [PubMed][CrossRef]

11. Committee for Scientific Affairs, The Japanese Association for Thoracic Surgery. Thoracic and cardiovascular surgeries in Japan during 2019 : Annual report by the Japanese Association for Thoracic Surgery. Gen Thorac Cardiovasc Surg 2023; 71: 595–628. [PubMed][CrossRef]

12. Savitch SL, Zheng R, Abdelsattar ZM et al. Surgical Outcomes in the National Lung Screening Trial Compared With Contemporary Practice. Ann Thorac Surg 2023; 115: 1369–77. [PubMed][CrossRef]

13. Fernandez FG, Shahian DM, Kormos R et al. The Society of Thoracic Surgeons National Database 2019 Annual Report. Ann Thorac Surg 2019; 108: 1625–32. [PubMed][CrossRef]

14. Oesophago-Gastric Anastomotic Audit (OGAA) Collaborative: Writing CommitteeSteering CommitteeNational Leads. Mortality from esophagectomy for esophageal cancer across low, middle, and high-income countries: An international cohort study. Eur J Surg Oncol 2021; 47: 1481–8. [PubMed][CrossRef]

15. Rosta J, Aasland OG. Weekly working hours for Norwegian hospital doctors since 1994 with special attention to postgraduate training, work-home balance and the European working time directive: a panel study. BMJ Open 2014; 4. doi: 10.1136/bmjopen-2014-005704. [PubMed][CrossRef]

16. Martínek L, Dostalík J, Gunka I et al. Laparoscopic total gastrectomy. Rozhl Chir 2011; 90: 397–401. [PubMed]

17. Pugliese R, Maggioni D, Sansonna F et al. Criteria for training in laparoscopic gastric surgery: guidelines and experience of 30 cases. Minerva Chir 2005; 60: 23–30. [PubMed]

18. Kuwabara S, Kobayashi K, Sudo N et al. Comparison of Surgical and Oncological Outcomes of Laparoscopic and Open Gastrectomy for Pathologically Serosa-Invasive (pT4a) Advanced Gastric Cancer-

Retrospective Propensity Score-Matched Analysis. J Laparoendosc Adv Surg Tech A 2023; 33: 756–62. [PubMed][CrossRef]

19. Braun B. Internal organ retractor. https://catalogs.bbraun.com/en-01/p/PRID00007171/internal-organ-retractor Accessed 28.7.2023.

20. Japanese Ministry of Health. Labour and Welfare. 8th NDB Open Data Japan. https://www.mhlw.go.jp/stf/seisakunitsuite/bunya/0000177221_00012.html Accessed 28.7.2023.

21. Helsedirektoratet. Aktivitetsdata for somatiske sykehus. https://www.fhi.no/contentassets/17839cfed7ff4d899add2bf4ad71442f/aktivitet-somatikk-2022.pdf Accessed 28.7.2023.

22. Suda K, Yamamoto H, Nishigori T et al. Safe implementation of robotic gastrectomy for gastric cancer under the requirements for universal health insurance coverage: a retrospective cohort study using a nationwide registry database in Japan. Gastric Cancer 2022; 25: 438–49. [PubMed][CrossRef]

23. Nishigori T, Ichihara N, Obama K et al. Prevalence and safety of robotic surgery for gastrointestinal malignant tumors in Japan. Ann Gastroenterol Surg 2022; 6: 746–52. [PubMed][CrossRef]

Publisert: 11 February 2025. Tidsskr Nor Legeforen. DOI: 10.4045/tidsskr.23.0840
Copyright: © Tidsskriftet 2026 Downloaded from tidsskriftet.no 22 June 2026.