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*Short Communication*

## A Surgical Instructor Training Course for the Next Generation

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In 2016, Gunma University Hospital's Medical Accident Investigation Committee released a report reiterating the necessity of medical education and the need for surgeons to master non-technical skills. We designed a 17-h training course for surgical instructors, designed to teach participants how to sufficiently educate surgeon trainees and encourage their professional identity formation. A post-training survey showed that participants improved their awareness, and their behavioral changes led to favorable team performances. We then began offering a 3-h workshop focusing on the participants' experiences. We propose that the training course using participant narratives is required and effective to establish surgeons' self-reflection and professional identity as surgeons.

**Key words:** professional identity, instructor training, narrative

The topic of surgeons' professionalism has attracted attention in Europe and North America for over 20 years, and it has become an important subject of medical education [1-4]. In Japan, a focus on professionalism has become widespread in medical education over the past few years, and there is an increasing number of surgical trainees receiving professionalism education. However, most of the current instructors in Japan have not yet undertaken professionalism education themselves, and few medical schools in the country hold classes on this subject. It is nevertheless generally believed that surgeons have mastered not only surgical techniques but also professional attitudes, including adequate communication skills and the leadership skills needed to manage and lead surgical teams to high performance levels, resulting in the best results for patients undergoing surgery.

In July 2016, Gunma University Hospital's Medical

Accident Investigation Committee released a report with survey results obtained by the Japan Surgical Society (<http://www.gunma-u.ac.jp/wp-content/uploads/2015/08/H280730jikocho-saishu-a.pdf>) reiterating the necessity of medical education and the need for surgeons to master so-called non-technical skills such as communication skills, teamwork, and leadership [5]. Based on the report from a study conducted in England, the Investigation Committee proposed improvement measures discussing how to proceed and which factors should be clarified. The Committee proposed that surgeons be provided with the education and evaluations that will help them acquire non-technical and technical skills, in order to achieve ideal medical conditions and deliver excellent results to patients.

Currently, a large number of videos are easily accessible for trainees who want to learn surgical procedures, including the necessary skills and use of the instruments and devices. At a basic level, surgeons can learn surgical

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procedures by observing and being taught by experienced surgeons. However, surgical instructors may not have been trained on how to teach a trainee by using educational theories or how to conduct themselves, and the instructors may not be familiar with aspects of a surgeon's professionalism including accountability, leadership, and teamwork. It is also difficult for experienced surgeons to learn the best way to raise surgical trainees to a level beyond their own. It is very useful to discuss surgeons' professionalism with peers both within and beyond the surgical profession. Such learning environments provide opportunities not only for discussing expectations but also providing feedback [6]. Especially for surgeons, the acquisition of metacognitive skills, self-directed learning, self-monitoring, and a reflective attitude are the main attributes of lifelong learning.

In 2014, the Okayama University Medical Education Renovation Center designed and implemented a 17-h surgical instructor training course that meets the medical instructor workshop guidelines issued by Japan's Ministry of Health, Labor and Welfare. The aim of the training course was to present ways to encourage the formation of the trainees' professional identity as sur-

geons and to learn how to thoroughly educate the trainees regarding their professionalism and attitudes, and how to teach surgical trainees in the operation room. The training course is comprised of 6 workshops (each workshop consists of a 60-min small group discussion and a 30-min whole-group presentation and discussion) and 7 lectures (approx. 30 min each), including topics on the facilitation skills needed to manage a medical conference, non-technical skills, professionalism for surgeons, and learning from Gunma University (Table 1).

A total of 79 surgeons (with experience ranging from 7 to 38 years, with a mean of 21.4 years) from 31 hospitals in Japan had participated in the training course from 2014 to 2016. Training courses were held once a year for 3 years, 3 times in total. Most of the participants had no or little workshop experiences when they were given the opportunity to discuss surgical education with each other at the training course.

Two months after the first implementation of the surgical instructor training course, a survey was administered to the first 40 participants, and 21 respondents completed it (Table 2). The aim of the survey was to exam-

**Table 1** Workshop themes and lecture titles

Workshop themes	Lecture titles
1 Essentials for surgical leaders on perioperative medical teams	1 How to constructively facilitate discussions; facilitation skills
2 Time-out improve patient safety	2 Ideal surgeons from the point of view of anesthesiologists
3 Non-technical skills and methods to improve patient safety	3 High performance operation teams from the point of view of operating nurses
4 Effective feedback for surgical instruction	4 Learning from Gunma University
5 Professionalism for surgeons	5 Medical professionalism
6 Training objectives from the viewpoint of patient safety	6 Points of surgical education as a theory of andragogy

The training course was held three times, and some of the workshop themes and lecture titles varied.

**Table 2** Two months after the surgical instructor training course

Questions	Answers		
Are you conscious of your attitude in the operating room?	Always 71.4%	Sometimes 23.8%	Not much 4.7%
Are you conscious of communication within the team in the operating room?	Always 66.7%	Sometimes 33.3%	Not much 0%
Have you experienced a time when attitude and communication led to better team-based medicine and patient safety?	Yes 80.9%	Not much 19%	No 0%
Did you change your behavior and awareness of responsibility for patient safety in the operating room?	Much 55%	To some extent 45%	Not much 0%

The survey responses are from 40 participants. Twenty-one surgeons kindly responded to our inquiry, which included four questions and covered specific behaviors in their hospital operation room.

ine whether the surgeon participants' attitudes improved after they returned to their hospitals (Table 2). Our analyses of the results showed favorable effects of the surgical instructor training course. Even though the collection rate of the survey was only 52.5%, the respondents reported that their awareness of professionalism had increased, and their behavioral changes led to favorable performances for the respondents' operation teams. The respondents also sent us positive feedback; for example:

"I keep a good atmosphere in the operating room and I always try to be an excellent role model for surgical trainees."

"Especially in a bad situation, I try to communicate with the scrub nurse and circulating nurse more than usual."

"It became easier for all of the participants in the conference to easily express their opinions."

"When there was sudden bleeding during a surgery, all of the team members kept their cool, and the situation was controlled."

"There is a relationship among those on the medical team where anyone can say anything. The medical staff was able to point out an error that the doctor had been unaware of."

These responses indicate that this 17-h-long training course was effective. However, preparing for and participating in the 17-h workshop was a considerable burden for all parties. After considering the burden of participating in such a lengthy workshop, we determined that, for our goal of teaching professionalism, it was not necessary to meet the above-mentioned guidelines. For this reason, we developed an effective training course that can be provided efficiently in a short period of time. In 2018, we began offering an abbreviated training course consisting of 3 mini-lectures and 2 workshops with small group discussions, requiring only 3 h total (Table 3).

A total of 29 surgeons participated in the 3-h training course. The surgeons' experience ranged from 21 to 39 years (mean 28.62 years). All of the training course participants worked in a teaching hospital, and most of them were the person in charge of a surgery department, including 2 hospital directors and a vice-president. In this workshop, we focused on the participants' experiences (narratives) [7-9]; they discussed how they themselves were taught and how they taught the trainees, reflecting on the beginning of their lives as surgeons up to the present time. They described becoming

aware of the importance of teamwork, respect for other medical personnel, and the realization that surgeons are the leaders on surgical teams.

Bearman reported that "This interactive experience occurs over time, so that the learner's actions produce effects, which may prompt other actions. The transformation and progress narratives tended to pair these negative emotions with a strongly positive conclusion. For progress narratives, this was an increase in confidence or a feeling of fulfilment"[7]. Because our training course is designed only for surgeons, participants tend to have similar narratives (both positive and negative) about the education, teamwork, and team members' behaviors in the operation room.

Non-technical skills for surgeons (NOTSS) have been developed to assess the performance of surgeons. Tsuburaya *et al.* reported that the results of their pilot study indicated the effectiveness of NOTSS [5]. However, the tools needed for the evaluation of NOTSS are complicated, and there is a limit to their use in real-world settings. For this reason, we are currently trying to assess surgeons' attitudes with the use of simple items like Greetings, Self-introduction, Emotional control, and Timeout provided by the circulating nurse to improve patient safety. We think that these results can be utilized in the workshop in the future.

To test the relevance and necessity of the 3-h training course, we distributed a survey to the participants at 8-10 months after the course ended (Table 4). Twenty-four of the 29 surgeons (82.7%) responded. All participants who responded favored the relevance of the training course and the need to retain it, and 92% of the respondents reported providing improved teaching at clinical sites. Additionally, 96% said they would recommend attending the training course to their colleagues.

This type of surgical education workshop, *i.e.*, using the narrative method, may help surgical instructors self-reflect on the formation of their professional identity as surgeons for the sake of their surgical trainees, the medical staff, and, of course, the patients. Having taken the training course, surgical instructors will be expected to be a role model as a leader on operating teams and to provide a professional clinical environment for the surgical team, including nurses. A gap between the professionalism education of experienced surgeons and trainees inevitably exists, but the training course can help to fill up the gap, providing support for

**Table 3** Contents and timing of a typical 3-h training course

Title	Contents	Time
1 Orientation and ice break	Introducing others	10 min
2 Aim for classroom, transmission of surgical medicine	Mini lecture	15 min
3 Practice of teaching in student training	Mini lecture	15 min
4 Think about teaching methods from past experiences - Evaluation and feedback	Small group discussion	45 min
5	Overall presentation	20 min
6 Medical education new trend	Mini lecture	10 min
7 Ideal team medical care in the field of surgery	Small group discussion	45 min
8	Overall presentation	20 min
9 Workshop reflection "what we learned"	Overall presentation	10 min
10 Talk at a dinner party		continue

**Table 4** Survey responses from participants at 8–10 months after the 3-h training course. In this four-step evaluation, 1 = agree, 4 = do not agree, 2 and 3 = in between. Twenty-four of the 29 participants responded to the survey (82.7%).

Questions	Answers (Four-step evaluation)			
	1	2	3	4
Appropriateness of workshop contents	71%	29%	0%	0%
Necessity of workshop	67%	33%	0%	0%
Improvement experience in the clinical instruction scene	29%	63%	8%	0%
Do you Encourage your colleagues to participate?	46%	54%	4%	0%

addressing surgical events and emergencies as well as ways that surgeons can help support their coworkers' emotional health.

Based on the responses to our survey, we conclude that the short (3-h) surgical instructor training course is effective and should be required for surgical instructors. This is true not only for those coordinating a surgical residency program at a hospital, but also for all surgeons who work in operating rooms from the viewpoint of surgeons. professional identity formation.

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