

## Unique Medical Education Programs at Nippon Medical School

Toshiro Shimura<sup>1</sup>, Akinobu Yoshimura<sup>1</sup>, Takuya Saito<sup>1,2</sup> and Ryoko Aso<sup>1</sup>

<sup>1</sup>Academic Quality and Development Office, Nippon Medical School

<sup>2</sup>Department of Psychiatry, Nippon Medical School

### Abstract

In an attempt to improve the content of the educational programs offered by Nippon Medical School and to better prepare our students to work in the rapidly changing world of medicine, the school has recently revamped its teaching methodology. Particular emphasis has been placed on 1) simulator-based education involving the evaluation of students and residents in a new clinical simulation laboratory; 2) improving communication skills with the extensive help of simulated patients; 3) improving medical English education; 4) providing early clinical exposure with a one-week clinical nursing program for the first year students to increase student motivation at an early stage in their studies; 5) a new program called Novel Medical Science, which aims to introduce first-year students to the school's fundamental educational philosophy and thereby increase their motivation to become ideal physicians. The programs have been designed in line with 2006 guidelines issued by the Ministry of Education, Culture, Sports, Science and Technology to allow flexibility for students to take part in education outside their own departments and year groups as part of the Ministry's program to encourage distinctive education at Japanese universities.

(J Nippon Med Sch 2008; 75: 196–201)

**Key words:** medical education, simulation, simulated patient, medical English, early clinical exposure

### Introduction

Medical education in the 21<sup>st</sup> century is undergoing significant changes in terms of both content and methodology<sup>1</sup>. To keep up with these changes, Nippon Medical School (NMS) has designed unique medical education programs in line with the guidelines issued by the Ministry of Education, Culture, Sports, Science and Technology (MEXT) in 2006 to allow flexibility for students to take part in education outside their own departments and year

groups<sup>2</sup> as part of MEXT's program to encourage distinctive education at Japanese universities. Plans are also underway to integrate the basic medical science and clinical medical science departments<sup>3</sup> and to make more effective use of students' evaluations of the courses they take<sup>4</sup>. The NMS curriculum is still being revised, and the present report summarizes our unique medical education programs.

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Correspondence to Toshiro Shimura, MD, Academic Quality and Development Office, Nippon Medical School, 1-1-5 Sendagi, Bunkyo-ku, Tokyo 113-8602, Japan

E-mail: t-simura@nms.ac.jp

Journal Website (<http://www.nms.ac.jp/jnms/>)



Fig. 1 Lumbar puncture training with a lumbar puncture simulator



Fig. 3 Delivery simulation



Fig. 2 Emergency resuscitation training for students and residents in the laboratory



Fig. 4 How to use make-up in SP-attended education and a simulator for the advanced OSCE

## New and Distinctive Medical Education at NMS

### I. Simulator-based Medical Education

The Clinical Simulation Laboratory (C. S. Lab.) established in April 2005 is a place where students, residents, and other medical staff can acquire and practice basic clinical skills; it plays a very important role in our new programs and is used for various purposes. The first-year students receive a thorough orientation there and train for the Objective Structured Clinical Examination (OSCE, a test assessing students' basic clinical skills) and advanced OSCE. It is used as part of the fourth-year basic clinical practice course to provide training in gynecological, eye, ear, breast, lung and heart examinations, colonoscopy and venipuncture. It is an invaluable training venue for part of the fifth- and sixth-year students' bedside learning course. And interns use it to learn how to carry out

thoracocentesis, intubation, and lumbar punctures (**Fig. 1**). In 2006, a total of 1,368 users attended 142 sessions there. Use of the laboratory drastically increased when simulator-based education was officially incorporated into the NMS curriculum. As can be seen on the website <http://www.nms.ac.jp/csl/>, the C. S. Lab. is equipped with various simulation devices together with panels explaining their use. These devices include the Sim-Man, Ichiro, Mr. Lung, dummies for internal examinations, delivery, and breast cancer examinations, rectal examination simulators, devices simulating otoscopy, fundoscopy, blood sampling and venipuncture, and devices simulating various medical techniques such as endoscopic surgery and suture. To allow users to learn clinical skills, various clinical situations are recreated, such as consciousness disorders and difficult intubation due to drug overdose (**Fig. 2**), delivery, neonatal resuscitation<sup>5</sup> (**Fig. 3**), anaphylactic

Table 1 The Code of Behavioral Standards for Simulated Patients at Nippon Medical School

1. Nurturing physicians and researchers with a spirit of humanity and passion for research is the underlying principle of Nippon Medical School's educational philosophy.
2. Those who volunteer to act as Simulated Patients at Nippon Medical School should sympathize with this educational philosophy and be committed to helping foster physicians who seek to provide patient-oriented healthcare.
3. By acting as patients in medical interviews, physical examination training and student evaluation, Simulated Patients play an important role in helping Nippon Medical School students and healthcare providers develop their skills in medical practice and communication in the medical setting. These activities contribute significantly to the fostering of physicians who are trusted by their real patients.
4. Simulated Patients should make every effort to acquire the knowledge and skills necessary to improve their ability to act as patients.
5. Simulated Patients are required to treat as confidential all the documents and information they acquire through participation in training programs at Nippon Medical School.
6. Simulated Patients should at all times act in accordance with these and other guidelines promulgated by the Nippon Medical School Committee for the Recruitment and Training of Simulated Patients.
7. Simulated Patients are encouraged to provide feedback and suggestions to the Nippon Medical School Committee for the Recruitment and Training of Simulated Patients whenever they feel it appropriate to do so.

Committee for the Recruitment and Training of Simulated Patients,  
Nippon Medical School



Fig. 5 SPs and students role playing medical interviews



Fig. 6 English medical interview training with native English speakers

shock, and stroke. The C. S. Lab. is operated and managed by a committee consisting of members of the Academic Quality and Development Office, faculty members from each clinical department, and representatives from the student, resident, and nursing bodies. The C. S. Lab. is important not only in providing training in basic clinical skills but also in improving awareness of safety issues in medical settings. It has greatly contributed to improving medical and general healthcare education at NMS.

## 2. Training in Medical Communication with Simulated Patients

Training with simulated patients (SPs) helps students to acquire the communication skills they will require as physicians, and it is not an overstatement to say that SPs are at the core of the new medical communication program. In recent years, the importance of communication skills in clinical settings has been more widely recognized, and medical interview training with SPs is indispensable if students are to meet the goal of becoming effective communicators. NMS developed

its SP training program in 2004, and a total of 117 simulated patients have undergone training on this program since its inception. Those SPs who have taken part in all eight programs since 2004 received a certificate of completion from the President of NMS, an ID card, and an SP badge. They have greatly contributed to the interview training courses, OSCE, Advanced OSCE<sup>6</sup> (**Fig. 4**), and other SP-participatory classes. NMS has created an original set of guidelines for SPs working here, spelling out the rules they must follow and making them aware of human rights issues (**Table 1**). The SP training program covers a variety of topics, including the importance of SP participation itself, communication skills, system reviews, feedback techniques during medical examinations, and interviewing skills through role-playing (**Fig. 5**). At the same time, follow-up programs dealing with symptoms such as headache and dyspnea are available to SPs. A series of 10 SP-participatory classes are held, and students have given high marks in their evaluations of classes dealing with “learning from symptoms” such as chest pain and headache, given by various departments, and “thinking about overall symptoms” such as pediatric fever and lower abdominal pain, given by specialists.

### 3. Practical Medical English Taught by Native English-speaking Doctors

NMS places great weight on medical English acquisition, which has become more important along with the globalization of healthcare. The first- and fourth-year students take TOEFL-ITP to assess their basic English competency. These students also participate in basic medical communication training to improve their level of English competency (**Fig. 6**). Foreign SPs trained by NMS faculty and physicians working at US military hospitals or the British Embassy have been actively participating in these communication training sessions<sup>7</sup>. In addition, for fifth- and sixth-year students and residents, Dr. David Gremillion, the clinical training program director at Kameda Medical Center and Professor at the University of North Carolina, leads five attending rounds annually (**Fig. 7**).

### 4. Motivating Students Through Early Exposure to Clinical Medicine

Early exposure to clinical medicine has become a common feature of educational programs at Japanese medical schools in recent years. At NMS, a 1-week clinical nursing practice program called “Medical Student Internship” (MSI) has been part of the first-year program since 2007.

The 100 first-year students are divided into teams of 5, each under the guidance of a physician, and they assist ward nurses in taking care of patients. The program starts with an orientation and ends with a general feedback session, between which a wide range of training in basic patient care is offered: room management (changing sheets and making beds); activity and rest (aiding patients to walk, pushing wheelchairs, moving stretchers, moving patients into different body positions, and joint mobility training); washing and dressing patients (body washing in foot/hand baths, hair washing, dressing/undressing, basic oral care, and bathing assistance); wound care and management, and ulcer management); and general ward responsibilities (transfer of specimens and order forms, room cleaning, and patient guidance and transfer) (**Fig. 8, 9**). The average overall evaluation scores for the program last year (maximum score: 10 points) were 7.6 points (as evaluated by the students), 6.5 points (given by the nurses), 7.1 points (by the physicians), and 8.1 points (the patients’ families), demonstrating a high satisfaction rate among the first-year students.

MSI promotes student understanding of the physical and psychological pain of patients and their families along with a greater appreciation of the responsibilities shouldered by healthcare professionals. Furthermore, MSI fosters in students a spirit of social service and helps them develop a secure psychological foundation for their future careers.

### 5. Novel Medical Science Program

As part of the ongoing curricular changes being implemented at NMS, a new course entitled Novel Medical Science has been added to the first-year curriculum to fulfill the perceived need for entering



Fig. 7 Dr. Gremillion's attending rounds in English



Fig. 9 Early clinical exposure with an expert nurse



Fig. 8 Medical Student Internship  
Early clinical exposure with a nurse and professor

students to be given an overview of the programs spanning their six years of medical education. The program includes introductions to: 1) the basic philosophy underlying the school's educational programs; 2) the new examination and evaluation systems; 3) the importance of basic medicine based on the model core curriculum; 4) medical ethics and the concept of the ideal physician; 5) the use of simulators to learn basic clinical skills, and the importance of communication skills in clinical settings; and 6) the importance of English skills in the age of medical globalization. In addition, a special lecture on the lessons that can be learned from Dr. Hideyo Noguchi (**Fig. 10**) is offered, along with training courses in Basic Life Support (BLS) and the use of automated external defibrillators (AED), which are prerequisites for medical students.

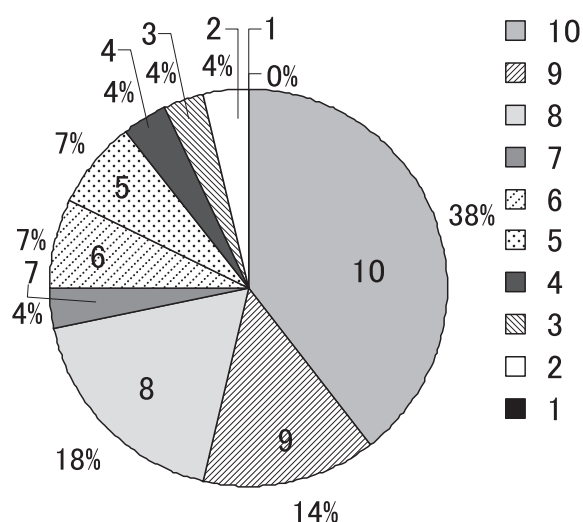
This year, the special lecture on Dr. Hideyo Noguchi (entitled "Learn from Hideyo Noguchi") was



Fig. 10 Hideyo Noguchi enrolls in Saisei Gakusha Preparatory School (reproduced with the kind permission of The Hideyo Noguchi Memorial Association)

given by Dr. Nobuyasu Karasawa, a graduate of NMS and a council member of the Japan Society of Medical History. Dr. Hideyo Noguchi graduated from Saisei Gakusha, the forerunner of NMS, and Dr. Karasawa described how Noguchi and other eminent graduates exemplified the school's fundamental goal of nurturing selfless doctors who





Overall student evaluations (10: best, 1: worst)

Fig. 11 Student evaluations of the Novel Medical Science special lecture (Global score average=8.0)

would not only strive to save patients' lives but also to make significant contributions to society and medicine. One of the authors (Shimura) followed this up with a talk on the textbooks and evaluation systems used at Saisei Gakusha, and the school's strict rules and high educational standards<sup>8</sup>. Dr. Hisashi Ohkuni, an emeritus professor of biological immunity, then talked about Noguchi's work in the US and the challenges he faced in a foreign country.

The first-year students' parents were also invited to this lecture, and many of them attended. The overall assessment of the lecture was high (global score: 8.0), particularly among the students (Fig. 11). It can reasonably be claimed that the lecture motivated the students by making them aware of NMS's proud history of more than 130 years.

### Concluding Remarks

The new and unique programs designed by NMS's Academic Quality and Development Office represent a significant step forward in the school's provision of medical education. To achieve the

specific goals of these programs, the close collaboration and support of all faculty members are essential. In line with our proud academic and educational philosophy, all faculty members are asked to continue to devote their best efforts to educate our students, the school's greatest resources.

Other academic matters not covered in this article are described in the annual Nippon Medical School Education Promotion Report, which is accessible online through the school's website: <http://www.nms.ac.jp/suishin/>.

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(Received, June 13, 2008)

(Accepted, July 8, 2008)