Effectiveness of Peer Teaching: Simulation-Based Education of First-Year Medical Students
Yoshitaka Maeda*, Yoshikazu Asada**, Yoshihiko Suzuki*, Hiroshi Kawahira*
*Medical Simulation Center, Jichi Medical University **Center for Information, Jichi Medical University Contact: y-maeda@jichi.ac.jp

1 Objectives
- In Japan, most first year medical students take basic science courses, such as physics.
- Some universities offer simulation learning to first-year students, but students have few hands on experience because professors spend time lecturing on how to use simulation learning.
- Before entering medical school, many students think they can obtain immediate clinical skills, such as surgical skills.

This curriculum might disappoint them and lower their motivation.

This study conducted and clarified the effectiveness of a course in which peer teaching was used to teach basic scientific knowledge and related medical procedures.

Take-home Messages: Simulation education using peer teaching of first-year medical students was feasible:
1. The students learned the value of learning basic science.
2. Peer teachers and learners practiced with a simulator for sufficient periods.

2 Methods (clarifying the learning effect)

Kirkpatrick Level 1: Questionnaire
The teaching sufficiency, science learning, learning ease and satisfaction, and test difficulty.

Kirkpatrick Level 2: Observation
The students were observed and the learning effect was measured.

2A Methods (Simulation education using peer teaching)
- 20 students were divided in 3 groups. We have the peer teachers, and 2 groups of peer learners.
- Every 2 weeks they rotate roles.
- The class: 70-minute period per week for six weeks.
- We intervened only when necessary and if the peer teachers were incorrect.

2B Methods (clarifying the learning effect)

Simulator
- Blood Sampling
- Auscultation
- Defibrillation
- Echocardiogram
- Abdominal Echo
- Tracheal Intubation
- Bronchoscope
- Cardiac / Lung sound

3 Results & Discussion

4 Conclusion
- Almost all students were satisfied with:
 1. The amount of basic science learned, 2. their ability to use the simulations, 3. the knowledge gained by developing/taking tests.
- Because lecturers intervened as little as possible, the students actively discussed and helped peers unable to perform the procedure, which is unique to peer teaching.

Peer teaching is an effective way to teach via simulation.