

The 116th Annual Meeting of
the Society for Japanese Anatomists
28th March, 2011, Yokohama.



Life-long learning of clinical anatomy in the dissection laboratory

Masabumi Nagashima

Department of Anatomy
Faculty of Medicine
Saitama Medical University

Four Educational Activities for Medical Professionals

The Structure and Function of the Human Body

The seminar of clinical anatomy for diagnosis and surgery

Students of Faculty of Health and Medical Care

Research Collaborations

- Simulation Surgery

- Feasibility Study for diagnostic innovation

- Feasibility Study for therapeutic development

- Anatomical Variations

The Structure and Function of the Human Body

This course units are for first and second year medical students.

Lectures and practice programs mainly executed by the faculty staff of Anatomy and Physiology Departments.

For the first year students, about 100 lectures are connected to the essential concepts of gross anatomy, embryology, and related functions.

Second year students study gross anatomy for 72 hours / 24 sessions in the dissection lab.

Three points are emphasized in cadaver dissection:

- 1) anatomical structures with individual variations
- 2) developmental processes
- 3) clinical significance

Gross anatomy: Comparison between Lecture and Dissection

Lesson Style	Lecture	Dissection
Contents	Functional Anatomy	Topographic Anatomy
Learning Structure	Teacher-Oriented	Student-Oriented
Requirement	Curiosity	Motivation
Student's Role	Audience	Performer
Teacher's Role	Solo Player	Symphony Conductor
Communication	Teacher-Directed	Reciprocal
Goal of Education	Conceptualization	Judgment
Embryology Learning	Understand Morphogenesis	Discuss with Variation
Background Philosophy	Reductionism	Positivism

General Instructive Objectives of the Dissection Unit

Experience

To see, to think.

(Concept based on the Observation of Realisty)

Observation of Realisty

Positivism

Judgment – Decision Making - Abstraction

Ethics

Leaning of Imagination

Dignity of Death

Encouter human cadavers

Death in the the medical school, hospital, and daily living

cf) Birth, Aging, Disease, Death

(Four painful events in Buddhism)

Time goes by.

The Seminar of Clinical Anatomy for Diagnosis and Surgery

This seminar is organized every summer for extra-curricular learning.

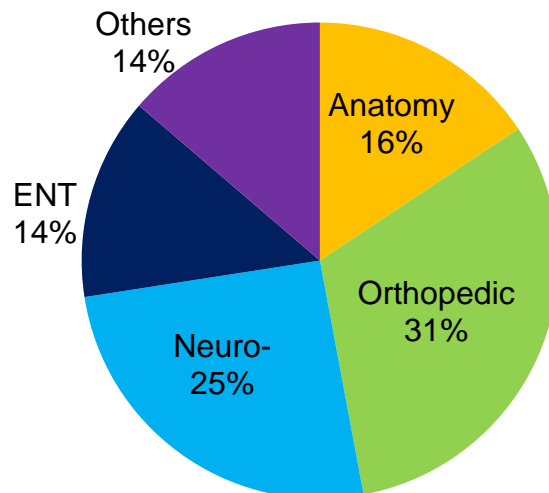
20 or more medical students from second and senior years, as well as PhD graduate students, attend this seminar.

Expert operators demonstrate dissection and/or simulation surgery by using operative tools, and students are able to study strategies and procedures through thoughtful explanations and video display.

In some situations, recorded movies are also used as further educational resources for operators and/or residents.

This is the “Theatro Anatomico” of the 21th century.

Summer seminar for clinical Anatomy (2003-2009)
total 46 cases of simulation surgery



The Faculty of Health and Medical Care

Students of nursing and other paramedical schools in the Faculty of Health and Medical Care also study gross anatomy in the dissection lab.

The professor who directs these programs is certified with a dissection license due to teaching experience at a medical school.

Faculty of Health and Medical Care

“Structure of Human Body”

Prosection in the dissection laboratory

Nursing	88 students	Health Science	78 students
Gross anatomy	9	Gross anatomy	6
Neuroanatomy	3	Neuroanatomy	6
Total	12 hours	Total	12 hours

Medical Engineering	43 students	Physical Therapy	50 students
Gross anatomy	3 hours	Gross anatomy	24 hours

Research Collaborations

Clinical researchers focus on:

Surgical approaches / simulation surgery

ex) Skull base surgery, carotid bypass, Hip joint reconstruction

Feasibility study for the diagnostic innovation

ex) Phase contrast X-ray image - Talbot-Lau Interferometry

Feasibility study for the therapeutic development

ex) Spinal instrumentation using the pedicle screw placement

Anatomical variations by the observation of many cadavers

ex) Topographic anatomy of the great occipital nerve,
posterior branches of the thoracic spinal nerves,
and vertebral level of the carotid bifurcation

Dialogue between Anatomists and Clinicians

Educational Value of Clinical Anatomy

Diversity and Generality

Reasoning and Explanation
(patho-physiology)

Diagnosis and Strategy

Basic Concept of Clinical Anatomy

Correlation between education and research

Wisdom at the bedside

Collaboration by dialogue