

Joint Surgery and Sports Medicine

(Code:4858, 1st – 2nd year, 4 units)

(Course ID: GS—c4858—S)

1. Instructors

Name	Position	Department	Contact Information
KOGA Hideyuki	Chief Instructor Professor	Department of Joint Surgery and Sports Medicine	koga.orj@tmd.ac.jp
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2. Classroom/Lab Lecture Location

Venues are different according to the program.

3. Course Purpose and Outline

To understand the anatomy, physiological function, and disease of joint tissue. To understand the process of articular cartilage degeneration and discuss the current topics for joint regeneration therapy. To learn technics for isolation, expansion and differentiation of tissue derived mesenchymal stem cells in adults.

4. Course Objectives

Clinicals: The goal of this course is to train graduate students in the majority to become orthopedic surgeons who have expertise in joint related diseases and who have abundant experience to decide the most effective treatment against joint diseases.

Science: The goal of this course is to train graduate students to acquire experimental skills related to cell transplantation therapy, such as isolation and maintenance of tissue derived mesenchymal stem cells, basic molecular biological techniques (Q-PCR, Microarray, etc.), histology and basic cellular biological techniques (Flowcytometry etc.).

5. Lecture Style

Small-group lectures are performed. Round of talks for reports and discussions on research are held as many as possible.

6. Course Outline

Goals / outline:

Bone and joint system which support living body consists of bone, cartilage, tendon, ligament, and muscle tissues, these tissues with these own characteristics maintain function from an early development to death. These tissues go through the distinctive process of degeneration and healing against diminished ability to maintain function and injury. Clarification of the background of the tissue degeneration, prevention of these degeneration, treatment procedure, and promotion and control of the healing are studied.

7. Grading System

Grading are performed in a comprehensive way based on lecture, practice, and laboratory

participation situation, reports about research, and conference presentations.

8. Prerequisite Reading

At least two to three research themes will be picked up for each student. Students will be required to understand the background, purpose, and significance of each research theme and must plan the experiments (staffs will help this process.)

9. Reference Materials

For scientific topics, please refer "Stem Cells, Arthritis and Rheumatology, and Osteoarthritis and Cartilage. For clinical topics, please refer to American Journal of Sports Medicine, Arthroscopy, Clinical Orthopedics and Related Research, Arthroplasty, and KSSTA Journal.

10. Language Used

Lecture will be conducted in English when foreign students registered.

11. Important Course Requirements

Each graduate student will be carefully mentored by staff and senior student with regard to his/her PhD research themes. All students must join and discuss their research progress at least once a month.

12. Office Hours

Mon – Fri: 9:00 AM – 17:00 PM

Contact: Koga Hideyuki, Department of Joint Surgery and Sports Medicine

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13. Note(s) to Students

None