

[Keywords] Periodontal tissue, periodontal disease, periodontopathic bacteria, immune response, risk factors, periodontics

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[Course aims]

Periodontal disease has been known to be an infectious disease for at least 50 years. Outstanding progress has been made in periodontology/periodontics with regard to understanding of the etiology and phenotypes of the disease and establishing efficacious treatment modalities. However, it has also been reported that 70% of Japanese still suffer from periodontal disease, so further understanding of the etiology of the disease is needed and more efficacious periodontal treatments need to be developed. The aims of these lectures and laboratory work are to obtain the knowledge and skills needed to carry out basic as well as clinical research in periodontology/periodontics. By taking advantage of this course, students will gain detailed insight into the etiology and phenotypes of the disease in terms of its histologic, pathologic, microbiologic, immunologic and molecular biology aspects, along with the skills to develop efficacious treatments and an understanding of the various protocols used in clinical studies.

[Course objectives]

The goal of this course are for students to be able to:

- (1) Explain the various types of epidemiologic surveys that can be used to increase our understanding of the epidemiology of periodontal disease.
- (2) Understand the various microbiologic and immunologic analyses used to investigate the etiology of periodontal disease.
- (3) Understand the various histopathologic and molecular biology approaches for investigating the pathogenesis of periodontal disease.
- (4) Understand how to carry out clinical studies for evaluation of the efficacy of a given periodontal treatment modality.
- (5) Understand how to plan in vitro studies for development of a new periodontal treatment.
- (6) Understand how to plan in vivo (animal) studies for development of a new periodontal treatment.
- (7) Understand how to plan clinical studies for development of a new periodontal treatment.

[Course content]

Class	Theme	Content	Academics
1	Classroom lectures	1) Epidemiology, etiology, pathogenesis, and phenotypes of periodontal disease. 2) Various experimental techniques used for in vitro studies. 3) Various experimental techniques used for animal experiments. 4) How to deliver a scientific presentation and how to write a scientific paper.	Yasushi Furuichi Toshiyuki Nagasawa Mari Mori Satsuki Kato
2	Seminars	1) Clinical cases and related treatment planning 2) Literature related to periodontology/periodontics	Yasushi Furuichi Toshiyuki Nagasawa Mari Mori Satsuki Kato
3	Course for obtaining clinical knowledge and skills in periodontal regenerative surgery as well as reparative surgery using a porcine jaw.		Yasushi Furuichi Toshiyuki Nagasawa Mari Mori Satsuki Kato

[Class implementation method]

Combination of face-to-face learning and distance learning

Class implementation depends on the implementation policy of each department (graduate school) or school.

[Grading policies]

Your overall grade in class will be decided based on class attendance and reports.

[Textbook]

Students will be informed of which textbook to use.

[Reference book]

Students will be informed of which reference book to use.

[Preparation for course]

Students must understand the course objectives and prepare appropriately for classes.