

[Keywords] Minimal intervention, caries, hard tissue disease, prevention and treatment of caries, cutting instruments, restorative treatment, restorative materials

[Academics] Takashi Saito, Tomofumi Kawakami, Shuichi Ito and Yasuhiro Matsuda

[Course aims]

Operative dentistry became the standard approach for treatment of dental caries following its codification by Black at the start of the 20th century. Subsequent progress in cariology together with the development of dental adhesive restorative materials and remarkable advances in adhesion technology led to the proposal of minimal intervention (MI; minimally invasive caries treatment) guidelines for caries treatment by the FDI World Dental Federation in 2000. Through lectures and practical training, this course aims to deepen your understanding of the new methods of caries examination, diagnosis, prevention, removal, restoration and post-restoration management that underlie the concept of MI. You will acquire fundamental skills and be able to understand the biomaterial-related characteristics, durability, and other aspects of prevailing adhesive restorative materials.

[Course objectives]

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

1. Explain the causes of caries and other oral hard tissue diseases.
2. Understand and implement methods of examination and diagnosis for caries and other oral hard tissue diseases.
3. Explain the concept of MI.
4. Understand and implement methods for prevention of caries and other oral hard tissue diseases.
5. Understand and implement methods for removal of caries.
6. Understand and implement methods for restoration of caries and other oral hard tissue diseases.
7. Understand the biomaterial-related characteristics and durability of adhesive restorative materials.
8. Understand and implement post-restoration management.
9. Understand and implement the procedures used in basic cariology research.

[Course content]

Class	Theme	Content	Academics
1	Learn about causes of and methods for examination and diagnosis of caries and other oral hard tissue diseases.		Takashi Saito Tomofumi Kawakami Shuichi Ito Yasuhiro Matsuda
2	Learn about the concept of MI		Takashi Saito Tomofumi Kawakami Shuichi Ito Yasuhiro Matsuda
3	Learn about the practicalities of in vitro research and related analytical methods		Takashi Saito Tomofumi Kawakami Shuichi Ito Yasuhiro Matsuda
4	Learn about the practicalities of in vivo research and related analytical methods		Takashi Saito Tomofumi Kawakami Shuichi Ito Yasuhiro Matsuda
5	Learn about presenting at scientific conferences and writing papers		Takashi Saito Tomofumi Kawakami Shuichi Ito Yasuhiro Matsuda
6	Hold a journal club		Takashi Saito Tomofumi Kawakami Shuichi Ito Yasuhiro Matsuda
7	Hold a clinical conference		Takashi Saito Tomofumi Kawakami

Class	Theme	Content	Academics
			Shuichi Ito Yasuhiro Matsuda
8	Hold seminars taught by external lecturers		Takashi Saito Tomofumi Kawakami Shuichi Ito Yasuhiro Matsuda
9	Participate in an academic conference		Takashi Saito Tomofumi Kawakami Shuichi Ito Yasuhiro Matsuda
10	Practical training regarding methods for removal and restoration of caries		Takashi Saito Tomofumi Kawakami Shuichi Ito Yasuhiro Matsuda
11	Perform caries treatment on patients under care		Takashi Saito Tomofumi Kawakami Shuichi Ito Yasuhiro Matsuda

[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.