

## **Restorative Dentistry**

### **Introduction**

The aim of Operative Dentistry Department is to train undergraduate students in the field of operative dentistry and post graduate students more broadly in restorative and esthetic dentistry.

Operative dentistry subject start with “Cariology”, as a part of the “Dental tissues in health and disease” course, in the 4<sup>th</sup> semester and continues on the remaining years of education according to the dental curriculum. Also, this department takes part in the training of the “Comprehensive Dentistry” course. The objective of the undergraduate program is to impart in-depth knowledge in dental materials and then use this knowledge to select a material most appropriate for a given situation. The practical skills in using the materials are taught in pre-clinical and clinical courses. Operative dentistry comprises lecturer, demonstration, use of films and development of practical skills under supervision and team work.

The restorative dentistry specialists will acquire and become proficient in the skills required for multidisciplinary treatment planning, prevention, and provision of advanced restorative dentistry treatment techniques including implant prostheses.

### **Primary aims**

The students should have a broad basic scientific knowledge of caries development, caries diagnosis, caries preventive measures as well as on direct filling materials including tooth colored restorative materials such as resin composite and glass ionomer cements and amalgam and integrate this knowledge in tooth preparation and restoration.

### **Main objectives**

Undergraduate students should have the knowledge of:

- Principle of operative dentistry
- Biological consideration in operative and restorative dentistry
- Examination, diagnosis and treatment planning
- Periodontal-Restorative interrelationship
- Pulp capping and management of deep and extensive caries
- Non-surgical management/minimally invasive treatment of dental caries

- Dental cements (chemical, physical and mechanical properties)
- Adhesion principles and anterior and posterior tooth colored restoration
- Amalgam filling including complex amalgam restoration
- Operative dentistry considerations for elderly
- Restoration of endodontically treated teeth
- Esthetic restorative dentistry (porcelain laminates, composite veneers, porcelain inlay/onlay, fiber reinforced bridges, tooth bleaching)
- Vital and non-vital tooth bleaching
- Metal casting restorations

### Hours in curriculum and distribution of hours throughout semesters and years

Year	1	3		4		5	6	
Semester	2	1	2	1	2	2	1	2
Lectures /interactive lectures	5 hours	15 hours	18 hours		17 hours			
Pre-clinical training		105 hours						
Clinical training			32 hours	32 hours		32 hours	32 hours	
Small group/workshop				2 hours				32 hours

### Methods of learning/teaching

- **Theoretical knowledge**

Theoretical knowledge is taught through lectures, interactive lectures and small groups and films.

- **Pre-clinical practice**

At the first semester of 3<sup>rd</sup> year, undergraduate students follow a special training program using phantom-heads at simulation laboratory and disinfected extracted teeth. Demonstrations, films and practice under supervision are the methods of practical training. Beside clinical simulations, as a part of clinical practice students perform examination on each other to get the first taste of clinical *examinations* and learn different operating positioning and operating stools.

- **Clinical training**

During the second semester of the 3<sup>th</sup> and the whole remaining years of education, students pass clinical practice. Clinical practice comprises clinical demonstration and supervised clinical patient care. In the 6<sup>th</sup> year, students have independent decision-making and clinical practice whilst the academic staffs assess students' work through evaluations and examinations.

### Assessment methods

#### Assessment methods

3 <sup>th</sup> year			
Pre-clinical course	Quizzes	Midterm exam	Final exam/clinical practice
Practical	20%		80%
Theoretical		50%	50%

4 <sup>th</sup> year			
	Quizzes	Midterm	Final exam/Clinical practice
Practical	10%		90%
Theoretical		50%	50%

5 <sup>th</sup> year		
Practical (second semester)	Quizzes	Clinical practice
	10%	90%

6 <sup>th</sup> year			
	Quizzes	Clinical practice	Written exam
Practical (first semester)	10%	90%	
Theoretical (workshop/case presentation)(second semester)		75%	25%

## **Strengths**

- All academic staff (faculty members) are top-ranked National Board certified operative dentists.
- There are good clinical facilities, dental materials, radiography and adequate number of the patients.
- There is computer based archive system for patients
- There are well trained academic staff
- All younger academic members complete a comprehensive course on medical education major topics such as teaching/learning methods and assessment during their initial years of work.
- A good blend of well experienced and younger colleagues
- Holding summer school program
- Preparing and releasing written exam blueprint for improvement of learning process
- The research projects of postgraduate students are evaluated in depth in the research committee of the department and should be defended and revised by the postgraduate students in all details before the research plan is conducted.

## **Weaknesses**

- Lack of chair side dental assistant
- Lack of new caries detection technologies
- Lack of CAD/CAM technology in Restorative department

## **Plans for future changes**

- More time is allocated for clinical training in operative dentistry in core curriculum
- More emphasize is made on preventive dentistry *and* contribution of students to community caries preventive measures
- Conducting integrated preventive and restorative dentistry programs with Community Oral Health department on *therapeutic* use of *sealants* for incipient carious lesions and fluoride therapy
- Running workshops on conservative restorative indirect restorations such as ceramic onlay, endocrown, porcelain laminate
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- Running workshops on conservative restorative approach of worn teeth using adhesive techniques
- More effective and active group work in classrooms