

Course title **Preventive and minimally invasive therapeutic procedures for damage to hard dental tissues**

Department **Department of Endodontics and Restorative Dental Medicine**

Address **Gundulićeva 5**

Total ECTS points **3**

Course leader **Associate Professor Bernard Janković**

Course associates **Professor Vlatko Pandurić**

Teaching plan

	No. classes
Lecture	9
Seminar	3
Practical	5
Total	17

1 class = 45 minutes

Course description

The modern concept of dental medicine indicates the growing need for early detection of damage of the tooth tissue and prevention of its occurrence. The assessment of the risk of such damage is individual for each patient. That is why there are numerous tests to assess the risk of carious damage to dental tissues. It is imperative that during the restorative procedure the unnecessary loss of healthy tooth tissues is kept to a minimum. Preparation procedures for the selected restorative material must be such as to ensure the strength of the bond and not jeopardize the longevity of the restoration. Adhesion of aesthetic restorative materials requires a mediator, ie an adhesion system. In this course, students will gain the necessary knowledge for early recognition of carious and non-carious damage, how to choose the appropriate restorative material and use it to reconstruct a damaged crown. In the seminar part of the course, by reviewing recent literature, they will supplement their knowledge of the given topics, which they will present in the form of a seminar paper. As

part of the practical exercises, students will assess the quality of the adhesive bond of different materials on the dentin device for measuring tensile forces. They will also be introduced to the possibility of individually assessing the risk of caries using the Caries Risk Test.

Learning outcomes

1. Objective evaluation and diagnosis of caries by modern procedures
2. Analyze and apply adequate reconstruction material
3. Proper preparation of hard dental tissues for restorative material
4. Evaluating the success of the restorative procedure

Course content

Lecture

	Lecture topics	Number of classes/hours
1.	Classification and etiology of carious and non-carious lesions	1
2.	Modern diagnostics of hard dental tissue damage	1
3.	Materials for the reconstruction of damage to hard dental tissues	1
4.	Hybridization of hard dental tissues	1
5.	Failures of hybridization of hard dental tissues	1
6.	Isolation of the working field during the restorative procedure	1
7.	Polymerization of composite materials	1
8.	Minimally invasive concepts of hard dental tissue preparation	1
9.	Dentine hypersensitivity after restorative procedure	1
10.	Classification and etiology of carious and non-carious lesions	1

1 sat = 45 minuta

Seminari

	Seminar topics	Number of classes/hours
1.	Modern methods of caries diagnosis - a review of the literature	1
2.	Caries risk assessments - a review of the literature	1
3.	How to assess the bond strength of restorative material on hard dental tissues? - literature review	1
4.	Modern methods of caries diagnosis - a review of the literature	1

1 sat = 45 minuta

Vježbe

	practicals topics	Number of classes/hours
1.	Preparation of samples for tensile test	1
2.	Estimation of bond strength of composite material on dentin with tensile test	1
3.	Estimation of bond strength of glass ionomer material on dentin with tensile test	1
4.	Caries risk assessment using Caries Risk Test and DiagnoDent device	1
5.	Minimally invasive techniques for the preparation of hard dental tissues	1

1 class = 45 minutes

Literature

Required literature

ISBN 953-96287-6-8 Osnove stomatoloških materijala; V Jerolimov i sur
ISBN 87-16-10916-3 Textbook of Clinical Cariology; Anders Thylstrup and Ole Fejerskov
ISBN-13: 978-0867155280 Fundamentals of Operative Dentistry: A Contemporary Approach; James Summit, J William Robins, Thomas J Hilton, Richard S Schwartz
ISBN 978-953-176-907-5 Restaurativna dentalna medicina; Z Tarle i sur

Additional literature

ISSN 0361-7734 B Van Meerbeek and ass. Adhesion to Enamel and Dentin: Current Status and Future Challenges. Operative Dentistry 2003; 28(3): 215-235.

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CV (*curriculum vitae*) and bibliography of course leader

CV

Prof. Bernard Janković, PhD, enrolled at the School of Dentistry, University of Zagreb in the 1990/91 school year and graduated on May 14, 1996. Since March 3, 1997, he has been working at the Department of Endodontics and Restorative Dental Medicine. He defended his master's thesis entitled "Prevalence of caries in war-affected areas of Central Bosnia" on December 28, 2000. In 2002, he was promoted to the title of Research Assistant at the Department of Dental Pathology.

He defended his doctoral dissertation entitled "Oral status in the elderly depending on health, social and economic factors" on October 4, 2004. In the same year he became a specialist in dental pathology and endodontics. In 2005 he became a Research Associate, in 2008 he became an assistant professor, 25.5.2011. became a Senior Research Associate on March 18, 2013. He became an associate professor at the Department of Endodontics and Restorative Dentistry, Faculty of Dentistry, University of Zagreb.

Until 2007, he was engaged in scientific work within the project 0065007 - Materials in the supply of hard dental tissues, and since 2007 he is a collaborator on the project 065-0352851-0410 "Nanostructure of restorative materials and interactions with hard dental tissues" - principal investigator: Prof.dr.sc. Zrinka Tarle.

He actively participates in numerous scientific and professional congresses in the country and abroad. He is the head of the postgraduate course "Minimally invasive dentistry". In the school year 2009/2010, he was the head of the Department of Endodontics and Restorative Dental Medicine at the Faculty of Dentistry in Split. He is the head of the Department of Endodontics I and II at the Department of Dentistry at the Medical Faculty in Mostar. Since 2021, he has been the head of the Reference Center of the Ministry of Health of the Republic of Croatia for restorative dentistry.

From 24 to 28 May 2009, he participated in the "Restorative Forum Constance" professional development course, organized by DENTSPLY DeTrey, and has since become a lecturer for that company in the field of restorative dentistry.

From 28-29.5.2013. participates in the "TRAIN the TRAINER Course", organized by Edelweiss dentistry, in cooperation with the company "Ultradent" where he trains to work with prefabricated laser-treated composite veneers, and becomes a lecturer for these two companies in the field of aesthetic supply of dental veneers.

At the invitation of Dentsply, he attended "Train the Trainer-Wave One Gold" in Bratislava, where he was trained to work with the Wave One Gold system. The world-renowned clinician and lecturer Dr. Clifford Ruddle was a guest lecturer on this course.

At the invitation of DentsplySyrona, he attended "Train the Trainer-Protaper Ultimate" where he was trained to work with this root canal machine instrumentation system.

He is the author and co-author of 20 review and professional papers. He has participated in several domestic and foreign congresses. He is a member of the Croatian Dental Chamber, the Croatian Endodontic Society and the International Association for Dental Research (IADR).

He is married and has two children.

Bibliography:

<https://www.bib.irb.hr/pretraga/?operators%3Dand%7CJankovi%C4%87%2C+Bernard+%2818009%29%7Ctext%7Cprofile%26index%3DCC%7CWOSCC-SCIE%7CWOSCC-SSCI%7CWOSCC-AHCI%7CWOSCC-SC%7CWOSCC-ESCI%7CWOSCC-CPCI-S%7CWOSCC-CPCI-SSH%7CWOSCC-BKCI-S%7CWOSCC-BKCI-SSH%7CSCOPUS>