

**Course title** Quality evaluation of post endodontic systems

**Department of Endodontics and Restorative Dentistry**

**Address** Gundulićeva 5, Zagreb

**Total ECTS points** 3

**Course leader** Sanja Šegović

**Course associates**

**Teaching plan**

|           | No. classes |
|-----------|-------------|
| Lecture   | 3           |
| Seminar   | 6           |
| Practical | 6           |
| Total     | 15          |

1 class = 45 minutes

**Course description** The biological foundations of postendodontic dental care and procedures as well as techniques for testing the quality of postendodontic systems will be explained. Seminar topics will discuss the issue of interaction of hard dental tissues and different materials used in the manufacture of various postendodontic systems, the principles of retention and resistance, the micropermeability of postendodontic systems, the role of all factors affecting system quality and quality testing techniques according to type of postendodontic system and chosen materials. A special thematic unit will be dedicated to literature search. In the experimental part of the course, some of the techniques of testing the quality of post-endodontic systems will be implemented.

**Learning outcomes**

1. Describe, analyze, evaluate and compare techniques for testing the quality of postendodontic systems
2. Identify the shortcomings of certain techniques for testing the quality of postendodontic systems
3. Connect the factors that affect the quality of the post-endodontic system
4. Plan and create a post-endodontic therapy based on the acquired scientific knowledge on the issue of survival of endodontically treated teeth within the stomatognathic system

**Course content**

## Lecture

|     | <b>Lecture topics</b>                                  | <b>Number of classes/hours</b> |
|-----|--|--------------------------------|
| 1.  | Biological foundations of post-endodontic dental care  | 1                              |
| 2.  | Quality testing procedures for post-endodontic systems | 2                              |
| 3.  | -  | -                              |
| 4.  | -  | -                              |
| 5.  | -  | -                              |
| 6.  | -  | -                              |
| 7.  | -  | -                              |
| 8.  | -  | -                              |
| 9.  | -  | -                              |
| 10. | -  | -                              |

1 sat = 45 minuta

## Seminari

|     | <b>Seminar topics</b>   | <b>Number of classes/hours</b> |
|-----|---|--------------------------------|
| 1.  | Getting familiar with the method of researching the issue and searching recent literature | 1                              |
| 2.  | Criteria that must be met by a quality postendodontic system                              | 1                              |
| 3.  | Materials for manufacture postendodontic systems  | 1                              |
| 4.  | Factors affecting the resistance of the remaining tissue of the treated tooth             | 1                              |
| 5.  | Exposure of postendodontic systems to dynamic cyclic loading                              | 1                              |
| 6.  | The role of postendodontic system in the long-term prognosis of a treated tooth           | 1                              |
| 7.  | -   | -                              |
| 8.  | -   | -                              |
| 9.  | -   | -                              |
| 10. | -   | -                              |

1 sat = 45 minuta

## Vježbe

|     | practicals topics  | Number of classes/hours |
|-----|--|-------------------------|
| 1.  | Measurement of micropermeability of postendodontic systems | 3                       |
| 2.  | Retention and resistance testing of postendodontic systems | 3                       |
| 3.  | -  | -                       |
| 4.  | -  | -                       |
| 5.  | -  | -                       |
| 6.  | -  | -                       |
| 7.  | -  | -                       |
| 8.  | -  | -                       |
| 9.  | -  | -                       |
| 10. | -  | -                       |

1 class = 45 minutes

## Literature

1. Vikhe DM. Restoration of Endodontically Treated Teeth. 2021. DOI: [10.5772/intechopen.98190](https://www.intechopen.com/online-first/76852). <https://www.intechopen.com/online-first/76852>
2. D'arcangelo C, Felipe LA, Paniz GL, Paolone G. Postendodontska opskrba zubi. Vodič za kliničare. Berlin: Quintessence Publishing Hrvatska; 2018.
3. Walton RE, Torabinejad M. Endodoncija: načela i praksa. Jastrebarsko: Naklada Slap; 2009.
4. Soares JC, Rodrigues MP, Faria-E-Silva AL, Santos-Filho PCF, Verissimo C, Kim HC, Versluis A. How biomechanics can affect the endodontic treated teeth and their restorative procedures? Braz. Oral Res. 2018;32(suppl):e76.
5. C Vrlan, B Dimitriu, V Vrlan, D Bodnar, and I Suci. Current opinions concerning the restoration of endodontically treated teeth: basic principles. J Med Life. 2009 April 15; 2(2): 165–72.
6. Mamoun J. Post and core build-ups in crown and bridge abutments: Bio-mechanical advantages and disadvantages. J Adv Prosthodont. 2017; 9:232-7.
7. Goracci C, Grandini S, Bossù M, Bertelli E, Ferrari M. Laboratory assessment of the retentive potential of adhesive posts: a review. J Dent. 2007;35(11):827-35.
8. Monticelli i sur. Cement system and surface treatment selection for fiber post luting. Med Oral Patol Oral Cir Bucal. 2008 Mar 1; 13(3):E214-21.

9. Özcan M, Maziero Volpato CA. Current perspectives on dental adhesion: (3) Adhesion to intraradicular dentin: Concepts and applications. *Jpn Dent Sci Rev.* 2020 Nov;56(1):216-23. doi: 10.1016/j.jdsr.2020.08.002. Epub 2020 Sep 17.

10. recentna literatura na PubMedu

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

Sanja Šegović was born in 1963 in Zagreb, Republic of Croatia. She enrolled at the School of Dental Medicine, University of Zagreb in 1981, and graduated in 1986. In 1989 she was admitted to the Department of Dental Pathology, School of Dental Medicine, University of Zagreb as a research trainee. She received her master's degree in 1992 with a thesis "Trichomonas tenax in the oral cavity". She defended her dissertation entitled "Evaluation of proteinases in Trichomonas tenax" in July 1997. She was elected assistant professor in 1999, associate professor in 2005 and full professor in 2015.

Actively participates in undergraduate teaching within the courses: Karijesologija, Cariology, Pretklinička restorativna dentalna medicina, Restorativna dentalna medicina I, Restorativna dentalna medicina II, Preclinical restorative dental medicine, Restorative dental medicine I, Pretklinička endodoncija, Endodoncija I, Endodoncija II, Preclinical Endodontics, i Gerontostomatologija.

She is the head of the postgraduate specialist course "Microbiology in endodontics" and the postgraduate doctoral course "Quality evaluation of post-endodontic systems". She participated in the undergraduate teaching of the course Introduction to Scientific Work, and was a lecturer in the postgraduate specialist course "Materials for filling the root canal". She was proposed as a lecturer within the new postgraduate professional study for the course "Microbiology and pathohistology of inflammatory changes of the pulp and periapical tissue". Under her mentorship, 28 graduation theses were defended, 2 master theses and 4 postgraduate specialist theses were mentored. One postgraduate specialist paper and one doctoral thesis are in process.

She is the author and co-author of several scientific, review and professional articles.

She also co-authored two university textbooks and two manuals, and one high school textbook. She has translated one chapter into two university textbooks.

She has actively participated in domestic and international scientific conferences, as well as work courses. She is a member of the Croatian Chamber of Dental Medicine, the Croatian Endodontic Society and the European Endodontic Society, the Croatian Society for Minimal Interventional Dental Medicine and the Croatian Medical Association.

She passed the specialist exam in dental and oral pathology with periodontology in April 1995. Since August 1995, she has been employed at the Clinical Hospital Center Zagreb as a specialist in dental and oral pathology with periodontology in the Clinical Unit for Dental Diseases of the Clinic of Dentistry. Within the acquired specialization, she performs mentoring and is an examiner at specialist colloquia and exams.

Points of interest are endodontic microbiology, testing the quality of post-endodontic systems and the development of protocols for dental procedures in certain high-risk patients.

