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| **SEMINARS 08.00 - 09.30 (05.10 - 01.02)** |
|  | 05.10 | Introduction to materials science. Classification of dental materials. The course of changes in the hard tissues of teeth (carious, non-carious and age-related) and the restorative techniques and materials that can be used. |
|  | 12.10 | Knowledge of caries risk and prosthetic factors as a basis for prevention and the biomimetic action of materials and the correct choice of material depending on the patient's risk group. Basics of preparation techniques and diagnostic methods to facilitate the selection of the correct working technique and material for hard tissue restoration. Degradation of materials in the patient's oral environment and its impact on the patient's health and material properties. Developments in dental materials science. Nanoparticles in dentistry. |
|  | 19.10 | GIC: classification, composition and its modifications, structure, bonding, properties, purpose and use.  |
|  | 26.10 | Adhesion to dentin and enamel - mechanism, bonding systems and their generations. Etching techniques: total and selective. The phenomenon of polymerisation. |
|  | 09.11 | Composites: classification, composition and its modifications, structure, mode of bonding, properties, purpose and use Optical properties: colour and its measurement, fluorescence, translucence, opacity, colour loss.  |
|  | 16.11 | The carious process and methods for its diagnosis. Principles of cavity preparation according to Black due to the type of material used. Pulp vitality diagnostic devices.  |
|  | 23.11 | Auxiliary equipment for placing fillings - types of moulds and their stabilisation. Retraction in the gingival area. |
|  | 30.11 | Equipment and methods for disinfection and sterilisation of instruments and surfaces in the dental practice. |
|  | 07.12 | Mechanical properties of tissues and materials. Occlusal forces, cutting and abrasion in the oral cavity. |
|  | 14.12 | Thermal properties and thermal conductivity. Coefficient of thermal expansion. Tissue and material preparation methods - cutting pattern and heat generated. Surface phenomena. |
|  | 21.12 | Materials and instruments used in orthodontic treatment. |
|  | 11.01. | CAD-CAM, intraoral and extraoral scanning, 3D printing in dentistry. |
|  | 18.01 | Materials and instruments used in endodontic treatment.  |
|  | 25.01 | Selection of appropriate restorative and bonding techniques, instruments and biomaterials, based on material properties and clinical conditions. Presentation of work prepared in groups. - Part I.  |
|  | 01.02 | Selection of appropriate restorative and bonding techniques, instruments and biomaterials, based on material properties and clinical conditions. Presentation of work prepared in groups. - Part II.  |

Instructors: lek. dent. Lidia Szczucka, lek. dent. Barbara Gronwald

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| TUESDAYS | THURSDAY |
| **DATE** | Gr. **c****11.15 - 12.45** | **DATE** | Gr. **a****09.30 - 11.00** | Gr. **b****09.30 - 11.00** |
| **03.10** | 1 | **05.10** | 1 | 2 |
| **10.10** | 2 | **12.10** | 2 | 1 |
| **17.10** | 3 | **19.10** | 3 | 4 |
| **24.10** | 4 | **26.10** | 4 | 3 |
| **07.11** | 5 | **09.11** | 5 | 6 |
| **14.11** | 6 | **16.11** | 6 | 5 |
| **21.11** | 7 | **23.11** | 7 | 8 |
| **28.11** | 8 | **30.11** | 8 | 7 |
| **05.12** | 9 | **07.12** | 9 | 10 |
| **12.12** | 10 | **14.12** | 10 | 9 |
| **19.12** | 11 | **21.12** | 11 | 12 |
| **09.01.** | 12 | **11.01.** | 12 | 11 |
| **16.01** | 13 | **18.01** | 13 | 14 |
| **23.01** | 14 | **25.01** | 14 | 13 |
| **30.01** | 15 | **01.02** | 15 | 15 |

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| PRACTICE MEETING TOPICS |
| **1** | Dental drills. Diagnostic kit. Tools used in dental specialities: conservative, periodontology, surgery, prosthetics, orthodontics.  |
| **2** | Health and Safety of the Materials Room. Filling of Class V Black cavities using encapsulated GIC and modelling technique and transparent cervical matrices. GIC mixed by hand as a primer. Working on models. |
| **3** | Rotary instruments for the treatment of dental hard tissue and dental materials.  Small dental equipment. |
| **4** | Class I Black's cavity filling using a glass/modified GIC hybrid.Compomers and composites as fissure sealers. Working on models. |
| **5** | Odontotropic materials and biological treatment techniques, Calcium hydroxide and calcium silicate preparations. Bioactive materials. |
| **6** | Class I Black's cavity filling using bulk composites and adhesion systems as well as the Essential Line technique and occlusal punch. Working on models. |
| **7** | Techniques and preparations for infiltration, whitening, fluoride preparations, desensitisers, calcifiers - composition, properties application. |
| **8** | Reconstruction of the contact point in Class II Black cavities using composite moulds.  Tools and techniques for finishing and polishing fillings. Working on models. |
| **9** | Reconstruction of worn down incisal edges and chewing surfaces with injectable/injectable composites - composition, properties, application procedure. |
| **10** | Class II Black's cavity filling with composite using oblique layer technique and variable viscosity technique and sectional matrix systems. Working on models. |
| **11** | Temporary fillings: luted and light-cured and chemically-cured dressings, surgical, periodontal, endodontic. Oxide-zinc-eugenol cement. |
| **12** | Filling of a Class III Black cavity with composite using the dentin and enamel layer technique and introduction to Smart Chromatic technology. Working on models. |
| **13** | Endodontic instruments. Methods of root canal preparation and measurement of root canal length, root canal rinses, medicines and sealants used. |
| **14** | Filling of a Class IV Black cavity with composite using the silicone key and shaper technique. Composite veneer. Working on models. |
| **15** | Summary of knowledge. Final assessment in the form of a practical exam. |

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