

The Department of Dental Propaedeutics and Prophylaxis was established in 1970. Until 2000, it was in the building at 30 Filtrowa Str., and then it was moved to pavilion XI D of the Children Jesus Hospital at 59 Nowogrodzka Str. The head of the Department in the years 1970-1972 was associate professor Eugeniusz Spiechowicz DDS, PhD., and in the years 1972-2003 Tadeusz Bączkowski DDS, PhD. associate professor at Medical Academy, and since 2003 he is Leopold Wagner DDS, PhD. The history of the Department covering the years 1970 - 2006 was described in the book entitled: "History of the 1st Faculty of Medicine of the Medical Academy in Warsaw (1809-2006)" vol. I edited by Professor Marek Krawczyk MD, PhD. The authors of the chapter on the Department of Dental Propaedeutics and Prophylaxis were Tadeusz Bączkowski DDS, PhD. associate professor at Medical Academy and Ewa Cichocka-Piekacz DDS, PhD. The following years of the Department's activity brought several significant changes in the realization of didactics and research activities, and organization activity and personnel composition.

Changes in didactics were related to the modification of the teaching standard in the field of Dentistry and the introduction of learning outcomes in the fields of Dental Techniques and Dental Hygiene.

The first changes in the teaching standard of the field of Dentistry resulted in the liquidation of the Propaedeutics of Prosthetics and Manual Improvement subjects, which had been taught since the beginning of the Department's existence. In their place, the Ergonomics subject and the Norms of Occlusion and Functions of the Stomatognathic System were introduced, and the subject Propaedeutics of Conservative Dentistry changed its name to Pre-clinical Teaching in Conservative Dentistry and Endodontics. The second modification of the teaching standard introduced further changes in the realization of the subjects -Occlusion Norms and Functions of the Stomatognathic System were liquidated, the teaching content of which was included in Prosthetics, and the subject Dental Prophylaxis, whose curriculum was included in Pediatric Dentistry; the program content of Ergonomics was also extended (the subject Occupational Safety and Ergonomics in Dentistry were introduced). These changes made it necessary to realize a part of the teaching program on commissioned hours in subjects the Prosthetics (3rd, 5th, and 6th semester) and Pediatric Dentistry and Dental Prophylaxis (3rd semester). Together with the Department of Orthodontics and Department of Periodontology and Mucous Membrane Disease, the realization of the Physiology of the Masticatory System subject was started. In 2012, after the separation of the independent Faculty of Medicine and Dentistry from the 1st Faculty of Medicine, the subject of Prophylaxis in Dentistry was restored to be taught independently at the Department (2nd semester). In the academic year 2012/2013, the field English Dentistry Division (EDD) was launched. The assumption of education within the EDD was the realization of the same subjects as in the case of the field of Dentistry. The department was the first to start teaching in English with the subjects Prophylaxis in Dentistry (1st semester) and Occupational Safety and Ergonomics in Dentistry (2nd semester). Further changes in teaching took place in the academic year 2017/2018. The Integrated Preclinical Teaching subject was introduced, divided into 4 modules (in line with the subjects taught so far): Ergonomics, Dental Materials, Preclinical Conservative Dentistry, and Preclinical Endodontics. From the academic year 2018/2019, one of the elements of passing this subject is the OSCE exam, which

is held on low-fidelity simulator workstations and includes 2 procedures from each taught module. In the academic year 2021/2022, the Department started classes based on virtual reality. In the second year of studies, the compulsory faculty Simulation of Clinical Conditions with the use of VR was launched, which makes it possible to work on 4 Simodont simulators. Since 2021, some classes in Integrated Preclinical Learning subjects have been conducted on eleven high-fidelity simulators at the Medical Simulation Center.

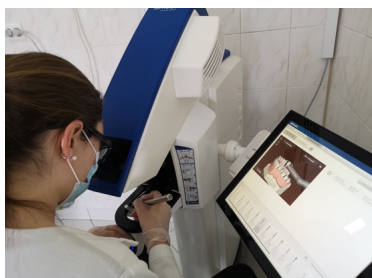


Fig.1 Simodont (Moog) VR simulator - training task.



Fig.2. DSE Expert KaVo high-fidelity simulator.

In the field of Dental Techniques initially, only 2 subjects were realized - History of Dentistry with Professional Ethics (responsible T. Bączkowski DDS, PhD. associate professor at Medical Academy) and Propaedeutics of Prosthetics (responsible K. Wilk DDS, PhD.). Since 2006, after the teaching standard introduction, 10 directional subjects and 3 general were assigned to the Department. This coincided with the incorporation of a Bachelor's Studies in Dental Techniques into the Department and the taking over of the tasks of the liquidated Materials Department (both departments were located at 1 Nowy Zjazd Str.). The above-mentioned administrative decisions were made by the University Senate and signed by the then Rector, Professor Leszek Pączek MD, PhD. at the request of the Dean of the First Faculty of Medicine Professor Marek Krawczyk MD, PhD. The merger of organizational departments more than doubled the number of taught hours and increased the staff of the Department by 8 people. The composition of the Department's team entered academic teachers Krzysztof Ankiewicz DDS and Sylwester Grażulis DDS and Maciej Grażulis CDTs, MSc., and Wojciech Kubik CDTs, MSc., and Robert Łojarczyk CDTs, MSc., and Marek Masłowski CDTs, MSc., administrative staff Jolanta Marcinkiewicz and technical worker Wanda Baran.

In 2010, by the decision of the Rector of the Medical University of Warsaw, Professor Marek Krawczyk MD, PhD Dental Techniques were moved from the building at 1 Nowy Zjazd Str. to the building at 21 Emilii Plater Str. Thanks to this decision, much better premises were obtained (4 rooms for practical classes) and new equipment was acquired for teaching.



Fig.3. The room for practical classes.

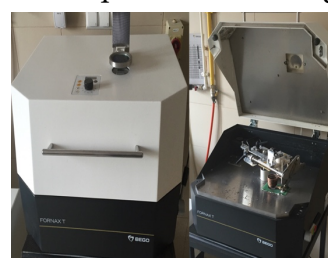


Fig.4. BEGO casting machine Fornax T.

At the beginning of 2021, the Senate of the Medical University of Warsaw approved new learning outcomes and a modification of the study program in the field of Dental Techniques. The basis for the changes was the adjustment of the effects and the program to the applicable legal acts specifying the principles of education in the field of study with a practical profile. The most important modification was to make studies more practical by introducing a 24-week (960 hours) professional internship. As a result of this decision, contact classes with academic teachers in the 6th semester were limited to 2 weeks. Due to the above, the entire curriculum has changed. The following subjects taught by the Department were liquidated: Surface Layer Engineering, Fixed and Removable Prosthesis Constructions and Methodology of Scientific Research, and History of Dentistry with Ethics was transferred to the Center for Humanities and Social Sciences of Medicine of the Medical University of Warsaw. The number of hours in the subjects: Polymer Technology and Prosthetic Technology has been reduced, and the Casting Technologies (1st year of studies) and Ceramic Technologies (2nd year of studies) subjects have been included in the Prosthetic Technique along with the hours of realization, and the Biomechanics and Physiology of the Masticatory System subjects have been combined into Biomechanics with Elements of Physiology of the Masticatory System. A new subject, Propaedeutics of Dentistry, was also created in the study program, to which the previously implemented Propaedeutics of Prosthetics was included in the form of a module. Propaedeutics of Dentistry is carried out jointly by the Department of Prosthodontics, the Department of Orthodontics, the Department of Dental Propaedeutics and Prophylaxis and the Department of Integrated Dentistry.



Fig. 5. The team of Department employees participating in the realization of classes in the field of Dental Techniques in 2022. Standing from left: *Artur Winiarski, Wojciech Kubik, Maciej Grażulis, Robert Łojarczyk, Jolanta Marcinkiewicz, Jerzy Łosik and Maciej Pięciński.*

In the field of Dental Hygiene, the Department for many years carried out 5 subjects: Propaedeutics of Dentistry (1st semester), Dental Materials (2nd and 3rd semester), History of Dentistry with Professional Ethics (4th semester), Preclinical Conservative Dentistry (3rd semester) and Bachelor's Seminar (4th semester). After the changes in the learning outcomes and the establishment of the Dental Hygiene Department in 2018, the entire Pre-clinical Conservative Dentistry course and some hours of Dental Materials (only the third semester remained) and Dentistry Propaedeutics were moved to it. From the academic year 2022/2023, the subject History of Dentistry with Professional Ethics is implemented by the Department

based on hours commissioned by the Center for Humanities and Social Sciences of Medicine of the Medical University of Warsaw.

In the years 2006-2010, E. Cichocka-Piekacz, W. Głowacki, S. Rejchert, K. Wilk and L. Wagner were supervisors and reviewers of 28 bachelor's theses in the field of Dental Techniques and L. Wagner promoter of 3 master's theses at the Faculty of Health Sciences.

Since 2014, Leopold Wagner is the Chairman of the committee conducting the diploma (undergraduate) exam in the field of Dental Techniques.

Since 2017, Renata Lenkiewicz has been the Chairperson of the second-year Teaching Board field of Dentistry, since 2018 Leopold Wagner has been the Chairperson of the first-year Teaching Board field of Dentistry, and Małgorzata Ponto-Wolska has been the Chairperson of the Teaching Board field of Dental Technique. Since 2019, Leopold Wagner has been the Chairman of the Program Board in the field of Dental Technique. Małgorzata Ponto-Wolska is a member of the Teaching Board field of the English Dentistry Division, Robert Łojarczyk is a member of the Program Board in the field of Dental Technique, and Waldemar Ćwirzeń is a member of the Program Board in the field of Dental Hygiene

Appreciating the above-mentioned achievements, the Rector of the Medical University of Warsaw awarded the following individual/team didactic awards to the employees of the Department:

- first degree 2012 (Waldemar Ćwirzeń, Adam Jasiniewski and Leopold Wagner) and 2014 (Waldemar Ćwirzeń and Leopold Wagner)

* second degree 2009, 2010 and 2013 (Leopold Wagner)

* third degree: 2007 (Leopold Wagner), 2008 (Bohdan Bączkowski, Ewa Cichocka-Piekacz, Ewa Fitak, Waldemar Głowacki, Adam Jasiniewski, Renata Lenkiewicz, Wojciech Michalski, Małgorzata Ponto-Wolska, Leopold Wagner and Krzysztof Wilk), 2015 (Waldemar Ćwirzeń, Adam Jasiniewski and Leopold Wagner), 2016 (Waldemar Ćwirzeń and Leopold Wagner), 2017 (Leopold Wagner) and 2018 (Maciej Grażulis)

Crystal Lancet - the Student Self-Government award for the best-rated academic teacher at the Faculty of Dentistry was awarded twice to Renata Lenkiewicz (2015 and 2018) and Maciej Grażulis (2017).

Changes in the realization of scientific research resulted primarily from the increase in funds for statutory research, obtaining mini-grants, scholarships, own works, thesis and projects of a young researcher, and the admission to the Department of 7 participants of doctoral studies (Magdalena Górlicka, Arkadiusz Błaszczuk, Michał Pelc, Małgorzata Ponto-Wolska, Paweł Piróg, Iwona Prędecka and Magdalena Szepietowska). Due to the nature of the conducted research, in 2009 Michał Pelc was placed under the supervision of Professor Andrzej Wojtowicz DDS Phd., Head of the Department of Dental Surgery, and Łukasz Zadrozny were appointed in his place. Realized projects outside statutory research:

1. 2006 - 2007 (1S16/W1) "Introduction of oxygen inhibition blockers to clinical use" (contractor: Marcin Aluchna, DDS),
2. 2006 - 2008 (1S16/WP1) - "Development of a diagnostic and measurement tool for biomechanical masticatory capacity in the field of occlusal loads of artificial or natural dentition" (contractor: Wojciech Michalski, DDS)

3. 2009 (1S16/NK1D/09) "Comparative assessment of bone tissue remodelling around the transplanted tooth and implant" (contractor: Michał Pelc, DDS)
4. 2011 (S16/PM11D/11) "Study of the impact of measurable parameters of mandibular movements on the geometry of the sagittal occlusal curve" (conductor: Paweł Piróg, DDS)
5. 2012 Doctoral Scholarship of the Marshal of the Warsaw Province (contractor: Łukasz Zadrożny, DDS)
6. 2016 (1S16/PM1/16/16) "Comparison of the precision of implantological procedures performed with and without the use of surgical templates - in-vitro tests using 3D printing" (contractor Łukasz Zadrożny DDS)
6. 2018 (1S16/NM1/18) "Analysis and assessment of changes in the mechanical strength of composite materials depending on the reinforcement with glass, carbon and aramid fibres" (contractor: student Bartosz Bienias)

The result of the conducted research programs was obtaining the degree of PhD by:

1. Krzysztof Wilk - Evaluation of the effectiveness of the device forcing the protrusive position of the mandible in the treatment of obstructive sleep apnea (2006),
2. Jan Osytek - Daily, spatial changes of the prosthetic ground (2008),
3. Magdalena Szepietowska (PhD student) - Evaluation of fluoride ion release from materials used for mounting fixed orthodontic appliances - in vitro studies (2008),
4. Iwona Prędecka (PhD student) - Evaluation of the cariostatic effect of strontium-containing restorative materials in caries induced in rats (2008),
5. Małgorzata Ponto-Wolska - Research on electrochemical polishing of metal alloys used in dental prosthetics (2009),
6. Ewa Fitak - The effect of selenite triglycerides on mineralized tooth tissues of rats (2009),
7. Wojciech Michalski - The use of numerical systems for the assessment of upper metal removable winger's partial dentures (RPDs) with separated kinematics (2009),
8. Arkadiusz Błaszczuk (PhD student) - Evaluation of the effect of ozone on the solubility, structure, and adhesive properties of deciduous tooth enamel - in vitro (2009),
9. Marcin Aluchna - Research on the wear resistance of dental materials depending on the polymerization efficiency (2012),
10. Magdalena Górlicka (PhD student) - Relationship between Monson's sphere and individual the shape of the short-circuit curve Spee (2014),
11. Paweł Piróga (PhD student) - Study of the impact of measurable parameters of mandibular movements on sagittal occlusion curve geometry (2015),
12. Łukasz Zadrożny - The use of computer microtomography for evaluation of selected stages of endodontic procedures (2018),
13. Barbara Rafałowicz -10-year evaluation of the effectiveness of various methods of treating hypodontia of the upper lateral incisors in adult patients based on own research (2020),
14. Waldemara Ćwirzenia - Assessment of the exposure of dental hygienists to the occurrence of loads on the musculoskeletal system during various professional activities (2022)

The promoter of the first doctoral dissertation was Tadeusz Bączkowski DDS, PhD. associate professor at Medical Academy, and in the others Leopold Wagner DDS, PhD. In the

dissertations of Magdalena Górlicka and Paweł Piróg, an auxiliary supervisor was appointed, which was Wojciech Michalski, DDS, PhD.

The Department is equipped with the following research and measurement equipment: a device for assessing the degree of integration of dental implants with bone tissue, periodontium assessment in terms of the ability to absorb pressure force and quantitative measurement of bite force - Perio Test S (Medizintechnik Gulden), devices for assessing occlusion: T - Scan II 2.06T and T-Scan Novus (Tekscan), a device for electronic determination of the correct occlusion - Arcus Digma (KaVo), a 3D scanner for precise spatial modelling of objects - Microscribe G2X (Immersion), a rotary table connected to a Nikon D3300 SLR camera supporting the creation 3D images and a 3D printing station

In the years 2012 - 2022, the teachers employed by the Department published 64 papers in peer-reviewed national and foreign journals, obtaining 2120 points Ministry of Science and Education and 45.806 IF. W. Michalski DDS, PhD. received awards in 2006 and 2008 for a series of publications in the Prosthetics journal.

The Student Scientific Circle has been active in the Department for many years. Members of SSC in 2007 won the first prize at the 4th International Congress of Students in Warsaw (supervisor of the circle W. Michalski DDS, PhD), and in 2017 three prizes: second place at the XX International Scientific Conference Michał Kłopotowski in Łódź, 3rd place at the 13th Warsaw International Medical Congress and 1st place at the Realna Dentistry scientific conference in Szczecin (since 2016, the club's supervisor is Łukasz Zadrożny, DDS, PhD).



Fig . 7. Diploma for SSC for taking 1st place at the Medical Congress

In the years 2016-2022, the following research topics were carried out as part of the SSC activities:

- the use of 3D printing in dental procedures and education,
- the effects of using virtual reality in teaching students of dentistry,
- analysis of loads on the musculoskeletal system during the work of the dental team,
- measurements of forces exerted by active elements of orthodontic appliances on individual teeth,
- strength analysis of PMA reinforced with various artificial fibres

The results of the research were presented at 11 national and international conferences of students and young medics. In the years 2016 - 2022, members of the circle published 6 works, obtaining 420 points Ministry of Science and Education and 12.381 IF.

Since 2012 W. Ćwirzeń were a member of the Faculty Recruitment Committee in the field of Dentistry, and since 2019 he has been its secretary, members of the EDD Recruitment Committee were Renata Lenkiewicz in the years 2015 - 2017 and Małgorzata Ponto-Wolska in

the years 2018 - 2022. In 2016-2018 Małgorzata Ponto-Wolska was a member of the Faculty Team for the Quality of Education and Renata Lenkiewicz in 2019 - 2022.

Some of the teachers are also members of the Program Councils operating at the Faculty of Dentistry: a member of the Program Board of Dental, Behavioral Sciences and Legal and Organizational Sciences until 2022 was Renata Lenkiewicz, and since 2023 member is Małgorzata Ponto-Wolska, Robert Łojarczyk is a member of Program Board in the Field of Dental Technique, and Waldemar Ćwirzeń is a member of Program Board in the Field of Dental Hygiene.

Over the years, the team of the Department has also changed. In 2008, she resigned from the work of Agnieszka Szpak, and in 2010 Jan Osytek. In 2009 Małgorzata Ponto-Wolska changed her form of employment from a PhD student to a full-time job at the Department, and in 2010 similarly changed the form of employment Iwona Prędecka (she left the Department in 2012), and 2011 Stanisława Rejchert left her job. In 2012, they were admitted to work: Marcin Aluchna (in 2013 he moved to the Department of Conservative Dentistry), Danuta Bukowska (she left the Department in 2015) and Rafał Wojda, who moved to the Dental Surgery Department in 2021. In 2015 Łukasz Zadrozny changed her form of employment from a PhD student to a full-time job at the Department and Barbara Rafałowicz was hired. In 2013, he died the previous head of the Department, Tadeusz Bączkowski, in 2019 Marek Masłowski and Wojciech Michalski, and in 2021 Sylwester Grażulis.

Medals:

For special merits for education and raise, Ewa Cichocka-Piekacz (2010) and Renata Lenkiewicz (2017) received the medal of the National Education Commission awarded by the Minister of National Education. Leopold Wagner received the Silver Cross of Merit in 2008, and the Gold Cross was awarded to: Wojciech Michalski in 2010 and Leopold Wagner in 2017.



Fig. 8. Employees of the Department located in the XI D pavilion at the Child Jesus Hospital (2022). Standing from the right: *Pamela Idżkowska, Ewelina Błaszczak, Waldemar Głowacki, Barbara Rafałowicz, Waldemar Ćwirzeń, Krzysztof Wilk, Adam Jasiniewski, Łukasz Zadrozny, Renata Lenkiewicz*, seated from the right: *Ewa Fitak, Małgorzata Biel, Leopold Wagner, Ewa Cichocka-Piekacz, Małgorzata Ponto-Wolska*